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Volunteering at the extensive margin

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Volunteering at the extensive margin: intrinsic or extrinsic motive?*

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Abstract

This paper identifies the nature of the predominant motive (consumption versus investment) moving people to offer labour for free by considering the major beneficiary sectors involved. Using basic consumption and investment models, some hypotheses are derived and tested to identify the salient motivation for volunteering in each sector. The analysis results in two main findings: (a) in peace movements and in women's groups and associations, volunteers seem to be mainly intrinsically motivated and (b) in sectors concerned with social welfare for the elderly people or in religious and health organizations, the key motivation for volunteering is investment (extrinsic returns).

Keywords: volunteering, intrinsic motive, labour supply.
JEL codes: C13, D11, J22, C26.

Résumé

L'objectif de ce papier est d'identifier la principale motivation (consommation ou investissement) du bénévolat en considérant les principaux secteurs bénéficaires. A cet effet, l'étude se fonde sur des modèles de consommation et d'investissement desquels sont dérivées différentes hypothèses qui sont testées. Deux principaux résultats découlent du papier: (a) le bénévolat dans les mouvements et associations pour le maintien de la paix et dans les groupements et associations de femmes semble principalement mu par des motifs de consommation (bien-être procuré par la cause défendue) alors que (b) dans les associations s'occupant du bien-être des personnes âgées, les organisations relevant du secteur de la santé, et dans les organisations religieuses, les volontaires semblent être beaucoup plus motivés par les retours sur l'investissement de leur temps.

Mots clés: volontariat, motivations intrinsèques, offre de travail.
Codes JEL : C13, D11, J22, C26.

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1 Introduction

People face two main types of incentive while entering volunteering: some are categorized as intrinsic motivation and others as extrinsic motivation. An individual is intrinsically motivated to volunteer if it is internally rewarding for her to do so. In that vein, volunteering is undertaken for the sheer joy arising from performing the underlying activities ("warm-glow" utility, Andreoni (1989)) or for some purely altruistic purposes. Conversely, if volunteering is mainly driven by some external expected rewards, the motivation to volunteer is referred to as extrinsic.

The aim of this paper is to analyze the nature of the main incentives moving people to volunteer by considering different beneficiary sectors. More specifically, the paper attempts to find out in which major volunteering sectors (political parties, religious organizations, social welfare for the elderly, women's groups or associations, etc.), motivation is likely to be mainly intrinsically driven, and which sectors seem rather to attract on average, volunteers willing to invest in human and social capital (people motivated by the underlying returns).

Analyzing volunteering and the underlying motivations has a double interest. First, volunteering does not seem to be a market oriented behaviour in the sense that it is not directly priced, although the economic theory would suggest a return in terms of wage for a labour supply, given a corresponding demand. Second, the literature (Table 1) shows that under certain conditions, intrinsic and extrinsic motivations might be at odds (Lepper, Greene & Nisbett (1973); Deci & Ryan (1985); Frey & Jegan (2001)) or complementary (Eisenberger, Pierce & Cameron (1999); Gagné & Deci (2005)). Therefore, the nature of the interaction between the two types of motivation is important for any policy targeting better performance by using external rewards as incentive devices, in particular in sectors where the key motivation making people volunteer is intrinsic. The cognitive evaluation theory for example (Deci & Ryan (1985), Table 1) which builds on people's psychological needs for autonomy and competence suggests that what matters for intrinsic motivation is the ability to express own competence and self-control over the outcomes of the performed tasks. Consequently any external incentive decreasing either the feeling of competence or self-control[1] crowds out intrinsic motivation and self-interest in the activity (Ledford, Gerhart & Fang (2013)). The Attribution or Overjustification theory (Lepper *et al.* (1973)) applies in a similar way: when

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[1]Task-contingent or performance contingent rewards such as monetary incentives.

people are mainly intrinsically motivated for some tasks, external rewards might induce them to start focusing on the rewards *per se* at the expense of their intrinsic motivation or self interest in the activities. Based on these predictions, whenever intrinsic motivation is predominant in a sector which benefits from volunteering, a policy, targeting for instance better performance or self-interest improvement by providing external incentives, might be unproductive. In fact, such a policy would be perceived by workers or volunteers as controlling[2] rather than supportive (Eisenberger *et al.* (1999), Gagné & Deci (2005)).

