

TRUST, SOCIAL CAPITAL AND MORAL CAPITAL: SOME EMPIRICAL EVIDENCE

JOSÉ ATILANO PENA LÓPEZ & JOSÉ MANUEL SÁNCHEZ SANTOS

1. Introduction

The emergent notion of social capital is a central element in the debate on development, despite lacking a solid definition. The basis of this concept can be the generalization of moral norms or the extension of associative networks and, sometimes, is even identified tautologically with trust. Different research on the topic have an important point in common: the idea that trust and internalization of norms of cooperative and prosocial behaviors become essential pillars for determining the way the economy and society work. It is evident that in an integrated community the costs of transaction, information or cooperation are considerably reduced because of the extension of collaboration networks intra and extra-firm. Moreover, the flow of information or knowledge through the formal and informal networks is remarkably more effective, for instance, this is the case of the so-called marshallian industrial district (Becattini 2002).

Throughout the evolution of social and economic thought, we can find very similar approaches to those of social capital as attempts to catch the fuzzy essence of the cooperative social ties bows (*note 1*) and, particularly, its effects in the economic sphere (*note 2*). The interest of this topic lies in its influence on growth and income distribution, the quality of life in general, health, environment, etc., and even on the evolution of the structure and social identity.

Although preoccupation for this concrete subject goes back to the nineteen twenties, it is not until R. Putnam's studies on the Italian regions in the eighties and nineties when it is considered an essential aspect of economic and social development. The results of his investigation showed that the cause of the sensitive growth differential between the

south and the north of Italy stemmed from what Maquiavelo denominated "virtu civile " (civil virtue), (Putnam, 2000 : 19). This is a tendency to generate horizontal associations small in scale, which constituted a base for economic and social development, specially when not political or economic. As Putnam expressed "the good government in Italy is a by-product of the choral societies and the soccer clubs" (Putnam 1993) and civil virtue expresses and constructs relations of cooperation and trust among the citizenship.

In short, the existence of strong networks of social relations can improve social and economic functioning in comparison with non structured societies with no unifying link; that is, the economy is not a reality isolated from the rest of the dimensions of the social systems. Nevertheless, the way in which social relations networks affect economic activity is not evident. In fact, a great majority of studies suffer from a remarkable problem of ambiguity, also reflected in the concept of social capital.

In this paper we attempt to clarify the nature of the determinants of social trust and the role played by the associative systems and social capital on economic growth. Firstly, we propose an alternative concept (Moral Capital) to social capital. Its reference is exclusively the extension of sympathy networks. Secondly, we deal with the relation between associationism and social trust, testing the hypothesis that maintains the existence of a direct link between the extension of sympathy relations, associationism and social trust, trying also to find a way out of the Olson-Putnam *aporia*. Thirdly, we develop an empirical model in order to identify the main determinants of social capital. Finally, some concluding remarks are summarized.

2. Social Capital as a community form of capital

Economics typify four different forms of capital that describe the diverse types of resources which a community has access to. Two of them are relatively conventional: natural capital or natural resources along with generated economic capital which we usually refer to as physical capital. However, neither gathers the singularity of the human being, his capacities and relations. Thus, the concepts of human capital, with reference to the capacity and knowledge, and the concept of social

capital, with reference to the relational structures, complete the analysis of the endowments of a concrete community (*note 3*).

A remarkable variety of definitions try to explain the concept of social capital. Among these, we can emphasize Coleman (1988), the classic definition of Putnam (1995) and the critical reinterpretation of Bourdieu (1986, 2001). All the definitions delimit this concept as a bond between the economic, social and political spheres. All recognize their ambivalent character because formal and informal relations between the economic agents can improve the efficiency of the economic activities and similarly act as a brake to development. Taking the common elements of these definitions as a starting point, social capital is made up of networks and social norms. In the first place, social networks which the people are slotted into, communication networks, social and economic support, etc. and, secondly, social rules of reciprocity, or mutual expectations of cooperation; in short, trust and development of common projects.

For numerous authors, this capital is directly bound to the idea of trust, considering it as personal abilities to develop a voluntary task with a group (Coleman 1988, Dasgupta 1999, Fukuyama 1995) (*note 4*). Although we can establish logical distinctions between both concepts, it can be assumed that they are closely related. If trust facilitates cooperation, then the inverse relation can also be established; that is to say, it is built on the same cooperation. If we raise the argument in negative terms we reach the same results because with relations where distrust predominates, it is difficult to establish cooperative behaviors. Notwithstanding, it is necessary to remark that this statement is true in most cases, but not in 100%, because not all the cooperative behaviors are constructive, neither socially nor economically.

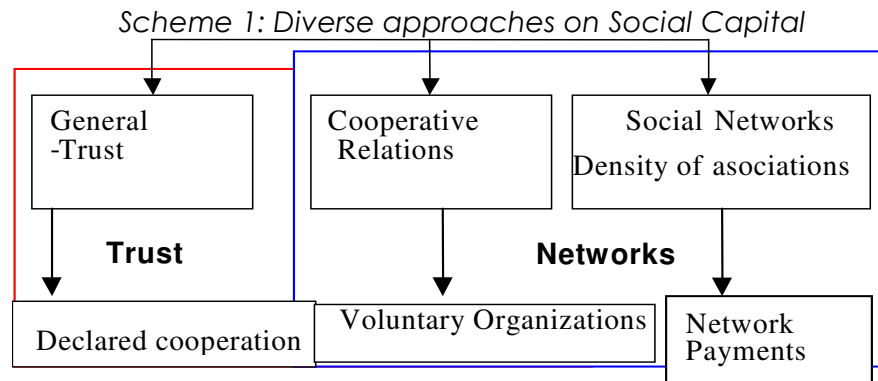
The previous tautology leads us to look for a more solid reference. The analysis of social networks, namely the sociological perspective, is the only viable alternative for the study of the complex trust-cooperation. These networks are constituted by very diverse bonds (family, work...), whose maintenance involves a real cost. Consequently, in economic terms, we could speak of the existence of an optimal level of relations in terms of benefits as opposed to costs and a process of capitalization (Snijders 1999).

Within this vision, Putnam proposes that the best statistical approach to the endowment of social capital is the density of voluntary organizations

in a group, since the presence of this type of institutions shows the existence of trust and cooperation. However, we have to consider the real implication or real commitment of the individuals in these organizations.

