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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 behaviour. 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 stress on 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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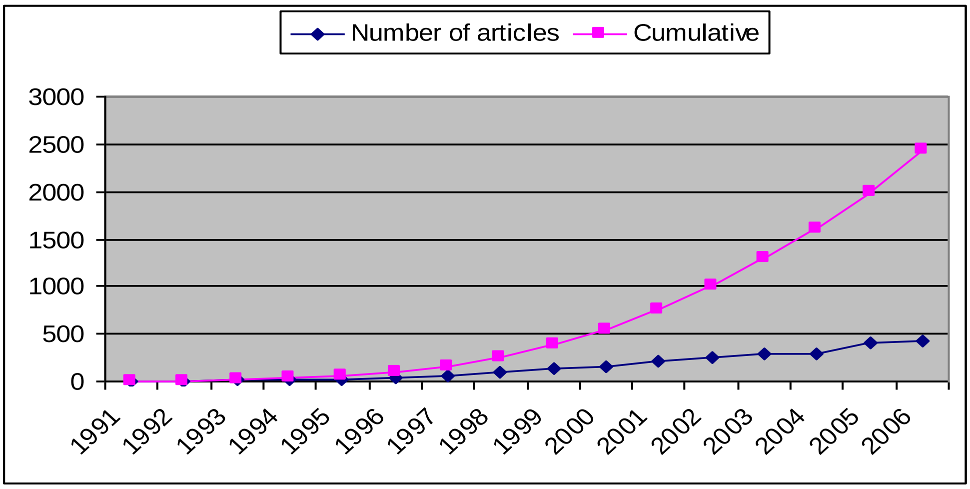
1. Introduction

In the last two decades the concept of social capital has been receiving increasing attention by scholars from several different areas in the social sciences. The figure describing the frequency of references to social capital recorded in the Social Science Citation Index between the 1990s and the new century (figure 1) is quite popular.

Figure 1 Frequency of references to social capital recorded in SSCI (1991-2006)



Source: Field, J (2008)

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. Whether social capital is a novelty or rather an old wine in a new bottle is not object of analysis in this work. Nevertheless, in order to capture the original essence of the concept, we might briefly revisit part of the social science history. The term "social capital" 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 long tradition in the history of sociology and economic thought.
By revisiting Adam Smith's thought, Bruni et al (2000) underline the importance that he gives to the density of networks and trade associations as the main channels for the transmission of reputation for trustworthiness. Even though the aim of this mechanism is the individual's self-interest, in Adam Smith's view this is crucial for the functioning of the market. Focusing on the Italian context, Genovesi (1820) attributes the lack of development of Naples compared the other Italian states in the XVIII century to the lack of *fede pubblica*. The concept of *fede pubblica* (public trust) is defined as trust among individuals (what is called "generalised trust" in contemporary terms). Through a more altruistic perspective (especially compare to Adam Smith), Genovesi (1820) understands economic relationships as driven by a sense of reciprocal assistance and, hence, an exercise of virtue. In his view, trade, industry and socio-economic development cannot grow in a society with a low endowment of *fede pubblica*. Contrary to Adam Smith, Genovesi (1820) believes that formal justice cannot be imposed successfully in a society where individuals do not trust each other in their

informal relationship and this initial condition, in turn, negatively affects the economic performance of that society[1].

The importance of the associational life has been properly pointed out in the Alexis de Tocqueville (1832/1994) investigation of North American society. He is positively impressed by the intense North American associational life. He argues that this "art of association" represents one of the strengths of the American democracy and economy and helps individuals in building social bonds crucial for their well-being and organisational life.

French sociologists such as Emile Durkheim (1933) and Marcel Mauss (1969) focused most of their interests on mechanisms of social relationships. Durkheim (1933) underlines how informal connections and interactions characterise the industrial period and distinguish it from a more rigid system of the division of labour well developed under feudalism. 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" (in Farr, 2004 p. 11). However, as John Field (2008) points out "Although earlier writers made some use of the term, there is a broad consensus that its contemporary significance derives from the 1980s and 1990s" (Field, 2008 p. 15) and more precisely through a triad of social scientists including Pierre Bourdieu, James Coleman and Robert Putnam.

The paper is organised as follows: section 2 provides the different definitions of social capital; section 3 discusses about the measures of social capital and its structural dimensions; section 4 provides a critical debate on different theoretical frameworks developed so far on the dilemmatic question: how much social capital we need; section 5 discusses about some of the social capital proxies adopted after the Putnam's work with particular emphasis on the Italian case; section 6 is dedicated to the sceptics and scepticisms around the concept of social capital; section 7 debates on the empirical limitations of social capital works; section 8 concludes.

2. Social Capital and its Definitions

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

Bourdieu (1983/1986: 248) 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". In other words, social capital is made up of social obligations and connections within members in a group (Lin, 2001).

Coleman (1988, p. S98) 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

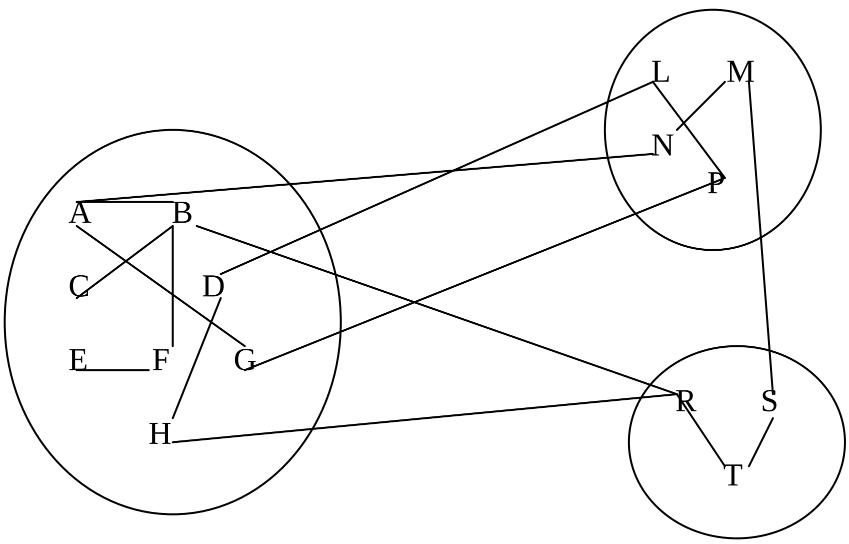
[1] For a more accurate analysis about trust and social capital in the thoughts of Adam Smith and Genovesi see Bruni et al (2000)