Table 1: Motivation crowding-out and crowding-in theories

Theory	Key Reference	Major Claims Concerning the Effects of Extrinsic Rewards
Crowding out effect		
Cognitive Evaluation Theory (CET)	Deci & Ryan (1985)	Under certain conditions, extrinsic rewards undermine intrinsic motivation
Attribution Theory/ The Overjustification Effect	Lepper *et al.* (1973)	Intrinsic motivation may be decreased by extrinsic incentives
Motivation Crowding Theory	Frey & Jegan (2001)	Intrinsic motivation can be crowded out by extrinsic motivation created by incentives
Crowding in effect		
Self-Determination Theory (SDT)	Gagné & Deci (2005)	Under certain conditions, extrinsic rewards can enhance intrinsic motivation
General Interest Theory	Eisenberger *et al.* (1999)	Under certain conditions, extrinsic rewards can enhance intrinsic motivation

Source: Ledford, Gerhart & Fang (2013), P.19.

The extent of volunteering can be illustrated both in terms of the money value of the labour services offered, and in terms of the number of people involved in the process, including beneficiaries. For example, around 13.1 millions active Red Cross and Red Crescent volunteers have donated about 6 billion US dollars worth of services that reached approximately 30 million people in 2009 (IFRC,[3] 2011). Another way of valuing the contribution and the value added of volunteers to communities and national societies takes into account the number of years of unpaid labour

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[2]For instance, some threats of layoff if the assigned objectives are not met.

[3]International Federation of Red Cross and Red Crescent Societies Report, 2011.

they provide yearly. More precisely it consists in mapping the time length and the different supports (in-kind and financial) allocated by volunteers to different beneficiaries (non-governmental organizations, faith-based and community-based organizations). A study conducted in a South African province (Jansenville, Eastern Cape, about 5612 people) for instance concluded that the before-mentioned indicator amounts to 19 years and 8 months of unpaid labour per year by 4343 people (not necessarily from the province) and across 278 beneficiary households (Wilkinson-Maposa (2009)).

Given these different facts, at first glance, volunteering might seem "irrational" if the immediate or expected benefits (including non-monetary benefits) likely to be enjoyed, and the underlying costs (opportunity cost of time) are not clearly evaluated. In this respect, volunteering can be rationalized only if its motivations (in particular non-monetary motives) and the related costs incurred are conveniently accounted for.

No matter what drives it, volunteering is observed both in developing countries (which are poorer with more social ties) and developed countries (which are richer with less social ties), suggesting that both economic and non-economic motivations (moral satisfaction, networking, etc.) are involved in the process. In some cases however, one motivation can be more relevant than the other, depending on what people volunteer for and what they care more about. People can in fact value more, a direct utility (internal satisfaction) from volunteering or rather be much more concerned with an accumulation of work experience and a level of social capital likely to help in relaxing some general constraints in the labour market. The most common constraint is the labour market tightness which consists in a significant discrepancy between demand and supply for labour, implying an excess labour supply (Brigden & Thomas (2003)). In the context of very tight labour market for instance, work experience and valuable networking could in fact improve a volunteer's employment prospects and income. If these external rewards are the key purpose for volunteering, extrinsic motivation would then be leading it. This paper builds on developing countries data for their contrasting environment: (a) higher unemployment, denser and stronger family ties to be maintained as compared to industrial societies (Alesina & Giuliano (2010)) and (b) relatively more risk-averse (Cardenas & Carpenter (2008)), more generous and altruistic people (Piff *et al.* (2012)). These two features are in fact conducive to the observation of volunteering in similar contexts, for different purposes with room for either motivation (consumption vs investment) to be predominant.

The rest of the paper is structured as follows: section 2 describes some key results on different works related to the topic, section 3 shows the theoretical framework and the identification strategy used, sections 4 and 5 present respectively the data used and the estimation results.

