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## Voluntary Work and Cultural Capital. A preliminary analysis for Italian regional data --Manuscript Draft--

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**Voluntary Work and Cultural Capital. A preliminary analysis for Italian regional data**

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# Voluntary Work and Cultural Capital. A preliminary analysis for Italian regional data

## Abstract

This paper addresses the relationship between voluntary work and cultural capital, providing a conceptual framework by moving from a cultural economics standpoint to a relational goods theory approach. The two main hypotheses relate to a positive relationship between cultural capital and voluntary work and a significant relationship between relational cultural goods and voluntary work. We corroborate these assumptions empirically by applying a two-stage least squares regression (2SLS) to Italian data at the regional level. The data are drawn from official sources and cover 20 Italian regions over the span of 2005-2013. The results show that volunteering is stimulated by cultural participation in more niche cultural goods and is shared by individuals with some knowledge and human and artistic sensitivity. Moreover, the consumption of specific cultural goods with a strong relational component, such as museums, exhibitions and theatre, has a significant impact on volunteer activity.

## 1. Introduction

The participation of citizens in society and their contributions form an important topic in the context of civil society. In this context, voluntary work, defined as “unpaid work provided to parties to whom the worker owes no contractual, familial, or friendship obligations” (Tilly and Tilly, 1994: 291), is considered both a means of delivering services and a way of expressing active citizenship. Voluntary work, such as helping out neighbours, caring for older people or people with disabilities, supporting charities and training sports teams, also contributes to societal well-being but is not included in traditional economic measures. According to the OECD (2011), voluntary work is an important socioeconomic indicator, since a considerable amount of unpaid work constitutes a relevant aspect of economic activity, despite that it may lead to incorrect inferences about levels of and changes in well-being.

Public policy actions seem to meet the recognized importance of volunteering; for instance, 2011 was the European Year of Volunteering. Policy Agenda on Volunteering in Europe (PAVE) has been developed to strengthen the European volunteer context by encouraging volunteer activity, improving its quality and increasingly recognizing funding opportunities. At the same time, PAVE stresses the importance of creating a "European Institute of Studies on volunteering", with corresponding "national studies on volunteering Institutes" in member states. These institutions should systematically collect comparable data on volunteer rates, analyse the impact of volunteering, research volunteering needs and act as a depository of the empirical knowledge often required in the formulation of public policy or support for funding requests.

The GHK (2010) study on Volunteering in the European Union<sup>1</sup> indicates that between 92 and 94 million adults are involved in volunteering in the EU. This implies that between 22% and 23% of Europeans aged over 15 years are engaged in voluntary work. In a number of EU countries, the highest levels of volunteering are detected among adults aged 30 to 50 years. In the majority of EU countries, employed individuals are the most active volunteers, and there is a clear positive correlation between education levels and the tendency to volunteer.

As for Italy, volunteering is defined in the Italian National Framework Law on Volunteering, L.

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<sup>1</sup> The study has been contracted by the Education, Audiovisual and Culture Executive Agency (EACEA) to GHK and is managed by the Directorate General for Education and Culture (DG EAC) of the European Commission.

266/91, published in the Official Gazette of the Republic of Italy on 22 August 1991, n.196. (Gazz. Uff., 22 agosto, n. 196), as an “activity performed at a person’s own free will, through an organisation of which the volunteer is a member, with no aim for direct or indirect profit, exclusively for solidarity reasons”. The aim of this legislation is to promote the volunteer movement, safeguard its autonomy and foster an increase in social, civil and individual participation (Palma and Paganin, 2001: 63; Muehlebach, 2012: 57). According to ISTAT (2014), the number of volunteers in Italy is estimated at 6.63 million people (rate of total voluntary is 12.6%). The Northeast recorded the highest rate of total volunteers (16%), with men being more active than women (13.3% vs. 11.9%), and the volunteers mainly belonging to the age group of 55-64 years (15.9%). Finally, as discussed above, the percentage of those who provide voluntary activities increases with their level of education.

By moving from these stylized facts, our paper aims to contribute to the literature stream focused on understanding the reasons for people’s involvement in volunteer activity. According to Voicu and Voicu (2009), social scientists have developed two main approaches in order to find the voluntary work determinants. The first focuses on individual and local resources and points out that people who have more resources (in terms of income and social and human capital) are more likely to perform volunteer work, since they have more things to share with others. The second approach pays attention to the beliefs and values of the volunteers and points out that the cultural dimension is much more important for volunteer work.

