Being volunteers in Italy: personal, motivational and environmental aspects[1]

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Introduction and Background

Volunteering activity is analysed in the economic literature from different points of view. This activity is peculiar: in economic analysis because it consists in labour supply without any compensation. However, volunteer labour supply is not unimportant in economic analysis for several reasons. Referring to the history of the economic thought, supplying labour with no wage represents a relevant part of Adam Smith's economic analysis, according to whom helping people is the proper way to increase one's own well-being. Volunteer activity represents a proper labour supply and volunteer work is an input in the productive activity, it is human capital. Quite recently Menchik and Weisbrod (1987) provided an important contribution to the theoretical framework of volunteer labour supply. They suggested that volunteering can be theoretically explained according to two different approaches: a) through a consumption model volunteers are seen as obtaining direct utility from giving; b) through an investment model volunteers are modelled as increasing their earning ability by improving their working skills (Cappellari, Turati, 2004). Several recent works have shown how volunteers are rewarded simply through their activity and how they are much more satisfied of their own life compared to whom is not a volunteer (Meier, Stutzer, 2004). Since volunteering is labour supply without any wage one expects volunteers to be people with a low time cost: unemployed, housewives, low income workers, students, retired workers are expected to be more likely to be volunteers. Actually, the explanation related to opportunity costs has already been rejected by the empirical evidence, at least in the US: Freeman (1997) shows how people with the highest time cost have a higher probability to supply volunteer work. In his paper, Freeman (1997) shows how the traditional labour supply theory is not enough to explain volunteer labour supply also because of the crucial role of social pressure and of the presence of social norms linked to this choice; he shows how the probability to be volunteers strongly increases when people are asked to do it. The term "*conscience goods*" used by Freeman (1997) referring to volunteering labour supply, stresses the social dimension of this choice without linking it to any "pure altruism"

concept: individuals choose to be volunteers because they feel morally obliged and because they are affected by "social pressure" once they are asked. Being volunteers (as well as giving money) is, according to this interpretation, a source of reputation and social status. Although conscience goods represent the social dimension of the motivations existing behind the choice to be volunteers, they are linked to reputational motivation rather than to intrinsic ones. Reputational motivations do no imply gratuity per se (Zamagni, 2006). Altruism can come from intrinsic motivations having "no instrumental nature and emerging from the passion for others seen as a necessary tool to affirm one's own identity " (my translation from Zamagni, 2006). Reputation (it is a real asset) is part of the utility function people aim to maximise and for this reason it cannot be considered part of the intrinsic motivation. I am referring to, and using, Bénabou and Tirole (2005) definitions for intrinsic, extrinsic and reputational motivations. Extrinstic motivation is linked to contingent rewards; intrinsic motivation is pure altruism, warm glow, it is the way to achieve identity through the pure desire for giving. Doing something driven by intrinsic motivation could also mean do not respect social norms, do not behave according to what suggested by social pressure, but just to respect ones' one beliefs in order to affirm one's own identity; reputational motivations are linked to social norms and to the fear to be punished if the norm is not respected.

Many works have already stressed that intrinsic motivation is in a trade off relation with extrinct motivation, e.g. monetary incentives to volunteering activity. The fact that a volunteer could receive external monetary rewards (e.g. refunding) could lead to a motivational crowding out: monetary rewards positively affect extrinsic motivations but, on the other hand, they lower intrinsic motivations. The two effects have opposite sign and it was proved how sufficiently low monetary refunding lead to a decrease in the number of hours offered as volunteers (Frey, Goette, 1999; Bénabou, Tirole, 2003). Low monetary incentives are not strong enough to stimulate the extrinsic motivation and, at the same time, lower the intrinsic one[2].

Estimating the individual volunteer labour supply allows to provide a micro fundament to an important aggregate variable that measured the size and the relevance of the not for profit organisation in every country: the percentage of volunteers on the active population. This choice cannot be estimated without considering personal characteristics but it is also necessary to consider the institutional environment in which people live and the relevance of motivations (intrinsic, extrinsic and reputational). Not for profit organisations have a crucial

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[2] Monetary incentives produce a sort of threshold effect: below the threshold level the extrinsic motivation is not enough stimulated and the intrinsic one is mortified; above the threshold level a crowding out effect between extrinsic and intrinsic motivation takes place and the end of the day the former wins against the latter.

role in providing public goods and services: their role is in some cases to substitute public sector, in other cases to be a complement of it. Their relevance comes from the fact that public services provision lead to a market failure which could not be, in certain circumstances, corrected by the public authority because of the emergence of a another failure: governmental failure. In Italy the size and the relevance of not profit organisations is quite different according to the region. What usually happens in Italy is that the relevance of not for profit organisations is higher the richer and more a region is economically developed. I think it is very important to control for, at least, the region in which people live in order to estimate the probability to be volunteers: this allows to control for social and institutional assets[3]. I believe the more relevant is not for profit sector in a region the higher is the probability an individual offers her work as volunteer. The more relevant the non profit sector the more the opportunities offered to a person to be a volunteer. People living in regions where not for profit sector is very relevant could receive more information and could be object of social pressure to be volunteers[4]. Intrinsic and reputational motivations[5] are essentially individual characteristics but they could be either increased or decreased by institutional environment and by the relevance of the not for profit organisations. In other words, the social and economic environment (represented by the Region in which every individual lives) affects the probability to be volunteers:

- directly, supplying individuals with more opportunities to make this decision;
- indirectly, supporting the motivation (intrinsic and reputational) to make this decision.