2   Background

Motivation is anything that energizes someone's behaviour or moves people to behave in a specific way. The debate on volunteering motivations suggests different types of motive to rationalize it, both in economics and psychology. Most of the studies have in fact attempted to model choices volunteers make regarding the time allocation and provide an analysis of the underlying returns (pecuniary or "inner satisfaction"). More specifically, while psychologists insist on motives that come from within a person (Fischhoff (1982); Hirst (1988)) as being more informative, economists find extrinsic motivation, mainly shaped by external incentives more relevant in explaining human behaviour and argue that people mainly respond to external incentives (in particular money). In parallel, other studies have emphasized on how intrinsic motivation could be altered by some external incentives or rewards and whether people perceive them as controlling or supportive (Frey (1997); Frey & Jegan (2001); Ledford, Gerhart & Fang (2013)).

The literature on the motives for volunteering has been synthesized into two broad categories of motive by Hackl *et al.* (2007): (a) the intrinsic motive, accounting for internal satisfaction and considering volunteering as a consumption good and (b) the extrinsic motive, treating volunteering as an investment instrument whose returns are the expected external rewards. Regarding these motives for volunteering, some papers have considered consumption motive and found that private wealth has a positive effect on voluntary hours and this in turn positively feeds in people's altruistic behaviour (Schram & Dunsig (1981); Unger (1991); Freeman (1997); Govekar & Govekar (2002)). More specifically, Meier & Stutzer (2008) compared volunteers and non-volunteers satisfaction with life and find a robust evidence that the formers feel more satisfied with their life than the latter using the German Socioeconomic Panel (1985-1999). Similarly, Binder & Freytag (2013) have concluded using the British Household Panel Survey (BHPS 2010), that volunteering has a positive impact on subjective well-being, and this tends to increase over time, the more people volunteer.

Only few studies discuss volunteering from the perspective of investment motive or by combining both the investment and the consumption motives in order to properly isolate the dominant category. The usual goal when considering the investment model for volunteering is to identify whether there is a wage premium for people who volunteer. For some authors there is a significant wage premium of about 4% attributable to volunteering (Day & Devlin (1997), (1998); Devlin (2000)). However, after restricting the analysis to managerial tasks, Prouteau & Wolff (2006) find no significant wage premium using french cross-section data (1998-1999). All of these studies have though considered volunteering at the aggregate level, that is, regardless of the heterogeneity in volunteering beneficiary sectors.

The combination of the two motives (investment and consumption) is included in a couple of studies of which, one seems to be a synthesis. Hackl *et al.* (2007) analysis focuses on the two types of motive and finds some significant evidence of investment motive using an austrian survey data (collected in 2001) on volunteers in organizations, no matter what organization it is. They estimate a wage premium of 18.7 % due to volunteering and highlight the importance of the intensive margin of volunteering in explaining this premium. The study's framework is rich for having tested the two motives simultaneously, but failed to identify any sign of intrinsic motivation, probably due heterogeneity in beneficiary sectors which is not accounted for. Moreover, nothing is said about the potential employability premium[4] likely to be associated with volunteering for investment purposes by unemployed people.

Following the previous discussion, it is important to emphasize the role of incentives since it complexifies the distinction between altruistic pro-social behaviours and the constrained ones. In that respect, Bénabou & Tirole (2003, 2006) point out that when honor and/or stigma are the main reputational concern in a society, extrinsic incentives (rewards and punishment) might crowd out some altruistic pro-social behaviours. Elaborating more on the issue of incentives, Seabright (2009) identifies two types of discontinuity regarding an altruistic behaviour. The first type of discontinuity relates to the fact that for an altruist, it is more worthwhile to offer the service for free than getting a payment as reward. The second arises from the fact people find it less worthwhile selling the services for a positive amount of money, although they are ready to provide the service for free. These different dynamics, in particular the latter, are accounted for

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[4]Difference in the probability to get employed between volunteers and non-volunteers.

in different theories exhibited in Table 1 and discussed in this paper's results. An empirical implementation of the effects of incentives is conducted by Carpenter & Myers (2010). They have implemented an experiment in a context where people could volunteer to be a firefighter. The authors conclude that altruism and reputational concerns are key in the decision to volunteer and are positively correlated with it. However, this effect seems to disappear when there are some variations in stipends incentives (external rewards).

All of these models are designed to explain in a sense the main reasons why people volunteer. However, the literature lacks large scale studies involving an analysis on volunteering motives with a focus on the different beneficiary sectors of volunteering, considered separately. This is important since the dynamic of volunteering and its implications might differ from one volunteering sector to the other. Failing to take this into account may lead to spurious general conclusions, that is, conclusions not applicable to most sectors.