From this perspective then, social capital would be the amount of networks constructed by a person. This can be identified, to a certain extent, with the expected payments of these personal networks or the capacity of participation in voluntary organizations. This latter case puts us in a much more complex reality. It does not seem very logical to accept a direct identification between social networks and networks of voluntary associations because these do not constitute the only path of relation and far from the predominant one (Lin 1999). This identity "à la Putnam" can be considered a proxy, although not unbiased nor problem-free. In the first place, the borders between voluntary, governmental associations and private ones are extremely widespread. Hand in hand with this, the problem of the intensity or quality of the contacts arises. Logically, those in which participation is cheap in terms of time, money or norms, tend to display greater levels of association. Similarly, it is not possible to assure that any form of voluntary association is socially benign (criminal, racist associations, and so on).

Previous expositions exclusively focused upon a study at micro level, needing the translation of these to a macrosocial scale with another type of indicators such as the measurement of democracy levels and political rights (indices ϕ)(note 5), legal protection of the individual and his property, as well as transparency of the judicial system, etc.. This complex framework of indicators (scheme 1) is the analysis of a social phenomenon through mutually interrelated facets. On the one hand, we have the relation between the trust concept and its direct bond to cooperation. On the other hand, the extension of social networks also maintains a direct relation with the diverse forms of cooperation and even of social trust.



Source: Paldam (2000)

With regard to proxy indicators, most of the previous studies consider variables related to preoccupation for community subjects (reading of local press, participation in votes, respect for norms, etc.) or evaluate the associative framework of a certain location (Krishna and Schrader, 1999). Nevertheless, the purest measurement, albeit difficult to isolate, is the "general trust" variable or trust in the whole set of the population and the "institutional trust", which would enable the individual to develop collective tasks and would make the operation of administrative framework more efficient. Notwithstanding, a number of authors (Dasgupta 1999, Durlauf, 2002, Portes 1998) argue that using this kind of concepts to define social capital is problematic for several reasons. One problem is that this can lead to functional and hence non-falsifiable claims. For example, whenever cooperative behavior or benign attitudes are observed, social capital must be the explanation. Functional explanations also make the false assumption that social capital is always benign.

The deficiencies of the mentioned systems of measurement require a direct personal valuation through survey. The World Values Survey (*note 6*) puts forward questions that try to analyze the general and institutional trust by nations. In our empirical test, we will use the answers to this questionnaire which, at the same time, is the most extensive and reliable survey with sampling on a global scale (*note 7*). In short, what we understand as social capital has as a reference a set of notions which are immeasurable to a certain extent (beliefs, rules, networks, trust) that questions the robustness of the definition.

3. Social Capital or Moral Capital

Inconsistencies of the definition of Social Capital

As we have seen before, social capital constitutes an umbrella in which aspects as diverse as informal organizations, trust, culture, social and entrepreneurial networks are collected. These concepts, without any doubt, maintain some relation but not one of identity. This leads us to necessarily develop a deconstructive task in order to establish what the reference of this notion is. The criticism of the concept requires consideration of the following aspects:

- In the first place we have to emphasize its excessively elastic character. Social capital constitutes an example of notions where rhetoric often overwhelms logic. Passionate and repeated use of descriptive statistics often substitutes a detailed analysis (Sobel 2002).

- We can also observe that all the approaches are circular or even tautological in the sense that it is impossible to distinguish *pars definiens* from *pars definiendum*. For example, there is no difference between what social capital is, what social capital does or generates and where it is. Putnam (2000 : 334) does mention that the direction of causality has not been established, but most of the studies take the view that higher levels of certain social activities indirectly but inevitably lead to good outcomes. Thus, some authors led by Coleman (1988) and Putnam, at times equate the existence of social capital with outcomes obtained by using social capital. In both cases this concept is defined by its function. As Durlauf (1999) points out, this equation leads to circular arguments. A successful group succeeded because it has social capital, but the evidence that the group has social capital is its success.

- From the previous definitions we derive that social capital is a micro concept that expresses prosociality in a very generic way. Nevertheless, society is constituted by groupings and intragroup social capital may not be corresponded by the intergroups. Hence the structural problem is especially relevant (*note 8*). In the same direction, this form of capital can open up economic opportunities for the members of the network. However, these networks can act as a restrictive device at the same time and limit entries for those outside the network. Race, ethnicity, religion, language or the simple confluence of economic interests are often the

basis of many such real world market and non market exclusions. Thus, while social capital can provide the needed wherewithal for innovation and entrepreneurship, it can at the same time lead to individual lethargy and enforce strict conformity (*note 9*), (Quibria 2003).

- From an individual perspective, that endowment of capital is translated into the capacity of cooperation in collective projects. However, this can be constructed in three different ways. The members of the group can be united due to their own motivations among which mutual trust appears and even have a certain sense of ethical or religious beliefs. Agents can also cooperate due to social pressure from the group, although they are free in deciding whether to belong to this collectivity or not, that is to say, they choose whether to be put under that pressure or not. Finally, cooperation can be imposed by third parts. These routes that generate cooperation place us in an interesting predicament: social capital can be influenced by ethical and religious beliefs, as well as by public performances, since this type of capitalization is associated with a certain climate developed by the institutions (Paldam 2000).

- With regard to their economic definition, remarkable ambiguities also exist. For example, it has the characteristics of non durable consumer goods because the development of networks and the generation of trust create an individual utility. However, in the same way it is really a capital good and a raw material, which is used in the production of durable goods. Similarly, the generation of social capital has the characteristics of a durable capital asset that is able to generate a yield facilitating the development of certain community tasks. Finally, it can be considered a durable consumer good since all the individuals need and use social relations. All these different aspects are interrelated under a same global concept (Streeten 2002).

With respect to its denomination as capital, capital requires a time dimension, a deliberate sacrifice of the present for a future benefit and "alienability". However, social capital does not necessarily entail a material sacrifice and, in most of cases, it is difficult to change the ownership (Quibria 2003). Physical capital also has a rate of return and can be readily measured by summing the past investment net of depreciation but, in contrast, social capital appreciates with use (Ostrom 1999). In this sense, as Arrow (1999), Solow (1999), and Manski (2000) remark, social capital is an attempt to gain conviction from a bad

analogy. Other authors (Coleman 1988; Glaeser, Laibson & Sacerdote, 2002; Stiglitz 1999) highlight the strengths of the notion.