Our paper aims to overcome this dichotomy by stressing the role of cultural capital as a new relevant driver for voluntary work behaviour, considering cultural capital as a resource, such as human capital, and as a determinant of people’s values. In doing so, we discuss the relationship between cultural participation (as a proxy of cultural capital) and the formation of voluntary work. Our analysis is developed from the interactive nature of many cultural participations and the relational component of voluntary work. Cultural capital and voluntary work have been studied in different streams of research, but to our knowledge, little attention has been paid to evaluating this supposedly virtuous relationship via cultural participation. In that sense, it is difficult to find any space dealing with an independent role of culture in this intellectual body of work. This paper is placed within the multifaceted branch of research defined by cultural economics (Throsby, 1994) and the scholarship devoted to evaluating cultural capital externalities (Grossi et al., 2011; Sacco, 2012; Crociata et al., 2014; Crociata et al., 2015). Therefore, our contribution is twofold. On one hand, we expand the empirical literature on the positive effects of cultural capital. On the other hand, we contribute to the literature on the determinants of voluntary work by exploring a relatively neglected factor, namely, cultural participation.

The paper is divided into six sections. Section 2 presents a brief discussion of some relevant literature. Section 3 presents and discusses the econometric approach used in the analysis. Section 4 presents the data and a first descriptive analysis. Section 5 presents and discusses the results. Section 6 presents the limitations and future research avenues, and Section 7 concludes.

## **2. Literature background and hypotheses**

Volunteering has been replaced within the theme of unpaid work and has been developed by a consolidated stream of research programmes. Voluntary work is seen as a productive activity aimed at giving time freely for the benefit of others. As substantial, productive (although unpaid) work, volunteering is a sizeable economic activity (Freeman, 1997). Even if volunteer activity is work performed without monetary recompense, it creates social output that would otherwise require paid resources (Freeman, 1997). The economic standpoint addresses the issue based on a cost opportunity approach, but Freeman (1997) shows that, for the most part, volunteers are people with higher potential earnings or greater demands on their time: employed married persons, those with larger families, persons in the 35-54 peak-earnings ages, the more highly educated, professionals and managers. Most strikingly, volunteers have higher wages and family incomes. These results are

in line with the Italian statistics given in the introduction to this paper. We could argue that volunteers must receive greater utility from their pro-social behaviour, and this fact raises questions about tastes and social pressures that do not arise in standard analyses of work for pay.

Research has lent empirical support to such claims. For example, studies demonstrate that volunteers are less prone to depression (Rietschlin, 1998; Wilson & Musick, 2000) and experience greater personal happiness (Ellison, 1991), life satisfaction (Wheeler, Gorey, & Greenblatt, 1998) and self-esteem (Gecas & Burke, 1995).

Within sociological boundaries, voluntary work has become an increasingly debated topic, based on the belief that human (and economic) activity is deeply embedded in social structure and that a wide range of social and cultural factors always influence agents' decisions. Such a social structure enables positive externalities to emerge, causing a sort of generalized reciprocity and civic engagement that is needed to foster social trust and cooperation, as these phenomena reduce the incentives for opportunistic behaviour.

Researchers consistently posit that situational factors are important in encouraging formal volunteering (Piliavin & Charng, 1990; Curtis et al., 1992; Wilson & Musick, 1997). These situational factors are the capital or resources that make volunteering possible. The three types of capital, namely, human capital (country wealth and education), social capital (collectivism and liberal democracy) and cultural capital (religion) provide critical resources that enhance the likelihood of volunteering. Praveen Parboteeah et al. (2004) show how all forms of capital (country wealth, country education, religiosity, societal collectivism and liberal democracy) have positive relationships with formal volunteering. Benenson and Stagg (2016) illustrate, through an examination of four nonfinancial assets – social, human, cultural and political capital – how an asset-based approach offers an opportunity to explore the ways low-income individuals could build and leverage assets through volunteering.

Whereas human capital and social capital are intangible assets that play a central role in contemporary economic theory, the same cannot be said of cultural capital. Regarding cultural capital and voluntary work, the literature shows a sort of abstractness of the concept, with constructs that are difficult to operationalize, such as religiosity, identity and collective values. Some scholars capture cultural capital through a measure of literacy (Notten et al., 2014), a measure of the possession of cultural goods such as artworks and musical instruments, or a measure of cultural resources and activities that are mediated by the relationships between parents and children (Tramonte and Willms, 2010). Most of these studies – which focus on parents and other adults in the extended family and within the neighbourhood helping children build positive skills and habits – do not distinguish the cultural resources of the parents from those of their children, treating cultural capital as family or neighbourhood characteristics. We believe that more attention should be devoted to this asset in order to understand volunteering. Given the above gaps, we contribute to the field by moving away from a cultural economics standpoint.

As for cultural capital, we agree with Throsby (1999, 2005), who argues that this comes in both tangible and intangible forms. The stock of tangible cultural capital assets consists of many different artefacts, such as historical buildings and locations with cultural significance (so-called cultural heritage) as well as such objects as artwork (paintings, sculptures, etc.), books, music, video and multimedia. Intangible cultural capital includes ideas, practices, beliefs, traditions and values, which carry special significance and identity value for groups and communities.

We chose to measure cultural capital via cultural participation using Bourdieu's notion of objectified capital (Bourdieu, 1980). In that sense, cultural participation functions as a platform for educational processes, social regeneration, networking and cohesion (e.g., Everingham, 2003). The access to cultural experiences involves individuals in a sort of social empowerment deeply linked to the awareness of a multitude of socially relevant issues, which consequently might motivate individuals to become involved in activities related to taking more responsibility for the pro-social dimension of daily, weekly and long-term practices, behaviours and habits.

