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8 March 2013

Online at <https://mpra.ub.uni-muenchen.de/44860/>
MPRA Paper No. 44860, posted 20 Mar 2013 21:56 UTC

Disentangling the relationship between nonprofit and social capital:
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networks of strong and weak ties*

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March 2013

Abstract

We use a unique dataset to study how participation in two specific types of nonprofit organizations, i.e. social welfare associations and social cooperatives, affects individual social capital. A descriptive analysis shows that both the types of organization have a positive impact. The econometric analysis reveals that social welfare associations play a significantly greater role in the development of volunteers' networks of cooperative relationships, favouring the creation of weak ties which are used to exchange information and advice, and offering the opportunity to establish stronger ties entailing concrete mutual support. Within social cooperatives, workers develop their individual social capital to a greater extent than volunteers.

Keywords: volunteering, nonprofit organizations, cooperative enterprises, social cooperatives, social capital, social networks.

JEL Codes: L31, L33, P13, Z1, Z13

* This work has been performed within the activity of the projects “The added value of volunteer work” (in cooperation with the ‘Forum Solidarietà – Centre for Voluntary Work in Parma’) and “Social cooperatives and socio-economic development: an analysis starting from the concept of social capital” (in cooperation with the “Consorzio di Solidarietà Sociale” – Consortium of social solidarity in Parma). We thank the project’s participants for their fruitful cooperation.

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I. Introduction

The early literature on social capital commonly claimed that voluntary organizations play a positive role in the diffusion of civic attitudes, sentiments of trust and the development of networks of cooperative relationships. After the publication of the seminal work of Putnam et al. (1993), many empirical studies have measured social capital through indicators of membership of nonprofit, non governmental, associations belonging to civil society. The habit of considering civil society as an integral part of social capital has since spread among scholars and policy makers, causing some confusion between the two concepts¹. An implication of this approach is that support for the nonprofit sector and for participatory processes has been long considered a decisive policy tool for the accumulation of social capital, the promotion of welfare, and the strengthening of democracy (Grootaert and van Bastelaer 2001; 2002; European Commission 2005; OECD 2010).

However, as we will briefly illustrate in Section 2, there are clues that nonprofit associations are not all alike in how they contribute to the creation of social capital and to the welfare of a society. The practice of measuring social capital by means of indicators of associational density, without accounting for the different performance that each kind of association may have in the development of individual social networks and norms does not help us to understand which organizations may actually create social capital (Stolle and Rochon 1998, Wollebæk and Selle 1998; Paxton 2002; Knack and Keefer 1997; Knack 2003).

In this paper, we draw on a unique dataset collected by the authors to study the effect of two specific forms of nonprofit organization, i.e. social welfare associations and social cooperatives, on the structural dimension of *individual* social capital, as given by the networks of cooperative relationships developed by volunteers and workers as a result of their interactions within the organization². Networks are analyzed in both their quantitative and qualitative aspects through the elaboration of indicators of their size and of the strength of relationships. More specifically, we measure the weak ties allowing the transmission of information and advice, and the strong ties entailing concrete mutual support. The indicators we use as outcome variables allow us to assess how associational participation affects aspects of social capital which have not been investigated before. The previous literature has so far focused on the cognitive dimensions of the concept, such as social trust (see for example Knack and Keefer 1997; Knack 2003). While trust plays a fundamental role at the macro level, by improving the well-functioning of markets and the

¹ See for example the influential World Bank's guidelines for social development, retrievable at the url: bit.ly/worldbanksocialcapital.

² The literature often distinguishes between the structural and cognitive dimensions of social capital (Kawachi and Kennedy 1997; Uphoff 1999; Degli Antoni and Sacconi 2009). Structural social capital deals with individuals' behaviours and mainly takes the form of formal or informal networks. Cognitive social capital derives from individuals' perceptions resulting in norms, values and beliefs that may contribute to the adoption of cooperative behaviours.

economic performance of a society (Zak and Knack 2001; Guiso et al. 2008; 2009; Sangnier 2012), networks primarily show their effect at the micro level by decisively influencing the well-being of their members. The individual wealth of social ties has been found to be significantly and positively correlated with happiness (Becchetti et al. 2008; Bruni and Stanca 2008), self-esteem (Ellison et al. 2007; Steinfield et al. 2008), physical and mental health (Brown et al. 2006; Folland 2006; Fiorillo and Sabatini 2011) and income (Robison et al. 2011).

In addition, unlike previous studies which solely focused on volunteers, our sample and indicators allow us to identify the impact of participation on two distinct types of subjects, i.e. volunteers and workers.

Our two main independent variables are dummies identifying the type of organization to which respondents belong, and whether they are workers or volunteers.

As will be explained in the next section, the nonprofit organizations we account for – i.e. social welfare associations and social cooperatives - reliably match Putnam's concept of 'civic community' because they share the institutional aim of pursuing *solidarity goals*.

Social welfare associations are voluntary organizations with the statutory objective of carrying out charitable activities such as the provision of social welfare services for disadvantaged or deprived people, or the promotion of collective action on public interest issues such as civil rights, and protecting the environment.

Social cooperatives are nonprofit associations with the institutional aim of pursuing both the interests of members or stakeholders and the general interest. Italian law distinguishes between two types of social cooperative³. "Type A" cooperatives are those that aim to supply welfare services such as healthcare, assistance, education and environment protection services. "Type B" cooperatives are those promoting work integration for disadvantaged people. "Type A + B" cooperatives are those pursuing both aims. Theoretical studies have claimed that the socially oriented nature of cooperatives and their inclusive governance may positively affect social cohesion, sustainability of growth (Dow, 2003; Stiglitz 2009; Birchall, 2010) and the accumulation of social capital (Borzaga and Spear 2004; Defourny and Nyssens 2006; Hulgård and Spear 2006; Zamagni and Zamagni 2010; Dasgupta 2012). These arguments have been invoked by policy makers and practitioners who support the development of cooperative enterprises for the provision of market goods and services. However, to the best of our knowledge, the effect of social cooperatives – and, more generally, of cooperative firms - on the structural components of individual social capital remains so far unexplored. Our study makes a first step towards filling this gap.

³ See Law 381/1991 (*Disciplina delle cooperative sociali*), available at the url: bit.ly/381-1991 (in Italian).

The strategy of distinguishing between organizations of a different nature and with different characteristics but similar purposes proves useful in better understanding the relationship between the nonprofit sector and social capital, by suggesting which governance models and practices may be more favourable to the development of networks of cooperative relationships. This has relevant policy implications in that it provides hints on how nonprofit organizations may be modelled to the purpose of fostering the accumulation of social capital.

The descriptive analysis in this paper shows that, in absolute terms, both types of organization have a positive impact. The econometric analysis, however, reveals that, in our sample, social welfare associations play a significantly greater role in extending volunteers' networks of cooperative relationships, favouring the creation of weak ties which are used to exchange information and advice, and offering the opportunity to establish stronger ties entailing concrete mutual support. For example, volunteers in social welfare associations have a significantly higher likelihood of helping each other in a concrete way in case of personal or family problems, in respect to volunteers in social cooperatives. On the other hand, within social cooperatives workers develop weak and strong ties to a greater extent than volunteers. The effect of participation on individual social capital does not significantly differ between volunteers in social welfare associations and workers in social cooperatives.

Our results suggest that the greater impact of social welfare associations may be related to the frequency with which volunteers participate in group activities with their peers and have the opportunity to meet users. We argue that volunteers' participation in group activities is likely to be influenced by the composition of the organization's workforce. In associations, salaried workers can be hired only to a limited extent, and the workforce must be composed for the most part of volunteers. This is not the case in cooperatives, where volunteers represent a residual part of the workforce⁴. The results also suggest that, if volunteers better empathize with people with the same status, then they will be more likely to enrich their social capital in voluntary associations than in cooperatives. This interpretation is supported by robustness checks in which we account for the composition of the workforce.