- From another perspective, the functionality of the concept is not clear. It is an insurer of the stability of a group, a "cohesioneer" of the subjects that integrate a system but, on the other hand, it restrains social changes. At the same time, it could be thought of as an inducer of transformations when eliminating restrictions on agreements. If we tried to evaluate the social and economic "goodness" of this capitalization we would encounter serious problems, in that there are clear examples where important endowments of social capital have been destructive in the mentioned dimensions (mafia organizations, amoral "familism", etc.). In reality, it is a fuzzy concept that tries to identify the mechanisms (formal and informal) at the hand of social actors to generate relations of social cooperation.

Moral Capital as an Alternative Concept

As opposed to these inconsistencies, we can discuss the appropriateness of some alternative concepts with a tradition in Economic Theory such as sympathy and moral capital (*note 10*).

Moral capital can be defined as the generation of a social valorative consensus and an extension and deepening of networks of personal bonds (sympathy) between individuals. This constitutes a system of precoordination which reduces transaction costs (Koslowski 1991, 1999). Sympathy constitutes the simplest element in a social network, and can be translated into the interdependence of individual utility functions.

This concept is more appropriate for several reasons:

This notion, even when it refers to informal or voluntary social organizations, eliminates the definition problems (in fact it is especially related to linking social capital) and it is not indifferent to the individual characteristics of behaviors and groups. This perspective allows us to integrate not only the previous aspects, but also the cultural, historical components, etc. and to adjust the notion of capital.

In the first place, social capital is the sympathy of an individual or group of individuals towards another or others, which can generate a potential benefit, a preferential treatment or which can facilitate agreements with

these, more than can be expected in an interchange relation. At the same time, moral capital refers to civil virtue, or individual and collective conduct. Individuals make up social networks and hence moral capital is required for social capital formation. Conversely, social networks place constraints on individual behavior and hence contribute to moral capital. However, it is useful to distinguish these concepts not only because they are not totally coextensive, but also because moral capital raises distinct issues whose discussion would be hindered by confusing it with social capital.

The moral capital also alludes to the presence of basic attitudes with an ethical character towards a precoordination of preferences in a group or social context. It also alludes to the presence of disposition to social cooperation or common focal points that orient the interactions towards the cooperative solutions, one of whose manifestations is the existence of relational frameworks.

Secondly, Social capital refers to informal or voluntary social organizations and networks that engage in the production of public goods. In this sense this term is aligned to the concept of civil society, the base structure of society that is distinguishable from the coercive order imposed by the State. On the contrary, the concept of moral capital talks about the individual behaviors that underpin these networks and the nature of those bonds. Although the social networks constitute monitoring systems of individual behaviors, these do not guarantee that those behaviors are socially and universally constructive (Ratnapala 2003).

In addition, it is possible to consider moral capital as an economic concept because any form of capital consists of resources owned by individuals, companies or groups and applied to the production of goods and services. It also includes those conditions that facilitate the production; for example the coordination between the intervening parts in a transaction. In this sense, the stock of moral capital is generated from an individual investment, which we could denominate reputational capital, and also from a group investment which facilitates reductions of the transaction costs.

Consequently, the concept of moral capital would allow the incorporation of the group-based definitions of social capital and the definitions derived from the methodological-individualism perspective. Moral Capital is related, at the same time, to an investment decision of

an individual actor, and to capital norms, conventions, associations, social preferences etc. In both cases we can use an optimisation-based economic approach (Glaeser et al. 2002).

Therefore, this "new" concept has a reference, namely the framework of personal relations, which consists in social bonds, and is able to split what it is from what it does or facilitates (trust, cooperation, agreements, etc.). What is more, the sympathy is the elementary unit in the constitution of formal and informal social networks and it differs from them (Robinson, Schmidt & Siles 2002).

At the same time, this perspective allows us to integrate not only the previous aspects, but also the cultural, historical components, etc. and to adjust the notion of capital. In addition, even as analogous concepts, moral capital eliminates the ambiguities of the definition of social capital, especially with respect to its entailment with economic development, which we will regard as the Olson-Putnam controversy, and appears clearly identifiable with the notion of general trust.

Finally, it is not indifferent to the characteristics and nature of the constituted associations, but establishes a limit on the performance of sympathy relations (amoral familism), since by definition the constitution of this form of capital is only relevant once the narrow margins of the nuclear family are broken.

For contrasting both concepts, we can consider the question as to whether there is something that constitutes sympathy and that is not integrated in the definition of social capital. It is clear that the answer is negative. Nevertheless, the opposite sense is not so evident, as not everything that can be integrated under the umbrella of social capital constitutes moral capital. For example, it is doubtful that have denominated as amoral familism can be included in this case. From our point of view, the concepts of sympathy and moral capital are more appropriate.

Effects of social capital

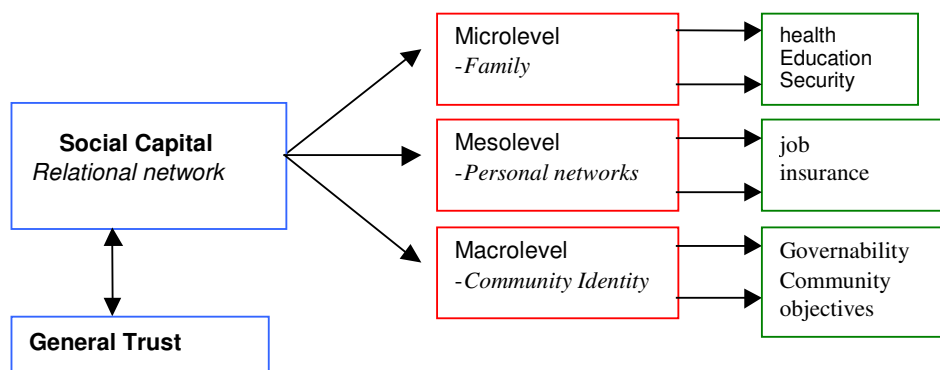
Without any doubt, where we can find a greater convergence is in the study of the effects of this community dimension of capital. The endowment of a community in social capital constitutes a key explanatory variable of certain aspects that are out of the scope of

conventional demographic and socioeconomic indicators. Therefore, the relevance of the study of social capital consists in its effects not only on the levels of personal well-being, but also on an ample set of economic and social variables in general, from growth levels, labor market, educational achievements, improvements in health levels and so on, to a better institutional handling.