Given the above arguments, we form the following hypothesis:

Hypothesis 1. Voluntary work is positively related to cultural capital.

Moreover, we also are basing this study on relational goods theory. The term relational goods has several meanings, such as reciprocity, altruism and social relationships. For exhaustive definitions of relational goods, see Ulhaner (1989), Gui (2000) and Sugden (2002). According to this theory, the relationship between relational goods and voluntary work is supposed to be positive, since positive externalities are generated from investing in relational goods. It has already been proven that the relationship between happiness and relational goods is positive. For instance, Becchetti et al. (2011) theoretically and empirically investigate the relationship between relational goods, trust and trustworthiness.

Relational goods are generated by interactions among persons and may be identified with the dispositional and communicative outcomes that emerge as the result of a certain social situation (Gui, 2000; Pugno, 2007). Although relational goods could be produced in principle in almost every circumstance, there are, in fact, preferential contexts for their production, due to the nature of the specific interactions that characterize them. Most cultural activities certainly lie within these contexts, in that they entail the concurrent presence of many people who are generally prompted by an intrinsic motivation to participate (O'Sullivan, 2009). Like relational goods, cultural participation allows people to reshape their social identities. We can regard this behavioural dynamic as an advanced post-industrial instance of the capability-building process highlighted by Amartya Sen (1999) in his seminal work. Based on these statements, relational cultural goods are measured among cultural participation in the same specific cultural experiences, such as visiting museums or attending theatre productions, because they allow individuals to engage in non-instrumental forms of social interaction, which are conducive to genuine forms of interpersonal relations (Sacco et al., 2012). From this perspective, it is possible to regard cultural participation as a key social platform for the production of relational goods.

As for cultural participation, voluntary work also entails the consumption of relational goods, whose particularity, as for cultural consumption, lies in the dependence on one's own and others' contributions for their enjoyment. In fact, voluntary work can be considered a by-product of social participation that positively affects the enjoyment one can gain from relational goods.

Given the above arguments, we form the following hypothesis:

Hypothesis 2. Voluntary work is positively related to participation in relational cultural goods.

Although, to our knowledge, a full-fledged theoretical model of how cultural capital and voluntary work are related has not been developed, from our previous discussion, we conclude that there is an encouraging conceptual basis for some preliminary empirical work in this direction.

### **3. Methods**

In this section, we deploy econometric techniques to learn more about the links between cultural capital and voluntary work. Given the bidirectional relationship between the two types of capital, it is necessary to estimate the models that take into account the endogeneity problem. To verify the size of the bias generated by the endogeneity problem, we proceed in two steps. First, we implement a classical fixed effects estimate vs. a random effects one. Then, we implement a two-stage least squares regression (2SLS). In this way, we verify, by comparing the two estimates, the bias size introduced by the endogeneity problem (upwards or downwards).

#### **3.1. Empirical models**

In this analysis, we consider the following equation:

$$VW_{it} = \alpha + \beta_1 cinema_{it} + \beta_2 pop_{it} + \beta_3 M\&E_{it} + \beta_4 theatre_{it} + \beta_5 education_{it} + \beta_6 women_{it} + \beta_7 income_{it} + \beta_8 PW_{it1} + \mu_i + \lambda_t + u_{it} \quad (1)$$

Our analysis focuses on 20 Italian regions corresponding to the European-level NUTS-2 over the period of 2005 to 2013. ISTAT (Italian National Statistical Institute) provided the required data.  $VW_{it}$  is voluntary work (as a proxy of linking social capital). It is the dependent variable and is the percentage of people aged 14 and over who carried out voluntary work in the last twelve months.

The subscript  $i$  refers to the statistical unit (the region), and  $t$  refers to the time;  $\alpha, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$  are the parameters that must be estimated; and  $u_{it}$  is the stochastic error term.

**Cinema, pop, M&E, and theatre** are the cultural capital variables. In particular, **cinema** is the percentage of people aged six and over who went to the cinema at least once in the last year; **pop** (pop music) is the percentage of people aged six and over who went to a pop music concert at least once in the last year; **M&E** (museum and exhibition) is the percentage of people aged six and over who went to a museum and/or exhibition at least once in the last year; and **theatre** is the percentage of people aged six and over who went to the theatre at least once in the last year. If we consider voluntary work as an activity focused on helping others (see Zukin et al., 2006), the expected signs of different cultural capital variables will be different. In particular, in the case of cultural variables characterized by social interactions (e.g., theatre, pop concerts, visiting museums), the expected sign will be positive; in the case of cultural variables characterized by poor social interactions – not beyond the group of people already known (e.g., friends) – the expected sign will be negative (e.g., cinema).

Finally, we consider a set of control variables in order to test the robustness of the results. In particular, we consider: **women** as the percentage of women residents in each region; **income** as the median employment income (rents excluded); **PW** (places of worship) as the percentage of people aged six and over who went to a place of worship at least once in the last year; and **education** as the percentage of people aged 20-24 who received a high school diploma.