3 Theoretical framework and Identification

This section shows the theoretical setting for the analysis and describes the identification strategy. It does not provide a formal derivation of volunteering dynamics but induces some interesting insights and intuitions for the identification framework.

3.1 Theoretical framework

The framework describes two simple consumption and investment models and their implications in terms of volunteering.

3.1.1 Consumption model

Consider an individual whose preferences consist in a linear combination of selfishness and moral attitudes with the weight attributed to morality being the degree of morality.[5]

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[5]The extent to which she believes she has to do the right thing in a given situation, see Alger, I. & J., W., Weibull (2013) for more details.

The typical individual solves the following problem:

$$\max_{\tau_l, \tau_v, G} U(\tau_l, \tau_v, G)$$

$$Subject \ \ to \ \ G = w(\Gamma - \tau_l - \tau_v)$$

where τ_v is the time devoted to voluntary activities, τ_l the time allocated to leisure, G the consumption of usual goods and services, Γ the total time endowment during a given period (with $\Gamma < \infty$) and w the wage per unit of time. The consumption model for volunteering is assumed here equivalent to the basic consumer's program. Volunteering is then included in the program like any normal consumption good as an argument of a utility function $U(\tau_l, \tau_v, G)$, assumed concave and strictly increasing in each argument ($U_x > 0$, for $x \in \{\tau_l, \tau_v, G\}$). This utility is maximized under the budget and time constraint $G = w(\Gamma - \tau_l - \tau_v)$. The key assumption here is that the consumer is not a pure *homo economicus* as regards her consumption of volunteering. This means that her degree of morality is non-zero and if intrinsic motivation is the main driver of volunteering, then τ_v should be non-zero too, irrespective of how much the opportunity cost of time amounts to. From this simple framework described, the following conjecture can be analyzed:

Claim: If intrinsic motivation is the main driver of volunteering, then volunteering should induce a welfare premium at the cost of less time available for paid activities. Moreover, the willingness to volunteer should not be decreasing in income nor should it vary across employment status (employed versus unemployed).

A volunteer in this case does not in fact expect any external benefit apart from the enjoyment of the activity she volunteers for. In that sense, becoming poorer or richer should not affect the willingness to volunteer if intrinsic motivation is the main reason for this behaviour. Moreover the welfare premium from volunteering if any, should not significantly differ by empoyment status. That is, being employed should not bring any bonus to the welfare premium derived from volunteering as compared to unemployed people. Conversely, the volunteer might mainly care about the external benefits she is likely to enjoy from volunteering. This case is treated in the investment model.

3.1.2 Investment model

The idea behind the investment model is that an individual volunteers because she expects an external rewards, mainly, an accumulation of human capital, some experience and an extension of her networkings in order to relax labour market tightness constraint. In other words, the volunteer anticipates that the experience and the network she could potentially build during the voluntary activities would allow her to get better job prospects (in particular if she previously has no job or has a precarious one).

The following simple dynamic investment model can illustrate the optimal trajectory of volunteering and serves as a baseline to test extrinsic motive (Cahuc, Carcillo & Zylberger (2014), Hackl *et al.* (2007)). Volunteering for an individual in this context consists in behaving as a pure *homo economicus* agent caring mainly for her own payoffs.

Consider a basic optimization framework in which an individual maximizes her (lifetime working period) net present income:

$$\max_{v(\tau),\ t(\tau)} \int_0^\Gamma f(v(\tau), s(\tau), t(\tau)) e^{-r\tau}\, d\tau$$
$$\text{Subject to} \quad \dot{s}(\tau) = g(v(\tau)) - \varsigma s(\tau)$$
$$v(\tau) \leq \Gamma - t(\tau) - l(\tau)$$
$$\text{and} \quad v(\tau) < \infty; \Gamma < \infty.$$