If we structured the division of the effects based on the criterion of the personal or social scope of performance, we would demonstrate three levels. On an individual scale, we can see the effects derived from the existence of a greater personal network of individual support; on an intermediate or a community scale, we find the spillover effects as a consequence for living in a community where strong bonds exist. Finally, at the macrolevel, there are effects derived from the existence of a greater associative wealth, which can influence both the economic growth and the improvement of the general levels of human development.

Obviously, these mentioned dimensions of social capital do not generate effects in identical directions (scheme 2). In general, having access to the different expressions of social capital is an essential way for the improvement of the quality of life in anyone of its forms.

Scheme 2: Social Capital effects



Similarly, translated to the scope of the regional economy, local enterprise systems are based on the existence of social networks. The absence of this capital of networks leads to a hierarchical form of

understanding the frameworks of relations, characterized by a culture of secrecy.

Nevertheless, and this is an especially relevant aspect, the most recent studies have remarked upon the existing relation between certain expressions of social capital, such as participation in sport and cultural activities in general, and the development of a collective identity, social cohesion and even governability. Participation in this type of activities generates a feeling of property within individuals and the existence of common objectives that we denominate perspective or communitarian approach (community focal point). In this line, Putnam has demonstrated how states and regions with a high involvement in horizontal institutions tend to display a better quality of government in three senses. On the one hand, it fortifies "community" behaviors, orientating the citizens towards the community in order to cooperate with institutions. It also turns them into sophisticated consumers of policies, offering channels of political pressure and generation of opinion. Finally, it facilitates cooperation with bureaucrats and politicians for the development of public policies.

With respect to economic growth, social capital constitutes the basis for the construction of the models of endogenous growth. In these formulations, in contrast to the neoclassic models, the attention focuses on the role played by the evolution of productivity (Lucas 1988, Romer 1990) and capital, specially human and social capital considered reproducible, because both kinds of capital do not necessarily display decreasing yields. Empirically, all the models of endogenous growth adopt the following generic expression (Granato et al. 1996):

$$Y_i = \alpha I_i + \beta X_i + \varepsilon_i$$

where Y is the growth level of country i, I represents the measured economic variables at the beginning of the period in country i. Those which are variables highly correlated with the growth level include the initial levels of wealth and investment in physical capital that appear in the classic works on the subject (Helliwell 1994, Mankiw et al. 1992); where X constitutes an ample set of other variables, which go from the level of investment in human capital to delinquency levels, etc. Among the works that have centered on this type of variables, it is necessary to mention those of Levine and Renelt (1992), where the existence of a strong correlation between economic growth and investment in human capital

is verified. The work of these authors is also informative since it provides us with the necessary methodology to evaluate the sensitivity of the cultural variables. However, from our point of view, the perspective of international comparative analysis developed by Knack and Keefer (1997) is the most correct approach to the problem regarding the relation between growth and social trust. This study acknowledges states the existence of a positive relation in the measurement of interpersonal trust and the growth of the GDP once the effects derived from the different endowments of human capital are neutralized. Other studies also recognize the influence of trust in reducing the risk premium associated with investment.

In a divergent direction, the development of a concept that encloses the problem of social organization is reflected in the works of Helliwell and Putnam who directly analyze the relation between social capital and growth. Thus, the regions of Italy with a greater level of community development, noticeable in indices of associative network, newspaper reading, etc., showed greater levels of growth (Helliwell & Putnam 1995; Helliwell 1996). In general, it is difficult to demonstrate the existing causal bond between social capital and economic and social well-being since the relation is bi-directional. Thus, we can appreciate from the recent works of Putnam where social capital and economic equality go jointly and they are reinforced mutually. The same applies to economic inequality and the lack of social collaboration. The study which we have referred to, applies to the Italian case and highlights, the considerable regional differences and their social effects on social and institutional participation. These are in unison with the levels of revealed social trust, observed through the pursuit of four basic indicators of community or civic commitment: the density of clubs and associations in a region, the reading of local press and the levels of voting in local and general elections.

4. Trust and social capital, the Olson-Putnam controversy

The studies that we have mentioned previously, have shown how trust, established on the relations of sympathy and the extension of the diverse forms of associationism, help to reduce the transaction costs (costs of information, monitoring of contracts, conflict, etc.). Therefore, societies that display high levels of trust will be able to generate greater product

levels and, consequently, reach a high level of socioeconomic development. In particular, North writes: "the incapacity of societies to develop an effective reinforcement of contracts is the most important source of stagnation and underdevelopment of the Third World" (North, 1990: p.54). The role played by trust seems decisive, whilst that played by the associative activity is remarkably ambiguous, in spite of the apparent identity that most studies on social capital adopt as a departure point. In any case and considering the existing theoretical positions, we can consider two possible interpretations. On the one hand, Putnam (1993) and theoreticians of social capital attribute the greatest success of regions and countries in terms of economic growth to the existence of a strong associative frame. They assert that this develops habits of cooperation, solidarity and preoccupation for *res-publica* within the individual. These attitudes are the basis for the resolution of collective problems.

However, and following an Olsonian perspective, a totally opposite interpretation can be extracted, since if the interests of some of these organized groups come into conflict with those of others or with those of disorganized social groups in general, the joint effect on economic activity can be negative, because economy and society in general could be seen captured by the conflicts between organized groups of interest. In this sense, Olson (1982, 2000) insisted that the social organizations, acting as specialized groups of interest (lobbies), can limit the growth possibilities and capture preferential policies. In the same line, Knack and Keefer (1997) find evidence of the conflicting nature of the existing relation between associative activity and growth as a result of the existing relation between these and the government. If the organizational activity of these groups constitutes an important brake on governmental activity it is, at the same time one of the essential routes in order to take control of private benefits at the expense of the rest of the society.