According to Putnam (2000) institutions could represent a constraint to volunteering in the sense that the richer and more organised the social structure in a particular area, the lower the propensity to solidarity is. This hypothesis has been verified in the US but it has not any empirical support out of the US: usually the higher the complexity of social structures, the higher the number of volunteer and of phenomena of volunteering. This is what seems to happen in Italian regions as well.

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[3] The reason why I believe controlling for regional dummies rather than controlling for some kind of not for profit size in every region (e.g., number of volunteers, number of workers, etc.) allows to consider the general socio economic environment of which Not for profit organisations are, especially in some cases, a very important component.

[4] Going back to Freeman (1997) it is possible to say that the more is the number of workers and especially volunteers in the higher is the probability a person could be asked to be volunteer.

[5] From now on I will only talked about intrinsic and reputational motivations. Unfortunately the data set used does not provide any information about extrinsic motivation.

In Italy the percentage of people declaring to be volunteers has increased in time[6]. The "Rapporto sull'Associazionismo Sociale" points to the fact that volunteering could be interpreted as will for action rather than will for association, as a form of expression rather than a form of participation (Diamanti, 2003). In this sense, the increase in the number of volunteers could be seen as the result of the individualisation of the modern society; a very personal and individual act, where the reputational motivation is higher than the intrinsic one. In other words, it is the wish to increase utility through the respect for a social norm rather than the search for identity though pure altruism and though desire for giving, to determine the increase of volunteering phenomena.

In relation to the economic literature that analyses volunteer labour supply, the aim of this paper is to analyse the individual choice to be volunteer, testing the following hypothesis:

- the probability to be volunteers decreases with the opportunity cost of time (Freeman, 1997);
- the probability to be volunteers depends on the need to obtain reputation and social status but also on pure intrinsic motivations (altruism). In other words, how much is volunteer labour supply linked to individual sensitivity and how much is it linked to the awareness of belonging to a particular community and being able to obtain identity through the community itself?
- The probability to be volunteers is linked to the environmental and institutional situation of the area in which people live. The more not for profit organisations are relevant in a region the more information and the more social pressure a person receives to be volunteer;
- The relevance of not for profit organisations acts not only through the dissemination of information but also increasing the magnitude of (intrinsic and reputational) motivations.

Time cost and intrinsic and reputational motivations hypothesis will be tested on some other forms of participation: participation to environmental, sportive, religious and cultural/leisure organisations.

Data used do not allow, unfortunately, to investigate the role of the extrinsic motivation.

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[6] Il sottile filo della Responsabilità Civica: VIII rapporto sull'Associazionismo Sociale, Franco Angeli, 2003.

Data used

Data used are Itanes01, a data set collected when political elections in Italy took place on the 13th May 2001. Interviews have been made by Istituto Doxa between 18th May and 18th June 2001. The sample interviewed (3209) people is statistically significant of the adult population in Italy. The research has been undertaken by ITANES (Italian National Elections Studies) group at the Istituto Cattaneo of Bologna[7].

Index of reputation and intrinsic motivations

The will to investigate whether volunteering could depend both on the propensity to action, as individual form of expression rather than awareness to belong to a community, and on the propensity to participation, impose the necessity to find out good proxies for these concepts. Because of the particular aim of the survey, the data set is quite rich of different variables representing forms of civic participation: because it would be difficult to choose one or a few of them and because I believe some common factors are hidden behind all of them, I decided to check the correlation among these variables and, when this is relevantly high, to extract factors behind them and constructing appropriate indexes. Using some replies contained in ITANES questionnaire, three different indexes have been constructed, through factor analysis.

An index could be extracted from the following question:

"I am going to read some actions people sometimes make in order to participate to the political life. Could you please tell me whether you had these experiences in the last 4-5 years?"

Options are:

C7_1 = I signed for laws and referenda

C7_2 = I signed for the presentation of a candidate to the elections

C7_3 = I sent a letter (of complaint) to the public authority

C7_4 = I wrote letters (of complaint) to a newspaper

C7_5 = I went to attend a political debate

C7_6 = I participated to a political manifestation, to a demonstration

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[7] Results of this research have been published in 2001 in "Perchè ha vinto il centro-destra" (Il Mulino). Another book has been published by Mario Caciagli and Piergiorgio Corbetta "Le rationi dell'Elettore", 2002, Il Mulino.

(these are all dummy variables).