who are within the structure". Still 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 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. A criticism addressed to Coleman is that this functional view might be the result of a tautology (Lin 2001): social capital is defined when and if it works. The causal factor is defined by its effectual factor. By using an example, for actor X kin ties are social capital because they channel X to get a better job, while for actor Y, kin ties are not social capital because they do not channel Y to get a better job.
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. Putnam underlines that "a society of many virtuous but isolated individuals is not necessarily rich in social capital". Although all the previous definitions describe the concept from different perspectives, they nevertheless present a common view: it is the interactions between members that make possible the production and maintenance of this social asset.
To this purpose Lin (2001) 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. Firstly, social capital represents resources embedded in social relationships rather than individuals. Secondly, the access and the 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 p. 25). Only if this particular condition is satisfied the individual can capitalise on such ties and resources. Hence social interactions and embedded resources are the two key elements.
The importance of social interaction for economic purpose has been theoretically formalised by Becker (1974). 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[2]. 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*. Each social (family) member will share *k'*s shock by consuming less. Notice that whether *k'*s share of social (family) resources were negligible, then *k* will be fully insured against the shock since a decline in his endowment would have a negligible effect on the family endowment. What is interesting in the model proposed by Becker (1974) 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. Because the head of the family will maximise his utility subject to his budget constraint, anything that increases the family income will increase his utility. This means that the head will take into account the effect that his different actions might have on the total family income such as changing job with a better salary for instance. In doing so Becker (1974 p.1077) says that "the head automatically internalizes the external effects of his

[2] Notice that Becker (1974) takes into account also the possibility of a family where not all the members contribute to the social resource. In this case some of the members will be recipients only while some others will be both donors and recipients. In a "linear" scenario consider *a* being the head of the family, hence holding the family income and taking care of the other members. Then *a* will transfer part of his endowment to *b*. The latter will take care of *c* and therefore *b* will transfer parts of his endowment to *c* that in turn will transfer part of her endowment to *d* who is the last ring of the chain. Hence, everybody will transfer part of their endowment except for *d*.

actions on other family members". The term "automatically" is synonymous with "voluntarily". In other words, the head of the family voluntarily internalises his external actions for the benefit of the family which will represent the benefit of the head too. In a broader view of the meaning "family resources" we might consider not only the income but also other resources such as time, moral help, information, advice and so on. For example the respect of manners and rules of personal behaviour among family members might represent a clear example of internalised external actions. A member of the family (the head for example) "would eat with his fingers only if its value exceeds the value (to him) of the disgust experienced by his family" (Becker, 1974 p. 1078). This framework can be extended to a larger network with more interactions and agents (Becker 1974).
By combining networks with embedded resources Granovetter (1973, 1983) formalises the concept of "The Strength of the Weak Ties". A community is likely to be made by different social circles: family, friends, colleagues and so on. The connections inside a social circle (for instance a family) are characterised according to Granovetter (1973) by strong ties. The members belonging to the same circle are likely to share similar, if not identical, information[3]. If an individual wants to have access to different information he needs a link with a different social circle too. The ties between different social circles are called bridges without which the circles will be independent. The combination between these two types of connections is an advantage in order to have a more spread information flow and characterises what Granovetter (1973) defines as the "Strength of weak ties". Individuals having different types of connections can count on a more diversified social endowment.

Figure 2 Diagram of Bridging VS Bonding Connections

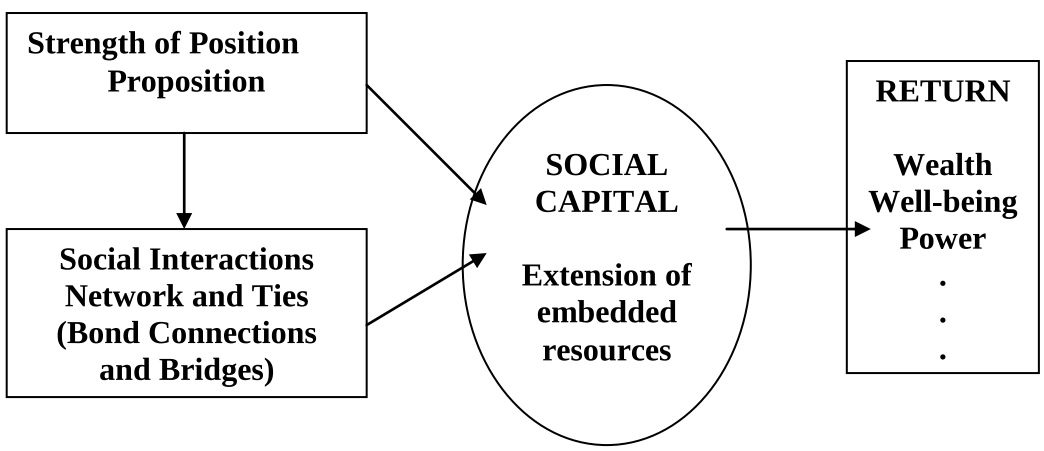


In figure 2 we depict three different circles with different members belonging to each of the circle. The arrows identify the connections between two or more members.

[3] The individual embedded in a social circle tends to have characteristics *homophilous* with the other members of the same circle. By *homophilous interactions* Granovetter means the interactions that occur between two actors having similar resources (for instance information).

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).
Lin (2001) points out that social capital extends as far as the social networks of the members of the groups. This is because resources can be accessed through direct and indirect connections. For instance, in figure 2, A and N are directly connected, but M is connected to A through N. Let’s assume that M is interested in a particular job position and that “information X” (for instance extra details, not available in the market, about the job position and the interviewer) is a social resource able to increase the probabilities for M to get that job. M can use her social network in order to access the “information X”. 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.
Once established the importance of the network and the embedded resources, Lin (2001) includes in his visual model of social capital (figure 3) a postulate based on the original position of the individual inside the network. This postulate is called the “Strength of Position Proposition” and indicates that, considering a member of a network, the better the position of origin, the more likely it is that this member will access and better use the social capital. For instance a better educated individual might use his connections in order to achieve higher goals than a less educated individual. An individual with a high income or a high social status might have better connections inside the society and achieve higher level of wealth or well-being relative to an individual with a low social status or low income (it is more likely for a lawyer to have a doctor within her friends than for a plumber). The initial position may represent an advantage in terms of quality of connections and reputation (better status).
The member’s social interactions (through strong and weak, direct and indirect ties) can provide access to the embedded resources under the necessary condition that the member is aware of the existence of such resources (Lin 2001). Lin (2001) concludes that the access to this form of capital can make the individual better off in terms of wealth, well-being, power and so on.

Figure 3 General Schematic Visual Model of Social Capital



Source: Re-elaboration of the visual model of social capital of Lin (2001)

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. However, there are still problems in accepting results and methods. One of the main reasons for the criticism is the still elusive definition of the concept (Sabatini, 2006). The most common and popular approaches to measuring social capital are: census of groups and group memberships (Beugelsdijk and van Schaik 2005) in a given society (Putnam et al 1993); the use of survey data on level of trust (Fukuyama 2001, Kanck and Keefer 1997), civic participation (Casey 2004), crime rate (Lutz et al 2004), blood donations (Guiso et al 2004) and so on.

Woolcock (1998) and Fukuyama (2001) argue that although trust and associational activity are used as social capital indicators, they might instead be one of its consequences rather than the social capital itself.

