ISSN 1745-8587

School of Economics, Mathematics and Statistics

BWPEF 1003

Social Capital, Community Governance and Credit Market

Luca Andriani
Birkbeck, University of London

January 2010

Birkbeck Working Papers in Economics & Finance

Social Capital, Community Governance and Credit Market

Preliminary Version (January 2010)

Luca Andriani

Birkbeck University of London

Abstract

Financial contracts represent an exchange of financial resources today, such as money, for a promise to return more financial resources tomorrow. The aim of the paper is to test whether cheating or respecting a promise, in particular a "financial one", is also a matter of community norms in which the individuals are involved. According to the social capital literature, where a community is characterised by a high level of social capital, then a higher level of civic engagement, trustworthiness and self monitoring among its members occur. These elements characterise the so called community governance. By using regional data from Italy, the paper will analyse the association between the community governance, through different aspects of social capital, and credit market variables such as interest rate, credit supply and insolvency rate without and with legal institutional enforcements. Empirical evidence shows that, in absence of legal enforcement, indicators of structural social capital, civic engagement and outcome-based social capital are positively related to better credit market performances. When legal enforcement is included in our models still social capital, through the civic engagement aspect, negatively affects the insolvency rate by confirming our hypothesis of complementarity among community state and market.

1 Introduction

Financial contracts represent an exchange of financial resource today, such as money, for a promise to return more financial resource tomorrow. The aim of the paper is to test whether cheating or respecting a promise, in particular a "financial one", is also a matter of community norms in which the individuals are involved.

To this purpose, the paper studies a pooled cross section of the 20 Italian regions in the 1998 and 2003. The central question is whether regional differences in Italy relative to credit market variables such as interest rate, credit supply and insolvency rate are related to social capital with and without legal institutional enforcement. The

definition of social capital we consider in this paper is that one advanced by Putnam et al (1993) where it refers to connections among individuals that characterise a social network where norms of reciprocity and trustworthiness arise from the members. Empirical evidence shows that in absence of legal enforcement, the indicators of social capital in the forms of structural, cognitive and outcome-based are significantly related to the credit market variables. This suggests that the thesis of Putnam et al (1993) on social capital and the Italian regions can be extended to the credit market too. Moreover, our results suggests that, on line with Beugelsdijk and Schaik (2004), it is not the mere existence of network relationships that conditions regional credit market "performances" rather the active involvement in these relationships[1]. Alternatively, our paper confirms the important results about the positive effects of social capital on regional financial development in Italy advanced by Guiso et al (2004). When legal enforcement is included in our model, the social capital indicator in the form of civic engagement together to the variable "legal" is still significantly related to the insolvency rate. This result confirms the thesis of complementarity between community governance, State and market advanced by Bowles and Gintis (2002).

In the social capital literature so far, empirical evidence shows that social capital positively affects economic performances and the societies' well being either at the local level or at the state level (Putnam 1993, Knack and Keefer 1997, Knack 1999, 2002, Guiso et al 2004, Putnam and Helliwell etc…). Grootaert (2001) attributes this beneficial effect of social capital to three main elements. Firstly, the sharing of information among association members is likely to reduce transaction costs. Secondly, shared attitudes and the sense of community belonging may facilitate collective decision making. Finally, the solidarity and reciprocity that arise within the community may decrease opportunistic behaviours. According to Bowles and Gintis (2002) all these characteristics represent the tools of the community governance. The main question of the paper is whether these tools affect the credit market performances.

Under credit market imperfections, problems of asymmetric information between borrowers and lenders about the quality and the riskiness of the borrowers' project are likely to occur. This initial condition leads the lenders to face adverse selection

[1] In the case of Beugelsdijk and Schaik (2004) the study is extended to 54 European regions and analysis is focused on economic growth.

problems which, in turn, increase the gap between the cost of external financing in a uniformed capital market and the internally generated funds facing by the borrower (Hubbard 1998). On the other hand, ascertaining the quality and the riskiness of the project implies increasing monitoring costs for the lenders which require a higher return to compensate them from the extra costs. This is more likely to occur especially in environments, or communities, where the risk of opportunistic behaviour is higher.

To our knowledge there is a limited number of works in the literature that have attempted to provide a direct link between social capital and the credit market. Ferray (2002) conducted a qualitative analysis about the financing of "Parisian brasseries" by the Parisian banks. By integrating trust and social capital in the lending activity analysis, he argued that "asocial" scientific methods of risk evaluation and institutional device applied by bankers are insufficient to efficiently reduce the risk related to their lending activities. When a financial counsellor belongs to a social network, he is able to add extra information about the potential customers. This allows the lender to use what Ferray (2002) calls a method of social risk evaluation based on the acquisition of the information through the informal relationships the counsellor holds with the rest of the community. This method of course does not substitute the institutional one but it helps the banker in the lending decision process. Guiso et al. (2004), instead, investigates the effect of social capital on financial development in Italy. By using outcome-based social capital indices such as electoral participation and blood donation they found that in areas with a higher level of social capital families are more likely to use checks, invest less in cash and more in stock, and have higher access to credit. Hong et al (2004) have analysed the link between social interaction and the stock market participation in the US society. By dividing the investors into two types, "non-social" and "social", they found that households that either know their neighbours or attend church have about a 4% higher probability of participating in the stock market than "non-social" households. One of the candidate reasons was that a social agent finds more attractive to participate in the market when more of his peers do. In different words, for a social investor the net cost of participating in the market is influenced by the choices of his peers.

Positively inspired by this short listed literature, this paper will investigate the relationship between different types of social capital indicators and credit market characteristics such as the level of interest rate, probability of lending to households and insolvency rate. The analysis will be developed through two stages. In the first

one we will concentrate essentially on the effect of the social capital variables on the credit market performance in a scenario without institutional enforcement. In the second stage we will focus on the complementarity between community governance and State governance by including legal enforcement in our model. The paper provides its contribution to the literature under different aspects. Firstly, the paper considers financial variables that better capture the lender-borrower relationship under asymmetric information such as the interest rate and the probability of lending. Secondly, to our knowledge this is the first empirical attempt in the literature in directly linking social capital and credit insolvency either under legal enforcement or without it. Thirdly, the paper will develop the analysis at the regional level by trying to provide a general picture of the country but still by taking into account the different regional characteristics that mark the Italian reality.

While the credit market variables come from the section of "Regional Economies" of the Bank of Italy, the social capital indicators are constructed by using secondary data from two different survey made by the Italian National Bureau of Statistics in the 1998 and 2003. According to Giuso et al (2004) social capital measures should be chosen with accurate attention since they may be contaminated by other factors. For instance in considering the measure of trust derived from the World Value Survey one of the problems the analysis might face would be the direction of the effect of the trust. Is the level of trust that an individual exhibits the result of good law enforcement or the product of a high level of social capital? We will use four different indices of social capital. Two of them are structural social capital indices. More precisely an indicator of bonding social capital based on parental-relatives network and an indicator of bridging social capital based on friends and neighbours. The third one indicates the level of civic engagement through the percentage of individuals actively involved in associational activities as volunteer. The fourth one is the so called outcome-based index referring to the percentage of individuals that have received economic help from family members and friends.

The paper is structured as it follows.

Section 2 describes the concept of social capital and community governance and the relationship between these two elements. Moreover, in this section we describe the social capital variable that we adopt in our analysis.

In Section 3 we analyse the relationship between social capital and credit market in Italy. By using regional data from 1998 and 2003 we develop a descriptive analysis

by considering differences in geographical partitions and we test empirically whether social capital affects credit market performances considering the level of the interest rate, the probability of lending and the level of insolvency in the lender-borrower relationship. Since we use data of 1998 and 2003 our analysis will be developed through pooled cross sections where the observations will be at the regional level.
In Section 4 we include legal enforcement in the model. We analyse the effect of juridical efficacy and community governance on the loan repayment.
Section 5 presents the conclusions.