Traditionally, the majority of women volunteers were not employed, whereas most men who volunteered had full-time jobs and helped others in the community in their spare time. Although this type of clear-cut gender division no longer exists (Kaminer, 1984), the pattern of volunteering may still be quite different between men and women. Despite the changing gender attitudes and the rapid entry of women into the labour force over the past several decades, women continue to play a major role in running the household and caring for family members (Hochschild, 1989; England, 2000), which may, in turn, limit not only their career opportunities but also their civic participation, such as volunteering (Bianchi, 2000). For these reasons, the sign and the significance of the parameter associated with the percentage of women is uncertain. Regarding the median employment income, the expected sign is uncertain and depends on whether the income effect or the substitution effect prevails (see Freeman, 1997). Assuming that the income effect prevails on the effect substitution, the worker decides to spend his time in activities outside work (e.g., volunteering), and the sign of the parameter will be positive. The sign will be negative if the income effect prevails over that of the substitution (see Borjas, 2016). Regarding education and PW, the expected sign is positive. In most rankings of these correlates, education and religion appear near the top, as predictors of robust engagement. The general scholarly assumption is that the effects of education and religion on voluntary work are indelible; attitudes about civic obligation and engagement carry over from the dynamic formative years into early adulthood and perhaps into the remainder of life. For many government agencies and nonprofit organizations, this assumption is an important reason for partnering with schools and faith-based groups to develop early habits of good citizenship among adolescents (Coleman & Hoffer, 1987; Greene et al., 1999a, 1999b; Campbell 2001, 2006).

In the panel analysis, we distinguish between fixed effects (FE) and random effects (RE). In

particular, in a panel analysis, the error can be decomposed into:  $u_{it} = \mu_i + \lambda_t + v_{it}$ , where  $\mu_i$  represents a specific individual effect<sup>2</sup>,  $\lambda_t$  represents a specific temporal effect<sup>3</sup>, and  $v_{it}$  is the stochastic error term. In the panel with random effects, these three variables are an independent and identically distributed random noise and are assumed uncorrelated with the explanatory variables included in the model. In the panel with fixed effects,  $\mu_i$  is not a random variable but a parameter to be estimated, and it is specific to the region; it captures a structural aspect of the region that differentiates it from other regions. Finally,  $\lambda_t$  is a parameter that captures annual changes common to all regions.

### 3.2. Two-stage least squares regressions (2SLS)

Bourdieu (1977, 1984) argues that cultural capital is a form of social participation or social capital, and this introduces a problem of endogeneity between voluntary work (which is also considered a proxy of social capital) and cultural capital. Voluntary work and cultural capital may be determined at the same time (bidirectional relationship) (see Upright, 2004). To overcome the problem of endogeneity between cultural capital variables and voluntary work, we ran two-stage least squares regressions (2SLS). As a general rule, when a variable is endogenous, it will be correlated with the disturbance term, hence violating the Gauss-Markov assumptions (see Stock & Watson, 2011) and making our OLS estimates biased. The goal of 2SLS is to find proxies for endogenous variables that will not be correlated with error terms. The first stage of the 2SLS is to generate the proxies; the second stage is to simply substitute the proxies for endogenous variables and to estimate the resulting equation using OLS. The trick to generating a proxy is to find variables correlated with endogenous variables but not with error terms. This is generally not an easy task. Econometrics suggests using the economic literature for the choice of instruments. When this is not feasible due to a lack of data, the lags of the instrumented variable and exogenous regressors may be used (see Hsiao, 1986). In our case, studies on cultural economics have indicated that cultural participation is affected by the level and type of education (Van de Werfhorst & Kraaykamp, 2001; DiMaggio & Mukhtar, 2004) and income (DiMaggio & Useem, 1978; O'Hagan, 1996). Moreover, the empirical literature seems to support the hypothesis that women are more involved in cultural participation than men (DiMaggio, 1982). In particular, women are more likely than men to read fiction (Douglas, 1977; Tepper, 2000), go to art museums and attend classical concerts, operas, live plays and dance performances (Bihagen & Katz-Gerro, 2000). In our case, these variables coincided with exogenous regressors. In addition, we decided to use the lags of the instrumented variable.

In terms of formula, we proceed as follows:

Second stage:

$$VW_{it} = \beta_1 cinema_{it} + \beta_2 pop_{it} + \beta_3 M\&E_{it} + \beta_4 theatre_{it} + \beta_5 education_{it} + \beta_6 women_{it} + \beta_7 income_{it} + \beta_8 PW_{it1} + \mu_i + \lambda_t + u_{it} \quad (2)$$

First stage:

$$CC_{it} = \sum_{s=2}^3 \delta_1 CC_{i,t-s} + \sum_{s=0}^3 \delta_2 education_{i,t-s} + \sum_{s=0}^3 \delta_3 women_{i,t-s} + \sum_{s=0}^3 \delta_4 income_{i,t-s} + \sum_{s=0}^3 \delta_5 PW_{i,t-s} + \gamma_i + \kappa_t + \eta_{it} \quad (3)$$

The variables in equation (2) are the same as presented in Section 3.1. The regional fixed effects in

<sup>2</sup> The region-specific variable is a time-invariant variable and captures how each region deviates from the total average (the regional fixed effect).