The use participation in voluntary organisation employed by Putnam et al (1993) to explain the difference of well-being between the Northern and Southern Italy is subject to criticisms.

First of all, voluntary associations might be characterised by groups that are relatively homogeneous in character (Sabatini, 2006). This high level of homogeneity within the group is likely to reduce new possible bridges between circles.

Secondly, measures that use associations might not be robust enough if they do not take into account the different types of organisations. Some types of organisations (for instance trade unions or commercial lobbies) might adopt rent-seeking strategies (Olson 1982). Hence, group members might impose costs on non-members in the pursuit of members' interests. This condition might vary with a society's governance structures. In societies where legal enforcement is more efficient and property rights more secured "Olson's scenario" is less likely to occur (Knack 1999, 2001).

The use of survey data on trust and civic engagement faces other conceptual problems. For instance, the measure of trust is drawn from public opinion surveys such as the WVS (World Value Survey) where the question about generalised trust is based on the following statement: "generally speaking, would you say that most people can be trusted or that you can be too careful in dealing with people?" The possible responses to this question are: "Most people can be trusted", "Can't be too careful", or "Don't know". The trust indicator is given by the percentage of people giving the first answer. One of the problems related to this measure is that it is not clear if respondents interpret the meaning of "trust" or "most people" in the same way across countries, cultures and times (ages) (OECD 2001). This problem becomes even more prevalent in cross-national studies.

The employment of alternative macro indicators such as crime rate, blood donation and civic participation is not immune to criticisms either. It is argued that these indicators can create considerable confusion about what social capital is and its outcome (Sabatini, 2006).

The crucial missing element is that all these indicators mentioned so far do not consider enough the structural dimensions of social capital. According to Uphoff (1999) the structural dimension of social capital refers 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 (Sabatini, 2006; Grootaert 2001). 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). Hence, the structural dimensions of social capital become crucial in order to construct a "reliable" indicator. For "reliable" we mean a social capital indicator that satisfies the trust-cooperation complex of Paldam (2000). This particular concept indicates that trust and cooperation are two interlinked elements that any social capital indicator should be able to satisfy somehow[4] and it can be expressed as follows:

$$Trust \Leftrightarrow \text{ ease of voluntary cooperation } \pm e \qquad (1)$$

Where: *e* is a small error; the *ease of voluntary cooperation* indicates the ability of individuals to work together, which also corresponds to the definition of social capital provided by Coleman (1988); *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 play a fundamental role in the construction of the measure.

The structural dimensions of social capital recall the network analysis advanced by Granovetter (1973). The different types of connections among the members characterise not only different types of relationships but also different types of structural dimensions of social capital. To our knowledge the literature so far has identified three main dimensions: bonding, bridging and linking social capital. These dimensions are not mutually exclusive and each of them has its own characteristics and its own impact on the socio-economic dynamics of the society.

3.1 Bonding Social Capital

Bonding social capital indicates strong family ties where social relationships are characterised by trust and reciprocity. As the *social capital and poverty transition mechanism* (Narayan and Woolcock 2000) explains this initial system of strong in-group connections helps the members to deal with socio-economic problems such as providing loan to somebody with very poor or inexistent material collateral. However, this mechanism also remarks that when the individuals have access exclusively to this type of resource, they are less likely to escape poverty[5]. In fact, as the "strength of weak ties" theory predicts, when bonding social capital becomes exclusive, then, the network becomes a closed one. This implies that the access to extra resources (for instance information) possessed by other groups is reduced, if not denied, with the main consequence of lowering social capital endowment. Another characteristic of the bonding social capital is the strong reciprocity operating among the members of the group. This might be the consequence of a strong system of mutual obligations. For instance Harris (2007) analyses the relationship between bonding social capital and corruption perception across countries. She finds that in closed groups where specific reciprocity is highly valued, corrupt exchange might be considered acceptable as "good reciprocity" between peers. If so, then the moral cost associated with such an exchange can be low. Within the Italian context, Sabatini (2009) is probably the most popular economist that has constructed a structural index of bonding social capital. By using a principal component analysis, he combines elements such as family composition, spatial distance between family members, the relevance of other relatives and the quality of relationships both with family members and with other relatives into a unique synthetic indicator. He finds that between 1998 and 2002 bonding social capital is higher in the southern regions than in the north of the country.

[4] Notice that in the literature it is still ambiguous whether these two concepts are causally linked one to each other. In Sonderskov's (2008) impression this link in the literature seems to be treated more as an assumption rather than a theoretical and/or empirical justification.
[5] See section 4 for further details.

3.2 Bridging Social Capital

Bridging social capital indicates the networks of friends, neighbours and acquaintances. It represents the "strength of weak ties" a la Granovetter (1973). In other words, it indicates the bridges between the bonding groups. The ties with individuals belonging to other groups open the access to resources different from those embedded in the initial bonding group. Hence, the information and knowledge traded between groups allows the community to benefit from a diversified social endowment accumulation and, therefore, more social capital. This, in turn, should contribute to the wealth of the community. The lack of bridging social capital type might characterise the different in development and growth between areas even within the same country. For instance, several scholars argue that one of the reasons for which the southern Italian regions economically underperform compared to the northern regions has to be attributed to the different level of bridging social capital between the two parts of the country (De Blasio and Nuzzo 2010; Guiso et al 2004; Lyon 2005; Nuzzo 2006; Putnam et al 1993; Sabatini 2005; 2009).

In fact, if we consider the network based on friends, in Italy in the 1998, the 60.3% of individual males declare to have friends to count on while for the women this percentage is lower (55.6%)[6]. Notice the difference between geographic partitions: 62.2% North-East, 61.4% North-West, 58.1% Centre, 56.6% islands, 51% South. In the 2003 the percentage of individuals declaring to have friends to count on decreases (59.3%). Still, in the North-East there is the highest percentage of individuals with friends to count on (64.6%) and in the North-West (63.2%) against the South (51.2%).

3.3 Linking Social Capital

Linking social capital indicates ties connecting individuals or groups to people and groups in position of different political or financial power (Sabatini, 2009). Hence, unlike the first two dimensions, the linking one represents a vertical relationship[7]. In theory this type of connections should permit individuals or communities to access resources or information from institutions of power. For instance, NGOs operating in developing countries might do extensive use of this link. For an NGO the possibility of having connections with the local authority might be a value added. Through these vertical connections, the NGO can obtain essential information for delivering a better social service to the local community. However, this vertical relationship is not always positive and its beneficial effect is most of the time context oriented. It has been debated that in non-democratic countries the dominant strategy adopted by some NGOs is to build vertical relationships with local authorities through clientelistic connections. This strategy is employed to crease the likelihood for the NGOs to operate in that area if not in that country (Jamal, 2009). This might imply, sometimes, a tacit contract between the NGO and the local authority according to which the service provided by the organisation should not be in conflict with the policy approach adopted by the authority (Jamal, 2009).