All the variables listed above represent different aspects of civic participation. C7_3 and C7_4 seem, compared to other variables, much more linked to action rather than to participation: sending letters of complaint to the public authority or to newspapers seems much more a personal rather than to a collective form of participation. The following factor analysis allows to reduce the 6 variables above to 2 only, extracting 2 factors representing the choice to participate.

```
                         (obs=3097)
          (principal component factors; 2 factors retained)
   Factor      Eigenvalue     Difference    Proportion    Cumulative
 ----------------------------------------------------------------------
     1           2.45984        1.43387        0.4100        0.4100
     2           1.02597        0.26932        0.1710        0.5810
     3           0.75666        0.12699        0.1261        0.7071
     4           0.62967        0.06300        0.1049        0.8120
     5           0.56667        0.00550        0.0944        0.9065
     6           0.56118           .           0.0935        1.0000
```

Factors chosen are the first 2, explaining 60% of the total variability.

```
                        Factor Loadings
           Variable |     1          2      Uniqueness
           -------------+----------------------------------
              c7_1 |   0.68046    -0.15646     0.51249
              c7_2 |   0.66583    -0.34871     0.43506
              c7_3 |   0.58368     0.58231     0.32022
              c7_4 |   0.54131     0.63937     0.29818
              c7_5 |   0.71147    -0.24926     0.43168
              c7_6 |   0.64311    -0.26434     0.51654
```

In order to improve the interpretation of the 2 extracted factors, a varimax rotation has been applied.

```
                  (varimax rotation)
                Rotated Factor Loadings

      Variable |     1          2     Uniqueness
    -------------+------------------------------
        c7_1 |  0.65351     0.24583     0.51249
        c7_2 |  0.74761     0.07754     0.43506
        c7_3 |  0.16443     0.80792     0.32022
        c7_4 |  0.09758     0.83204     0.29818
        c7_5 |  0.73066     0.18563     0.43168
        c7_6 |  0.68203     0.13528     0.51654
```

In this way the first factor can be seen as a proxy for a collective participation expression (the first factor represents variables $c7\_1$ $c7\_2$ $c7\_5$, $c7\_6$), while the second factor (representing variables $c7\_3$ and $c7\_4$) represents action and, thus, not necessarily collective phenomena.

```
              score (based on rotated factors)
                   Scoring Coefficients
            Variable |      1           2
          -------------+--------------------
              c7_1 |   0.31482      0.02586
              c7_2 |   0.41346     -0.13357
              c7_3 |  -0.11606      0.60413
              c7_4 |  -0.16116      0.64095
              c7_5 |   0.37533     -0.04254
              c7_6 |   0.36029     -0.07015
```

The first variable obtained through the factor analysis (m1) represents a real propensity to association and, thus, sense of belonging to a community, participation; the second variable (m2) represents personal expression and, thus, action. None of them could represent any form of altruism. Both variables obtained by factors extracted could be consider part of reputational motivations; m1 is probably closer to intrinsic motivations but it represents them very broadly.

A further index has been extracted from the following questions:

C19_1 = In situations of scarce employment level, it would be fair to allow Italians to get a job rather than to an immigrant;

C10_3 = In situations of scarce employment, it would be fair to allow residents to get a job rather then people coming from other parts of Italy;

C10_7 = Immigrants represent a danger for our own culture and our own identity;

C10_8 = immigrants represent a threat for employment;

C10_9 = Immigrants represent a threat for security.

The idea I want to represent through this further index is that the more people feel threatened by immigration (both about job and security issues) the farer individuals from the content of the intrinsic motivation are. The idea people do not feel threatened by immigration signifies a propensity to find in others "a necessary element to the affirmation of one's own identity" especially because, in this case, the other person is culturally different. Using this index to explain the choice to be volunteers seems a reasonable approximation to test intrinsic motivation[8].

Steps followed in order to extract the variable m3 from the above questions are the following:

(obs=2997)	(principal component factors; 1 factor retained)			
Factor	Eigenvalue	Difference	Proportion	Cumulative
1	3.00410	2.23579	0.6008	0.6008
2	0.76831	0.29403	0.1537	0.7545
3	0.47428	0.08186	0.0949	0.8493
4	0.39242	0.03152	0.0785	0.9278
5	0.36090	.	0.0722	1.0000

The first factor only is considered, because it explains 60% of the total variability.

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[8] It is, thus, possible to test the idea of solidarity, in opposition to individualism, having a "local" meaning: the intensity of solidarity becomes weaker passing from the households to people one does not know.

```
                      Factor Loadings
            Variable |     1    Uniqueness
          -------------+--------------------
               c10_1 |  0.76546    0.41408
               c10_3 |  0.67700    0.54167
               c10_7 |  0.79467    0.36851
               c10_8 |  0.82120    0.32563
               c10_9 |  0.80869    0.34602
```

```
              score (based on unrotated factors)
                    Scoring Coefficients
                  Variable |      1
                -------------+----------
                     c10_1 |   0.25480
                     c10_3 |   0.22536
                     c10_7 |   0.26453
                     c10_8 |   0.27336
                     c10_9 |   0.26920
```

Descriptive statistics

The variable considered as dependent in the model estimated has been extracted from the following questions:

"I am going to list some types of organisations. Could you please tell me whether you participate to any of these?"
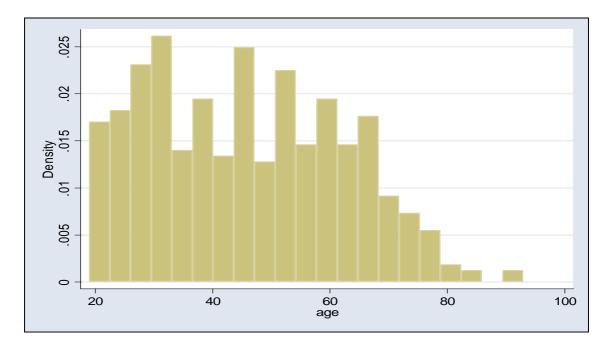
One of the answers provided was the following:

	Not a member and do not participate	I am member but I do not participate	I participate to activities	No reply[9]	Total
Volunteering associations	82,9	1,6	14,5	1,0	100

This variable has been transformed into a dummy (= 1 if the individual participate; 0 otherwise):

Associazioni di volontariato	Frequenza	Percentuale	Cumulata
0	2702	85,26	85,26
1	467	14,74	100
Total	3169	100	

The data set is representative of the adult population in Italy (18+). The following graph shows age distribution of individuals affirming to participate to volunteering activities:

As it will be shown below, age is not a significant variable to explain the choice to be volunteers. Anyway, the right tail of the distribution is quite and obviously thinner compared

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[9] This 1% of people who do not reply has been erased from the sample. This is the reason why people who reply to be participants represent 14.7% of the sample.

to the left one. Even if two individuals aged more than 90 affirm to be volunteers, the decision has been not to consider individuals aged more 80.

Tab: frequency of volunteers by age

| age | Are you a volunteer? | | Total |
	no	yes	
76	18	3	21
77	22	0	22
78	21	6	27
79	19	1	20
80	18	0	18
81	13	0	13
82	14	2	16
83	5	0	5
84	3	0	3
85	6	2	8
86	8	0	8
87	1	0	1
88	1	0	1
89	1	0	1
90	3	0	3
91	1	1	2
92	1	0	1
93	1	1	2
94	2	0	2
96	1	0	1
Total	159	16	175

The data set contains information not only about the participation to volunteering associations but also to a series of different associations, namely: environmental, sportive, religious and cultural/leisure associations.

	Not a member and do not participate	I am a member but I never participate	I participate to activities	No answer	Total
Environmental organisations	91,4	1,3	6,4	0,9	100
Sportive organisations	85,1	2,5	11,7	0,7	100
Religious organisations	87,7	1,2	10,5	0,6	100
Cultural/leisure oganisations	86,2	1,5	11,6	0,7	100

It is not clear in the data set whether the list of these further associations is a specification of the previous question (volunteering associations) or whether every reply to the type of

association is independent. We consider the latter option and we consider the opportunity to compare estimated probabilities to participate to the different associations but not comparing them to the first option (which is the focus of analysis in this paper).

Italian regions are quite different in terms of size of the not for profit sector. According to the Census (ISTAT, 1999) of Non for profit organisations in Italy, the higher number of not for profit organisations per 10.000 inhabitants is in Trentino (88.7), Umbria (52), Friuli (51.2), Toscana (51), Marche (51.2); the lowest number is in Campania (19.7), Basilicata (21). The highest absolute number is in Lombardia (31120), Veneto (21092), Emilia Romagna (19160), Piemonte (18700). I expect the probability to be volunteers higher in Northern regions of Italy rather than in Southern regions especially because of this reason.

Empirical strategy

In order to achieve the aim of testing hypothesis expressed above 3 different binary choice model (logit)[10] have been estimated:

a) First specification. This specification allows to investigate the time cost hypothesis through the relevance of personal characteristics; the motivation hypothesis through indexes; environmental effects through regional dummy variables.

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[10] Results estimating a probit model were exactly the same.

$$y_i^* = \alpha_0 + X_i^{'}\alpha_1 + Z_i^{'}\alpha_2 + S_j^{'}\alpha_3 + \varepsilon_i$$

i refers to individual;

j refers to regions. $j = 1,...,19$

(Italian regions are 20, but Valle D'Aosta in not included in the sample.

$X_i^{'}$ is a vector of individual characteristics (age, marital status, gender, number of children, number of hours worked, education, importance of religion);

$Z_i^{'}$ is a vector of 3 indexes representing reputational and intrinsic motivations :

$S_j^{'}$ contains dummy variables.

ε_i is the error term.

$y_i = 1$ if $y_i^* > 0$

$y_i = 0$ if $y_i^* \leq 0$

y_i^* can be interpreted as a latent variable representing the difference of utility from the choice $y_i = 1$ and the utility from $y_i = 0$.

b) Second specification. It allows to test the same hypothesis as the model above, but instead of controlling for regional effects, it controls for bigger areas effects, namely, the big three geographical areas Italy is split in: North, Centre, South. It also allows to check the robustness of the "non geographical" variables.

$$y_i^* = \alpha_0 + X_i^{'}\alpha_1 + Z_i^{'}\alpha_2 + S_j^{'}\alpha_3 + \varepsilon_i$$

The only difference from the previous model is the following :

j refers to big areas (north, centre and south Italy). $j = 1,2,3$.