with Γ the total amount of time endowment, $l(\tau)$ and $t(\tau)$ the time length allocated respectively to leisure and to paid jobs and ς the volunteer's depreciation rate for human and social capital (s) at period τ. The depreciation of human and social capital (s) at each period τ is mainly due to skill depletion and some social links (or ties) breaking off especially during inactive periods. In this framework $f(\cdot)$ is the individual production function which can be seen as an income generating process, $v(\tau)$ stands for volunteering amount of time at instant τ and g is the gross gain in terms of know-how, human capital and the networking thanks to volunteering. The income generating process f works as follows: volunteering at period τ decreases the contemporaneous marketable production or income from paid work ($f_v < 0$), it increases the unpaid labour services (v) and boosts thereby the stock of human and social capital ($g_v > 0$) which in turn induces a positive marginal return tomorrow ($f_s > 0$ at $\tau + 1$ or at a subsequent optimal $\tau^* > \tau$). These external benefits are not only employment status improving (especially moving from unemployment to employment)

but they also offer prospects for higher income and eventually less scope for volunteering. Thus a rational agent will engage in an optimal voluntary activity path if and only if the expected returns from volunteering outweigh the losses incurred in current income due to volunteering, else $v_\tau = 0$.

As shown in Hackl *et al.* (2007) the optimal trajectory of $v(\tau)$, the solution to the previous dynamic problem is hump shaped (Figure 1).

Figure 1: Optimal trajectory v^*
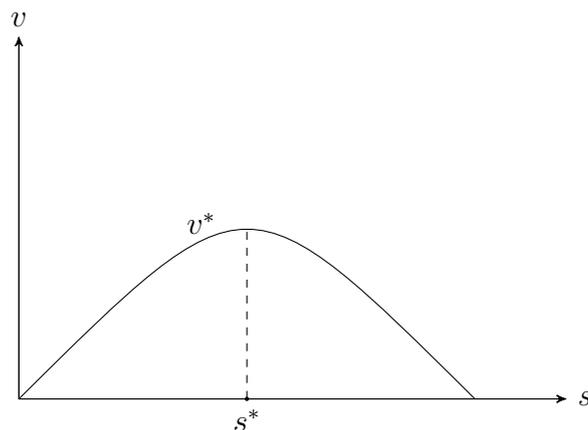
In fact people with a low s and employment prospects would tend to volunteer more up to an optimal threshold, then they will be less likely to volunteer in particular because they would already have a significantly high s and probably a new or a better job. Since volunteering in this model is expected to increase human capital, networking and experience, it has to be the case that it increases the prospects for moving from unemployment to employment. In that respect, the following supposition could be consistently suggested about the investment motive identification.

Claim: Volunteering at time τ increases the likelihood of getting employed at time $\tau + 1$ or at a time $\tau^* > \tau$, and this impact tends to vanish when the individual becomes richer or switches from unemployment to employment.

3.2 Identification strategy

Following the previous discussion, the identification strategy is based on the two theoretical frameworks presented and the underlying suppositions. More specifically, the different hypotheses below are derived and serve as the basis of the identification of the key motive in each sector.

Hypothesis 1: *Intrinsic motivation for volunteering is salient*
Volunteering significantly increases people's well-being, and this welfare premium is independent from employment status.

Hypothesis 2: *Extrinsic motivation for volunteering is salient*

There is a welfare premium related to volunteering and this premium significantly varies by employment status. Moreover volunteering increases the likelihood of moving from unemployment to employment.

Hypothesis 3: *No salience identified*

There is no significant welfare premium from volunteering. That is, neither Hypothesis 1 nor Hypothesis 2 hold true. This might happen depending on how the two motives interact in the considered beneficiary sector (crowding-out versus crowding in effects as shown in Table 1).

Although testing these interactions is beyond the scope of this work, if none of the motives appears to be dominant, then there are two possible suggestions:

- First, a crowding-out effect from extrinsic motivation if any cannot be strong enough to outweigh intrinsic motivation in the considered sector. The volunteer is as concerned with inner satisfaction as she is with rewards and external returns on time invested.

- Second, one might suggest a crowding-in effect via a self-reinforcing mechanism from the two types of motive.

The different hypotheses are tested using the following estimations in a two-step framework :

Step 1: Is consumption motive salient?

$$
\begin{aligned}
Wellbeing_i = \ & \beta_1 Volunteering_i + \beta_2 Education_i + \beta_3 Employment_i \\
& + \beta_4 Employment_i * Volunteering_i \\
& + \delta' controls_i + countryfe + \xi_i \quad\quad (1) \\
controls = \ & \{education, \ gender, \ marital \ status, age, health\}
\end{aligned}
$$

As explained in the identification strategy the parameters of interest are β_1 and β_4. If the welfare premium (β_1) is non-zero and does not statistically differ between employed and unemployed, the consumption motive is key for volunteering in the considered sector. Conversely, when the welfare premium significantly differs between employed and unemployed, there is scope for investment motive salience. Then to confirm whether this is actually the case or not, a second step is required.