In this section we will question the nature of the determinants of social trust. In particular, we deal with the Olson-Putnam's *aporia* in relation to the role played by associative systems and social capital on growth. Therefore, we have studied the existing relation between associationism and social trust putting to the test the hypothesis maintained regarding the direct bond between the extension of the sympathy relations, associationism and social trust. At the same time, we will analyze the

effects of prosociality expressed via the general trust, in order to improve the governability or the performance of the collective tasks.

Empirical evidence

With the purpose of making the concept of social capital empirically useful, some sort of quantification of its stock is needed. Most of the existing studies use variables related to the preoccupation for community themes as proxies (reading of local press, participation in voting, respect to social norms, etc.) or choose to evaluate the associative framework of a certain area (Krishna and Schrader 1999). Nevertheless, the purest, albeit difficult measurement to isolate, is the variable "general trust" or trust in the population as a whole and the "institutional trust". Both kinds of trust would enable the agents to develop collective tasks and would improve the working efficiency of the administrative framework as well.

The deficiencies that these systems of measurement present require a direct personal valuation through survey. In order to obtain a trustworthy measurement of trust for its application in an empirical contrast across countries we use the *World Values Survey - WVS* (Inglehart & al. 2000) as data source. This source provides an intercultural analysis of the behaviors and very useful social valuations. In particular, the chosen measurement is based on the percentage of people interviewed in each country who adhere to the statement, "*most of the population is object of trust*". The answers have been tested with alternative measures of trust and a correlation close to the identity was observed (*note 11*). Although the question is ambiguous, the introduction of the generic concept of "population" explores the perception on the level of trust beyond the close family field. By adopting this definition for the variable, generalized trust is captured, as opposed to the specific or narrow one (i.e. centred on the cases of repeated interactions or linked to relations of proximity).

In terms of Theory of Games, this variable is twofold in definition: (i) as the attitude towards cooperation with anonymous subjects in analogous situations to the Prisoner's Dilemma, or (ii) as the existence of a cooperative approach of games not limited to certain social groups. Therefore, this view also expresses the expectation that other individuals do not act opportunistically (*note 12*). However, our attention focuses on the study of its causality, in order to analyse the political actions for creating these processes of capitalization.

The determinants of trust can be very diverse in nature. First of all, trust in others can be the result of moral and cultural activity. In this case, trust would be seen as strongly influenced by individual characteristics and by the level and type of education received, religious beliefs, etc. Regarding sympathy relations, one can place more trust in those who he is similar to in formation or who belongs to a same social or religious group. Accordingly, a society characterised by strong diversity in its composition will show low levels of trust and will be based fundamentally on the familiar relations. In turn, a community with consolidated institutions in the pursuit of deviated behaviours will feel more trustworthy as it is being protected.

Literature on the subject has emphasised traditionally the role of the civic associations, excluding the family and the associations with no direct link with social action (recreational, cultural associations...). As a result of this bias in the analysis, the most recent associative expressions, in many cases informal, are undervalued as a means of generating this form of capital.

In summary, considering this multiplicity of sources, it is necessary to analyze the effects derived from associative activity, the inequality in income levels, ethnic polarization, formal institutions of protection of individual rights, the income *per capita* and the educational levels.

The results of the *World Values Survey* (note 13) in its last big wave (1995-1999) offer abundant evidence on the interrelation between social values, structures and social trust. In order to identify the determining factors of the revealed general trust, we use techniques of data reduction which are exploratory in character, in particular, the Principal Components Analysis (the P.C.A.). In order to complete the analysis, we applied a *latent root regression* analysis to the PCA results.

Results of Principal Components Analysis

With regard to the discreet variables, and considering the results of the survey for each country, we transformed the information into a structural continuous variable. The values of this variable are the percentages of the population that show affirmative answers to the questions formulated on the diverse types of associationism, institutional trust, etc.

At first glance, the correlations of trust levels with expressive variables of the recognition of certain social values, active participation in diverse forms of associationism, institutional trust and some socioeconomics characteristics, allow us to highlight some peculiarities (Table 1).

Table 1: Correlations: Social Capital

Family value	-0,247*	Political Associationism	-0,057
Friendship value	0,274*	Economic Associationism	-0,101
Policy value	-0,135	Profesional Associationism	0,102
Religion value	-0,593**	Asistencial Associationism	0,006
Determination value	0,423**	Trust in Church	-0,441**
Concurrence value	-0,317**	Trust in the Army	0,091
Religious faith	-0,449**	Trust in legal system	0,306**
Religious practice	-0,248*	Trust in press	-0,259*
Low rent	-0,333**	Trust in unions	0,242*
Sport Associoationism	0,446**	Trust in Policy	0,506**
Religious Associationism	-0,175	Trust in government	-0,029
Cultural Associationism	0,286**	Trust in enterprises	-0,013
Labour Associationism	0,38**		

Source: World Values Survey

First of all, there is a highly significant relation between the revealed general trust and trust in the open social institutions (legal and political system), but not with particular closed institutions (i.e. church and army). Similarly, a direct relation between general trust and civic associationism with a horizontal organization (cultural, sport, union, etc.) is verified, but not with the traditional vertical associations (religious and political). On the other hand, traditional values such the political and religious commitment or the importance of the family are inversely related to revealed general trust, in contrast to values closely bound with the

extension of sympathy relations beyond closed circles. However, these results must be completed with the multivariant analysis.

The application of the exploratory analysis groups the variables that are considered in four explanatory factors. The overall variation which accounts for these factors is fairly high (75 %) if we consider the number of factors. With regard to the properties of the analysis, the results can be considered optimal (*note 14*).

The description of the obtained factors responds to the logic which is presented in the most recent studies on constitution and the effects of social capital. In particular, the factor with more explanatory power in the joint variance has to do with what we could denominate associationism or active participation in organizations diverse in nature (political, religious, professional, etc.). This takes up a 30% of the joint variance and gathers all the linked variables with positive charges (see table 2 and table 3).