2. Social capital and Community Governance

This paper is based on the assumption that everything we do in our life, any action, choice and outcome is conditioned somehow by the society in which we are involved. This is not a new assumption of course rather it is simply the framework where the majority of social sciences work.
Bowles and Gintis (2002) call this society community. A community is "a group of people who interact directly, frequently, and in multi-faceted ways" (Bowels and Gintis 2002, pg. 420). Colleagues, neighbourhoods, groups of friends, professionals, business networks, gangs and sport leagues are just some examples of communities. Still according to Bowels and Gintis (2002), the list above suggests that connection, not affection is the defining characteristic of a community. The power and, therefore, the importance of these connections has been formalised by the sociologist Pierre Bourdieu who said that "social capital is the sum of resources actual or virtual that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition (Bourdieu and Wacquant 1992: 119). It is quite obvious that the relationships and the connections between members of a community are not homogeneous. 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[2]. If an individual wants to have access to different information he needs a link with a different social circle too. The

[2] 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).

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. According to Putnam (1993), this social endowment is greater in realities experiencing higher level of associational life. Individuals involved in civic associations hold a more diversified network and develop a spirit of civic engagement that increases the respect of the social norms by the members of the network, intensifies a system of reciprocity and trust and raises the community's reputation.

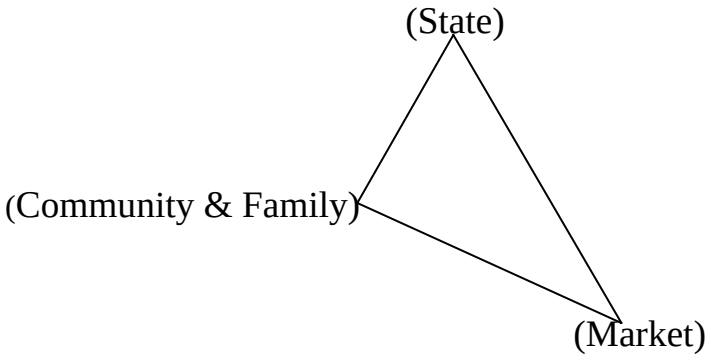
All these elements combined together characterise what Bowels and Gintis (2002) call "Community governance" where the community represents an organism able to provide some norms and rules that create the framework where its members live and interact together on a daily basis. One of the strengths of the Community governance is the access to private information unavailable to governments and markets. Moreover, the community has higher possibilities of monitoring the behaviour of its members and it has also the instruments to punish individuals who behave against the social norms. After iterated free-riding actions, an individual (or a sub-group) might be excluded by the social life of the community by losing, in this way, the right to use the embedded resources provided by the community to its members. Alternatively (with similar consequences), and individual that behaves "anti-socially" might loose reputation and be considered not reliable by the other members of the community. In a theoretical work Kandory (1991) shows that in the presence of a mechanism which systematically processes some information among community members, social norms are respected and community enforcement occurs. Community enforcement is defined by Kandory (1991) as a mechanism where agents change their partners over time and dishonest behaviour against one partner causes sanctions by other members in the society. In other words, this mechanism forces the members of the community to respect the social norms[3] set in that community.

Hence, what it matters is the information transmission among the community members. In the game advanced by Kandory (1991) each agent carries a label (such

[3] Kandory (1991) defines social norm as the specification of desirable behaviour together with sanction rules in a community. This social norm may work to support efficient outcomes in frequent transactions.

as reputation, membership, citizenship, credit cards etc…) which transmits the necessary information. In this case, the community somehow "marks" deviators. Under the assumption that the social norm requires that an individual should not cooperate if the potential partner is labelled as a deviator, nobody has an incentive to deviate from the equilibrium path when the punishment is sever enough. This mechanism works, of course, reversely as well. In the case an individual is likely to deal with many deviators in the future, then, the punishment might be costly to carry out and this may destroy the incentive for them to cooperate. In simple words, when the information transmission depict a community in which dishonest behaviours are likely to occur without community punishment the tendency of respecting social norms is low because the community enforcement is weak. Kandory (1991) underlines that this information is determined by personal experience such as how many deviators each of the individual has seen and in which occasions. This is in line with our hypothesis. In regions where the level of civic engagement and social reputation is higher, we might expect that the tendency of cheating is lower and that the social norm, such as to keep a promise to repay a loan, is more likely to be respected. This, in turn, is likely to positively affect the borrower-lender relationship under different aspects of the credit contract. In simple words, in environments where the level of social capital is higher the community governance is more efficient. It is opportune to underline that the community governance does not always have a positive connotation. Bowels and Gintis (2002) indicate at least three community failures. Firstly, where the bonding ties are dominant or exclusive, the preference of an individual for dealing with fellow members constrains the capacity of the community to benefit from trade on a wider basis. Secondly, where group membership is the result of individual choice rather than group decisions, the risk of the community of being culturally and demographically homogeneous is high. This implies that the community will suffer of lack of diversity. In Granovetter (1973) terms, the *homophilous interactions* will dominate the system of social connections. Thirdly, the benefits of belonging to a community are exclusive to its members but exclusive to outsiders. When insider-outsider distinctions are made "on repugnant bases such as race, religion, nationality or sex" (Bowels and Gintis 2002 p.428) community governance is likely to increase the level of hostility rather than reducing markets and states' failures.

Notice that the framework characterised by the community governance is not alternative to that one provided by the State and the markets. The Community is just a complement organism that might give a contribution to governance where the State and the market fail because of lack of information. What the literature on community governance and social capital promote is that these three organisms, state, market and community, affect each other, their structure and their performances (Diagram 1).



The direction of the influences is still ambiguous and very complicated to derive. Does the Government legal set affects the market and the social behaviour or the other way round? Does a more developed market economy reduce criminal intents or is it more plausible that a more historical civic engaged society conditions the performance of the economic and financial markets? The paper will focus mostly on the hypothesis that state and community might influence the some market behaviours even though we cannot exclude the opposite.

2.1 Social Capital across the Italian Regions

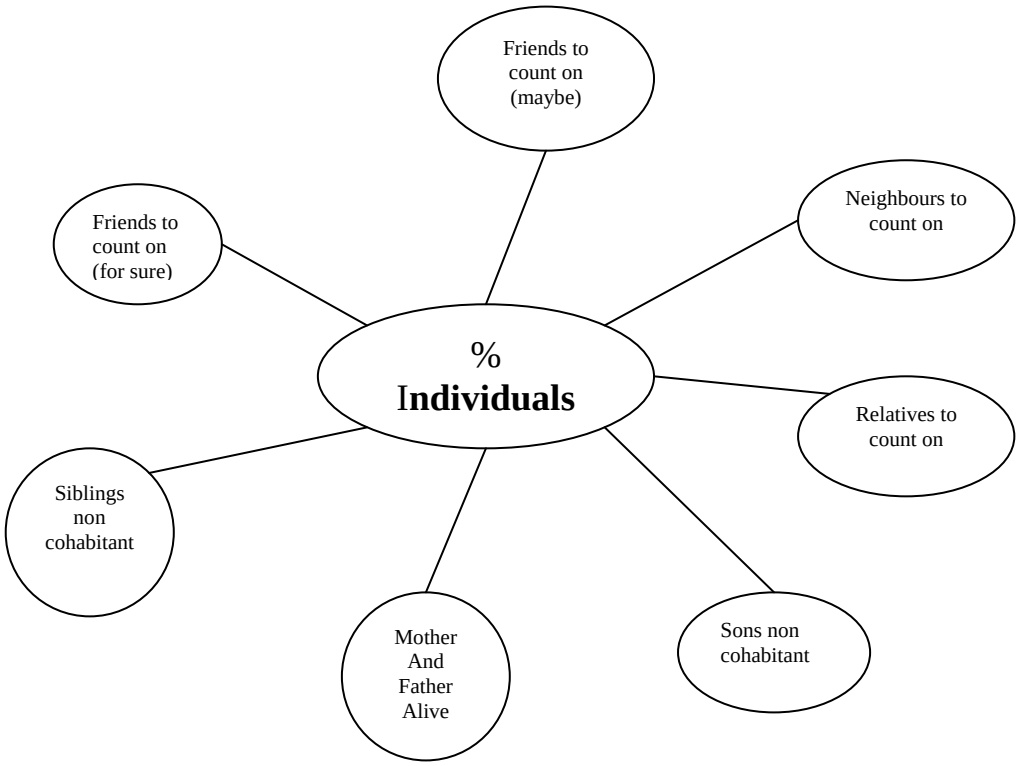
The report on “Relatives and safety net” in 1998 published by the ISTAT indicates that 42% of 14+ individuals declare to have relatives on which they can count or that they are particularly closed in terms of affect: North-West 45.5%, North-East 45.4%, Centre 42.5%, South 38.9% and islands 41.4%. Among these relatives they declare to count more on consanguinity relations rather than relatives in law. Still the ISTAT underlines, five years later, that in the 2003 the percentage of individuals declaring to have relatives they can count on rises to 45.9%. If we consider the network based on friends, 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%). Notice the difference between geographic partitions: 62.2% North-East, 61.4% North-West, 58.1% Centre, 56.6% islands, 51% South. Higher frequency of meeting occurs at a younger stage of the individual life (until 24 years old) and more among males (59.6%) than females (47.5%). 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%).