This model is a restricted version of the previos unrestricted one.

An LR test confirms restrictions cannot be rejected :

lrtest U Rlikelihood - ratio test

LR chi2(16) =   19.78(Assumption : b nested in a)

Prob > chi2 =   0.2304

c) Third specification. It allows to test (the same hypothesis as above, plus) the hypothesis that environmental characteristics act not only directly but also through an increase in motivations.

$$y_i^* = \alpha_0 + X_i^{'}\alpha_1 + Z_i^{'}\alpha_2 + S_j^{'}\alpha_3 + Z_i^{'}*S_j^{'}\alpha_4 + \varepsilon_i$$

This model can be considered the unrestricted version of model a). Restrictions cannot be rejected:

likelihood-ratio test	LR chi2(54) = 59.14
(Assumption: a nested in c)	Prob > chi2 = 0.2934

The choice of the Italian aged more than 18 to be a volunteer depends, according to model above, on the comparison between the utility an individual receives undertaking this decision and the utility one receives not undertaking this decision: if this difference is positive, then, the individual decides to be volunteer.

Results

The following table shows the results of volunteering labour supply estimate (logit). Specification a).

Are you a volunteer?	Logit	Marginal effects
Age	0.01 [0.00]	0.0010171 0.00055
Marital Status (ref: Single)		
a2==2 married	-0.34723 [0.17466]*	-0.040579 0.02114
a2==3 cohabiting	-0.05 [0.42]	-0.0055359 0.04568
a2==4 widowed	-0.58 [0.34]	-0.0537023 0.02568
a2==5 separated	-1.06 [0.46]*	-0.0829397 0.023
a2==6 divorced	-0.26 [0.54]	-0.0264258 0.05026
Gender		
male	-0.19 [0.12]	-0.0212188 0.01349
Number of children	-0.01 [0.06]	-0.0010335 0.00712
Number of hours worked per week	0 [0.00]	0.0000251 0.00033
Religion (ref: very important)		
c22==quite important	-0.61 [0.13]**	-0.0673903 0.01394
c22==3 not very important	-0.85	-0.0799451

	[0.18]**	0.01343
c22==4 not important at all	-1.1	-0.0880761
	[0.27]**	0.01414
Education (ref: mai andato a scuola)		
f3_1==2 scuola elementare senza licenza	15.82	0.9279151
	[0.53]**	0.00878
f3_1==3 licenza elementare	16.51	0.9920536
	[0.36]**	0.00184
f3_1==4 licenza media inferiore	16.67	0.9987674
	[0.31]**	0.00018
f3_1==5 diploma professionale	16.62	0.9557456
	[0.36]**	0.00646
f3_1==6 diploma media superiore	16.86	0.9993527
	[0.29]**	0.00004
f3_1==7 laurea o diploma universitario	16.49	0.966124
	[0.35]**	0.00525
Regions (ref: Sicilia)		
trentino	0.35	
	[0.54]	
piemonte	0.77	0.1100074
		0.04857
	[0.28]**	
liguria	0.76	0.1097036
	[0.36]*	0.06317
lombardia	0.87	0.121915
	[0.25]**	0.04091
emilia	0.75	0.1059575
	[0.31]*	0.05216
veneto	0.73	0.1017715
	[0.28]**	0.04564
friuli	-0.07	-0.008116
	[0.49]	0.05232
marche	0.63	0.0888733
	[0.43]	0.07184
toscana	0.88	0.1307897
	[0.29]**	0.05198
umbria	0.61	0.0845137
	[0.48]	0.08027
lazio	0.07	0.0078954
	[0.31]	0.03626
campania	0.25	0.0301889
	[0.30]	0.03858
abruzzo	0.57	0.0789484
	[0.41]	0.06721
molise	-0.13	-0.0135586
	[0.80]	0.08268
basilicata	-0.2	-0.0209088
	[0.65]	0.06386

puglia	0.5 [0.31]	0.0661347 0.04703
calabria	-0.39 [0.48]	-0.0381373 0.04117
sardegna	0.12 [0.42]	0.0137818 0.05137
Indexes		
m1	0.23 [0.05]**	0.025924 0.00616
m2	0.24 [0.05]**	0.0273371 0.00538
m3	0.11 [0.06]	0.0122343 0.00693
Constant	-18.53 [0.00]	
Observations	2641	
Standard errors in brackets * significant at 5%; ** significant at 1%		

Being married and being separated, compared to being single, are the only two variables that support the time cost theory: the probability of being volunteer decreases when married or separated because the cost opportunity of time is higher than in the single marital status. None of the other personal characteristics are significant: age, gender, number of children, number of hours worked do not have any statistical influence on the probability of being volunteers. This result equals Freeman (1997): the probability of being volunteers increases the higher the cost opportunity of time is.

Education and religion are, instead, strongly significant and with the expected sing. Considering religion not important lowers the probability of being volunteers; being more educated increases the probability of being volunteers. The former result could find an explanation in the fact that, in Italy, quite a few not for profit organisations are catholic; the latter is explained by the fact that the more a person is educated the more the information she receives. According to marginal effects educations is a very important determinant of the probability to be volunteers.