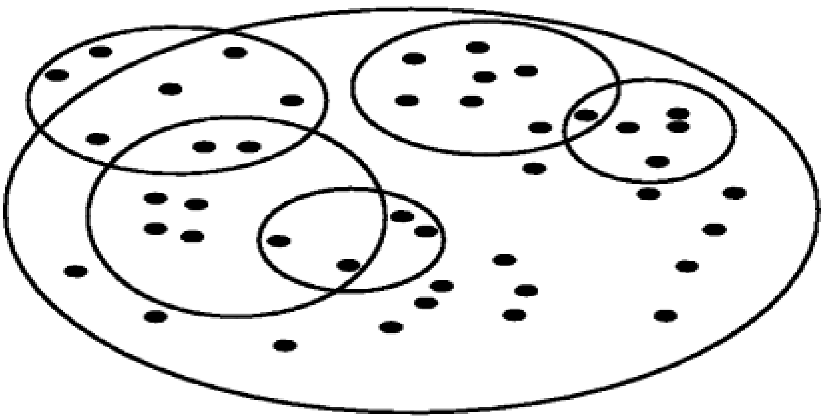
[6] This statistics derive from the report on "Relatives and safety net" conducted by the ISTAT in 1998 and 2003.

[7] Notice that this scenario should not be confused with the impact of social capital on the financial market, especially within the lender-borrower relationship. The lender-borrower relationship is more horizontal than vertical. In this sense the fact that a financial counsellor is integrated in the social network of the local community, allows him to acquire information about potential clients through the informal relationships the counsellor holds with the rest of the community (Ferray 2002). This should contribute to reduce the asymmetric information occurring between the lender and the borrower and, hence, to possibly reduce the risk related to their lending activity.

4. The Social Capital Dilemma: How much Social Capital do we need?

While human capital resides in individuals, social capital resides in relationships and trust is a fundamental ingredient of the engine that makes these relationships work. Fukuyama (2001) identifies in the concept of the *radius of trust* (figure 4) the mechanism that facilitates cooperation among individuals. The *radius of trust* "is the circle of people among whom co-operative norms are operative" (Fukuyama, 2001 p. 8). According to Fukuyama (2001), a modern society can be represented as a set of "concentric and overlapping radius of trust" ranging from families, friends, religious groups, NGOs and so on. From this scenario there are two possible outcomes. Firstly, the radius of trust is larger than the group itself by producing, in this case, positive externalities. Secondly, the radius of trust is smaller than the group itself which means that not all the members belonging to that group benefit from this "social resource". In the second case the classical dichotomy insider-outsider occurs. Nooteboom (2006) reinforces Fukuyama's statement underlining that "trust" has extrinsic instrumental values in helping to reduce the risk of transaction costs of relationships. More precisely, formal means of control such as government control or legal contracts are not able to completely eliminate relational risks. That is why some degree of trust is always needed (Nooteboom 2006).

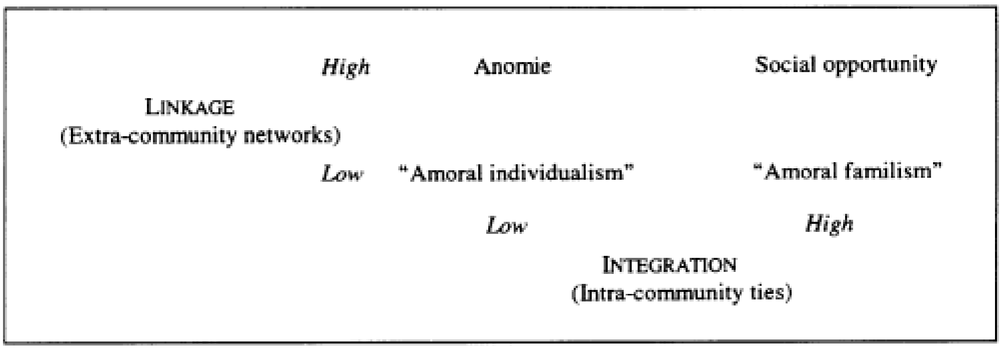
Figure 4 The Radius of Trust



Source: Fukuyama (2001)

This condition is strictly related to the social capital dilemma set out by Woolcock (1998). The bottom line of this dilemma is that both "too little" and "too much" social capital at any given institutional level can impede economic performance. Let's consider a society made up of individuals, households and small groups of communities. The trust between the members of a community is called in the literature "generalised trust". Notice that this does not indicate the level of trust in a specific individual, rather the person's level of trust towards other people when no other information is available (Sonderskov, 2008). On the other hand, the trust that occurs between the members of a community and the institutions running that community is called "institutional trust". Woolcock (1998) proposes a model of social capital based on two dimensions, integration and linkage, interacting one to another. He defines "Integration" a process that develops intra-community ties. The more intensive the social ties and generalised trust within a given community are, the higher is the endowment of this form of social capital. On the other side, he defines "Linkage" the extra-community networks, in other words, the bridges (using Granovetter's terminology) that can be built between two or more different communities. The dilemma says that "more is not necessarily better". To this purpose Woolcock (1998) identifies four cases (figure 5).

Figure 5 Linkage and Integration



Source: Woolcock (1998)

The first case identifies high integration and low linkage. This occurs when trust is mainly present among family members or blood relatives and absent across different groups then non-developmental reality is likely to be present. A situation characterised by strong social integration and the absence of linkage has been called by Edward Banfield[8] (1958) "amoral familism". The second case identifies the absence of both integration and linkage. This leads to what Woolcock (1998) calls "amoral individualism" according to which members are isolated from all forms of cohesive and social networks. The third case is characterised by the presence of high linkage and low integration. Woolcock (1998) calls this case "anomie", where 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 modernisation). Finally, the last case is the best possible scenario where both integration and linkage work and therefore strong and weak ties together increase social opportunities.

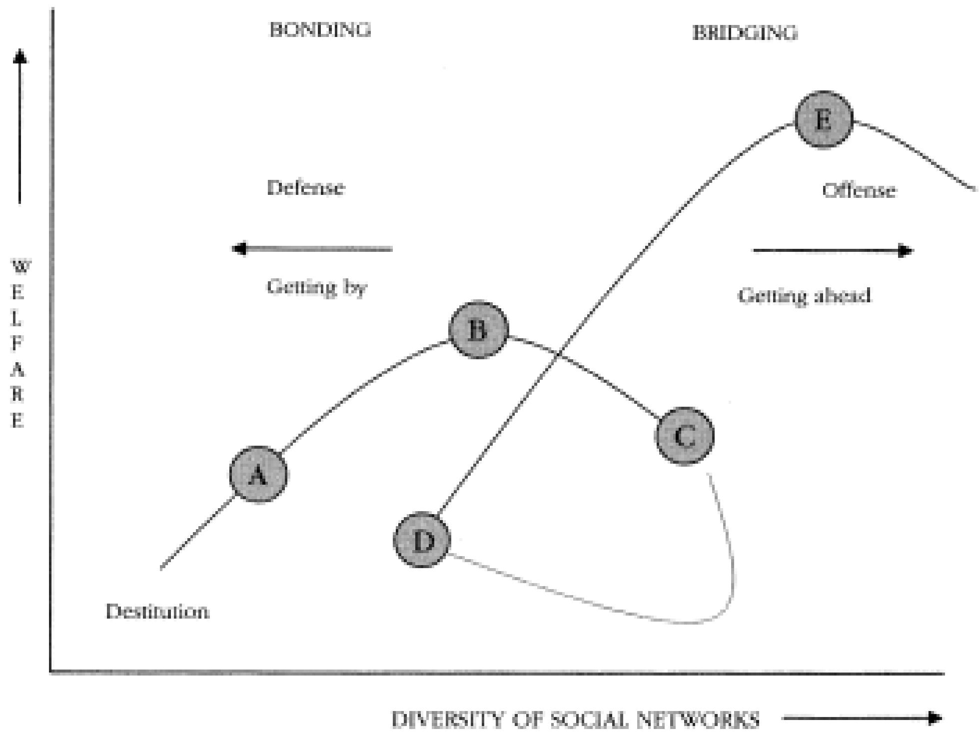
It is clear that the main weakness of this particular form of capital is that there needs to be balance between its bonding and bridging side.