As anticipated in the introduction, in our analysis we will use four different indices of social capital: Bonding (*bond*), bridging (*bridge*), associational activity (*vol*) and informal help (*help*).

According to Uphoff (1999) the structural social capital is associated with a variety of networks that contribute to cooperation and to mutually beneficially collective actions. From the surveys made by ISTAT we construct the average "network density" for each region and for each of the two years (1998 and 2003). The diagram 2 presents the network structure.

Diagram 2



According to this diagram we consider the percentage of individuals for each region that belong to this extended network. In simple words, from the ISTAT surveys we can measure for instance the percentage of the individuals in the region X that have sons non cohabitant, mother and father alive, relative to count on and so on. We divide this system of connections into bonding and bridging ties.

Bond indicates the percentage of individuals holding a parental and relatives network composed by siblings non cohabitants, mother and father alive, sons and daughters non cohabitants and relatives to count on. The resulting regional scores range from a minimum of 48.3 (the region of Liguria in 1998) to a maximum of 54.9 (the region of Molise in the 2003).

Bridge indicates the percentage of individuals holding a network composed by friends to count on (surely), friends to count on (maybe), one neighbour to count one, and at least two neighbours to count on. The regional scores in this case range from 31.7 (the region of Puglia in 2003) to a maximum of 46.1 (the region of Valle d'Aosta in 1998)

Vol is calculated as the percentage of individuals actively involved in associational activities as volunteer. More precisely indicates the percentage of individuals for each region that have positively answered to the question whether they have provided help as volunteer in the last 12 months. According to the popular analysis developed by Putnam et al (1993) about the different level of social capital and economic and governance performance in the Italian regions, more horizontal social relationships based on trust and shared values are combined with a higher participation rate in social organizations. Putnam et al (1993) notice that regions with higher associational activity present higher level of social capital. Hence, they infer active members of voluntary associations cultivate a habit of cooperation, solidarity and public-spiritendness. This implies a higher level of civic engagement, reciprocity and honesty positively related to general trust. However, still Putnam (2000) underlines that the causal arrows among civic engagement and generalised trust are ambiguous in directions. Whether civic engagement and sense of honesty affects trust or the other way round is still an open question in the literature. To our purpose we consider the level of civic engagement as a proxy of generalised trust inside the society whether it is a trust-product or a trust-determinant. Following Uphoff (1999) and Beugelsdijk and Schaik (2005) this variable represent the so called cognitive side of the social capital. Uphoff (1999) argues that the source of manifestations of the cognitive social capital are norms, values and beliefs while its dynamic factors are represented by the

level of civic culture, trust, solidarity and cooperation. Since active volunteers are positive "conductors" of these elements, we will consider the variable *vol* an indicator of cognitive social capital.

Help indicates the percentage of individuals that have received economic helps from family and friends. Recalling the definition of structural social capital advanced by Uphoff (1999), whether networks are formal or informal are held together by mutual expectations of benefits and sustained by expectations of reciprocity. In other words, "interpersonal relationships that aggregate into social networks need to be sustained by the contributions that people make to each other's welfare" (Uphoff 1999 p. 229). The informal help represents one of the expressions of this reward (or more economically, resource) deriving from the network. This resource is composed from one side by a form of investment in structural social capital made by the donor and, from the other side, a "payoff" for the recipient. *Help* can be what in the literature is defined as outcome-based social capital index. We consider the safety net as one of the outcome of the social capital. Our position about informal lending takes a bit the distance from the position assumed by Guiso et al (2004). According to Guiso et al (2004 pg 534), "informal lending is a substitute of formal lending when the latter is either unavailable or too expensive". This informal insurance mechanism, according to Guiso et al (2004) is more developed in areas with a higher level of family ties and a lower level of general social capital. Our different view is based on at least four points. Firstly, informal lending might be used not only because of a lack of accessibility to formal lending but simply because it reduces agency costs. Secondly, receiving informal help might be the outcome of a previous favour that the actual recipient did to the actual donor in the past. This reinforces the position taken by Uphoff (1999) about the mutual expectations of benefits inside the network. Thirdly, the informal lending in many circumstances is a more flexible mechanism where no paper contract with strict clauses regulates the exchange. In simple words this mechanism implies a promise of return with a more flexible deadline which might result more attractive to the members of a community where the level of interpersonal trust is higher. Finally, the informal help we use is the expression of the resources embedded in the individual social capital structural form. This implies that "help" exists thanks to the network extension of an individual. Family and friends represents crucial elements of this network. The fact that the family represents a network based on strong ties does not necessarily undermine the social capital level of the entire

community. The problem with the bonding social capital is not that it exists, rather that it might represent a trap when it becomes exclusive or the dominated form. In simple words, when this represents the unique social capital resource.

Table1 (40 observations)

	bond	bridge	vol	help
bond	1.0000			
bridge	0.2148	1.0000		
vol	0.3082	-0.2614	1.0000	
help	0.1520	-0.2686	0.4173	1.0000

Table 1 shows the correlation matrix between the different measures of social capital we adopt. As we can immediately notice, the indicator *bond* is positively correlated to all the other indicators. This result is not surprisingly since the bonding social capital represents the "primordial" social resource upon which an individual can start to build and enlarge his network and contacts. Unlike *bond*, the indicator *bridge* is negatively correlated to the measures of associational activities and informal help. What might make this indicator a bit puzzling is either its composition or its nature. The indicator includes not only friends to count on surely but also individuals that can *maybe* considered friends. If on one hand the combination of these two types of friendships identifies the better formula of bridging social capital, on the other hand might affect the functioning of the indicator itself. Another aspect that "reduces" the reliability of *bridge* is the different concept of friendship that might occur across different regions or different family culture. As Durkin (2000) underlines, due to the subjective nature of the question, how people classify those as "close friends" might different significantly also across individuals. The variable of associational activity and informal help are positively correlated reinforcing our initial assumption that contrary to Guiso et al (2004) informal insurance mechanism is not necessarily developed only in areas characterised by a lower level of civic engagement. To this purpose table 2 shows the evolution of the level of associational activity and informal help between the 1998 and the 2003 by geographical partitions. Table 2 shows that in the 1998 at least 1.43 % of individuals in the North have provided help as volunteer against the 0.88 % in the South. This proportion has changed along the time and even though the percentage of individuals involved in voluntary associations has generally increased in the entire country, the distribution across the regions in the 2003 is different (2.08 % in the North against 2.99 % and 3.16 % respectively in the Centre and in the South). The level of civic engagement has increased in the southern regions

tremendously, especially in Sicily where 4.75 % of individuals are involved in voluntary activities in 2003 against only 0.84 % in the 1998. A reverse trend occurs relative to the level of informal help. In the 1998, only 1.46 % of individuals have received economic help from parents, relatives and friends in the North against the 2.49 % and 3.31 % in the Centre and the South respectively. The scenario changes in the 2003 where the highest proportion of individuals receiving help is located in the North (4.28 %) against the Centre (3.95 %) and the South (4.08 %).