<sup>3</sup> It is the time-specific variable, activated by time dummies, useful to purify the structural relationship, which is common to all regions, from cyclical variations that are also common to all regions.

the second and first-stage regressions are  $\mu_i$  and  $\gamma_i$ , respectively. The year fixed effects are  $\lambda_t$  and  $\kappa_t$ , respectively, while the error terms are  $u_{it}$  and  $\eta_{it}$ , respectively.

Regarding equation (3), CCs are the cultural capital variables (e.g., cinema, pop, M&E, theatre) that must be instrumented. We instrument our CC variables to extract their exogenous component. In particular, in the first stage of the empirical analysis, equation (3) is estimated for each cultural capital variable (four estimates). The instruments are the second and third lags of the instrumented variable, and the regressors are considered exogenous (e.g., education, income and women) and are their first, second and third lags. Lags of cultural capital variables are likely to have a direct impact on CCs in the current year; they are also likely to affect the voluntary work in the current year, only via the current level of CCs. Lags of the instrumented variables are shown to be appropriate instruments, provided they pass a test for over-identifying restrictions and are sufficiently strong (Roodman, 2011). To test for over-identifying restrictions, we use Hansen's (1982) J test. We also report the first-stage F statistic, because Staiger and Stock (1997) propose the rule of thumb that this statistic should take on a value of at least ten; otherwise, the instruments are weak.

#### 4. Data description

**Table 1** reports the statistical summary of the variables analysed. In particular, we use the *xtsum* command of STATA in order to decompose the total variability (overall) of variables into two components: the between or inter-regional variability, which embodies the permanent (stable) differences among regions, and the within or intra-regional variability, which relies on time observations by country and considers the position of each region at each date compared to its average over the whole period. We show that *between variability* is higher than *within variability* for all variables considered. In addition, **Table 1** shows that 9.2% of people aged 14 and over have done voluntary work in the last 12 months. Regarding cultural consumption, we observe that the form most in vogue is the cinema; as many as 48.2% of the Italian population went to the cinema at least once in the last 12 months. On average, 27.6% of people aged six and over went to a museum and/or exhibition (M&E) in the last 12 months. Participation in pop concerts and in theatre performances shows the lowest percentage among cultural consumptions, at approximately 20.6% and 19.6%, respectively. Finally, with regard to the control variables, we show that, on average, the median employment income is euro 29,412.3; the percentage of women is equal to 51.4; and 77.1% of people aged 20-24 have received a high school diploma.

**Table 1. Statistical summary**

Variables		Mean	Std. Dev.	Min	Max	Observations
<b>Dependent variable</b>						
VW	overall	9.2	3.7	4.4	22.2	N=180
	between		3.7	4.9	20.8	n=20
	within		0.8	7.2	11.9	T=9
<b>cultural capital variables (endogenous variables)</b>						
cinema	overall	48.2	4.9	35.6	61.5	N=180
	between		4.3	40.3	57.2	n=20
	within		2.6	39.5	55.6	T=9
pop	overall	20.6	2.9	16.1	29.7	N=180
	between		3.0	16.1	29.7	n=20
	within		1.8	20.6	20.6	T=9
M&E	overall	27.6	7.8	13.1	43.7	N=180
	between		7.7	16.3	41.9	n=20

	within		1.9	21.9	32.2	T=9
theatre	overall	19.6	4.9	10.4	33.6	N=180
	between		4.8	12.5	31.4	n=20
	within		1.5	15.3	23.5	T=9
control variables (exogenous variables)						
PW	overall	30.9	6.5	18.3	43.8	N=180
	between		6.3	21.1	40.7	n=20
	within		2.2	24.8	36.5	T=9
women	overall	51.4	0.4	50.7	52.7	N=180
	between		0.4	50.8	52.5	n=20
	within		0.1	51.2	51.7	T=9
income	overall	29,412.3	3,744.1	20,647.0	37,332.0	N=180
	between		3,585.8	22,168.2	35,211.4	n=20
	within		1,317.2	24,838.8	33,644.8	T=9
education	overall	77.1	5.5	57.1	87.8	N=180
	between		5.1	65.0	83.6	n=20
	within		2.4	69.2	82.6	T=9

## 5. Results and discussion

The results for the estimates with fixed effects and random effects are reported in the first two columns of **Table 2** (respectively, I and II), while the estimates with 2SLS are presented in column III. The estimated coefficients are standardized. Because the coefficients are all in the same standardized units, we can compare them to assess the relative strength of each of the predictors. For instance, in the case of 2SLS estimates, cinema has a coefficient equal to -0.42. Thus, a one standard deviation increase in cinema leads to a 0.42 standard deviation decrease in voluntary work, with the other variables held constant.