The importance in the balance between bonding and bridging social capital is clearly explained in the dynamic of the so called *social capital and poverty transition mechanism* (Figure 6) designed by Narayan and Woolcock (2000). Social capital is composed of two crucial elements: network and embedded resources. Given this condition, the economic development occurs through a mechanism where bonding and bridging social capital coexist. This mechanism implies that individuals not only acquire skills and resources embedded in their initial community (*bonding)*, but also "skills and resources to participate in networks

[8] Banfield identified "amoral familism" as one of the main causes of Southern Italy's underdevelopment (Sabatini, 2005)

that transcend their community (*bridging*), thereby progressively joining the economic mainstream" (Narayan and Woolcock, 2000, pg. 232).

Figure 6 Social capital and poverty transitions mechanism



Source: Narayan and Woolcock (2000)

The mechanism described in figure 6 follows different phases that are inter-correlated one to 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 will start to decrease.
(C) This happens especially when the group exclusively rely 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 colleagues 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, rises economic opportunities.

The diagram in figure 6 shows also that while social groups belonging to poor villages intensify bonding links in order to fight against uncertainty ("defence" approach), non-poor groups tend to create a system of bridging network and play "offense". This view is in line with the concept of the "Strength of Position Proposition" advanced by Lin (2001), a postulate indicating that the better the member's position of origin is, the more likely it is that this member will access and better use the social capital. In other words, people starting with

a higher endowment, have more probability to diversify their social capital between bonding and bridging side.
As Woolcock and Narayan (2000) underline, one of the main challenges is to identify the conditions that help the communities of poor to have better access to bridging social capital type without, simultaneously, undermining the many positive aspects of their bonding social capital stock.

5. After Putnam: Measures of Social Capital in Italy

Putnam's theory predicts that heterogeneous performance across regions sharing the same formal institution can be explained by different regional endowment of social capital (De Blasio et al, 2010). In the "Italian work", Putnam et al (1993) point out that historical informal institutions such as family and friends network, voluntary associations and people's interest on public affairs, are persistent and able to explain current economic differences between the North and the South of the country. This has stimulated social scientists to develop further investigation about the rule of social capital in the Italian context and not only. In this section, we mention, in particular, the contribution provided by those works that have proposed new social capital indicators[9].
Guiso et al (2004) warn that the selection of the most "appropriate" indicators represents the main obstacle in social capital works. To this purpose, the literature seems to have adopted two distinctive types of indicators (table 1).

Table 1 Social capital indicators in Italy

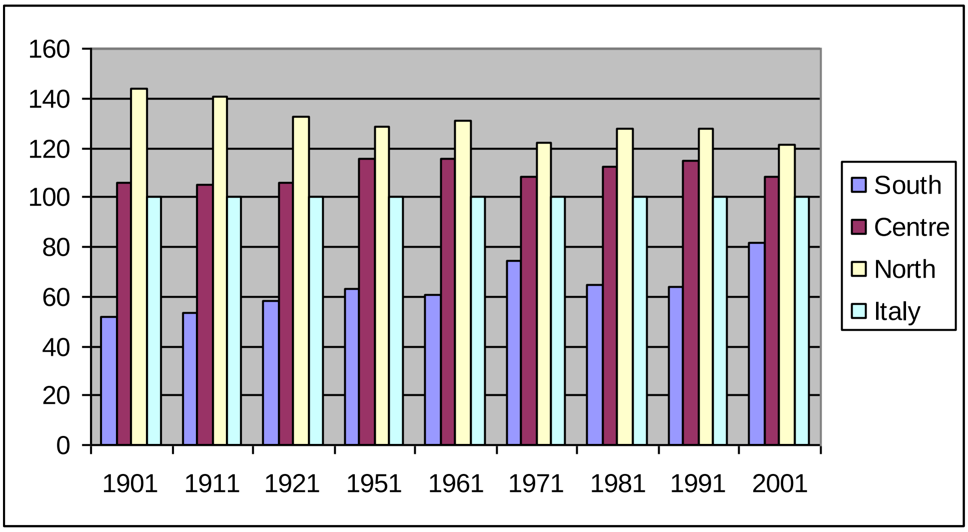
Nuzzo (2006)	Sabatini (2009)	Guiso et al (2004)
Synthetic measures	*Synthetic measures*	*Outcome-based measures*
Sub-indicators *A Social Participation* *B Political Participation* *C Trust* Final indicator *SC = simple mean of* *A + B + C*	Five Indicators *1.Family ties* *2. Informal networks of friends and neighbours* *3. Voluntary Organisations* *4. Indicator of political participation* *5. Indicator of civic awareness*	Two indicators *1. Blood donation* *2. Electoral turnout*

[9] Notice that this section does not imply a critical discussion regarding the efficiency of these "new" indicators on economic outcomes. The idea is to provide a general picture of the main approaches used to construct additional social capital measures applied to the Italian context. This should also transmit to the reader the sense of continuity and the progresses made by the scholars after the "Italian work".