Table 2

Civic Engagement and Informal Help in Italy (1998 – 2003)				
	Vol 1998	Help 1998	Vol 2003	Help 2003
North	1.43	1.46	2.08	4.28
Centre	1.14	2.49	2.99	3.95
South	0.88	3.31	3.16	4.08

Source: Values elaborated from ISTAT (1998, 2003)

3. Social Capital and Credit Market

The reports about the economic trend of the Italian regions published by the Bank of Italy (1999, 2004) depict a country whose credit market is not homogeneous across the regions. Table 3 shows the distributions of banks, in terms of agencies, across the country.

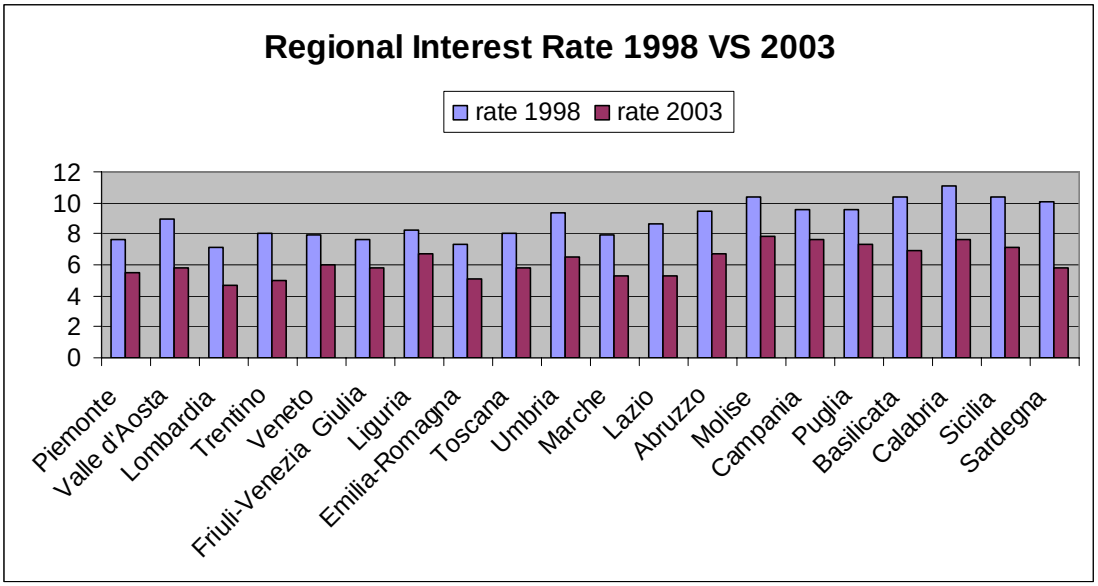
Table3

Distribution of Banks across Italy in 1998 and in 2003			
	North	**Centre**	**South**
% banks 1998	57.5 %	19.5 %	23 %
% banks 2003	57.7 %	20.3 %	22 %
Concentration of banks 1998	0.113	0.083	0.047
Concentration of banks 2003	0.131	0.101	0.052

Source: values elaborated from Bank of Italy (1999, 2004)

Between the 1998 and the 2003 the total number of banks in Italy has increased in all the three geographical partitions. However, the northern regions host always more than 50% of the entire banking industry. Still in the North there is the highest concentration of banks (number of banks over hectares) even though the level of concentration is raised also in the Centre and in the South. This bank sector distribution is due to a higher level of industrialisation facing by the northern regions relative to the rest of the country. Also the average interest rates set by the banks for credit to what the Bank of Italy calls ordinary clients differ from one region to another. To this purpose we consider the average interest rate at regional level calculated by "La Centrale dei Rischi". Graph 1 shows that the interest rate charged in the Southern regions (in the histogram from Abruzzo to Sardegna) is generally higher with respect to the rest of the country.

Graph 1



Source: Bank of Italy (1999, 2004)

The setting of the interest rate might depend on the insolvency rate which differs from North to the South (Table 4). Even though the ratio between insolvent credit and lending decreases between the 1998 and the 2003 in all the country, the level of insolvency in the South is in both of the periods more than double than in the North.

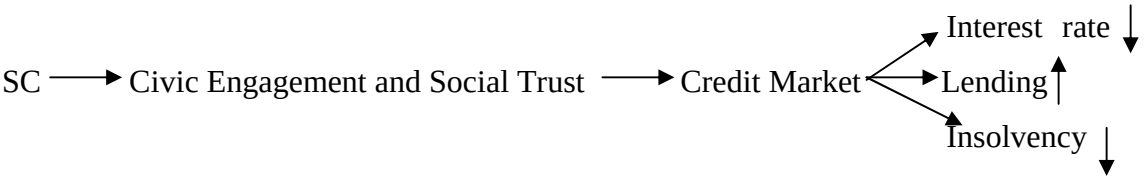
Table 4

Insolvency Rate			
	North	**Centre**	**South**
Insolvency/lending 1998	5.4	10.6	18.6
Insolvency/lending 2003	3	4.8	10.8

Source: values elaborated from bank of Italy (1999, 2004)

The empirical analysis advanced in this section is developed through two stages within the borrower-lender relationship. The first one refers to the lending decision process which will be represented by the setting of the interest rate and the amount of credit provided. The second one, after the funds have been provided, focuses the attention on the borrower decision on the repayment. The worse scenario is that the lender-borrower relationship ends with the latter to be insolvent.

Diagram 3



The causality diagram above describes the scenario the paper is analysing.
Recalling Putnam (1993), social capital refers to connections among individuals that characterise a social network where norms of reciprocity and trustworthiness 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" (Putnam 1993). On the other hand, a society rich in social capital presents a high level of civic engagement, social reputation and social trust which might affect the well being of its members.

Table 5 (38 observations)

	rate	lending	insol	bond	bridge	vol	help
rate	1.0000						
lending	-0.8342	1.0000					
insol	0.7010	-0.6697	1.0000				
bond	-0.2742	0.2041	-0.0893	1.0000			
bridge	-0.1432	0.2633	-0.5241	0.2123	1.0000		
vol	-0.5477	0.2734	-0.2507	0.3107	-0.2851	1.0000	
help	-0.4367	0.3871	-0.0519	0.1608	-0.2538	0.4252	1.0000

Table 5 indicates that the correlation coefficients between the variables of social capital and those of credit. All the social capital variables are negatively correlated to the level of the interest rate and the level of insolvency, while they are positively correlated to the level of lending. Still the correlation matrix shows that the correlation coefficient between the insolvency rate and the informal help is close to zero. Different results occur in the correlation between *help* and the interest rate and between *help* and lending where the coefficients are higher. Among the credit variables the correlation coefficients show not surprisingly results. There is a high negative correlation between the level of lending and the interest rate and a high positive correlation between the interest rate and the level of insolvency. These last results are not surprising since high rates are likely to be consequences of high-rates of default (Stiglitz 1990). This might induce banks to reduce the level of lending.