First, proceeding with the econometric exercise, we test the presence of multicollinearity among regressors (e.g., cinema, pop, M&E, theatre, PW, women, income and education). In particular, the calculation of the Variance Inflation Factor (VIF) allows us to control for multicollinearity and to exclude it, as for each variable,  $VIF < 10$ . The highest VIF, found for the variable M&E, is 6.94, which is well below the threshold. The tolerance associated with each variable,  $1/VIF$ , is  $> 0.1$ , which allows us to exclude multicollinearity (a tolerance value  $< 0.1$  is comparable with a VIF equal to 10). In addition, we calculate the correlation coefficients of the regressors (see Table A in the Appendix). In particular, we show that the correlation coefficient between theatre and income is the highest and is equal to 0.65. Overall, we conclude that between theatre and income does not emerge a important problem of multicollinearity.

The Hausman test rejects the null hypothesis and leads us to prefer the model with fixed effects to the one with random effects; consequently, we focus on the results of the model with fixed effects (column I). In particular, regarding the control variables, we verify a positive and significant relationship between voluntary work and PW. The positive relationship of the frequency of worship on volunteering is linked to the concept of voluntary work: activity focused on solving problems and helping others (Zukin et al., 2006). The **places of worship** are the main venues that host volunteer activities; few other institutions contain a large number of volunteers (Hill & Den Dulk, 2013). Grimm et al. (2006) find that churches capture approximately one-third of volunteering. The empirical literature suggests that participation in places of worship is a good predictor of volunteer activities and other forms of civic engagement. The results show that **labour income** is positively associated with voluntary activities, emerging as a prevalence of income effect on substitution effect. Recent studies suggest that less (more) paid work does not necessarily result in more (less)

volunteer work (Freeman, 1997; Wilson & Musik, 1997, 2000). Furthermore, Wilson and Musik (1997) find that professionals and managers – those who earn more (Jacobs & Gerson, 2001; Maume & Bellas, 2001) – volunteer more than other workers. Moreover, we observe that **women** are positively correlated with volunteering. Because of the socially expected men's role as breadwinners, men might feel reluctant to do anything but maintain their masculine identity while undergoing underemployment or joblessness (Willott & Griffin, 1997). For example, a married man who holds part-time employment may be pressured by his wife to take more financial responsibility for the family and may focus on seeking more-substantial employment. Kulik's study reports that men who are unemployed devote more time than women who are unemployed to job-search activities (Kulik, 2000). In contrast, women who are underemployed or unemployed may find volunteering more acceptable, as long as their family members are well looked after. These women may even think that their volunteering experience will lead to a substantial job (Stephan, 1991). Finally, we observe that the parameter associated with **education** has a positive sign but is not significant.

In addition, we show that the relationships among the variables of cultural capital and volunteering are very interesting. In particular, going to the **cinema** is negatively associated with participation in voluntary activities. Film going reduces much of the interpersonal relationships, since watching a movie requires a direct relationship between the viewer and the screen. Accordingly, even if in a hall, viewers sit next to one another with no conversation. Socialization, if it occurs, is linked to the time before and after the movie. Usually, you go to the movies with somebody you know, and interaction with strangers rarely occurs – this excludes long training of weak ties (with strangers) and reinforces strong ties (with relatives/close friends). Conversely, we find a positive relationship with the consumption of **pop** music, although not significantly. **Visiting museums** and **theatres** is positively associated with participation in voluntary activities. Visiting museums requires an atmosphere of silence, and visits take place, in most cases, in groups of people with no predetermined order. Contact is more likely, as is the exchange of views on work. In addition, a visit to works shown in a museum has the effect of developing the most sensitive and most intimate side of the visitor. Choosing to visit a museum, unlike watching a movie, is led by a certain sensitivity that can be expressed in activities for the benefit of those most in need. Specifically, voluntary activities are guided by a certain predisposition towards others; accordingly, visiting a museum seems to stimulate this tendency. Watching a film is different, because it seems to be a mere escape from chores and everyday life, with the underlying aim of relaxing and taking refuge in a different reality. The **theatre**, in addition to encouraging meetings with a small circle of people (such as a good club), stimulates the most sensitive part of an individual, just like the effect of visiting works of art. These findings support the hypothesis, because voluntary work is positively related to participation, and this relation is more evident in relational cultural goods, such as visiting museums and attending theatres. In addition, temporal dummies show that voluntary activities lessened greatly in the years before the recent economic crisis (prior to 2008). In the years following the economic crisis, volunteering still shows a downward trend, but to a lesser extent than in previous years of the crisis. The justification of this is in the data. In particular, in the age group of young adults, the time spent looking for work is deducted from one dedicated to volunteering. In contrast, the increase is significant for people aged 66+ (+7% from 1993 to 2011). In more detail, the growth of voluntary activity was 6% and 7.5% in the 18-19 and 35-44 age groups, respectively<sup>4</sup>. Summing up, the accumulation of capital related to volunteering is stimulated by the consumption of more niche cultural goods, shared by individuals with some knowledge and human and artistic sensitivity.