Some scholars have proposed new social capital synthetic indicators based on the combination of different social attitudes (De Blasio and Nuzzo, 2010; Nuzzo, 2006; Micucci and Nuzzo, 2010; Sabatini 2009). The main reason of this approach is the multidimensional nature of the concept of social capital. The synthetic approach combines many different social aspects $sa_1, sa_2, ..., sa_n$ (such as family and friends network, interest in public affairs, trust in people and institutions and so on) into a single synthetic measure Π. Indeed, a measure including many social aspects is conceptually more complete than a simple outcome-based indicator. Moreover, these types of measures allow researchers to create weights, especially at regional level. Hence, regional ranking can be made according to these weights. However, the indicator is called synthetic properly because it represents a virtual construction. In other words, Π is very difficult to define.
Other scholars have adopted the so called outcome-based social capital measures (Guiso et al, 2004). These refer to those social behaviours determined by high level of civic spirit and generalised trust. Compared to the synthetic proxy, the construction of an outcome-based social capital indicator follows an inverse mechanism. As the term may suggest, the outcome-based indicators are based on outcome and expressions of "social capital". The choice of an outcome-based indicator is driven by a fundamental requirement: the indicator contains many social aspects such as $sa_1, sa_2, ..., sa_n$ in order to exist. For instance, the two outcome-based indicators proposed by Guiso et al (2004) are turnout referenda that occurred during the period 1946-1989[10] and the proportion of blood donation[11]. They argue that since electoral turnout and blood donations are the outcome and expressions of "civic spirit" then reverse causality problems are mitigated. In this case, the decision of excluding direct measures of trust as social capital proxy is justified by the idea that trust might create "misleading" interpretation and contaminate the robustness of the analysis. For instance, Guiso et al (2004 p. 527) pose the following question "is the level of trust a New Yorker exhibits in her daily economic behaviour the result of good law enforcement or the product of high level of social capital?" Unlike the synthetic indicator, this is not the result of a virtual construction. However, these indicators can create considerable confusion about what social capital is and its outcome (Sabatini, 2006).
It is interesting to compare the empirical evidence provided by these works. There are no major differences in terms of the macro-distribution of the social capital in the country. In fact, regardless the social capital measure adopted, all the three works confirm a "skewed" distribution of social capital toward the northern regions. However, each work analyse the impact of social capital under a different perspective.
Nuzzo (2006) proposes regional social capital proxies covering the entire XX century. The aim of his work is to investigate whether regional differences in social capital endowment are persistent or convergent with particular attention to the southern area. To our knowledge, Nuzzo's construction of historical time series of regional social capital is the only work of this type. The social capital measure proposed by Nuzzo (2006) is the combination (simple mean) of three main social capital "sub-indicators" which are social participation, political participation and generalised trust (table 1). Empirical evidence indicates a small convergence of South until 1960 and a higher convergence after 1990 (figure 7).

[10] This indicator is also included in the synthetic index of Nuzzo (2006)
[11] Notice that we will develop a more critical discussion about the work proposed by Guiso et al (2004) in Chapter 3 when we analyse the relationship between social capital and credit marktet.

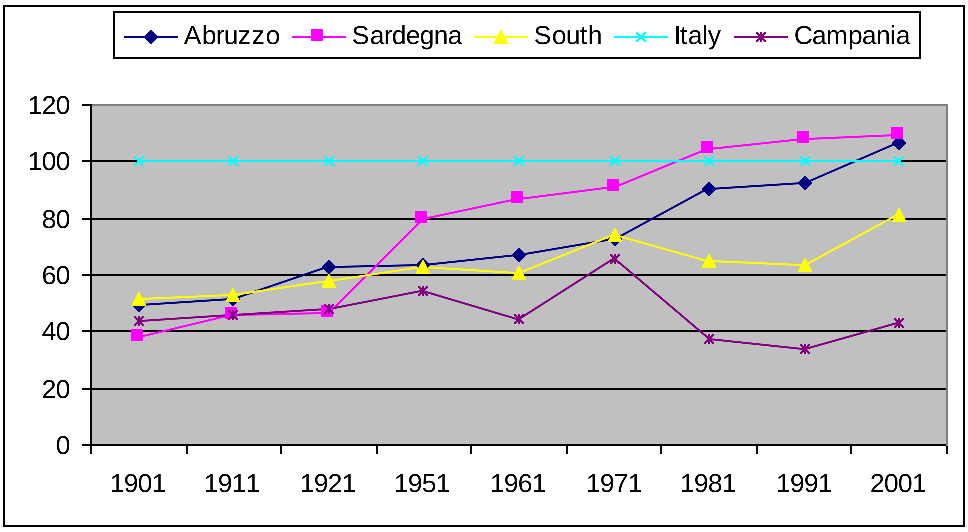
Figure 7 Geographical partition of social capital during the period 1901-2001



Source: author's re-elaboration of data from Nuzzo (2006)

The interesting part of the story is that the convergence does not affect the southern group homogeneously but cross-regional differences occur. After 1990 the regions Abruzzo and Sardegna face a major improvement (above the national mean), contrary to Campania (figure 8).

Figure 8 Social capital in the southern regions during the XX century

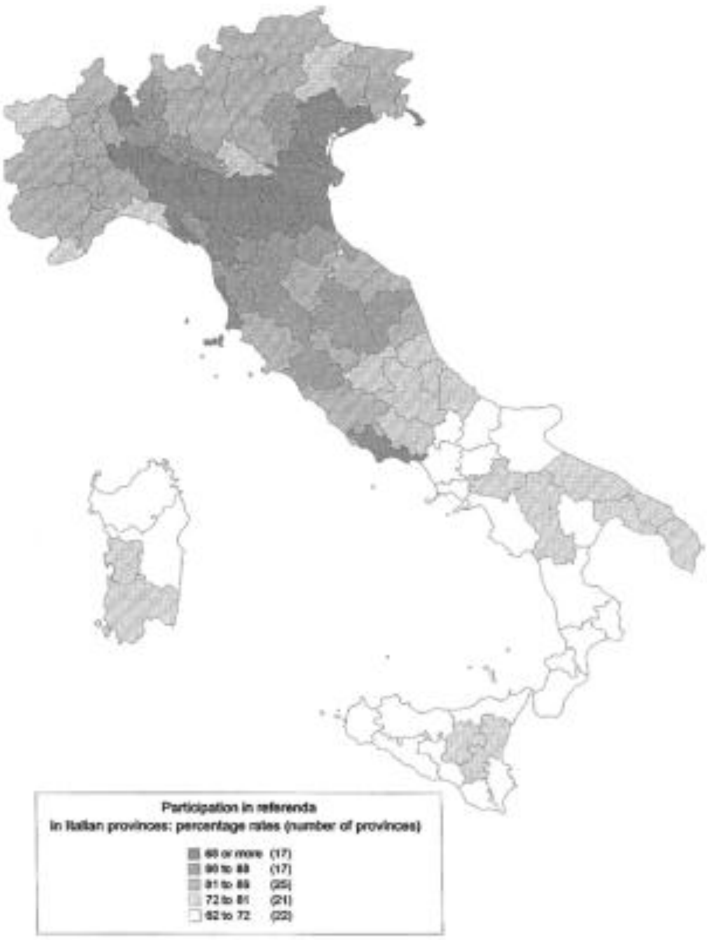


Source: author's re-elaboration of data from Nuzzo (2006)

Like Nuzzo (2006), Sabatini (2009) constructs regional synthetic social capital indicators even though not within an historical time-series framework. In analysing the relationship between social capital and socio-economic performance in Italy, Sabatini (2009) uses a principal component analysis to construct five different synthetic measures, most of them based on the structural dimensions. The data derive from the national statistical office

(ISTAT) and are based on the years 1998-2002. Not surprisingly, Sabatini (2009) finds that the measure indicating bonding relationship (family social capital) is quite high among the southern regions. On the other hands, indicators of bridging social capital and density of voluntary association show higher values in the northern regions. Similar to Nuzzo (2006), statistical evidence shows that among the southern group, the region Abruzzo presents the lowest bonding social capital value while the region Sardegna the highest bridging social capital and voluntary organisations value. In the Centre and in the North the regions Piemonte and Lazio show a very low political participation. The latter shows also a “deficit” of bridging and voluntary organisations.
Guiso et al (2004) find a robust and significant positive impact of the outcome-based social capital indicator on the financial development. Notice that the geographical distribution of the outcome-based measure “turnout of referenda” (Figure 9) is similar to the distribution of the indicator proposed by Nuzzo (2006). It is quite evident the gap between South and North. Unlike Nuzzo (2006), the southern region Puglia presents a higher performance compare to the rest of the South.