The outline of the paper is as follows. Section 2 briefly reviews the related literature. Section 3 describes our data and empirical strategy. Section 4 presents some descriptive evidence. Section 5 is

⁴ According to Law 266/1991, *Legge quadro sul volontariato*, available at the url: bit.ly/law266-1991 (in Italian), in order to be entitled to public grants and tax relief, the association needs to have a democratic structure, its directors must be elected by members, and the workforce must be composed for the most part of volunteers. Voluntary associations can take on employees only to the extent this is necessary to ensure the regular functioning of the organization. On the other hand, a social cooperative's workforce can be composed for the most part – or even entirely – of salaried workers.

devoted to the econometric analysis. A discussion and interpretation of results is offered in Section 6.

II. Related literature

The study of the effect of associational participation on social capital has involved several disciplines, generating a fertile literature which encompasses both micro and macro approaches.

At the individual level, Stolle and Rochon (1998) used World Values Survey cross-sectional data from the U.S., Germany and Sweden to show that membership of diverse associations affects social capital in different ways. More specifically, the authors found that the degree of “associational diversity” is positively correlated with “generalized trust and community reciprocity among members (p. 61), where “associational diversity” is proxied by a “diversity score” measuring for each association the degree of representativeness of its members’ diversity in respect to the national population, with reference to education, occupation, religion and church attendance, partisanship or ideology, age, gender, and ethnicity.

More recently, Griebhaber and Geys (2012), found that the impact of membership on corruption significantly varies according to the association’s characteristics in terms of inclusiveness and interconnectedness in a cross-section of 20 European democracies. Similar results on the different effects of diverse types of association have been obtained by other authors (see for example Hooghe 1998, Wollebæk and Selle 1998; Paxton 2002; Coffé and Geys 2007; Degli Antoni 2009; Iglič 2010)⁵.

Despite the evidence suggesting that associations may not be alike in how they influence social cohesion, the practice of using indicators of associational density as macro measures of social capital, without distinguishing between the different types of association, has become very popular in the literature, mainly because of the chronic lack of suitable data.

Most of the literature on the effects of associational participation refers to the conflicting views of Putnam (1993; 1995), who referred to associations as “schools of democracy” where values of trust and civic cooperation may be easily socialized, and Olson (1982), who stressed how associations may be used as tools for the pursuit of the private interests of their members. In their influential study, Knack and Keefer (1997) established an ad hoc classification of associations to provide an empirical, cross-country, test of Putnam’s and Olson’s hypotheses. The authors built the two categories of “Olsonian” groups, identified as rent-seeking organizations, and “Putnam-esque” groups, “identified as those groups least likely to act as “distributional coalitions” but which involve social interactions that can build trust and cooperative habits” (p. 1273). Their empirical analysis

⁵ A reading list on the relationship between social capital and participation in civil society organizations is retrievable on Social Capital Gateway at the url: www.socialcapitalgateway.org/civilsociety.

found a surprisingly negative though not significant effect on generalized trust of Putnam-esque associations and a positive effect of the Olsonian associations.

These partially unexpected results⁶ may be related to the authors' choice of how to classify associations. By defining religious, education, cultural and youth associations as "Putnam-esque" groups, the authors apparently collapse into one single indicator measures of membership of associations which are very different in nature, activities, and purposes. In addition, the measure of Putnam-esque associations used by the authors may hardly be considered as reliably representative of the type of organizations that Putnam referred to in his explanation of the performance of political institutions across the Italian regions. For example, religious organizations often have hierarchical structures which may negatively affect the cooperative attitudes of members. Participation in cultural and education groups may be undertaken for the sake of particular interests such as the need to upgrade professional skills or the mere pleasure of enjoying art, which do not necessarily entail relational activities or pro-social motivations and behaviours (Degli Antoni 2009). Youth associations such as scouting groups, on the other hand, have the explicit purpose of helping their members to build relationships and to share moral norms of altruism and reciprocity.

Our focus on social welfare associations and social cooperatives helps to explain Knack and Keefer's (1997) findings on associational diversity. We show that even associations that, in our view, better match Putnam's concept of "civic community" as they share the institutional aim of pursuing *solidarity goals*, may have significantly different effects on the social capital of their members. This suggests that caution is needed when classifying associations to the purpose of empirically analyzing their role in the welfare of a society.

In addition, our focus on social cooperatives allows us to provide the first empirical test of the claims advanced by theoretical studies on the role of nonprofit enterprises in the building of social capital (Evers 2001; Svendsen and Svendsen 2000; Borzaga and Solari 2001; Thomas 2004; Hulgård and Spear 2006; Dasgupta 2012; Westlund and Gawell 2012). The basic claim advanced by the theoretical literature is that cooperative enterprises foster the accumulation of social capital through two main channels. First, their model of governance, entailing a multi-stakeholder structure of the enterprise, with boards often representing diverse groups, may facilitate the creation of linkages within the enterprise and between the enterprise and its environment. Second, the enterprise's tendency to networking and lobbying activities generally goes beyond the pursuit of economic goals and may be targeted to the improving of social cohesion and community welfare. The creation of social capital may even be a goal in itself for the cooperative enterprise, since

⁶ In a follow-up study, Knack (2003) took into account a larger sample of countries and found a positive effect of associations on trust when all the associations were considered together. When the distinction between Putnam and Olson groups was considered, only the former presented a significant and positive effect on trust.

cooperatives have the institutional aim of pursuing not only the interests of members or stakeholders, but also the interests of users and the general interest.

Policy makers and practitioners have invoked these arguments to sustain the need to promote public policies in support of the cooperative movement. For example, in his speech to the European Cooperative Convention in Brussels in February 2002, former President of the European Commission Romano Prodi stressed that cooperatives are important contributors both to the economy and to the generation of social capital.

An empirical test of cooperatives' ability to create social trust has been recently performed by Sabatini et al. (2012). Drawing on survey data from the Italian province of Trento, the authors show that cooperatives are the only type of enterprise where the work environment fosters social trust in workers. However, Sabatini et al. (2012) do not address the effect of volunteering, and neither do they test what happens to workers' social networks, i.e. to the so-called "structural component" of individual social capital. The analysis we discuss in the next sections represents one the first empirical tests of the role of cooperative enterprises in the creation of networks of weak and strong ties, from a comparative perspective.

III. Dataset, social capital indices and independent variables

1. Dataset

The empirical analysis is based on an original dataset obtained by merging data collected by the authors through the administration of an anonymous questionnaire in two different surveys, in 2007 and 2011 respectively.

In 2007, respondents were volunteers in social welfare associations⁷. 290 members of 45 associations operating in the province of Parma - northern Italy - participated in the survey. The number of volunteers per association was 6.4 on average (minimum 2, maximum 11 and standard deviation 2.4). The sample of organizations was a stratified random sample⁸ that represents 10% of organizations of the province. Volunteers were randomly chosen among the members of the associations. They filled in a questionnaire of 64 questions on their experience as volunteers. Compilation of the questionnaire took on average 45 minutes.

In 2011, the questionnaire was administered to volunteers and salaried employees at social cooperatives operating in the same province. Social cooperatives were contacted through the second

⁷ The associations' activities are: assistance, health, environmental and animal protection, childcare or elderly care, civil defence, education, civil rights promotion and protection.