Table 2.- Total explained variance by component

Component	Sum of squared saturations of extraction			Sum of squared saturations of rotation		
	Total	% of variance	% cumulated	Total	% of variance	% cumulated
1	5.689	29.942	29.942	4.909	25.839	25.839
2	4381	23.057	52.998	4.416	23.242	49.08
3	3.028	15.939	68.937	3.124	16.441	65.521
4	1.143	6.014	74.951	1.792	9.431	74.951

Method: Principal Component Analysis

Table 3: Principal Component Analysis

	Components			
	Asociationism	Trust in institutions	Development indicators	Asociations and traditional values
Cultural associationism	,917			
Economic associationism	,878			
Professional associationism	,873			,325
Religious associationism	,798			,343
Leisure associationism	,787		,432	
Unions	,621			
Trust in parliament		,896		
Trust in parties		,879		

Trust in legal system		,853		
Trust in government		,826		
Trust in unions		,767		
Trust in enterprises	,396	,633		
Human Development index			,870	
PIB pc	,350		,848	
Trust in political system		,433	,781	
Religious practice			-,645	,361
Family values				,749
Charitable associationism	,508			,584
Political Associationism	,507			,561

Extraction method: Principal Component Analysis. Rotation Method: Normalization Varimax with Kaiser.
 Rotation has converged in 5 iterations.
 Charges below a 0.3 have been suppressed
 Source: World Values Survey

The second factor in order of importance accounts for 25% of the whole variance and includes those variables that reflect the levels of trust in diverse social and political institutions. We will refer to this factor as institutional trust. Once again, all the variables charge positively on this factor.

Thirdly, the indicators of development and income account for 16% of the variance. Two special features related to this factor are worthy of mention. These features have a clearly theoretical support and they refer to variables apparently not bound to this denomination but which appear with important loads. On the one hand, we find political trust, directly tied at the level of economic and human development. Logically, economic growth is related to the solidity of the political framework. Along with this, a second variable reflecting the presence of religious attitudes is present with a negative load. This fact seems coherent with the denominated Hypothesis of Secularization, according to which, the relevance of the religious behaviors would tend to decline if the levels of income, education and urbanization rose.

Finally, a fourth factor accounts for 6% of the variance, and we can denominate it as the relevance of traditional values, that is, the importance of the family and belonging to welfare or charitable institutions. In this case, we must highlight the relatively important weight which active political participation bears upon this factor.

Results of latent root regression

If we apply a regression on the main components (*latent root regression*) in order to identify the links between the above mentioned factors and the general trust revealed (*table 4*), we can verify the existence of a significant relationship between the factors taken into account and dependent variable (*note 15*). All the explanatory variables are significant, particularly those related to the development level, yet the levels of associationism and institutional trust also show a positive influence. However, the presence of traditional values shows a negative coefficient.

Table 4: Regression on principal components

Dependent Variable: trust		
Method: Least Squares		
Sample(adjusted): 1 61		
Included observations: 61 after adjusting endpoints		
Variable	Coefficient	Prob.
<i>Fac. Asociationism</i>	2.364944	0.0498
<i>Fac. Trust in institutions</i>	2.394438	0.0471
<i>Fac. development indicators</i>	7.576554	0.0000
<i>Fac. traditional values</i>	-4.481868	0.0004
C	26.40796	0.0000
R-squared	0.532764	
Adjusted R-squared	0.499389	
Durbin-Watson stat	1.832767	
F-statistic	15.96341	
Prob(F-statistic)	0.000000	

Data source: World Values Survey

There are positive and significant relations between the levels of revealed trust and the existence of a solid and active associative framework, as well as with the level of economic and human development, which has its translation on the levels of revealed institutional trust. However, as we have already indicated previously, there is not a direct relation between revealed trust and the respect for traditional values. In fact, the importance of the family or religious institutions seems to be associated with a lack of social trust.

Results of models of structural equation

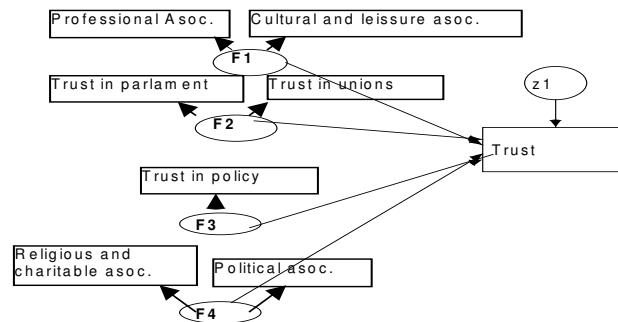
Obviously, given the complexity of the variables included and feed back links, this type of analysis does not allow us to deduce causal relations directly, but it allows us to verify the existence of a link between the variables indicated.

A more detailed study of the causality requires the use of the models of structural equations (*path analysis*). The use of this type of methods serves as a way of verifying a theory or a set of complex causal relations. In fact, it appears as a derivation of the confirming factorial analysis in some circumstances.

From our initial theory, we will construct a structural model and we will contrast it with the extracted data of the W.V.S. (see scheme 3)

Scheme 3: Structural causality model

Causality of General Trust



Chi-squared = 8,514
 Degrees of freedom = 9
 Level of probability = 0,483
 Data Source: World Values Survey

The initial structure of our model allows us to improve the theory, eliminating the non-significant variables. The results can be considered optimal because the causal structure acts in accordance with the observed data, confirming what we have already anticipated (see table 5). The variables that maintain a strong direct relation with the levels of

revealed trust have to do with the existence of a solid associative network, particularly horizontal associations, both cultural and professional in nature. On the contrary, the variables reflecting the existence of institutional trust (trust in parties, unions, government, etc.) show a weaker bond and can even be eliminated without effects in the explicability of the model.

Table 5.- Standardized coefficients

Variables		Coefficients
Trust in parliament	F2	0,745**
Trust in unions	F2	0,655*
Trust in politics	F3	1,000*
Charitable Associationism	F4	0,702*
Political Associationism	F4	0,809*
Trust	F2	0,254
Trust	F3	0,436*
Trust	Cultural and Professional Asoc.	0,827*
Trust	F4	-0,883*

(*) Significativity: 0,1; (**) Significativity: 0,05

Data Source: World Values Survey

On the contrary, traditional associationism, both religious and political in nature, maintains an inverse relation with trust levels. In this case, it is necessary to consider that this kind of organizations are predominantly vertical and closed.

5. Concluding remarks

A new relevant idea that emerges from the general line of enquiry pursued in this article is a more precise definition of social capital, identifiable with the concept of moral capital and trust. Indeed, it would be the extension and deepening of networks of personal bonds (sympathy) among individuals.