Figure 9 Geographical distribution of turnout of referenda



Source: Guiso et al (2004)

6. The Dark Side of Social Capital

In the Heraclitus' *theory of the opposites,* in nature for any element there exists its contrary such that two opposites constitute the unity. Therefore, according to this theory we might expect to deal with a dark side of social capital too. Moving from the ancient Greek philosophy to more contemporary economic studies, Naryan and Woolcock (2000) describe social capital as a double-edged sword. On the one hand, social capital can represent a valuable asset for economic and well being improvement. On the other hand, exclusive strong ties and strict sense of obligations might be at a certain point a cost without related benefits for the community. As a double-edged sword, cooperation among members of a certain group does not necessarily imply that the goal is the benefit of the common good (Portes, 1998; Field, 2008). For instance, while group members (insiders) can benefit from common resources, the outsider might be excluded and under certain circumstances isolated by creating an environment of general distrust. In some cases "very inclusive social networks leave individuals with little freedom" (Sciarrone, 2002 p. 2). The Italian Mafia is a quite emblematic expression of the negative side of social capital (Sciarrone, 2002; Gambetta, 2000; Field, 2008). In an analysis of social capital and Mafia, Sciarrone (2002 p.11) recalls the words of Antonio Calderone, State's witness, who stated: "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 by extending in this way their connections outside their initial circle and increasing the Mafia influence in the 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 organisation "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.

Whether trust and associational activities are the engines of social capital, these two elements do not always lead to the desirable outcome, at least for academic purposes. In analysing the barriers to democracy and the social capital in the Palestinian Territories, Jamal (2009) points out how geopolitical frameworks affect the directions of trust and associational activities. The peculiar political and institutional situation in the West Bank has led to a polarisation of the civic associations divided into pro-PNA and "anti"-PNA (PNA denotes Palestinian National Authority). Within this particular context, Jamal (2009) underlines that government supportive associations are more likely to receive benefits that non-supportive associations do not receive. This impartial treatment is due to the existence of strong vertical ties between government and organisations that facilitate a system of clientelistic linkages where association leaders work as intermediaries between association members and government. Unlike the face-to-face cooperative interaction promoted by Putnam (1993, 2000), this process of hierarchic connections affects the direction of trust tremendously. Actually, among the actors involved in the system the level of interpersonal trust (trust among like-minded individuals) is definitively high. However, this "*trust* is contingent on the guarantee of political access" (Jamal 2009 p. 80). In addiction to the asymmetric and polarised distribution of economic wealth inside the community, this situation causes a further obstacle to the development of the democratic process. Non-clientelistic organisations learn the prevailing clientelistic tendency in society and they understand their isolation. Given the isolation, their lack of trust is a logical consequence.

Glaeser (in “Social Capital Critical Perspectives” p. 113, Baron et al. 2000) defines trust as the commitment of resources to an activity where the outcome depends upon the cooperative behaviour of others. However, according to Fukuyama (2001), even though trust has a general positive value, it might represent an opportunity for those who wish to engage in fraud. The more an individual inside a community is trusted by the other members, the less his actions are monitored by the rest of the community. This implies that the individual has greater possibilities if he wants to engage in fraud.

7. What about the Sceptics?

Despite the increasing number of works on social capital, some economists are still sceptical about its correct use and its definition as capital. Arrow (1999) considers that “capital” is something “alienable” and its ownership cannot be transferred from one person to another. Therefore, it is difficult – as with human capital – to change the ownership of social capital[12]. Routledge and Von Amsberg (2003) relate social participation to labour turnover. More precisely, high labour turnover means that people devote more time to work and consumption, hence sustaining growth, and less time for social participation

According to Ben Fine (2002a p.1) “social capital should, in general, be rejected rather than adopted or adapted” for several reasons. Firstly, “the notion is simply chaotic as is reflected in frequent suggestions that it is merely a metaphor or a heuristic device” and this is because the definition is still elusive with lots of confusion among scholars in the wish to distinguish between what it is from what it does. Secondly, Rather than seeking for a standard and precise measure, scholars attempt to include *randomly* variables in the hope of receiving the expected outcomes. Not only this makes the measure unreliable, but also it has a backward effect on the reliability of the notion of social capital itself. Thirdly, social capital seems to have become the cure of every dysfunctional aspect of the 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, 2002b p.1). Besides these reasonable remarks, Ben Fine is also concerned about the strategic role that the economic discipline has been playing inside the larger social science set in the last 20 years. In his view, the notion and the concept of social capital has been used by economists in order to colonise the rest of the social science disciplines. He points out, for instance, that miraculously the social capital syndrome is the responsible for the “ironic” changing of opinion about the role played by customs and traditions in the African economy. In simple words, customs and traditions considered the main obstacle to market efficacy under the Washington Consensus, now are seen as a crucial resource for the local economy.

[12] 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

8. Empirical Works on Social Capital and their Limitations

Much empirical work has attempted to test the role of social capital relative to socio-economic outcomes such as income, poverty, crime rate, health and so on. Cross sectional analysis represents the main and still most popular econometric methodology 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 the life, habits and social conditions of individuals that might affect their wealth. However, very often this type of data set is based on a particular year and it is not always repeated consistently in subsequent years. Even when surveys are conducted with a regular frequency, this might not always occur on a yearly basis.