⁸ Strata referred to the district where the associations operated (the province of Parma is divided into four administrative districts very different in terms of population density) and its main activity.

level association⁹ operating in Parma (“Consorzio di Solidarietà Sociale” – “Consortium of Social Solidarity”), which involves 37 social cooperatives. They represent a significant part of the 78 social cooperatives operating in the province of Parma. All 37 social cooperatives were invited to take part in the research project. 17 social cooperatives agreed to participate (12 of which were A-type, 1 was B-type and 4 were A+B-type). In total, we collected questionnaires from 32 volunteers in 12 social cooperatives (2.7 volunteers per organization on average, minimum 1, maximum 5 and standard deviation 1.5) and 106 workers in the 17 social cooperatives (6.2 workers per organization on average, minimum 1, maximum 15 and standard deviation 4.5). We also collected questionnaires from 18 disadvantaged workers from 4 social cooperatives of type B or A+B (4.5 workers per organization on average, minimum 1, maximum 9 and standard deviation 3.7)¹⁰. Henceforth, by “worker” we will refer to non-disadvantaged workers, while we will always specify when we will refer to disadvantaged workers. In the 2011 survey, volunteers and workers (including the disadvantaged ones) were also randomly selected. They answered questions (101 questions for volunteers and employees and 69 questions for disadvantaged workers) related to their experience in the cooperative. Questionnaires were distributed and filled in at home.

In both the surveys, we asked members with a detailed knowledge of their organization to answer questions aimed at collecting information on various organizations’ characteristics, such as size, year of foundation, operational characteristics, etc. The variables elaborated from these questions concern the organizational level and take the same value for each respondent belonging to the same organization.

Our data are not representative at a national level. They reflect a situation observed in a province of Italy with 445.283 inhabitants (<http://www.statistica.parma.it/>) characterized by a social fabric with many social welfare associations and a significant number of social cooperatives.¹¹ The questionnaire was specifically designed by the authors to investigate the relationship between participation in different kinds of organizations and the creation of social capital. This special focus allows us to carry out an analysis which would have not been possible using existing national databases.

⁹ First level associations are voluntary associations of individuals. Second level associations are associations of first level associations, with the institutional aim of supporting members in their activities (such as the organization of training courses, fundraising programmes, etc.).

¹⁰ In this survey we also collected data from 17 users and 33 relatives of users.

¹¹ With 7.3 voluntary associations per 10,000 inhabitants, Parma has the ninth largest number of number of voluntary associations per inhabitant (Istat, 2003) of the 113 Italian provinces. It has the 37th largest number, with 14.6 per 100,000 inhabitants, of social cooperatives (Istat, 2005).

2. Social Capital Indices

Following the approach of Degli Antoni (2009), who draws on a subset of our same data to analyze associations only, we elaborated three indices of social capital intended as networks of cooperative relations. The first indicator, named *Network_size*, is based on the answers to the question: “As a whole, how many of the people you’ve met since joining the association are now your friends?”. The second and third indices explicitly consider the degree of attachment characterizing the relations formed through the organization. A proxy named *Strong_ties* is the standardized¹² mean value of the 4 answers to the following questions:

1. “How many of the people you’ve met through the association would you:
 - a. talk to about family problems?
 - b. trust to look after your relatives (e.g. children or elderly persons)?
 - c. ask to take care of your home when you are on holiday?
 - d. give/ask for help with activities such as shopping, accompanying children or elderly persons to do different activities etc.?”

The third index of social capital, named *Weak_ties* is the standardized mean value of the 3 answers to the question:

2. “With how many of the people you’ve met through the association have you started the following cooperative relations:
 - a. phone calls to ask for information or advice?
 - b. doing not very demanding errands?
 - c. asking for information about job opportunities?”

3. Independent Variables

The two independent variables of main interest are:

- a dummy variable (*Volunteer_in_association*) taking the value of 1 if the respondent volunteers in a social welfare association and 0 if s/he is a volunteer or a worker in a social cooperative;
- a dummy variable (*Worker*) taking the value of 1 if the respondent is a worker in a social cooperative and 0 if s/he is a volunteer (in a social cooperative or in a social welfare association).

¹² The standardization procedure is: $\frac{x_{ic} - \min(x_i)}{\max(x_i) - \min(x_i)}$ where: x_{ic} is the value i related to the organization c .

This standardization process creates standardized indicators with values ranging between 0 to 1, and generates a more robust trial in the presence of *outliers* (Saisana and Tarantola, 2002, p.11), which seem to characterize our indicators.

To test the robustness of the effect of different forms of participation (volunteer vs. worker) in different types of organizations (social welfare associations vs. social cooperatives), we include in our regressions several control variables which, as will be shown in the next section, give us the opportunity to interpret our results accounting for different characteristics of the organizations and of the associational activities carried out by their members.

At the individual level, the independent variables included in the regressions are (see appendix 1 for a detailed description):

- socio-demographic individual characteristics, i.e. age; sex; education; place of birth.
- The depth and type of involvement of respondents with the organization, i.e. number of years spent at the organization; how often the respondent participates in informal activities (i.e. not strictly connected with the formal activity characterizing the organization's life such as formal members' meetings) promoted by the organization such as dinners, trips, cultural events, discussion groups etc.; how often the respondent participates in group activities (of any type) with: a) volunteers, b) users, c) household members of users, d) representatives of local institutions, e) representatives of the local community, f) managers of for profit firms; the type of activity carried out in the organizations by the respondent, distinguishing between manual activities, service delivery, accounting, public relations; personal evaluation of the importance of various motivations behind the decision to join the organization (distinguishing between the pursuit of social recognition, ideal motivation, the desire to feel useful to others, the desire to increase the number of acquaintances or friends; the strength of the current respondent's motivation); the importance given by the respondent to the creation of a spirit of cooperation among members of the organization in carrying out the work; the importance given by the respondent to the creation of connections between the organization's members and the local community in carrying out the activity in the organization); how much effort, according to the respondent, members in a position of responsibility made to welcome him into the organization (with group presentations, welcoming dinners etc.).

At the level of the organization, the independent variables included in the regressions concern: the sector of activity, the district where the organization operates, the "type" of cooperative (A, B, or A+B type), the number of workers, the percentage of volunteers in respect to the total of workers and volunteers in the organization, the number volunteers in the organization; the number of workers in the organization, the numbers of years in operation; a dummy equal to 1 if the organization operates only within the province of Parma; the number of official members'

meetings; how often informal meetings to discuss the organization's activity are promoted by the organization.

IV. Descriptive findings

Both volunteers and workers increase the size of their relational networks through their participation in associations and/or cooperatives. However, the data reveal significant differences when we look at the various categories of members. On average, 11.959 (std. dev. 34.313) persons met through the organization become part of the social network of volunteers at associations (variable *Network_size*) and 75.09% of these subjects report an answer greater than 0. Volunteers at social cooperatives have an average value of *Network_size* equal to 5.483 (std. dev. 11.525), and the percentage of volunteers in social cooperatives declaring a number greater than 0 is 62.07%. With respect to workers, they reveal an effect similar to that presented by volunteers at social cooperatives (the mean value of *Network_size* for workers is 3.588, with 40.21% of workers who declare a value equal to 0). Non parametric tests confirm that the distribution of *Network_size* presents significantly larger values for volunteers at associations than for volunteers at social cooperatives (Wilcoxon $p= 0.013$) and workers (Wilcoxon $p= 0.000$), while no statistically significant differences emerge between workers and volunteers at social cooperatives (Wilcoxon $p= 0.928$).