Interest rate and Lending

The hypothesis we are planning to test is whether social capital might affect the supply of credit and the interest rate level. If it is true that regions holding higher level of social capital have also higher level of civic engagement, social reputation and social trust, this should affect these credit market performances. As Guiso et al (2004) underline, financing consists in an exchange of money today for a promise to return more money tomorrow. In the decision of lending the money, the financer needs some guarantees from the potential financee. If we consider individuals to be our borrowers, the main guarantees, or collaterals they may provide are based on the income, job stability and the liquidity capacity. Besides this financial collateral, elements like trust and reputation are likely to play a complement but still important role. We should expect then that higher level of social capital, all else equal, should on one hand,

lower interest rate level and, on the other hand, increase the amount of lending by the credit institution.

In the first set of regressions the interest rate is our dependent variable (equation 1).

As Stiglitz and Greenwald (2003) underline, the interest rate is not like a conventional price since it represents a promise to pay an amount in the future. Unfortunately, "promises are often broken *otherwise* there would be no issue in determining credit worthiness" (Stiglitz and Greenwald 2003 pg. 27). Actually, one of the factors that determine high rates is the high costs of screening loan applicants and pursuing delinquent borrowers (Stiglitz 1990). Considering that the bank is risk neutral, it will set the interest rate on the distribution of clients between risk averse and risk lover. If the bank receives signals from the environment or from the community in which it is involved and where it operates that there is a higher percentage of risk averse individuals, the bank will set a lower interest in order to reduce the probability of attracting mainly risk lover borrowers. Notice that we identify the risk averse element not only as a pure calculation about the return of the investment project but also as a "backwards" decision taken by the potential borrower in order to avoid insolvency because of potential social punishment or because of community norms in which the borrower believes. In simple words we are testing if cheating or respecting a promise is also a matter of community norms in which the individuals are involved.

In all the models we are going to analyse together with social capital variables we will consider also economic and financial collateral such as income (*income*) and deposit (*dep*). Both the indicators provide information to the lender about the liquidity capacity of the potential borrower. We include also the proportion of self-employees over total workers (*ind*). Being a self employee makes the income of the borrower less stable over the time and more subjected to the fluctuations of the labour market performances. This might create more uncertainty in order to repay the loan and increase the level of opacity with respect to the lender.

$$rate_{it} = b_0 + b_1 sc_{it}^{j} + b_2 \log income_{it} + b_3 dep_{it} + b_4 ind_{it} + b_5 bank_{it} + \varepsilon_{it} \qquad (1)$$

where

j = Bond, Bridge, Vol, Help

Table 6

	m1 b/se	m2 b/se	m3 b/se	m4 b/se	m5 b/se
bond	-0.139	-0.358***	-0.170*		
	(0.095)	(0.104)	(0.100)		
bridge	0.017	0.081	0.027		
	(0.047)	(0.056)	(0.049)		
vol	-0.479***		-0.534***	-0.658***	-0.569***
	(0.135)		(0.140)	(0.120)	(0.118)
help	-0.216**				-0.239**
	(0.101)				(0.099)
logincome	-3.877***	-4.224***	-3.323***	-2.934**	-3.633***
	(1.151)	(1.388)	(1.186)	(1.181)	(1.141)
dep	-2.575**	-4.587***	-3.128***	-2.816**	-2.261**
	(1.063)	(1.219)	(1.089)	(1.087)	(1.041)
ind	10.441*	18.948***	13.701**	11.626**	8.225
	(5.660)	(6.683)	(5.761)	(5.354)	(5.198)
bank	-1460.934	-921.382	-2024.080	-2488.543	-1828.041
	(1594.373)	(1954.655)	(1661.794)	(1578.530)	(1500.228)
_cons	51.462***	60.264***	46.400***	35.828***	43.521***
	(12.083)	(14.317)	(12.523)	(10.978)	(10.744)
sigma_u					
r2_a	0.859	0.776	0.843	0.838	0.859
N	39	39	39	39	39

M1 = complete model
M2 = structural social capital
M3 = structural + cognitive social capital
M4 = cognitive social capital
M5 = cognitive + outcome based social capital

The complete model shows that cognitive and outcome-based social capital indices confirm our initial hypothesis. An increase in social endowment in the community reduces the level of interest rate. A community with higher civic engagement can also count on higher level of generalised trust and social reputation by reducing the probability for the lender of dealing with risk lover borrowers. In models M2 and M3 the measure of bonding social capital is negatively and significantly correlated to the interest rate level. However, when *help* is included in the regression (M1 and M5), it seems to capture the "explanation power" of the bonding indicator. The variable *help* is negatively and significantly related to the level of the interest rate. As previously underlined, this variable indicates the embedded resource in the community and the ability of its members to support each others. This increases from one side the spirit of community and the sense of reciprocity, and raises the level of community-monitoring. On the other hand, this is likely to reduce the monitoring and the screening costs supported by the lender. The regressions show two different effects of social capital indicators. Bonding and bridging indicators derive mainly from the structural social capital concept. Contrary to *vol* and *help* they do not indicate civic engagement or community spirit, if not inside that structure. What, instead, they represent is the system of connections through which information could flow at a reducing transaction cost. However, it seems that the network of friends and neighbours are not significant. A candidate reason is that the network is not

diversified and large enough to capture the entire bridging component. A broader bridging variable should include colleagues, sport mates and business friends.

Not surprisingly the models above show that the economic and financial collateral such as income and deposit are negatively related to the interest rate. Higher net wealth in terms of disposable income and deposit might represent and efficient collateral able to reduce uncertainty about repayment of loans. They represent two factors that decrease the opacity of the borrower and make him more reliable. The variable *ind* indicates whether the borrower is a independent worker. In all the regressions the coefficient of *ind* is negative and in most of them is significant at the 1% level. It is interesting to notice that this variable is not significant where the individual can count on the community resources in the form of informal economic help. This might increase the individual's wealth and makes his condition less uncertain. Moreover, unlike dependent workers a self employee has to rely on the reputation he has built in his working environment. Whether a self employee built a positive or a negative reputation is crucial for his work. Hence, the fact that an individual is involved in a larger safety net might be the result of his high and positive social reputation. We also consider in the model the variable *bank* which indicates the density of the bank agencies relative to the population. According to Stiglitz and Greenwald (1993), in a competitive credit market, the interest rate set by one bank may depend on the interest rate charged by the other banks. Increasing the interest rate in order to increase the return of the loan might not represent an optimal strategy since the only borrower the bank may attract are those rejected by the other lenders which on average will be higher risk. Even though the coefficient is not significant, the sign confirm the direction of the competitive credit market assumption.

The second set of regressions presented in the equation (2) investigates the relationship between social capital and the probability of lending. Unlike Guiso et al (2004) that have used a qualitative indicator, we consider the amount of credit supplied by the banking sector at the regional level.

$$lending_{it} = b_0 + b_1 sc_{it}^{j} + b_2 \log income_{it} + b_3 dep_{it} + b_4 ind_{it} + \varepsilon_{it} \qquad (2)$$

Table 7

	m1 b/se	m2 b/se	m3 b/se	m4 b/se	m5 b/se
bond	144.227	201.461**	194.085*		
	(85.962)	(83.579)	(96.782)		
bridge	-13.913	-27.358	-24.844		
	(40.967)	(43.275)	(46.732)		
vol	-43.494		22.095	156.754	43.788
	(123.177)		(139.048)	(121.586)	(109.183)
help	296.376***				324.001***
	(92.303)				(91.919)
income	0.340***	0.326***	0.326***	0.323***	0.342***
	(0.046)	(0.052)	(0.053)	(0.047)	(0.041)
dep	972.496	1850.172*	1794.085	1518.473	697.637
	(964.517)	(988.382)	(1064.518)	(1088.454)	(962.950)
ind	-10020.963*	-13890.272**	-13651.384**	-10411.408*	-7118.756
	(5098.271)	(5401.492)	(5690.640)	(5171.078)	(4536.261)
_cons	-7038.715*	-7682.130*	-7476.356	609.974	-1096.377
	(3903.012)	(4205.407)	(4465.033)	(1777.020)	(1600.427)
sigma_u					
r2_a	0.793	0.737	0.729	0.712	0.788
N	37	37	37	37	37