The implications of this new approach can be summed up as follows:

One of the main points in common among works about the subject is the idea that trust and internalization of behavioral norms lead to cooperative and prosocial behaviors and this constitutes one of the essential pillars in the working both of the economy and of society in general. The conclusions of our paper refer to a previous stage, analysing the determinants of trust and questioning the notion of social capital, since it is not immediately obvious that the relationship between that form of capital and a dense social framework exists.

Thus, among the generating factors of trust we found a clear bond between the display of an extensive macrosocial organizational structure and the existence of general trust, but we did not find a link with social homogeneity, nor with the solidity of the traditional social institutions (family, religion...). Simultaneously, trust in the institutional frameworks also plays a differentiated role.

Doubtlessly, the lack of *linking social capital*, specially related to the associative frameworks has a very considerable effect on trust levels. It cannot be asserted that the solidity of the traditional relational frameworks (family, religion...) constitutes in itself a support of the general trust, but that it can even be counter-productive, giving rise to what we could denominate amoral familism. Indeed, the extension of associationism, an extension of sympathy spheres and moral capital, is the main determinant of the existence of high levels of social trust.

These results derived from empirical evidence seem to confirm Putnam's thesis, although this would not have to mean a contradiction with the hardcore of the Olsonian thesis on the logic of collective action and lobbying. In this sense, it is necessary to stress that Olson's thesis refers to a very particular type of associationism, specially with unions and politics. The conclusions do not encompass necessarily all the expressions and therefore both hypotheses are not necessarily contradictory. In fact, we think that the evidence that we have found, although it justifies the position of Putnam, it does not refute Olson's, as can be observed by the negative load of the forms of political associationism. Therefore, it may be concluded that the promotion of associative networks, through its effect on trust, can generate a favorable influence on economic activity. Nevertheless, it is not clear that this promotion must be associated to public support.

6. Notes

¹ Genovesi, Tocqueville, Marshall, Durckheim or Weber use some concepts that would be perfectly translatable by Social Capital.

² These theories can be grouped in two large categories. On the one hand, the reputational approaches, where economic actions are disrupted in sequences of discreet games and the cooperation is a consequence of the previous results and the existence of interrelational networks. Among the works that move in this line we can point out as an example Binmore (1991) and specially the classic work of Putnam (1993). A parallel interpretation is based on the remuneration for certain cooperative predispositions of the individuals (Bruni & Sugden 2000).

³ The community concept present in these definitions is ambiguous and it is not necessarily identified with a concrete geographic or social boundary such as a neighbourhood, a region or a city. In that sense, interest groups, soccer clubs, recreational societies, ethnic groups, religious associations are examples of the mentioned community concept.

⁴ Fukuyama (1995) puts forward a negative route of approach through the social disfunctionalities derived from the lack of social capital (corruption, delinquency etc.) This approach presents an important methodological error because by using this methodology we would be confusing the effects with the causes.

⁵ It is possible to find an important set of variables of this type. Nevertheless, there are statistics without reliability, which are only acceptable through the use of synthetic indicators. Barro (1997) finds a significant relation between deficiency of social confidence, levels of inflation, national debt, etc.

⁶ The question posed is: Do you trust most people? In this case one can criticize the fact that the meaning of the verb "to trust" is not totally comparable in different cultures.

⁷ An interesting alternative method in economic terms also exists. We can value the capacity to obtain loans from the personal social networks and to lend to the same ones. The complexity of the analysis and the need of an enormous, extensive survey limit us in the use of more subjective proxies, not strictly monetary.

⁸ For example, the predominance of links with relatives, colleagues, etc. can generate a deficiency of social trust outside the familiar bonds. This is the case of the Mafias, where there are high levels of internal confidence without general trust in society.

⁹ A recent example can be illustrative. The fall of the Eastern Regimes has resulted in the formation of ample informal network that can join 3/4 of the population (Ukraine). This is an emerging "hourglass society". This means that in the society basis there is a rich social framework of networks of friends who distrust political institutions, whereas the other 1/4 maintains contact with the government. As Russians used to say: "100 friends are more useful than 100 roubles".

¹⁰ In Economic Theory there is a line of investigation that considers ethics and interrelations between individuals as a generalization of sympathy bonds (Fontaine 2000).

¹¹ For example, they observe a close relation with the percentage of return of lost objects, levels of corruption, etc. (see Keefer and Knack 1997). They also include the evidence expressed in the studies of Putnam (1993).

¹² The world-wide average of the set of answers (35.8%) covers up a wide variability that goes from 5% in Peru to a 65% in Norway.

¹³ The WVS constitutes the survey with the most extensive basis on a world-wide scale. It is formulated on a set of 61 countries (82500 interviews).

¹⁴ The Kayser-Meyer value is 0.72.

¹⁵ Altogether, the regression presents a R^2 of 0.5 and, given the orthogonal extraction method, autocorrelation problems do not exist.

7. Bibliography

ARROW, K. J. (1999), "Observations on social capital", in: DASGUPTA & SERAGELDIN (eds), (1999), *Social capital, a multifaceted approach.*, Washington, World Bank, 3 : 5.

BARRO, R. (1991), "Economic growth in a cross section of countries", in: *Quarterly Journal of Economics*, vol. 106, nº 2, 407 : 444.

BARRO, R. (1997), *Determinants of the economic growth*, Cambridge, Massachusetts, MIT press.

BECATTINI, G. (2002), *Desarrollo local, teorías y estrategias*, Madrid, Civitas.

BINMORE, K. (1991), "Bargaining and morality", in: SUGDEN, R. & GAUTHIER, D. (1991), *Rationality, justice, and social contract*, Harvester, 131:156.

BOURDIEU, P. (1986), "Forms of capital", in: RICHARDSON, J. (ed),(1986), *Handbook of theory and research for the sociology of education*. Westport, Greenwood Press, 241 : 260.

BOURDIEU, P. (2001), "The forms of capital", in: GRANOVETTER, M. & SWEDBERG, R. (eds),(2001, 2d edition), *The sociology of economic life*, Oxford, Westview press, 97 : 111.