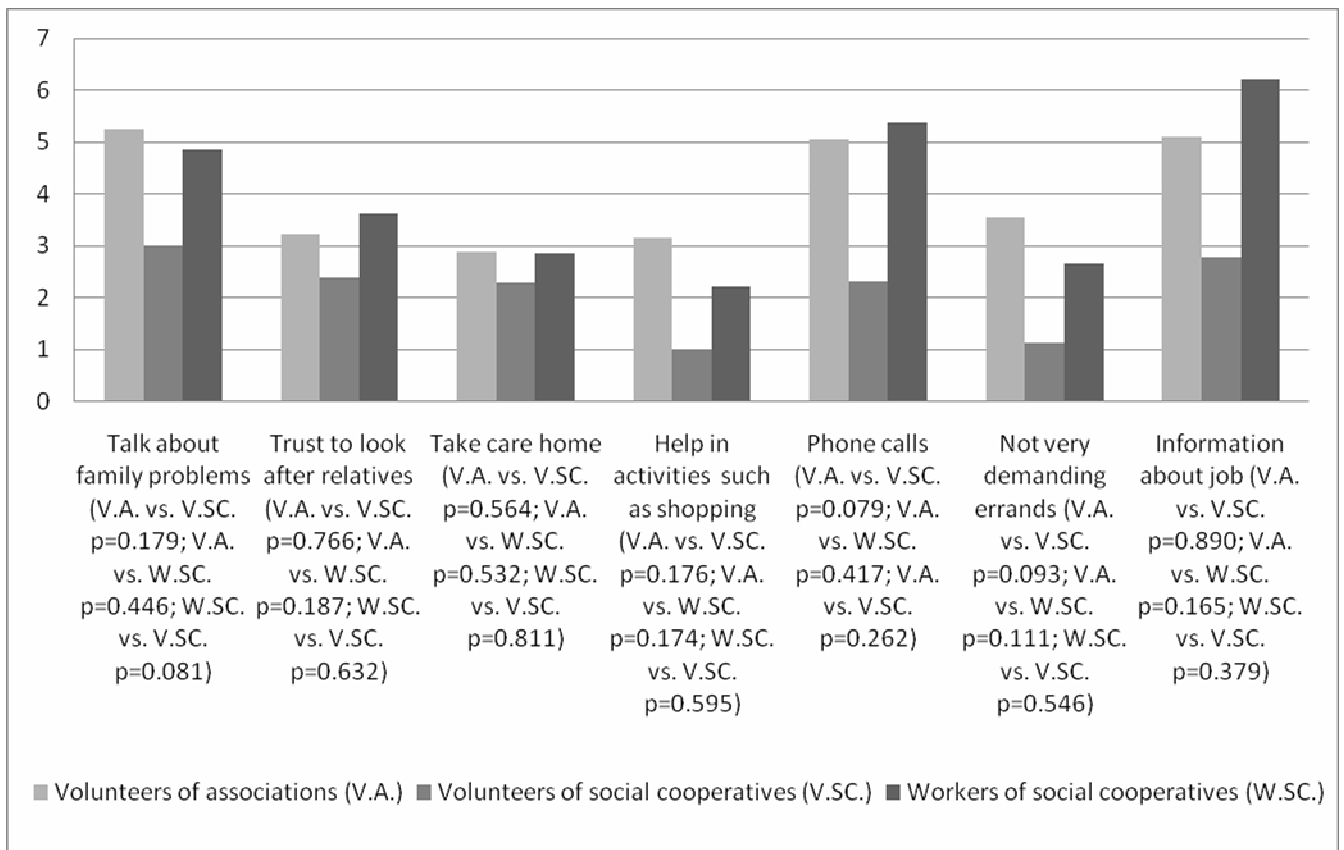
With respect to the different trust-based relationships started between members and the people met through the organization (considered to be the elaboration of the social capital indices named *Strong_ties* and *Weak_ties*):

- the following percentages of respondents declared to have met through the organization at least one person they: 1) would talk to about family problems: 77.62% (mean and median of answers: 4.873 and 2 respectively). 2) would trust to look after their relatives (children/elderly persons): 62.44% (3.192; 1); would ask to take care of their home while they are on holiday 55.416% (2.756; 1); 3) would give/ask for help with activities such as shopping, taking a child or elderly persons to do different activities etc. 47.45% (2.717; 0).
- the following percentages of respondents declared to have started through the organizations, with at least one person, the following cooperative relations: 1) phone calls to ask for information or advice: 71.28% (4.844; 2); 2) doing not very demanding errands: 54.85% (3.094; 1); 3) asking for information about a job 65.24%: (5.091; 2).

However, these figures are different (even though the difference is not always statistically significant) when we compare volunteers and workers between and within organizations (see Figure 1):

- volunteers in associations show higher values than volunteers in social cooperatives;
- in social cooperatives, workers show higher values than volunteers;
- volunteers in associations present almost the same values as workers in cooperatives.

Figure 1. Social capital creation comparing volunteers and workers within and between organizations (Wilcoxon rank-sum (Mann-Whitney) test in parenthesis)



When we specifically look at the two social capital indices elaborated from the previous indicators, we find that:

- one of the two indices presents a distribution of values significantly larger when it refers to volunteers in associations in comparison with volunteers in social cooperatives (*Weak_ties*: Wilcoxon $p = 0.0499$; *Strong_ties*: Wilcoxon $p = 0.140$);
- The two indexes do not show statistically significant differences when we compare workers and volunteers belonging to social cooperatives (*Weak_ties*: Wilcoxon $p = 0.149$; *Strong_ties*: Wilcoxon $p = 0.154$).
- The indexes do not show statistically significant differences when we compare workers in social cooperatives and volunteers in associations (*Weak_ties*: Wilcoxon $p = 0.590$; *Strong_ties*: Wilcoxon $p = 0.100$).

V. Econometric results

We used OLS estimates where standard errors are clustered by accounting for the organization to which the member belonged, that is, we assumed that observations were independent across groups, but not necessarily between groups, where the groups were respondents belonging to the same organization.

Table 1 shows our regression results where the three indices of social capital are the dependent variables (in regressions 1, 2 and 3 respectively). The main independent variables are the dummies *Volunteer_in_association* (taking the value of 1 if the respondent volunteers in a social welfare association) and *Worker* (taking the value of 1 if the respondent is worker in a social cooperative). Control variables are: age, gender, a dummy variable taking the value of 1 if the respondent has at least a university degree (notice that the following results, including the robustness check do not significantly change if we consider, instead of this variable, the variable *Education* - level of education between 0 (no education) and 6 (postgraduate qualification))¹³ and the number of years spent in the organization. Descriptive statistics of these variables are in Appendix 2.

After controlling for socio-demographic variables and for the degree of involvement in the organization, we find that:

- 1) with respect to all the indices considered, volunteering in social welfare associations seems to have a greater impact on the creation of volunteers' social capital than volunteering in social cooperatives. Being a volunteer in a social welfare association instead of a volunteer in a social cooperative increases the value of the *Network_size* index by 59% with respect to the average value of this index for the whole sample. It also increases the *Strong_ties* index by 45% and the *Weak_ties* index by 53%.
- 2) In social cooperatives, as far as the two indices of social capital *Strong_ties* and *Weak_ties* are concerned, the effect of participation on social capital is higher for workers. Being a worker instead of a volunteer increases the value of the *Strong_ties* index by 43% (with respect to the sample mean) and the value of the *Weak_ties* index by 61%. No difference does emerge with respect to the *Network_size* index.
- 3) The effect of participation on the two indexes of *Strong_ties*¹⁴ and *Weak_ties*¹⁵ does not significantly differ between volunteers in social welfare associations and workers in social

¹³ There are only three cases where weakly significant effects disappear: Table 2, Reg.4, variable *Workers* in relation with the *Weak_ties* index of social capital; Table 2, Reg.7, variable *Volunteer_in_association* in relation to *Network_size*; Table 2, Reg.13, variable *Volunteer_in_association* in relation to *Network_size*.

¹⁴ Wald test between coefficient of *Volunteer_in_association* and *Worker* $p=0.927$.

¹⁵ Wald test between coefficient of *Volunteer_in_association* and *Worker* $p=0.648$.

cooperatives. As for the size of networks through their participation, workers in cooperatives seem to develop less social capital than volunteers in associations.¹⁶

Socio-demographic characteristics seem not to significantly affect the creation of social capital.