M1 = complete model
M2 = structural social capital
M3 = structural + cognitive social capital
M4 = cognitive social capital
M5 = cognitive + outcome based social capital

Empirical evidence shows that only *help* and *bond*, where the former is omitted, are significant. Embedded resources might represent an important collateral able to affect the credit decision of the lenders. However, when the safety net is included in the regression, there are two effects. Firstly, the bonding ties are not significant anymore. This might be due to the composition of the variable *help* which implies conections with family, relatives and friends and at the same time represents the dynamic factor of these conections. Secondly, being an independent worker becomes less significant in order to have access to credit. It seems that being a self-employee becomes less important when the individual can have access to social resources. The more the economic resources provided by the other members are available to the self employee the more his economic collateral and credibility are higher. The disposable income seems to be considered the main collateral in the lending decision while the level of deposit are positively related to the dependent variable but not significant.

Insolvency

Recalling the causality diagram 3, in this sub section we consider only the part related to the insolvency.

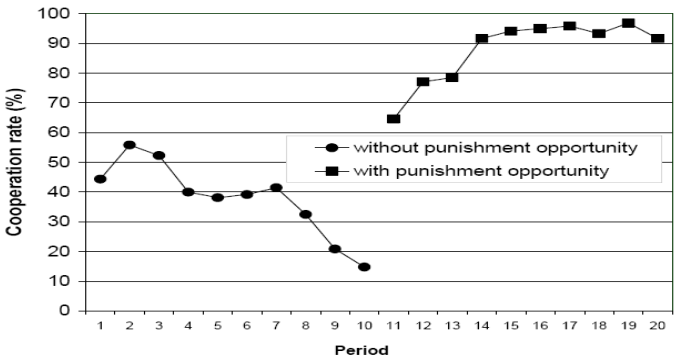
Diagram 4

SC ⟶ Civic Engagement ⟶ Credit Market ⟶ Insolvency

In our framework we consider the insolvency rate as a tendency of "cheating". More precisely, it might indicate the proportion of risk lover individuals that have access to credit[4]. As the civic engagement and social reputation of a society increase, the tendency of being insolvent should reduce. In a community with higher level of cooperation and commitment, individual "insolvent" risks to loose reputation not only with respect to the banker but with respect to the rest of the community. In societies where the level of "dishonesty" is quite low, maybe because it is considered not accepted by the community governance, we might expect to find a lower insolvency rate too.

Bowels and Gintis (2002) in their experimental works advanced the concept of strong reciprocity. This indicates a behavioural propensity of an individual to cooperate conditionally on other group members' cooperation and to punish the violations of social norms even though this might be so costly for the punisher to end up with an economic loss. By using public games Fehr and Gintis (2007) finds evidence of a relevant share of individuals exhibiting strong reciprocity (figure below).

Figure 1 *Cooperation in the absence and the presence of punishment opportunity (Fehr and Gintis – 2007)*



The figure above shows that individuals involved in the same experiment behave as self-regarding and as cooperative according to whether in the experiment punishment is excluded or included. According to the experiment outcome, therefore, it seems that "strong reciprocity must have internalised cooperative social values because not only their self interest shapes their behaviour, but conditional cooperation and punishment

[4] Of course this explanation is not accurate since a borrower can become insolvent due to different other reasons unrelated to the "cheating" one such as changing in market conditions (economic shocks, financial crisis etc…) on in his economic wealth (this might also due to change in the borrower's health condition)

motives as well". However, Fehr and Gintis (2007) underline that even under internalised cooperative social values, social order[5] can break down. If, for instance, the share of people that have internalised social cooperative values is not strong enough to punish free riders and if free riders keep on going unpunished, also the cooperative individuals tend to stop cooperating. One of the things that we consider interesting in these works is that, under certain circumstances, the community governance through the cooperative behaviour and punishment reduces free riding problems. If we transpose this scenario into the case of borrower-lender relationship one of the consequences is the insolvency problem where the contract between the two agents ends with no repayment

The model we estimate in this section is the following

$$insol_{it} = b_0 + b_1 sc_{it}^{j} + b_2 \log income_{it} + b_3 dep_{it} + b_4 ind_{it} + \varepsilon_{it} \qquad (3)$$

Table 8

	m1 b/se	m2 b/se	m3 b/se	m4 b/se	m5 b/se
bond	0.767	0.053	0.821		
	(0.590)	(0.557)	(0.572)		
bridge	-0.630**	-0.367	-0.639**		
	(0.283)	(0.290)	(0.279)		
vol	-2.361***		-2.303***	-1.373*	-1.527*
	(0.828)		(0.809)	(0.728)	(0.763)
help	0.298				0.480
	(0.634)				(0.655)
logincome	-16.317***	-17.741***	-16.625***	-20.915***	-20.371***
	(4.051)	(4.342)	(3.947)	(3.565)	(3.666)
dep	-8.951	-13.696**	-8.052	-9.349	-10.676
	(6.537)	(6.462)	(6.172)	(6.487)	(6.779)
ind	-10.539	9.869	-14.428	-25.933	-20.927
	(35.124)	(36.048)	(33.703)	(31.491)	(32.443)
_cons	159.941***	193.393***	162.043***	223.553***	216.223***
	(42.847)	(44.895)	(42.074)	(33.259)	(34.959)
sigma_u					
r2_a	0.673	0.611	0.682	0.642	0.637
N	38	38	38	38	38

M1 = complete model
M2 = structural social capital
M3 = structural + cognitive social capital
M4 = cognitive social capital
M5 = cognitive + outcome based social capital

The table 8 shows that structural social capital as well as help is not significant. The level of civic engagement is negatively and significantly associated with the level of insolvency confirming the hypothesis that more efficient community governance

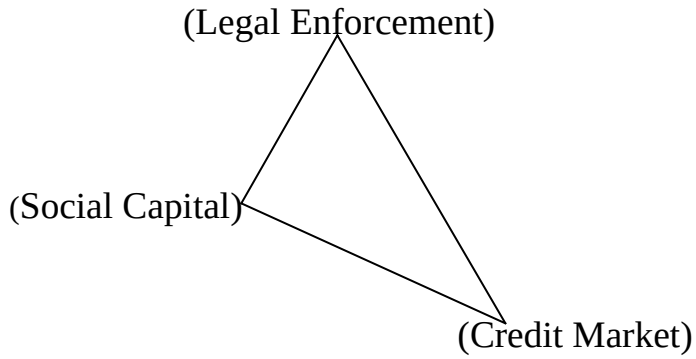
[5] In Political Philosophy and Sociology several definitions of social order have been advanced. For Thomas Hobbess social order can be identified with the changing from the state of nature to the social contract. Durkheim defines social order as a set of shared social norms. While Parsons indicates that social order is a system of social institutions determining moral behaviour, Habermas adds also communicative actions in the definition.

reduces the tendency of cheating. The variable *vol* is negatively and significantly related to the insolvency rate. One of the possible candidate explanations is that since the level of civic engagement increases the level of social reputation and social commitments (Putnam 1993), this might reduce the tendency of cheating. Similar to Fehr and Gintis (2007), in a society with higher civic engagement the values of social reputation and social commitments might be internalised. The community governance in this case might represent an obstacle for potential free riders or risk lovers.

The variable *bridge* is negatively and significantly related to the insolvency rate only when civic engagement is included in the regression. A candidate reason might be that friendship and weaker conections become valuable only in environment where the level of civic engagement is high. This can make friendships more reliable. Still disposable income reduces the level of insolvency. Individuals that are better off are more likely to repay their debts that have contracted with their creditors.