Unfortunately, endogeneity affects the above results, and for this reason, we implemented an empirical analysis with 2SLS (column III). In fact, the parameters estimated by 2SLS present the same signs and same significance of the parameters estimated using a fixed effects model. The only

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<sup>4</sup> <https://www.istat.it/it/archivio/volontariato> (Last access February, 2017).

difference is the magnitude of associations.

Finally, we observe, according to the results from Hansen's J test (note that this does not reject the null hypothesis), that our instruments are exogenous and therefore valid. In addition, we test the correlation between our instrumental variables and capital cultural variables (e.g., M&E, cinema, theatre and pop) using the F-test suggested by Staiger and Stock (1997). The F-statistic for joint significance of the instruments in the first stage of the endogenous variable on the instruments and all other exogenous variables is, respectively, 115.66 (cinema), 307.97 (theatre), 82.65 (pop) and 463.58 (M&E) (above the threshold of 10, suggested by Staiger and Stock, 1997). Hence, we can conclude that our instrumental variables are not weak.

**Table 2. The voluntary work equation**

variables	Fixed effects model (I)	Random effects model (II)	Two-stage least squares regressions (2SLS) (III)
women	1.35*** (2.74)	0.31 (0.95)	1.25** (2.11)
income	0.40** (2.03)	0.50** (2.69)	0.40** (2.41)
education	0.07 (0.45)	0.010 (0.07)	0.19 (1.40)
PW	0.21*** (6.23)	0.21*** (6.92)	0.28*** (5.95)
cinema	-0.42*** (-10.41)	-0.42*** (-11.03)	-0.42*** (-8.25)
pop	0.03 (1.17)	0.02 (0.78)	0.06 (1.56)
M&E	0.77*** (15.18)	0.84*** (18.85)	0.80*** (10.19)
theatre	0.21*** (5.05)	0.17*** (4.54)	0.21*** (3.28)
Temporal effects <sup>†</sup>			
2005	-3.24*** (-2.69)	-3.52*** (-3.05)	-
2006	-2.80*** (-2.71)	-3.15*** (-3.10)	-
2007	-2.52*** (-2.75)	-2.73*** (-3.16)	-
2008	-2.10*** (-2.76)	-2.31*** (-3.18)	-1.54 (-1.59)
2009	-1.75*** (-2.87)	1.89*** (-3.31)	-1.33* (-1.68)
2010	-1.33*** (-2.98)	-1.47*** (-3.44)	-0.7* (-1.94)
2011	-0.91*** (-3.18)	-0.98*** (-3.55)	-0.37** (-2.01)
2012	-6.7942*** (-3.11)	-6.847*** (-3.26)	-
<b>Hausman test</b>		19.05** [0.0146]	
<i>individual effects</i>	yes	yes	yes
Hansen J statistic			13.976 [0.2343]
First-stage F statistic (cinema)			115.66*** [0.000]
First-stage F statistic (pop)			82.65*** [0.000]
First-stage F statistic (M&E)			463.58*** [0.000]
First-stage F statistic (theatre)			307.97*** [0.000]
# observations	180	180	120

R <sup>2</sup>	0.93	0.95
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Note: \*\*\*, \*\*, \* statistically significant at the 0.01, 0.05 and 0.10 levels, respectively; t-statistics are in parentheses, p-values are reported in brackets.  
<sup>†</sup>All yearly dummy variables are included except one, which is the reference year

## 6. Limitations and future research<sup>5</sup>

The empirical analysis carried out by 2SLS allowed us to obtain interesting results and to verify which cultural consumption variables (our covariates) were positively or negatively associated with voluntary work. Nevertheless, there are some limits that remain and need to be addressed. A first limitation is related to the aggregation level with the data used at the regional level. In particular, analyses based on regional-level data do not yield new insights into the socioeconomic and demographic characteristics of voluntary work. The decision to engage in voluntary work or participate in cultural activities is made at the individual level. People decide whether or not to spend time on these activities. The regional figure is an average of citizens' decisions in each region. In other words, analysis at the individual level would allow us to identify the main characteristics, such as age, gender, occupation, income, and education. Unfortunately, there is no panel data set that simultaneously presents information related to voluntary activities and cultural consumption, but there is the EU-SILC module on social participation, which is a cross-sectional dataset that contains information on both voluntary work and cultural participation and which we will use in a future paper.