Table 1 – The effect of membership of different types of organizations on individual social capital

Regression	1	2	3
	Dependent Variable		
	<i>Network_size</i>	<i>Strong_ties</i>	<i>Weak_ties</i>
<i>Volunteer_in_association</i>	5.560* (3.048)	0.019*** (0.006)	0.038*** (0.010)
<i>Worker_in_cooperative</i>	-1.148 (2.969)	0.018*** (0.006)	0.044*** (0.012)
<i>Age</i>	-0.050 (0.122)	0.000 (0.000)	0.000 (0.000)
<i>Female</i>	-1.433 (3.311)	-0.001 (0.008)	-0.017 (0.012)
<i>University</i>	2.610 (4.376)	0.004 (0.010)	0.010 (0.016)
<i>Time_in_org</i>	0.588 (0.444)	0.001 (0.000)	0.000 (0.001)
<i>Constant</i>	3.081 (7.440)	0.016 (0.015)	0.039** (0.019)
R ²	0.0377	0.0084	0.0155
Root MSE	29.088	0.0717	0.10737
Obs.	375	364	366

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

By considering an array of several variables measured at the individual level (Table 2) and at the level of the organization (Table 3), Tables 2 and 3 propose a robustness check for the significance of the different impact of participation in social welfare associations and social cooperatives on social capital.¹⁷ At the same time, evidence presented in the following tables allows us to go further both into the investigation of the determinants of social capital creation and into the possible reasons behind the different effect recorded between volunteers and workers within and between organizations.

¹⁶ Wald test between coefficient of *Volunteer_in_association* and *Worker* p=0.008.

¹⁷ Descriptive statistics related to these variables are omitted for reason of space and available from the authors upon request.

Table 2 shows the coefficient of the independent variable of main interest (*Volunteer_in_association* and *Worker*) when the control variables considered in the regressions presented in Table 1 are included (*Age*, *Female*, *University*, *Time_in_org*) along with other individual control variables.

Regression 1 includes dummy variables representing the place of birth of respondents (northern Italy, central Italy or abroad). They do not affect social capital creation exception made for the *abroad* dummy, which significantly and negatively affects the *Strong_ties* index. Regression 2 includes binary variables representing the main type of activity which respondents perform in their organization. The type of activity does not significantly affect social capital creation, apart from a negative effect of the accounting activities which are statistically significant in respect to all the social capital indices. Regression 3 highlights that two indices of social capital (*Strong_ties* and *Weak_ties*) are positively influenced by managers' efforts to support the integration of new members into the organization, for example through group presentations, welcoming dinners, etc. Regression 4 also shows that the frequency of respondents' involvement in informal activities promoted by the organization - such as social dinners, trips, cultural events, and discussion groups - promotes the creation of networks of cooperative relations with the people met through the organization.

Table 2 - The effect of membership of different types of organizations on members' social capital – robustness check with individual variables

	<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>		<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>		
Reg.1	<i>Volunteer_in_association</i>	6.695 (4.222)	0.018** (0.007)	0.035*** (0.011)	Reg.4	<i>Volunteer_in_association</i>	4.797 (3.550)	0.012** (0.005)	0.027*** (0.09)
	<i>Worker</i>	-0.384 (3.474)	0.017** (0.007)	0.042*** (0.012)		<i>Worker</i>	-2.094 (3.358)	0.010* (0.006)	0.031** (0.012)
	<i>North</i>	-11.555 (15.341)	-0.008 (0.010)	0.012 (0.017)		<i>Informal_</i> <i>activities</i>	0.940 (1.593)	0.010*** (0.003)	0.014*** (0.004)
	<i>Centre</i>	-10.534 (13.909)	0.030 (0.027)	0.095 (0.063)		<i>Volunteer_in_association</i>	8.700** (4.003)	0.022*** (0.007)	0.047*** (0.013)
	<i>Abroad</i>	-11.583 (11.962)	-0.030*** (0.010)	-0.021 (0.014)		<i>Worker</i>	1.559 (3.440)	0.023*** (0.007)	0.050*** (0.014)
Reg.2	<i>Volunteer_in_association</i>	4.590* (2.485)	0.016** (0.007)	0.031*** (0.011)	Reg.5	<i>Mot_ideal</i>	0.299 (0.679)	0.005** (0.002)	0.008** (0.003)
	<i>Worker</i>	-1.783 (2.745)	0.007 (0.008)	0.041** (0.016)		<i>Mot_usefulness</i>	0.527 (0.513)	0.003 (0.003)	0.003 (0.005)
	<i>Service</i>	-0.675 (3.985)	0.016 (0.010)	0.005 (0.014)		<i>Mot_friends</i>	1.214* (0.654)	0.003 (0.002)	0.001 (0.003)
	<i>Accounting</i>	-5.705** (2.757)	-0.015** (0.006)	-0.027** (0.012)		<i>Mot_social</i>	2.168* (1.238)	0.006 (0.004)	0.009* (0.005)
	<i>Manual</i>	-1.287 (3.726)	0.003 (0.009)	0.001 (0.017)		<i>Volunteer_in_association</i>	4.495 (3.072)	0.016** (0.006)	0.033*** (0.010)
Reg.3	<i>Public</i>	-4.988** (2.315)	-0.012 (0.007)	0.013 (0.031)	Reg.6	<i>Worker</i>	-0.767 (3.355)	0.021*** (0.007)	0.047*** (0.013)
	<i>Volunteer_in_association</i>	6.200* (3.298)	0.025*** (0.007)	0.046*** (0.011)		<i>Current_</i> <i>Motivation</i>	3.360*** (1.114)	0.011*** (0.004)	0.017*** (0.005)
	<i>Worker</i>	0.473 (4.233)	0.030*** (0.008)	0.059*** (0.013)					
	<i>Entrance</i>	0.956 (1.285)	0.007*** (0.002)	0.009*** (0.003)					

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%. All Estimates include the constant and the following independent variables: *Age, Female, University, Time_in_org*. Estimates' results related to these variables, R² and Root MSE are omitted for reason of space and available from the authors upon request. (table continues)

Table 2 – (continued)

		<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>			<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>
	<i>Volunteer_in_association</i>	5.562*	0.021***	0.040***		<i>Volunteer_in_association</i>	11.608**	0.029***	0.051***
		(3.263)	(0.007)	(0.011)			(4.625)	(0.010)	(0.014)
Reg.7	<i>Worker</i>	-1.108	0.021***	0.047***	Reg. 11	<i>Worker</i>	-2.681	0.009	0.034**
		(3.288)	(0.008)	(0.014)			(3.656)	(0.009)	(0.015)
	<i>Spirit_coop</i>	1.899**	0.009***	0.013***		<i>Contact_</i>	4.158**	0.011*	0.014**
		(0.740)	(0.003)	(0.004)		<i>relatives</i>	(1.727)	(0.006)	(0.006)
	<i>Volunteer_in_association</i>	4.983	0.018**	0.038***		<i>Volunteer_in_association</i>	4.773	0.016**	0.029***
		(3.641)	(0.007)	(0.013)			(3.244)	(0.006)	(0.011)
Reg.8	<i>Worker</i>	-1.230	0.019**	0.047***	Reg. 12	<i>Worker</i>	-3.694	0.013**	0.029**
		(3.714)	(0.008)	(0.015)			(3.623)	(0.007)	(0.011)
	<i>Local_community</i>	0.934*	0.006**	0.006		<i>Contact_</i>	4.384*	0.006	0.017***
		(0.535)	(0.003)	(0.004)		<i>community</i>	(2.599)	(0.003)	(0.006)
	<i>Volunteer_in_association</i>	3.517	0.008	0.024**		<i>Volunteer_in_association</i>	5.441*	0.019***	0.037***
		(2.732)	(0.007)	(0.012)			(3.088)	(0.006)	(0.010)
Reg.9	<i>Worker</i>	-1.771	0.013	0.036***	Reg. 13	<i>Worker</i>	-1.788	0.017**	0.043***
		(3.262)	(0.008)	(0.013)			(2.975)	(0.006)	(0.013)
	<i>Contact_</i>	4.085***	0.011***	0.015***		<i>Contact_</i>	2.463	0.003	0.007
	<i>volunteers</i>	(1.290)	(0.004)	(0.005)		<i>institutions</i>	(1.701)	(0.003)	(0.005)
	<i>Volunteer_in_association</i>	11.729**	0.027***	0.048***					
		(4.908)	(0.008)	(0.011)					
Reg. 10	<i>Worker</i>	-1.667	0.015*	0.041***					
		(3.812)	(0.008)	(0.014)					
	<i>Contact_</i>	4.688***	0.010**	0.012***					
	<i>users</i>	(1.590)	(0.004)	(0.004)					

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%. All Estimates include the constant and the following independent variables: *Age, Female, University, Time_in_org.*. Estimates' results related to these variables, R² and Root MSE are omitted for reason of space and available from the authors upon request.