Regional dummies have been inserted considering Sicily as reference: this is because Sicily has some extreme characteristics both with regard to the not for profit sector and to the institutional and economic situation. Sicily, in particular:

- has, compared to the other Italian regions, the smallest number of volunteering organisations every 10.000 inhabitants (Moreschi, Zamaro, 2001);

- has a very low number of volunteers per million of inhabitants; it is second just to Puglia (Moreschi, Zamaro, 2001);
- from an institutional point of view it is a "Statuto Speciale" region and, because of the higher autonomy its Parliament has with regard to some topics, can be easily considered as reference region;
- has a particularly problematic labour market situation, with high unemployment rates (female unemployment rates in particular) and big portions of black and grey employment (ISTAT).

Individuals have a higher probability of being volunteers if they live in Piemonte, Lombardia, Emilia Romagna, Veneto or Toscana compared to living in Sicilia. Toscana has the higher marginal effect.

Variables m1 and m2 are both significant and with positive sign; variable m3 is not significant: this means that both action (individual expression) and participation (association) determine a positive probability to be volunteers. The magnitude of variables m1 and m2 is also quite similar (m2 a bit stronger than m1). Variable m3, the one that better represents the intrinsic motivation is not significant (even if the sign is the expected, thus, positive). The probability to be volunteers seems much more linked forms of reputational motivations (both as individual and collective forms of expression) rather then to altruism.

The following table shows results of the same estimation in the previous table but, instead of including regional dummies, this includes geographical dummies representing north, centre and south Italy (model b)). In other words the following model is a restricted version of the previous[11]. The reasons to estimate this restricted model are double:

- to check the robustness of all the "non geographical" variables;
- to test whether the institutional effect is more broad than the regional level.

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[11] Models with regional dummies and with area dummies have been compared through a LR test. I cannot reject the hypothesis that the logistic regression model applies to the restricted model (with nord centro), Restrictions cannot be rejected.
In any case, I believe the model with regions much more informative and useful.

Are you a volunteer?	logit	Marginal effects
age	0.01	0.0009403
	[0.00]	0.00056
Marital Status (ref: Single)		
a2==2 married	-0.31527	-0.0373458
	[0.17265]	0.02114
a2==3 cohabiting	-0.04	-0.0047551
	[0.42]	0.0466
a2==4 widowed	-0.53	-0.0513272
	[0.34]	0.02677
a2==5 separated	-1.03	-0.0829003
	[0.46]*	0.0239
a2==6 divorced	-0.23	-0.0246267
	[0.53]	0.05162
F1 male	-0.18	-0.0203071
	[0.12]	0.01362
F2 Number of children	-0.02	-0.0019973
	[0.06]	0.00717
F21 Number of hours worked per week	0	-0.000045
	[0.00]	0.00033
Religion (ref: very important)		
c22==quite important	-0.61	-0.0685427
	[0.13]**	0.01406
c22==3 not very important	-0.89	-0.0840875
	[0.17]**	0.01333
c22==4 not important at all	-1.13	-0.0911993
	[0.27]**	0.01406
Education (ref: mai andato a scuola)		
f3_1==2 scuola elementare senza licenza	15.73	0.9260943
	[0.49]**	0.00678
f3_1==3 licenza elementare	16.45	0.9917762
	[0.31]**	0.00132
f3_1==4 licenza media inferiore	16.57	0.9987029
	[0.25]**	0.00015
f3_1==5 diploma professionale	16.5	0.9543978
	[0.31]**	0.00524
f3_1==6 diploma media superiore	16.75	0.9993144
	[0.23]**	0.00004
f3_1==7 laurea o diploma universitario	16.38	0.9650413
	[0.29]**	0.00406
Areas (ref: south)		
north	0.6	0.0700495
	[0.14]**	0.01683
centre	0.35	0.0437609
	[0.17]*	0.0219
Indexes		
m1	0.22	0.0247788
	[0.05]**	0.00619

m2	0.22	0.0258425
	[0.05]**	0.00536
m3	0.12	0.0138672
	[0.06]*	0.00695
Constant	-18.23	
	[0.00]	
Observations	2641	
Standard errors in brackets		
* significant at 5%; ** significant at 1%		

Variables representing centre and north Italy are significant and with positive sign: this means that compared to living in the south living in the north and the centre increases the probability of being volunteers.

The following table shows the results of the model with interactions (model c)). (only significant interactions have been reported).