4. Social capital, Legal Enforcement and Credit Market

Recalling the diagram 1 we are going to analyse the relationship between the credit market and social capital variables by including legal enforcement. The diagram1 then can be modified into the following diagram 5



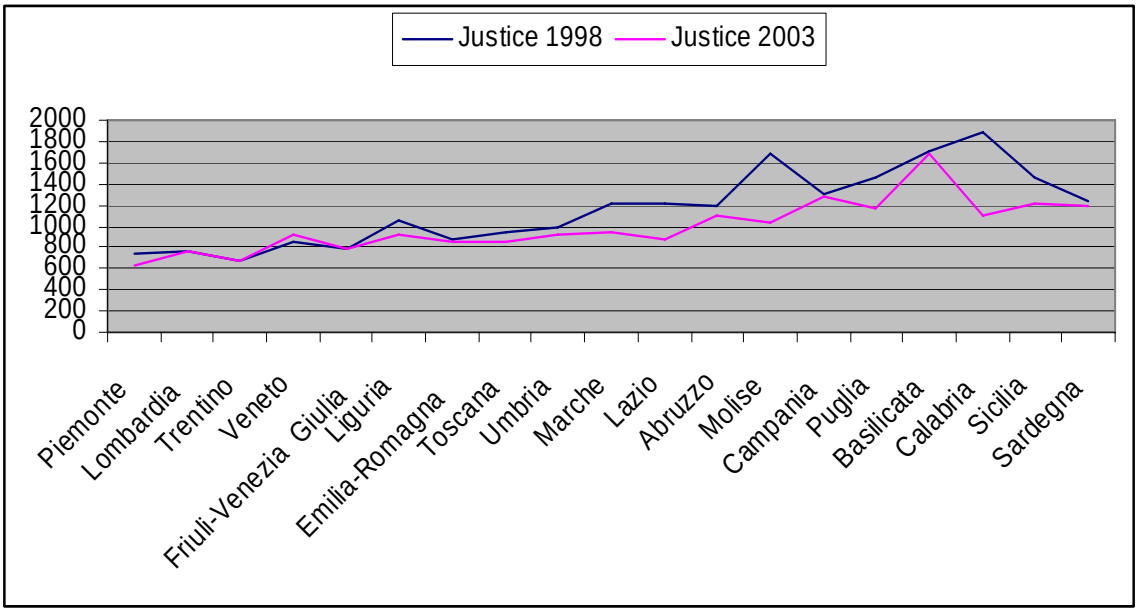
As Guiso et al (2004) underline social capital might capture the efficiency of the legal system. The idea is that weak legal enforcement system might affect the behaviour of the individuals and reduce the institutional trust of the region. The goal of this section goes even further. We want to investigate the relationship between the institutional governance and the community governance with the credit market. In simple words we are planning to complete the puzzle. In the last 20 years social and political scientists (Inglehart 1999, Kanck and Keefer 1997, Kanck 2002, Paxton, 1999, Putnam 1993, 2000, Woolcock 1998, 2000 etc…) have been stressing on the

relationship between generalised trust and government performances. In particular all of them reach the conclusion that between these two elements there exists a positive and significant relation. However, the causality direction is still under debate. This paper does not have the ambition to fill this gap, but analyse whether the complementarity between government and community governance might exist and whether it has an effect on the credit market.

In the analysis of long term maturity debt and the supply of credit for the Italian firms, Magri (2006) argues that the quality of the legal system may affect the financial decision of the lender in supplying funds. Where the lender feels more protected by the juridical institutions the problem of adverse selection and moral hazard are reduced especially in the final stage of non-repayment of the borrower.

To this purpose Italy represents an interesting case-study. The different regions are subject to the same legal system and, specifically relative to the credit market, to the same bankruptcy code. However, Graph 2 shows different variability in the degree of legal enforcement. The variable of legal enforcement we are going to adopt is similar to Guiso et al. (2004). The variable *legal* indicates the regional average length of time (in terms of days) to complete a first degree trial by the courts. Graph 2 shows that the length of time to complete a first degree trial by the courts differs quite significantly across the regions. In the 1998 in the North in order to complete the first degree trial it takes more than two years while in South it takes about four years. Between the 1998 and 2003 the period for a first degree trial decreased in the entire country but with still a relevant difference between North and South (a bit more than two years in the North against three and half years in the South). Following the literature (Guiso et al 2004, Magri 2006, Omiccioli 2005) we consider a legal system to be less efficient when the average period is longer. In other words, in regions where the length of time to complete the first degree trial is around four years present a lower juridical efficacy than regions where this period is reduced to two years. According to the diagram 4 we consider legal enforcement the representative ability of State governance. Given this assumption, we might say that in Basilicata, where in the 2003 it takes more than four and half years to complete a first degree trial, the state governance is less efficient than in Piemonte where the average period to complete a first degree trial is less than two years.

Graph 2



Source: ISTAT

The correlation table below links the variables of social capital with the legal enforcement

Table 9

	legal	bond	bridge	vol	help
legal	1.0000				
bond	-0.1018	1.0000			
bridge	-0.4996	0.2038	1.0000		
vol	-0.2106	0.3428	-0.2506	1.0000	
help	0.0585	0.1882	-0.2738	0.4076	1.0000

According to the correlation matrix, except for *help* which is close to zero, all the social capital variables are negatively correlated with the time of legal enforcement which means that they are positively correlated with juridical efficacy.

The model we want to estimate consider whether social capital together with legal enforcement affect the level of insolvency (equation 4). In the previous section civic engagement was negatively related to the lack of repayment. In a complete scenario, the decision of repayment should be conditioned also by the quality of the legal system. A legal system that works more efficiently should reduce the insolvency rate.

$$insol_{it} = b_0 + b_1 sc_{it}^{j} + b_2 \log income_{it} + b_3 dep_{it} + b_4 ind_{it} + b_5 legal_{it} + \varepsilon_{it} \qquad (4)$$

Table 10

	m1 b/se	m2 b/se	m3 b/se	m4 b/se	m5 b/se
bond	0.992*	0.164	0.933*		
	(0.558)	(0.510)	(0.532)		
bridge	-0.475	-0.184	-0.475*		
	(0.280)	(0.285)	(0.276)		
vol	-2.065**		-2.109***	-1.185*	-1.176*
	(0.762)		(0.744)	(0.639)	(0.679)
help	-0.247				-0.028
	(0.589)				(0.597)
legal	0.012***	0.014***	0.012***	0.014***	0.014***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
logincome	-6.144	-4.931	-6.186	-6.311	-6.302
	(5.098)	(5.576)	(5.022)	(5.229)	(5.322)
dep	-3.550	-8.484	-4.410	-4.983	-4.895
	(6.003)	(5.985)	(5.558)	(5.775)	(6.172)
ind	-56.241	-29.162	-51.277	-49.455*	-49.840
	(34.590)	(34.622)	(32.024)	(28.932)	(30.585)
_cons	44.712	52.876	46.798	74.078	74.092
	(54.790)	(59.873)	(53.755)	(52.568)	(53.466)
sigma_u					
r2_a	0.755	0.704	0.762	0.739	0.730
N	36	36	36	36	36

M1 = complete model
M2 = structural social capital
M3 = structural + cognitive social capital
M4 = cognitive social capital
M5 = cognitive + outcome based social capital

When *legal* is included in the analysis three interested results come out. Firstly, juridical inefficacy is positively and significantly related to the insolvency rate. Where the length of time increases the insolvency level is higher. Secondly, the income is not significant any more. It seems that without “institutional justice” the private resource plays a crucial rule in the repayment process. When “institutional justice” intervenes the net wealth of the individuals is still negatively related but not significant. Thirdly, the variable of civic engagement is still negatively and significantly related to the lack of repayment. This result might be interpreted as a complementarity effect between the community and state governance. By including juridical efficacy the adjusted R squared is higher which indicates that the equation (4) is an expression of a more accurate a more accurate model described by the equation (3). The fact that the wealth and financial variables are not significant any longer after we include legal enforcement and that only *vol* remains significant and negative might indicate that the repayment process is strongly affected by social and institutional behaviours. As Stiglitz (1990) underlines, in developing countries (we would add “not only in developing countries”) one of the main obstacle to the development of peer monitoring and other institutions comes from inadequate legal systems to enforce contracts. A system is inadequate either because based on slow judicial system or because ineffective (Stiglitz 1990). The integration between institutional efficacy, through a more effective legal enforcement, and the community governance, through

a higher level of civic engagement, might be extremely beneficial because the contracts in the credit markets (as well as in other markets such the labour market) are more respected.