Regression 5 studies the effect of the motivations that induced respondents to join the organization. People who joined the organization with a higher ideal motivation seem to experience a higher increase in their social capital (as measured by the *Strong_ties* and *Weak_ties* indices) than people with poor ideal motivations. A weakly significant effect emerges with respect to two other motivations: the pursuit of social recognition, in relation to the *Network_size* and the *Weak_ties* indices, and the desire to increase the number of acquaintances or friends, only with respect to the *Network_size* index. Regression 6 reveals a strong effect on social capital of the level of respondents' current motivation: the more motivated the interviewee declares himself to be, the greater the impact of participation on his social capital. Regression 7 reveals a significant correlation between the creation of social capital and the importance given by respondents to the creation of a spirit of cooperation among members of the organization. Regression 8 shows that the importance given by respondents to the creation of connections between members and to the embeddedness of the organization in the local community is significantly and positively correlated with the two indexes of social capital *Network_size* and *Strong_ties*.

Regressions 9-13 account for the frequency with which the respondent participates in activity groups with volunteers (Reg. 9), or enters into relations with users (Reg. 10), with family members of users (Reg. 11), with representatives of the local community (Reg. 12), with representatives of local institutions (Reg. 13). The first four aspects (activities and/or relations with other volunteers, users, family members of users, and representatives of the local community) show a positive and significant effect on social capital creation. Moreover, and this opens a possible interpretation for the different effect on social capital of different members, the degree of participation in activity groups with other volunteers is the only control variable which eliminates the significance of the dummy *Volunteer_in_association* in respect to the *Strong_ties* index.

More generally, apart from the significance of the *Volunteer_in_association* dummy, which disappears in 6 specifications (Regressions 1, 4, 6, 8, 9, 12) and only with respect to the *Network_size* index (the effect of this dummy on *Network_size* was already weakly significant in the regressions of Table 1), we register two main effects related to the inclusion of the control variables. First, when the frequency of social activities carried out with volunteers is included in the regression, the difference between volunteers in associations and volunteers in social cooperatives with respect to the *Strong_ties* index disappears (regression 9). Second, when the type of the activity performed in the organization is considered, the difference between workers and volunteers in the creation of *Strong_ties* in social cooperatives disappears (regression 2). Finally, in all the regressions presented in Table 2, Wald tests confirm the higher creation of social capital for

volunteers in social welfare associations when compared with workers, but only in relation to the *Network_size* index¹⁸.

In Table 3, control variables at the level of the organization are considered. Estimates show that: the administrative district in which the organization operates (Reg. 1), its sector of activity (Reg. 2), the number of years in operation (Reg. 3), the type of social cooperative (Reg. 4), the area where the organization operates (inside vs. outside the province, Reg. 5), the number of volunteers (Reg. 8) and workers (Reg. 9) involved in the organization neither significantly affect (at least in the large majority of cases) the creation of social capital, and nor do they substantially change the different effects of respondents' participation within and between organizations as they emerged in Table 1. Exceptions are: 1) the *Worker* dummy, which becomes significant with respect to the *Network_size* index and not significant with respect to the *Strong_ties* index when the sector of activity of the organization is considered (Reg.2). 2) The effect of the *Volunteer_in_association* dummy, which disappears in connection with the *Network_size* index when the dummies related to the type of cooperative (Reg. 4), the area where the organization operates (Reg. 5), and the number volunteers in the organization's (Reg. 8) are considered.

In terms of the control variables at the level of organization, significant effects concern: the number of formal meetings held during the last year (Reg. 6), which negatively affects social capital formation (all the three indices), and the fact that the organization promotes informal meetings to discuss its activity (Reg. 7), which has a positive effect on the three indices.

Finally, specific attention should be given to regression 10. When the percentage of volunteers computed on the total of workers and volunteers is considered, the difference in the creation of social capital between volunteers in associations and in social cooperatives' is no longer significant with respect to the *Strong_ties* and *Weak_ties* indices and becomes only weakly significant with respect to the *Network_size* index.

¹⁸ Wald tests statistics are available upon request.

Table 3 - The effect of membership of different types of organizations on members' social capital – robustness check with organizational variables

	<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>		<i>Network size</i>	<i>Strong ties</i>	<i>Weak ties</i>			
Reg.1	<i>Volunteer_in_association</i>	5.889*	0.021**	0.042***	Reg.3	<i>Volunteer_in_association</i>	5.731*	0.019***	0.037***	
		(3.182)	(0.009)	(0.014)			(3.152)	(0.007)	(0.011)	
	<i>Worker</i>	-0.939	0.018***	0.043***			<i>Worker</i>	-1.384	0.018***	0.044***
		(3.047)	(0.007)	(0.012)			(2.868)	(0.006)	(0.012)	
	<i>Fidenza</i>	-5.867	-0.011	-0.021			<i>Years_org</i>	0.053	0.000	0.000
	(5.178)	(0.017)	(0.013)		(0.120)	(0.000)	(0.001)			
	<i>Parma</i>	-1.807	0.001	0.005	Reg.4	<i>Volunteer_in_association</i>	4.419	0.023**	0.048***	
	(4.977)	(0.018)	(0.014)			(3.717)	(0.010)	(0.016)		
	<i>Taro_ceno</i>	-6.385	-0.018	-0.022			<i>Worker</i>	-0.857	0.017**	0.040***
	(4.911)	(0.021)	(0.017)			(2.902)	(0.007)	(0.011)		
	<i>Volunteer_in_association</i>	5.608**	0.016***	0.035***			<i>coop_ab</i>	-1.506	0.008	0.010
	(2.333)	(0.005)	(0.007)		(2.266)	(0.011)	(0.015)			
	<i>Worker</i>	-10.857**	0.019	0.050**		<i>coop_b</i>	-3.212	-0.015	0.095***	
	(4.377)	(0.012)	(0.020)		(2.390)	(0.012)	(0.016)			
	<i>Assistance</i>	0.265	0.001	-0.014	Reg.5	<i>Volunteer_in_association</i>	4.511	0.017***	0.033***	
	(2.108)	(0.009)	(0.018)			(2.863)	(0.006)	(0.009)		
	<i>Civil_right</i>	7.926	0.009	0.006			<i>Worker</i>	-1.603	0.018***	0.043***
	(9.426)	(0.022)	(0.040)			(3.008)	(0.006)	(0.012)		
	<i>Education</i>	11.592**	-0.001	-0.009			<i>Area</i>	-3.746	-0.004	-0.010
	(5.541)	(0.013)	(0.023)		(4.097)	(0.010)	(0.014)			
Reg.2	<i>Recreation</i>	1.841	0.032	0.039	Reg.6	<i>Volunteer_in_association</i>	6.956**	0.022***	0.043***	
		(4.828)	(0.040)	(0.057)			(3.232)	(0.007)	(0.011)	
	<i>Health</i>	0.185	0.000	-0.012			<i>Worker</i>	-1.337	0.019***	0.046***
		(2.624)	(0.012)	(0.019)			(3.028)	(0.007)	(0.012)	
	<i>Environment</i>	-1.204	-0.003	-0.002			<i>Informal_Meetings</i>	11.134***	0.026**	0.034*
		(3.002)	(0.009)	(0.019)			(3.410)	(0.011)	(0.019)	
	<i>Civile_defence</i>	-21.609**	-0.035**	-0.030						
	(9.160)	(0.015)	(0.024)							