Secondly, opinions and perceptions about attitudes, codes of conducts, norms, values and trust are not likely to change dramatically on a yearly basis. On the contrary, unlike popular economic variables such as investment, consumption and unemployment, these "opinion-shaped-variables" might require a remarkable length of time in order to change (for instance it is likely that my opinion about trusting other people in general might remain unchanged from one year to another. This means that it might take more than three or four years for an opinion about a particular value to change). Hence, under these circumstances, panel or time series analysis might not produce the expected outcome. Hence, more "consistent" analysis might apply pooled cross section methodologies that allow the social scientist to detect, at least, the co-movements of the aggregate variables over a period of time that is above the year. The merit of these approaches is to include socio-economic variables in the model specification in order to capture what, quite reasonably, the pure economic model leaves aside (Contini, 2010). However, the lack of data and a not yet established theoretical framework reduce somehow the consistency of the empirical analysis leaving large room (maybe too large and too often) for the author's interpretation of the results. Relative to these issues, Durlauf and Fafchamps (2004) identify some of the main problems which are common in the empirical literature of social capital. Firstly, in analysis at the individual level it is not always clear whether individual returns from social capital are good indicators of aggregate returns. For instance the employment relationship might create informal networks where individual returns to social capital (inside the network) might exceed social returns and therefore generate unequal outcomes by reinforcing the insider-outsider system. Secondly, model specifications might raise problems of exchangeability linked to the problem of choosing the control variables in the regression. This problem refers to the choice of a model that is not correctly specified. In this sense, the model does not work across different contexts. In other words, observations and specific models should be comparable across different contexts. The unlucky alternative would be that "the residuals in the sample will contain forms of heterogeneity that call into question the placement of the observations in a common regression" (Durlauf and Fafchamps, 2004 p.32) with the unhappy consequence of a specific model that work only for that particular case study and from which it is not able to deduct any "general regression" useful for other studies and cases. Thirdly, some empirical analysis might suffer from model uncertainty and more precisely from parameter heterogeneity. This indicates models where some variables are "fragile". For instance, in cross-country analysis some variables can explain the relationship only relative to some countries and not to others. If we consider the case of empirical research on social variables affecting economic growth, "growth regressions" imply a dependent variable measuring economic growth and a series of control variables in order to explain the growth patterns. Recent works such as Hineline (2008) following SalaiMartin (1997) underline the "fragility" of some explanatory variables. More precisely, by slightly changing the control variables, the coefficients become statistically not significant and the analysis is shown not to be robust. Brock and Durlauf (2001) also notice that in cross section analysis with aggregate data the selection of the pool countries might crucially affect policy implications. By revisiting Easterly and Levine (1997), Brock and Dulauf (2001) find that the negative relationship between ethnolinguistic diversity and growth is significant only for Sub-Saharan Africa. This means that this variable is not able to explain growth also in other countries. The main question, then, is whether to group countries such as US and Japan with developing countries inside the same empirical model is an advisable strategy for general policy implication.

Fourthly, empirical models that try to explain the effect of social capital on economic outcome might suffer of reverse causality problems. The direction of the arrow of the causality is not always clear. Does higher level of income induce individuals to trust more or to be more reliable or the other way round? This is a common problem especially in aggregate measures. A set of social capital measures might capture also some other elements not taken into account in the research but maybe crucial for the interpretation of the results.

Fifthly, one of the critiques (Durlauf and Fafchamps, 2004; Lyon 2005) that Helliwell and Putnam (1996) receive is the omission in their regressions of the geographical location of the Italian regions. Omitted variables can lead to the so called endogeneity problems. For instance, does a dummy *south*, indicating the southern regions, lead to the same results? In order to avoid problems of endogeneity of regressors and reverse causation some papers include instrumental variables (Guiso et al, 2004; Kanck and Keefer, 1997 for instance). That these works have provided a substantial contribution to the social capital literature is probably common opinion, however the use of this methodology has not been immune to criticisms. To this purpose the main problem is based on “the absence of any strong theories of aggregate social capital determination in the social science literature that would allow to characterize appropriate instruments” (Durlauf and Fafchamps, 2004 p.53). In other words, in absence of a strong theory, the choice of the “instrument” becomes too arbitrary with the risk of causing model specifications and model uncertainty (Durlauf and Fafchamps, 2004). In additions, in front of small sample size (like in Helliwell and Putnman 2000) the use of instrumental variables (IV) is strongly discouraged. Indeed in small samples, IV estimators can have a substantial bias which is one of the reasons why large samples are preferred (Wooldridge, 2006).

To our knowledge so far nobody has proposed a general recipe in order to avoid the problems listed above. So does this section. The lack of a strong theoretical structure, at least in pure economic terms, is probably due to the multidimensionality of the concept and to the recent spread interests in this topic. Here, we can speculate on the adoption of some strategies (not exhaustive list) that even though cannot avoid the main problems previously underlined, they might, at least, reduce their magnitude.

Firstly, geographical and demographical variables should be included in the empirical models as suggested by Goroatert (2001). This is likely to reduce endogeneity and reverse causality problems.

Secondly, in a cross country or cross-regional analysis, the use of country or regional fix effects might mitigate the problem of model uncertainty, since they might incorporate the effects of omitted variables capturing elements of democracy, human rights system and institutional enforcement characteristics (such as the legal system for instance)

Thirdly, with respect to reverse causality problems, in some cases lagged variables of human capital and social capital are also included as suggested by knack and Keefer (1997).

Fourthly, in absence of a strong theoretical framework, strong theoretical models can be borrowed from other sub-disciplines. The most simple but quite clear example is the empirical work of Knack and Keefer (1997) where the variables associational activity is

tested through a sensitivity analysis where Olson and Putnam group associations are distinguished one from another and included in a classical growth theoretical model.
Finally, the choice of the social capital variable and the methodology to apply is indeed one of the key factors that must be taken into account. Empirical works such as Sabatini (2006, 2009), Lion (2005) use composite indicators. As mentioned in section 5, this implies a selection of different social dimensions combined together into a unique index. On one hand, this type of proxy might be more complete, at least conceptually. On the other hand, it becomes impossible to understand which dimension of social capital is more relevant in affecting the economic outcome (Franke, 2005). Single indicators, even though less complete, are less subjected to this kind of problem. Other works use inverse measures such as social dysfunctions, for instance crime. In the empirical work about the effect of social capital on income in Africa Lutz et al (2004) use the level of corruption as the inverse measure of social capital. The main problem of this approach is that social capital is likely to be only one potential contributor of the lack of crime rather than the only one.
Overall we conclude that all these limitations should not discourage any new initiative and further projects on social capital and economic outcomes, rather they should have the reverse effect. From the economic perspective we believe we are just at the beginning and probably inside a dark room where theoretical and empirical frameworks are not clearly set yet. Therefore, caution in presenting empirical findings is advisable. Moreover, more prudence in deciding which variable should be considered a reasonable social capital proxy might represent a crucial starting point of any empirical work.

9. 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 several scholars of different social science disciplines. On the one hand, this has created opportunities for some to attempt the development of a theoretical framework. On the other hand, this has induced some 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 any further study on social capital. Instead, they should stimulate and enrich the debate under a theoretical and applied perspective. In the last decade, alternative techniques have been employed in this sense including, but not only, structural equation model (Sabatini 2009), network analysis (Garcia-Amado 2012; Siegel 2009), game theory (Antoci et al 2011; Poulsen and Svendsen 2005) and behavioural economic analysis (Bowles and Gintis 2002).
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. Therefore, caution in presenting empirical findings is advisable. In addition, more prudence in deciding which variable should be considered a reasonable social capital proxy might represent a crucial starting point of any work empirical and not.

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