Are you a volunteer?	Logit
age	0.01
	[0.01]
Marital Status (ref: Single)	
married	-0.32087
	[0.17999]
cohabiting	-0.07
	[0.43]
widowed	-0.51
	[0.34]
separated	-1.05
	[0.46]*
divorced	-0.19
	[0.55]
F1 male	-0.2
	[0.12]
F2 Number of children	0
	[0.07]
F21 Number of hours worked per week	0
	[0.00]
Religion (ref: very important)	
c22==quite important	-0.58
	[0.13]**
c22==3 not very important	-0.81
	[0.18]**
c22==4 not important at all	-1.11
	[0.28]**
Education (mai andato a scuola)	
f3_1==2 scuola elementare senza licenza	15.86

	[0.00]
f3_1==3 licenza elementare	16.52
	[0.43]**
f3_1==4 licenza media inferiore	16.7
	[0.43]**
f3_1==5 diploma professionale	16.71
	[0.47]**
f3_1==6 diploma media superiore	16.91
	[0.43]**
f3_1==7 laurea o diploma universitario	16.53
	[0.46]**
Regions (ref: sicilia)	
trentino	0.33
	[0.58]
piemonte	0.76
	[0.30]**
liguria	0.6
	[0.42]
lombardia	0.84
	[0.26]**
emilia	0.69
	[0.32]*
veneto	0.68
	[0.29]*
friuli	-1.38
	[1.98]
marche	0.46
	[0.49]
toscana	0.76
	[0.31]*
umbria	-0.66
	[1.01]
lazio	-0.12
	[0.34]
campania	0.22
	[0.31]
abruzzo	0.04
	[0.57]
molise	-8.84
	[10.93]
basilicata	-8.04
	[11.41]
puglia	0.45
	[0.33]
calabria	-0.94
	[0.68]
sardegna	0.06
	[0.50]

Indexes	
m1	0.24
	[0.17]
m2	0.01
	[0.18]
m2emilia	0.61
	[0.31]*
m2umbria	1.14
	[0.57]*
m2lazio	0.46
	[0.23]*
m3	0.17
	[0.23]
Constant	-18.62
	[0.54]**
Observations	2641
Standard errors in brackets	
* significant at 5%; ** significant at 1%	

Individual characteristics as marital status, relevance of religion and education have the same impact seen in the regression without interactions. The variable m2 has positive sing when interacted with Emilia Romagna, Umbria and Lazio. The variable m2 represents action, individual need for expression; it is part of reputational motivations but it is the more "individual" one. For this reason the indirect effect of environment through an increase in motivation does not seem relevant at all.

Participation to some types of organisation

The data set provides additional information about the participation to some particular types of organisation. As stressed above we cannot compare participation to these organisations with volunteering seen above. What is not clear in data is whether, actually, individuals act as volunteers or whether, e.g. in the sportive organisation case, they just "go to the gym". This is why this section has to be interpreted just as analysis of some different forms of participation to different aspects of the "social life". It is, however, interesting to test the same hypothesis seen in the volunteering case[12], including intrinsic and reputational motivations. What it is possible to do is to compare the determinants of participation to these

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[12] It is not particularly interesting here to evaluate whether motivations have different slope in different regions. Estimates with interactions will not, thus, been run.

different organisations. It is not even clear in the questionnaire whether individuals participate to these organisations as volunteers or if they just participate in some other ways (without giving some of their time).

Participation to the organisations seen above is quite correlated:

Correlation matrix

	envir.	Sport.	Relig.	Cultural
Envir.	1.0000			
Sport.	0.4393	1.0000		
Relig.	0.4888	0.3624	1.0000	
Cultural	0.4677	0.4172	0.4999	1.0000

According to correlation matrix above, participation to more than one organisation by the same individual is quite likely to happen. To identify the possible links between the different forms of participation to the organisations seen above, a seemingly unrelated estimation has been run.

	environmental	sportive	religious	cultural
age	0	-0.02	0	0.01
	[0.01]	[0.01]**	[0.01]	[0.01]
Marital status (ref: single)				
married	-0.16911	-0.3	-0.34	-0.54
	[0.25303]	[0.20]	[0.20]	[0.19]**
cohabiting	0.16	-0.51	0.38	0.04
	[0.54]	[0.51]	[0.45]	[0.44]
widowed	0.25	-0.05	-0.16	-0.36
	[0.43]	[0.41]	[0.37]	[0.35]
separated	-1.15	-0.42	-1.08	-1.17
	[0.78]	[0.42]	[0.59]	[0.51]*
divorced	0.72	0.07	-0.15	-0.46
	[0.62]	[0.61]	[0.69]	[0.62]
male	-0.1	0.65	-0.2	0.01
	[0.16]	[0.13]**	[0.14]	[0.13]
Number of children	0.01	0.12	-0.02	0
	[0.10]	[0.08]	[0.07]	[0.07]
Number of hours worked per week	0	0	0	0
	[0.00]	[0.00]	[0.00]	[0.00]
Religion (ref: very important)				
quite important	-0.12	-0.06	-1.33	-0.4