Table 3 (continued)

		<i>Network_size</i>	<i>Strong_ties</i>	<i>Weak_ties</i>
Reg.7	<i>Volunteer_in_association</i>	6.569* (3.403)	0.021*** (0.006)	0.042*** (0.010)
	<i>Worker</i>	-1.665 (3.078)	0.017*** (0.006)	0.043*** (0.012)
	<i>Formal_Meetings</i>	-0.530** (0.262)	-0.002*** (0.001)	-0.002** (0.001)
Reg.8	<i>Volunteer_in_association</i>	4.062 (2.891)	0.016** (0.007)	0.037*** (0.011)
	<i>Worker</i>	-1.443 (3.064)	0.018** (0.007)	0.044*** (0.012)
	<i>Volunteers</i>	0.053** (0.026)	0.000 (0.000)	0.000 (0.000)
Reg.9	<i>Volunteer_in_association</i>	8.056** (3.424)	0.019*** (0.007)	0.034*** (0.011)
	<i>Worker</i>	-3.152 (2.897)	0.018** (0.007)	0.047*** (0.015)
	<i>Workers</i>	0.155* (0.086)	0.000 (0.000)	0.000 (0.000)
Reg.10	<i>Volunteer_in_association</i>	7.751** (3.439)	0.018 (0.011)	0.034 (0.021)
	<i>Worker</i>	-1.785 (3.067)	0.019*** (0.007)	0.045*** (0.014)
	<i>Volunteers_%</i>	-0.037 (0.038)	0.000 (0.000)	0.000 (0.000)

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%. All estimates include the constant and the following independent variables: *Age, Female, University, Time_in_org.*. The results of estimates related to these variables, R² and Root MSE are omitted for reason of space and are available from the authors upon request.

VI. Discussion of results

In absolute terms, both workers in social cooperatives and volunteers in the two types of organization report that in-the-field interactions have increased the size of their personal networks of contacts. This increase seems to be more marked in social welfare associations than in social cooperatives.

If we focus on the creation of strong and weak ties by volunteers, the econometric analysis shows that social welfare associations perform better. If we also account for salaried workers, we see that on-the-job interactions within social cooperatives increase the individual social capital of workers to the same extent to which in the field interactions influence the individual social capital of volunteers in social welfare associations.

Our work therefore does not conflict with the claims advanced by theoretical studies about the supposed ability of cooperatives to foster social cohesion through the creation of social capital

(Svendsen and Svendsen 2000; Borzaga and Spear 2004; Zamagni and Zamagni 2010; Dasgupta 2012). On the other hand, this result allows us to suggest that the inconsistency between Putnam et al.'s (1993) claims and Knack and Keefer's (1997) empirical findings about the role of civil society organizations may have been driven by the authors' choice of how to classify associations. Knack and Keefer (1997) found that membership of the associations which are "least likely to act as distributional coalitions but which involve social interactions that can build trust and cooperative habits" (1997, p. 1273) – labeled as "Putnam-esque" – is significantly and negatively correlated with civic attitudes. In their attempt to distinguish distributional coalitions from other groups, the authors defined as "Putnam-esque" religious or church organizations, education, arts, music or cultural organizations, and youth work associations. However, this definition of Putnam groups weakly matches Putnam et al.'s (1993) view of "civic community", which, according to the authors, entails civic involvement and social solidarity. The associations we account for within our empirical analysis – i.e. social welfare associations and social cooperatives - better embody the concept of civic community because they share the institutional aim to pursue solidarity goals in order to improve the welfare of users and for the sake of the public interest. We argue that the reliability of empirical analyses on the role of Putnam-esque groups would benefit from the inclusion of organizations pursuing charitable goals. However, our finding that very similar associations perform differently in the creation of social capital suggests that caution is needed when building ad hoc classifications. In general, indicators measuring associations should be as parsimonious as possible in order not to include too different types of organization.

Knack and Keefer (1997) state that the categories of groups they account for in their paper "are overly broad" and "It is not clear what some of these groups do, and the depth of involvement is not measured" (p. 1274). The "depth of involvement issue" has rarely been addressed in the subsequent literature, due to the lack of suitable data. Our dataset allows us to further add to previous studies by accounting for the depth of involvement through the inclusion of indicators describing the activities carried out by volunteers and workers within their organizations. In addition, we can control for the type of activity/activities carried out by workers and volunteers.

Further insights for future research and policy are given by our robustness checks. We find that, for volunteers, the establishment of both weak and strong ties is significantly and positively influenced by managers' efforts to support the integration of newcomers and by the degree of volunteers' involvement in informal group activities promoted by the organization, such as social and cultural events (e.g. dinners, trips, and discussion groups).

The significance of the relationship between volunteering in social welfare associations and the creation of strong ties entailing mutual support disappears if we include in the analysis a control

variable measuring the degree of volunteers' participation in group activities. This result suggests that the main difference between social welfare associations and social cooperatives in respect to the organizations' ability to favor the creation of strong ties indeed lies in the depth of volunteers' involvement.

A possible explanation of the different degree of volunteers' involvement in group activities may be related to the models of governance adopted by the two types of organization, which in turn influence the composition of their workforce. As outlined in the introduction, both types of organization must have a democratic structure. However, in social welfare associations most of the workforce must be composed of volunteers. Salaried workers can also be hired to the extent this is necessary to ensure the regular functioning of the organization, but they normally constitute a minority of the workforce. In social cooperatives, by contrast, volunteers are only a residual and limited part of the workforce, which is almost entirely composed of salaried workers.

The intuition about the role played by the model of governance is supported by the finding that, if we include the percentage of volunteers on the overall workforce in our regressions, then the difference between volunteers in social welfare associations and in social cooperatives disappears.

Our argument about the importance of the composition of the workforce is also supported by the finding that there are no significant differences between the ability of social welfare associations to foster the creation of volunteers' social capital and the ability of social cooperatives to foster the creation of social capital among workers. Apparently both workers and volunteers better empathize and develop new ties with people with similar status and motivations. Volunteers better develop their social networks in social welfare associations where the workforce is composed for the most part of volunteers. In social cooperatives, whose workforce is composed for the most part of salaried workers, the latter category seems to be advantaged in the creation of social capital.

Our result about the role of the depth of involvement (regression 4, Table 2) suggests that the detrimental effect of volunteers' "relational isolation" in social cooperatives (and, possibly, of workers' isolation in social welfare associations, which we are not able to deepen in our sample) may be effectively contrasted through the intensification of group activities and by designing models of more inclusive governance allowing a higher integration between workers and volunteers.

The analysis shows that ideal motivations and cooperative attitudes also play an important role in fostering workers' and volunteers' ability to develop their networks through in-the-field interactions.

Overall, the empirical analysis suggests that the homogeneity of members' status and motivation may be an important driver of the association's ability to foster the creation of social capital by their

members. This is not in conflict with Stolle and Rochon's (1998) finding that members' heterogeneity is a factor favouring the socialization of trust. In Stolle and Rochon (1998), interaction with heterogeneous others in the context of associational participation is found to increase members' trust towards strangers. This outcome variable measures the cognitive dimension of social capital, while our empirical analysis focuses on the structural dimensions of the concept. In addition, the associational homogeneity we address in the paper refers to members' status (i.e. whether they are workers or volunteers), instead of to the degree of representativeness of members in respect to certain characteristics (as in Stolle and Rochon 1998).