5. Conclusions

The hobbesian solution to collective action problems is based on government coercion so that every individual is legally constrained to contribute to the public good. However, "the need to monitor government is the second-order collective action problems to which government coercion cannot be the solution" (Knack 2002, p.773). In simple words, the missing link in the Hobbes' analysis is the positive role of the community. Due to lack of vertical and horizontal information government and markets fail in their targets. In this paper, empirical evidences show that the community governance, through different social capital indicators, can provide a positive contribution towards credit market improvements. Together with wealth and financial variables, social capital variables are likely to affect the level of the interest rate, the probability of lending and the insolvency rate. By including the legal enforcement ability, still the community governance together with institutional legacy provides its contribution against dishonest behaviours such as lack of loan repayment. This might drive to several important policy implications. Firstly, community governance should be taken into account when governments set economic and financial plans. Social capital in economics is a way to give voice to the community characteristics and to the society. Parallel policies that facilitate the growth of social resources can be beneficial to the financial market too. Secondly, following Stiglitz (1990), legal reforms should provide the lenders more security for the recovery of their loans. A better legal system might represent a positive signal to the individuals and increase the institutional trust inside the community. As Woolcock (1998, 2000) shows, the integration between generalised trust among individuals and institutional trust between state and society might represent a key ingredient for market improving. Finally, with the related limits, investing in community by markets and state might have is beneficial return either in terms of market efficiency or in terms of better governance.

References

Beugelsdijk, S Schaik, van Ton 2005 “Social Capital and Growth in European regions: an empirical test *European Journal of Political Economy* Vol. 21 pp. 301-324

Bowles, S Gintis, H 2002 “Social Capital and Community Governance” *The Economic Journal* Vol. 112 No. 483 pp. 419-436

Carpenter, J Bowels, S Gintis, H Hwang, S 2009 “Strong reciprocity and team production: Theory and evidence *Journal of Economic Behavior & Organization* www.elsevier.com/locate/jebo

Durkin Jr, J T 2000 “Measuring Social Capital and Its economic Impact” Harris Graduate School of Public Policy Studies University of Chicago

Fehr, E Gintis, H 2007 “Human Motivation and Social Cooperation: Experimental and Analytical Foundations *Annual Review of Sociology* Vol. 33 pp. 43-64 (August 2007)

Ferray, M 2002 “Trust and Social Capital in the regulation of lending activities *Journal of Socio-Economics* Vol. 31 pp. 673-699

Granovetter, M 1973 “The Strength of Weak Ties” *American Journal of Sociology* N. 78 p. 1369-80

Granovetter, M 1985 “Economic Action and Social Structure: the Problem of Embeddedness” *American Journal of Sociology* N. 91 p. 481-510

Grootaert, C 2001 “Does Social Capital Help the Poor? A Synthesis of Findings from the Local Level Institutions Studies in Bolivia, Burkina Faso, and Indonesia

Grootaert, C 2002 “Social Capital, Household Welfare and Poverty in Indonesia” World Bank 2002

Guiso, L Sapienza, P Zingales, L 2004 “The Role of Social Capital in Financial Development” *American Economic Review* Vol. 94, No. 3: 526-556

Guiso, L Sapienza, P Zingales, L 2006 “Does Culture Affect Economic Outcomes?” *The Journal of Economic Perspectives* Vol. 20 No. 2 pp. 23-48 (August 2006)

Helliwell, J F Putnam, R D 1996 “Economic Growth and Social Capital in Italy” *Eastern Economic Journal* Vol.21 No. 3, Summer 1995

Hong, H Kubik, J.D. Stein, J.C. 2004 “Social Interaction and Stock Market Participation *The Journal of Finance* Vol. LIX No. 1 pp. 137-163

Hubbard, G 1998 “Capital Market Imperfections and Investment” *Journal of Economic Literature* Vol. 36 No. 1 pp. 193-225

Kandori, M 1992 “Social Norms and Community Enforcement” *Review of Economic Studies* Vol. 59 pp. 63-80

Knack, F 1999 “Social Capital, Growth and Poverty: A Survey of Cross-Country Evidence” *Social Capital Initiative, Working paper No. 7*

Knack, F 2002 “Social capital and the Quality of Government: Evidence from the States *American Journal of Political Science* Vol. 46 No. 4 pp. 772-785

Knack, F Keefer, P 1997 “Does Socialc Capital Have an Economic Payoff? A Cross-Country Investigation. *Quarterly Journal of Economisc*112/4, 1251-1288

Magri, S 2006 “Debt Maturity of Italian firms” Banca d’Italia Temi di Discussione No 574 – January 2006

Omiccioli, M 2005 “Trade credit as collateral” Banca d’Italia Temi di Discussione No. 553 – June 2005

Putnam, R D 2000 *Bowling Alone: the collapse and revival of American community,* Simon & Schuster, New York

Putnam, R D Leonardi, R Nanetti, R Y 1993 *Making Democracy Work,* Princeton: Princeton University Press

Stiglitz, J E 1990 “Peer Monitoring and Credit Markets” *The World Bank Economic Review* Vol. 4 No. 3 pp. 351-366

Stiglitz, J E Greenwald, B 2003 “Towards a New Paradigm in Monetary Economics” Cambridge University Press Cambridge

Uphoff, N 1999 “Understanding social capital: learning from the analysis and experience of participation in Dasgupta and Seregeldin *Social capital: A Multifaceted Perspective* World Bank Washington DC, USA

Woolcock, M 1998 “Social Capital and Economic Development: toward a theoretical synthesis and policy framework” *Theory and Society,* 27, 2, 151-208

Woolcock, M 2001 “The of Social Capital in Understanding Social and Economic Outcomes”, *Isuma: Canadian Journal of Policy Research,* 2, 1, 11-17

Appendix Variables

Table A1 (Variables)

Dependent Variables	**Description**	**Source**
Rate	Average regional interest rate applied for lending to residents	Bank of Italy
Lending	lending to consumers / population	Bank of Italy
Insol	insolvency / lending	Bank of Italy
Independent Variables	**Description**	**Source**
Bond	Percentage of individuals holding a complete parental network composed by siblings non cohabitants, mother and father alive, sons and daughters non cohabitants and relative to count on	ISTAT
Bridge	Percentage of individuals holding a network composed by friends to count on (surely), friends to count on (maybe), one neighbour to count one, and at least two neighbours to count on	ISTAT
Vol	Percentage of individuals involved in associational activities as volunteer. *Did you provide help as a volunteer?*	ISTAT
Help	Percentage of individuals that have receiving economic helps from family and friends during periods of economic difficulties	ISTAT
Dep	Deposit / Value Added	ISTAT
Income	income per capita	Eurostat
Ind	independent workers / total workers	ISTAT
Bank	Number of agencies / population	Bank of Italy
Legal	Regional average length of time (in terms of days) to complete a first degree trial by the courts.	ISTAT