BRUNI, L. & SUGDEN, R. (2000), "Moral canals: trust and social capital in the work of Hume, Smith and Genovesi", in: *Economics and Philosophy*, vol. 16, 24 : 25.

COLEMAN, J. (1988), "Social capital in the creation of human capital", in: *American Journal of sociology*, vol. 94, 95 : 120.

DASGUPTA, P. (1999), "Economic progress and the idea of Social Capital", in: DASGUPTA, P. & SERAGELDIN, I. (eds),(1999), *Social capital, a multifaceted approach*. Washington, World Bank, 325 : 424.

DURLAUF, S. (1999), "The case against social capital", in: *Focus*, nº 20, nº 3, 1 : 5.

DURLAUF, S. (2002), *The empirics of social capital: some sceptical thoughts*, Washington, World Bank.

- FONTAINE, P. (2000), "Making use of the past, theorist and historians on the economics of altruism", in: *Journal of History of the economic thought* vol. 7, n° 3, 407 : 422.
- FUKUYAMA, F. (1995), *Trust, the social virtues and the creation of prosperity*, London, Hamish Hamilton.
- GLAESER, E., LAIBSON, D. & SACERDOTE, B. (2002), "An economic approach to social capital", in: *The Economic Journal*, vol. 112, 437: 458.
- GRANATO, J., INGLEHART, R. & LEBLANG, D. (1996), "The effect of cultural values on economic development: theory, hypotheses, and some empirical test", in: *American Journal of Political Science*, vol. 40, n° 3, 608 : 611.
- HELLIWELL, J. (1994), "Empirical linkages between democracy and growth." In: *British Journal of Political Science*, vol. 24, 225 : 248.
- HELLIWELL, J. (1996), *Do borders matter for social capital? Economic growth and civic culture in U.S. States*, NBER, Working Paper 5863.
- HELLIWELL, J. & PUTNAM, R. (1995), "Economic growth and social capital in Italy", in: *Eastern Economic Journal*, vol. 21, n° 3, 295:307.
- INGLEHART, R. et al. (2000), *World values surveys and European values surveys*, ICPSR Study, n° 2790.
- KNACK, S. & KEEFER, Ph. (1997), "Does social capital have a economic pay off? A cross country investigation", in: *Quarterly Journal of Economics*, vol. 112, n° 4, 1251 : 1288.
- KOSLOWSKI, P. (ed.), (1991), *Ethics in economics, business and economic policy*, Berlin, Springer.
- KOSLOWSKI, P. (ed.), (1999), *Contemporary Economic Ethics and Business Ethics*, Berlin, Springer.
- KRISHNA, E. & SCHRADER, A. (1999), "Social Capital assessment tool", Conference on Social Capital and Poverty Reduction, June 22-24, The World Bank, Washington.
- LEVINE, R. & RENELT, D. (1992), "A sensitivity analysis of cross-country growth regressions", in: *American Economic Review*, vol. 82, 942 : 963.
- LIN, N., (1999) "Inequalities in social capital, evidence in urban China", SCALE Conference.
- LUCAS, R., (1988), "On the mechanics of Economic Development", in: *Journal of Monetary Economics*, vol. 22, n° 1, 3 : 42.
- MANKIW, G.; ROMER, D. & WEIL, D. (1992), "A contribution to the empirics of economic growth", in: *Quarterly Journal of Economics*, vol.107, n° 2, 407 : 437.
- MANISKI, Ch., (2000), "Economic analysis in social interactions", in: *Journal of Economic Perspectives*, vol. 14, 115 : 136.

- NORTH, D. C. (1990), *Institutions, institutional change and economic performance*, Cambridge, Cambridge University Press.
- OLSON, M. (1982), *The rise and decline of nations: economic growth, stagflation and social rigidities*. New Haven, Yale.
- OLSON, M. (2000), *Power and prosperity*, New York, Basic Books.
- OSTROM, E. (1999), "A fad or a fundamental concept", in: DASGUPTA, P. & SERAGELDIN, I. (eds), (1999), *Social capital, a multifaceted approach*. Washington, World Bank, 172 : 214.
- PALDAM, M. (2000), "Social capital: one or many? Definition and measurement", in: *Journal of Economic Surveys*, vol.14, n° 5, 629 : 653.
- PORTES, A. (1998), "Social capital, its origins and application in modern sociology", in: *Annual Review of Sociology*, vol. 24, n° 1, 1 : 14.
- PUTNAM, R. (1993), *Making democracy work: civic traditions in modern Italy*, Princeton, Princeton University Press, New Jersey.
- PUTNAM, R. (1995), "Bowling alone: America's declining social capital", in: *Journal of Democracy*, vol. 6, n° 1, 65 : 78.
- PUTNAM, R. (2000), *Bowling alone, the collapse and revival of American community*, New York, Simon and Schuster.
- QUIBRIA, M. A. (2003), "The puzzle of Social Capital, a critical review", in: *Asian Development Review*, vol. 20, n° 2, 19 : 39.
- RATNAPALA, S. (2003), "Moral capital and commercial society", in: *The Independent Review*, vol. 8, n° 2, 213 : 233.
- ROBINSON, L., SCHMIDT, A.A. & SILES, M. (2002), "Is social capital really a capital?", in : *Review of Social Economy*, vol. 60, n° 1, 1 : 21.
- ROMER, P. (1990), "Endogenous technological change", in: *Journal of Political Economy*, vol. 98, n° 5, 71:102.
- SNIJDERS, T. A. (1999), "Prologue to the measurement of social capital", in: *The Tocqueville Review*, vol. 20, 27 : 44.
- SOBEL, J. (2002) "Can we trust social capital?", in: *Journal of Economic Literature*, vol. 40, 139:154.
- SOLOW, R. (1999), "Notes on social capital and economic performance", in: DASGUPTA, P. & SERAGELDIN, I. (eds), (1999), *Social capital, a multifaceted approach*, Washington, World Bank, 6 : 10.
- STIGLITZ, J. (1999), "Formal and informal institutions", in: DASGUPTA, P. & SERAGELDIN, I. (eds), (1999), *Social capital, a multifaceted approach*, Washington, World Bank, 59 : 68.
- STREETEN, P. (2002) "Reflections on social and antisocial capital", in: *Journal of Human Development*, vol. 3, n° 1, 7 : 22.