VII. Conclusions

In their work on the Italian regions, Putnam et al. (1993) defined associations as "schools of democracy", from where cooperative values and trust are "socialized". In the authors' words, certain associations "instill in their members habits of cooperation, solidarity, and public-spiritedness" (1993, pp. 89–90) which may also benefit non-members and, to a certain extent, society as a whole. Our results provide support to this claim with specific reference to the two types of organization that, in our view, best match Putnam's definition in the Italian context.

The empirical analysis shows that interpersonal interactions occurring in the context of social welfare associations and social cooperatives effectively help volunteers and workers to develop their networks of weak and strong ties. However, we find that the two types of organization are not alike: in-the-field interactions in fact allow volunteers in social welfare associations to develop their networks to a greater extent than what happens in social cooperatives. The latter type of organization, however, is shown to effectively foster the development of workers' social capital through on-the-job interactions.

Our results enrich the literature on associational diversity in three substantive ways. First, we add to the debate by analysing the contribution of two specific types of Putnam groups to the creation of social capital. The use of our questionnaire, which was specifically designed for the measurement of social capital, means our outcome variables are refined and reliable indicators of the structural dimensions of the concept – as given by social networks of weak and strong ties – which allows us to carry out an in-depth evaluation of the impact of associational participation. In addition, our research design allows us to exclude the existence of reverse causality – one of the most common forms of endogeneity in social capital studies – since changes that have occurred in workers' and volunteers' networks cannot in any way influence their past choice to work or volunteer for a social cooperative or for a social welfare association.

Second, unlike previous studies on associational participation, which prevalently focus on volunteers, our sample also includes workers. This allows us to advance an explanation of the impact of different organizational forms in relation to the models of governance, the composition of the workforce, and the depth of members' involvement in the organization's formal and informal activities.

Third, we provide the first empirical test of the claims advanced by previous theoretical studies about the supposed ability of cooperative enterprises to foster the creation of relational networks at the individual level.

However, much research has to be done in the area to improve our understanding of the role of associations – and of associational diversity – in economic development and well-being. Our results do not clarify whether the organization is able to “socialize” the sentiments of trust that are developed in the context of workers' and volunteers' personal networks. The relationship between our two main independent variables and the outcome variables accounted for in Knack and Keefer (1997) and Stolle and Rochon (1998) – i.e. civic attitudes and generalized trust – should be investigated, possibly in a larger sample.

Even if our research design allows us to overcome reverse causality issues, other endogeneity problems still remain open. Associational participation (as a workers or as a volunteer) and the individual propensity of workers to develop social networks as a consequence of their interaction with the organization's environment may be influenced by omitted variables. A strong effort must be made to collect suitable – possibly longitudinal – data to reliably address causality in the econometric analysis.

Appendix 1 – Variable legend – Individual independent variable

<i>Volunteer_in_</i> <i>association</i>	dummy variable (DV) taking the value of 1 if the respondent is a volunteer in a voluntary association	Importance of different types of motivations to volunteer measured by considering the following question: “With respect to your decision to become a volunteer, how important were the following aspects, from 1 (not at all) to 7 (entirely)?”
<i>Age</i>	respondent’s age in years	<i>Mot_social</i> the pursuit of social recognition, <i>Mot_ideal</i> ideal motivations <i>Mot_Usefulness</i> the desire to feel useful for others <i>Mot-friends</i> the desire to increase your number of acquaintances or friends
<i>Female</i>	DV=1 if the respondent is a female	<i>Current_Motivation</i> the strength intensity of the current volunteer’s motivation, between 1 (I feel really poorly motivated in my activity as a volunteer) and 7 (very strongly motivated)
<i>University</i>	DV=1 if the respondent has at least a university degree	<i>Spirit_coop</i> the importance given by the respondent (using a 7 level scale) to the creation of a spirit of cooperation among members of the organization in carrying out the activity as a volunteer
<i>Secondary_School</i>	DV=1 if the respondent has at least high school education	<i>Local_community</i> the importance given by the respondent (using a 7 level scale) to the creation of connections between the organization’s members and the local community in carrying out the activity as a volunteer
<i>Education</i>	Level of education between 0 (no education) and 6 (postgraduate qualification)	<i>informal_activities</i> how often the respondent participates in informal activities promoted by the organization, such as dinners, trips, cultural events, discussion groups etc. from 1 (never) to 5 (always) <i>Entrance</i> how much, How much effort, according to the volunteer, members in a position of responsibility made to welcome him into the organisation (with group presentations, welcoming dinners etc..)
<i>Time_in_org</i>	number of years spent in the organization	how often, from 1 (never) to 5 (every week), the respondent:
<i>Manual</i>	manual activities	<i>Contact_volunteers</i> participates in group activities with volunteers <i>Contact_Users</i> enters into relations with users
<i>Service</i>	service delivery	<i>Contact_relatives</i> enters into relations with household members of users
<i>Accounting</i>	accounting	<i>Contact_institutions</i> enters into relations with representatives of local institutions
<i>Public</i>	public relations	<i>Contact_community</i> enters into relations with representatives of the local community <i>Contact_Forprofit</i> enters into relations with managers of for profit firms
<i>North, Centre Abroad</i>	Dummy variables taking the value of 1 if the subject was born in northern Italy, in central Italy or abroad	

Appendix 1 – Variable legend – Organizational independent variable

<i>Parma, Fidenza, Taro_ceno, Sud_est</i>	DV indicating the administrative district of the province of Parma in which the organization operates
<i>Assistance</i>	DV=1 if the organization operates in the sector of Assistance
<i>Civil_right</i>	DV=1 if the organization operates in the sector of Civil Rights Promotion and Preservation
<i>Education</i>	DV=1 if the organization operates in the sector of Education
<i>Recreation</i>	DV=1 if the organization operates in the sector of Recreation and Culture
<i>Health</i>	DV=1 if the organization operates in the sector of Health
<i>Environment</i>	DV=1 if the organization operates in the sector of Environmental and Animal Conservation
<i>Civile_defence</i>	DV=1 if the organization operates in the sector of Civil Defence
<i>Commercial</i>	DV=1 if the organization operates in the sector of Commercial activity
<i>Area</i>	DV=1 if the organization operates only within the province of Parma, 0 otherwise
<i>Coop_a</i>	DV=1 in case of social cooperative of type A
<i>Coop_b</i>	DV=1 in case of social cooperative of type B
<i>Coop_ab</i>	DV=1 in case of social cooperative of type A+B
<i>Years_org</i>	Number of years in operation
<i>Volunteers</i>	Number of volunteers in the organization
<i>Workers</i>	Number of workers in the organization
<i>Volunteers_%</i>	Percentage of volunteers in the organization
<i>Formal_meetings</i>	Number of formal meetings held in the last 12 months
<i>Informal_meetings</i>	DV=1 if the organization promotes informal meetings to discuss the organization's activity

Appendix 2 - Descriptive Statistics

	<i>Observations</i>	<i>Mean</i>	<i>St. dev.</i>	<i>Min.</i>	<i>Max.</i>
<i>Dependent variables</i>					
<i>Network_size</i>	298	11.329	32.843	0	400
<i>Strong_ties</i>	284	0.043	0.078	0	1
<i>Weak_ties</i>	283	0.071	0.103	0	0.867
<i>Independent variables</i>					
<i>Volunteer_in_association</i>	322	0.901	0.300	0	1
<i>Age</i>	310	49.655	16.443	17	87
<i>Female</i>	318	0.541	0.499	0	1
<i>University</i>	318	0.292	0.456	0	1
<i>Time_in_org</i>	317	9.259	8.292	1	49

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