Another limitation of the analysis is the lack of control for spatial effects. In fact, the technical limits do not allow us to check for spillover effects (see Patuelli et al., 2013). In particular, the presence of endogenous (four) variables in the case of estimation of a Spatial Durbin Model (control for the spatially lagged dependent and independent variables), in addition to reducing the degrees of freedom, would further reduce the size of our dataset (the use of the time lags, as well as spatial lags, to instrument the endogenous variables), and this would invalidate the tests. Another issue to consider when checking for spatial effects is the administrative unit size. In many empirical studies in Italy (see Arbia, 2005), provincial data are used to introduce the spatial element in empirical analysis, and it is well known that administrative data aggregate individuals on the basis of arbitrary geographical boundaries, reflecting political and historical situations. The choice of the spatial aggregation unit is, therefore, essential, as different choices may lead to different results in estimates (Arbia, 2005). Regional data cannot be considered “independently generated” (Anselin & Bera, 1998; Anselin, 2005), because of the spatial similarities of neighbouring regions; thus, standard estimation procedures<sup>6</sup> could provide biased estimators of the parameters. Aggregating data at the provincial level would allow spatial effects, such as spatial spillovers, to be properly modelled (Arbia, Basile, & Mirella, 2002; Arbia, 2005). For these reasons, we decided to postpone an empirical analysis that also controls for spatial effects until the database is expanded and the provincial data for cultural consumption variables and volunteer activities are available.

One final limitation is the lack of a dynamic specification of the empirical model. In particular, temporal lags of cultural consumption would allow us to have a measure of the temporal persistence of these variables on voluntary activity. Unfortunately, the endogeneity of cultural consumption variables and the inclusion of their temporal lags would considerably reduce the sample size by making the results rather unstable and reducing the robustness of the tests. Once longer time series for each region are available, we could implement a dynamic analysis.

## 7. Conclusion

In *Making Democracy Work*, Putnam (1993) stresses the meaning of voluntary associations,

<sup>5</sup> We thank the two reviewers who, with their useful suggestions, have allowed us to write this section.

<sup>6</sup> That is, estimates that do not take into account spatial dependence.

volunteering and civic involvement for democratic and economic functions in Italy. Voluntary work, as a by-product of social involvement, helps improve both economic performance and well-being. The idea that participation in cultural events contributes to socioeconomic value creation has been less investigated. Very little of this debate has been carried over to the economics literature, where analyses of economic consequences of “culture” generally refer to the different relationships with socio-ethnic backgrounds (Guiso et al., 2006).

Generally, cultural participation is seen as a form of leisure, whose effect on economic value added can be generally traced back to direct expenditure in admission tickets and indirect expenditure in related activities, such as tourism.

In this paper, we have highlighted the effects of cultural participation and, as a consequence of cultural capital, have elucidated its relationship with voluntary work. Such an intuitive relationship has never truly been explored in the economics literature, probably because of the relative marginality that cultural economics has played, and still largely plays, in the more general fields of economic theory and applied economics. In this paper, we show that culturally driven relationships may boost the accumulation of relational goods and, at the same time, can be positively correlated with the vocational, pro-social behaviour that is at the basis of voluntary work.

Our findings give scope for cultural policies, targeting an increase in social levels of cultural participation, not as merely forms of audience development but more specifically as a social platform for innovative educational, welfare or social-cohesion policies (Sacco et al., 2012). Such complexity requires cultural policy action that is multidimensional and holistic in its formulation and implementation and is driven by different values of culture. One of the principal challenges for cultural policy making is to create proactive mechanisms that can respond to imminent changes in the social, political and economic environments, and our findings could pave the way for possible future synergies between cultural and voluntary work policies. This a possible direction of interest in view of the increasing emphasis placed on social cohesion strategies, and it is a totally overlooked option so far. As for the recognized importance of volunteering, the need for a strategic framework for the promotion of volunteering is among the challenges that the European Commission has outlined. Within this theme, and in light of our results, defining policies aimed at supporting those cultural activities that have a positive relationship with volunteer activities seems useful. Furthermore, in addition to European policies on volunteering that suggest the funding of pilot projects involving the relationship between sport and volunteerism (COM, 2011), projects that concern certain cultural activities and volunteering should be sustained. This theme, which is still very delicate because of the under-utilization of European funds by Italy (which is not the scope of our analysis), claims to fill the technical gap, both in the preparation of national calls and in the preparation of project proposals in line with the UE modus operandi.

## Appendix

**Table A. Correlation coefficients**

	cinema	pop	M&E	theatre	PW	women	income	education
cinema	1							
pop	-0.33*** (0.00)	1						
M&E	0.16** (0.01)	0.28*** (0.00)	1					
theatre	0.39*** (0.00)	0.18*** (0.00)	0.61*** (0.00)	1				
PW	-0.17*** (0.00)	0.09 (0.15)	-0.47*** (0.00)	-0.25*** (0.00)	1			
women	0.43*** (0.00)	-0.57*** (0.00)	-0.06 (0.39)	0.16** (0.02)	-0.36*** (0.00)	1		
income	0.23*** (0.00)	0.20*** (0.00)	0.63*** (0.00)	0.65*** (0.00)	-0.44*** (0.00)	-0.01 (0.92)	1	
education	0.17** (0.01)	-0.09 (0.21)	0.09 (0.18)	0.30*** (0.00)	-0.15** (0.04)	0.28*** (0.00)	0.30*** (0.00)	1

Note: \*\*\*, \*\*, \* statistically significant at level 0.01, 0.05 and 0.10; p-values are in parenthesis.

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