	[0.19]	[0.15]	[0.15]**	[0.14]**
not very important	-0.28	-0.14	-2.18	-0.7
	[0.26]	[0.19]	[0.28]**	[0.20]**
not important at all	-0.12	-0.11	-1.87	-0.3
	[0.34]	[0.25]	[0.37]**	[0.24]
Education (ref: mai andato a scuola)				
scuola elementare senza licenza	15.18	15.85	14.46	15.16
	[0.70]**	[0.00]	[0.59]**	[0.59]**
licenza elementare	15.11	16.09	14.89	15.46
	[0.51]**	[0.49]**	[0.39]**	[0.40]**
licenza media inferiore	14.95	16.03	14.67	15.46
	[0.46]**	[0.50]**	[0.34]**	[0.35]**
diploma professionale	14.59	16.18	14.74	15.64
	[0.54]**	[0.54]**	[0.39]**	[0.38]**
diploma media superiore	15.06	16.34	14.87	15.81
	[0.41]**	[0.50]**	[0.32]**	[0.32]**
laurea o diploma universitario	15.19	16.43	14.62	15.82
	[0.51]**	[0.52]**	[0.40]**	[0.38]**
Indexes				
m1	0.19	0.23	0.17	0.32
	[0.08]*	[0.06]**	[0.07]*	[0.06]**
m2	0.13	0.14	0.19	0.24
	[0.07]*	[0.05]**	[0.06]**	[0.05]**
m3	0.06	0.02	0.13	0.13
	[0.09]	[0.07]	[0.07]	[0.07]
Regions (ref: sicilia)				
trentino		0.15	-0.48	0.76
		[0.65]	[0.74]	[0.55]
piemonte	0.4	0.91	0.66	0.55
	[0.37]	[0.31]**	[0.31]*	[0.30]
liguria	-0.36	0.74	0.55	0.6
	[0.61]	[0.40]	[0.38]	[0.36]
lombardia	0.5	0.86	0.37	0.33
	[0.33]	[0.28]**	[0.27]	[0.27]
emilia	0.19	1.01	0.17	0.79
	[0.40]	[0.33]**	[0.36]	[0.30]**
veneto	0.06	0.77	-0.31	0.58
	[0.38]	[0.30]*	[0.35]	[0.29]*
friuli	-0.26	1.06	0.13	0.44
	[0.66]	[0.42]*	[0.52]	[0.45]
marche	0.14	1.04	0.66	0.41
	[0.59]	[0.43]*	[0.45]	[0.48]
toscana	0.15	0.79	0.09	0.49
	[0.40]	[0.33]*	[0.34]	[0.31]
umbria		0.08	-0.33	0.29
		[0.65]	[0.65]	[0.54]
lazio	-0.58	0.48	-0.06	0.28
	[0.46]	[0.32]	[0.33]	[0.31]

campania	0.12 [0.38]	0.31 [0.31]	0.15 [0.31]	-0.08 [0.33]
abruzzo	0.44 [0.50]	0.38 [0.48]	0.63 [0.45]	-0.19 [0.55]
molise			0.13 [0.83]	
basilicata	-0.11 [0.79]	0.06 [0.68]	0.58 [0.59]	0.97 [0.50]
puglia	0.3 [0.40]	0.19 [0.36]	0.09 [0.34]	0.02 [0.36]
calabria	-0.32 [0.57]	-0.68 [0.56]	0.47 [0.37]	-0.05 [0.45]
sardegna	-0.3 [0.58]	0.46 [0.42]	-0.17 [0.49]	0.03 [0.43]
Constant	-17.4 [0.00]	-18.1 [0.64]**	-15.95 [0.00]	-17.94 [0.00]
Observations	2652			
Robust standard errors in brackets				
* significant at 5%; ** significant at 1%				

Education level is always relevant no matter the organisation. The importance of religion is relevant in explaining participation to (obviously) religious organisation and cultural/leisure organisations. Being male or young increases the probability to participate to sportive organisations. Being married or separated decreases the probability to participate to cultural/leisure organisations only. Living in Piemonte, Lombardia, Emilia, Veneto, Friuli, Marche or Toscana increases the probability to participate to sportive organisations (this is with no doubts linked to the presence of more opportunities). Living in Emilia or Veneto increases the probability to participate to cultural/leisure organisations. Reputational motivations, both in terms of action and in terms of participation are relevant for each of these forms of participation, as well as they were relevant in explaining the choice to be volunteers.

Conclusions

The percentage of volunteers has augmented in Italy during the last few years. This information is in opposition to the idea supported by several researchers, Putnam in particular, according to whom more and more complex structures of society in a country lead to a great individualisation and reduce active participation of citizens. However, it is possible that the increase in the number of volunteers is due to a need for individual expression rather than to the need for participation and for a sense of belonging to society or to a part of it. This could be an important source of motivation, but it cannot represent intrinsic motivation in term of altruism. The need for action could be rather considered as the research for reputation and social status (a surplus of utility in economic term). In my analysis, individual actions and participation are included in reputational motivation while the variable called m3 can be considered as a proxy (even if a bit broadly) of intrinsic motivations in terms of altruism.

My analysis confirms quite completely Freeman's results: people with higher cost of time are more likely to be volunteers.

Reputational motivations, both in terms of expression and in terms of action, are always very important in every form of participation. Intrinsic motivation (in terms of altruism) is never statistically significant, but it is almost significant in some cases and the sign is the expected one (positive). In any case, the intrinsic one is not a prevalent source of motivation. This should not be interpreted as negative result. Volunteering and participation are very important ways to satisfy the need for reputation, social status, thus, association and the need for expression one's own personality.

Social and economic environment has a direct impact on the choice to be volunteers (offering more opportunities to be volunteers) but it has not a very strong effect in improving motivations to be volunteers.

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