Step 2: Is investment motive dominant ?

$$Employment_{it+1} = \theta_1 Volunteer_{it} + \theta_2 Age_{it+1} + \theta_3 Volunteer_{it} * Age_{it+1}$$
$$+ \theta_4 Education_{it+1} + \theta_7 Health_{it+1} + \theta_7 Gender_i \qquad (2)$$
$$+ countryfe + \varsigma_{it+1}$$

Equation (1) is estimated by a generalized ordered logit to account for proportional odds or parallel regression assumption which is taken as given in the simple ordered logit but quite often violated. Equation (2) is estimated via a simple logit. In both cases the different predicted probabilities for each outcome are computed.

In practice, the identification of the predominant motive (consumption versus investment motive) in a given beneficiary sector of volunteering proceeds as follows in a joint hypotheses testing framework:

- From step 1, if $\beta_1 \neq 0$ and $\beta_4 = 0$, then consumption motive (or intrinsic motivation) is dominant.

- If from steps 1 and 2 ($\beta_1 \neq 0$ & $\beta_4 \neq 0$) & ($\theta_1 \neq 0$ or $\theta_3 \neq 0$), then investment motive is more likely to be dominant in the considered sector.

- else, one cannot conclude on a salience of either motive.

The different variables used and the database are described in next section.

4 Data

The empirical analysis of this study is based on the World Values Survey, hereafter (WVS) database.[6] It is an individual level survey conducted in about 100 developed and developing countries. This paper focuses on developing countries (Figure 2) and on the time period 1999-2003.

The main variables of interest include Volunteering in various forms (different beneficiary sectors), some subjective measures of Well-being (Satisfaction with one's life and Feeling of happiness) and other individual socio-economic characteristics: age, education level, gender, health status, marital status.

Regarding the variable Volunteering, data are collected in all of the beneficiary sectors (see Table 2 for the considered sectors) by asking respondents to evaluate a statement for which the possible responses are coded as *1=belongs to* and *0=no*. For instance, the following statement: "*Voluntary work: unpaid work, social welfare service for elderly, handicapped or deprived people*" is the one related to whether or not a respondent volunteers for social welfare services offered to the elderly people.

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[6]Available at: http://www.worldvaluessurvey.org/wvs.jsp.

Table 2: Summary statistics on the key variables

	Mean	SD	Min	Max
Basic characteristics				
Age	39.5	15.1	15	96
Health Status (Very poor- Very good)	3.87	0.87	1	5
Happiness (Low-High)	2.08	0.69	1	3
Satisfaction (Low-High)	2.11	0.74	1	3
Education (Low-High)	1.89	0.72	1	3
Employed (No/Yes)	0.52	0.50	0	1
Volunteering types **(No/Yes)**				
Social welfare (Elderly/Disabled)	0.11	0.31	0	1
Religious or church organization	0.20	0.40	0	1
Education/arts/music/cultural activities	0.093	0.29	0	1
Political parties or groups	0.075	0.26	0	1
Youth work	0.063	0.24	0	1
Women's group	0.11	0.31	0	1
Peace movement	0.055	0.23	0	1
Health organization	0.073	0.26	0	1
N		16105		

Source: Author's calculations based on World Values Survey database.

Furthermore, Table 2 provides the average proportion of volunteers by beneficiary sector for the considered period. Information on well-being is captured by the variables Feeling of happiness and Satisfaction with one's life. The statement facing the respondents in evaluating their level of Satisfaction is: *"All things considered, how satisfied are you with your life as a whole these days? Please use this card to help with your answer"*. The response card is a three scale choices ranging from *1=Dissatisfied (Lowest level)* to *3= Very satisfied (Highest level)*. Similarly, the same process is used to evaluate Happiness using the following statement: "Taking all things together, would you say you are: *1=Not at all happy (lowest level)* to *3 =Very happy (Highest level)?"*.

Figure 2: Measures of Well-being
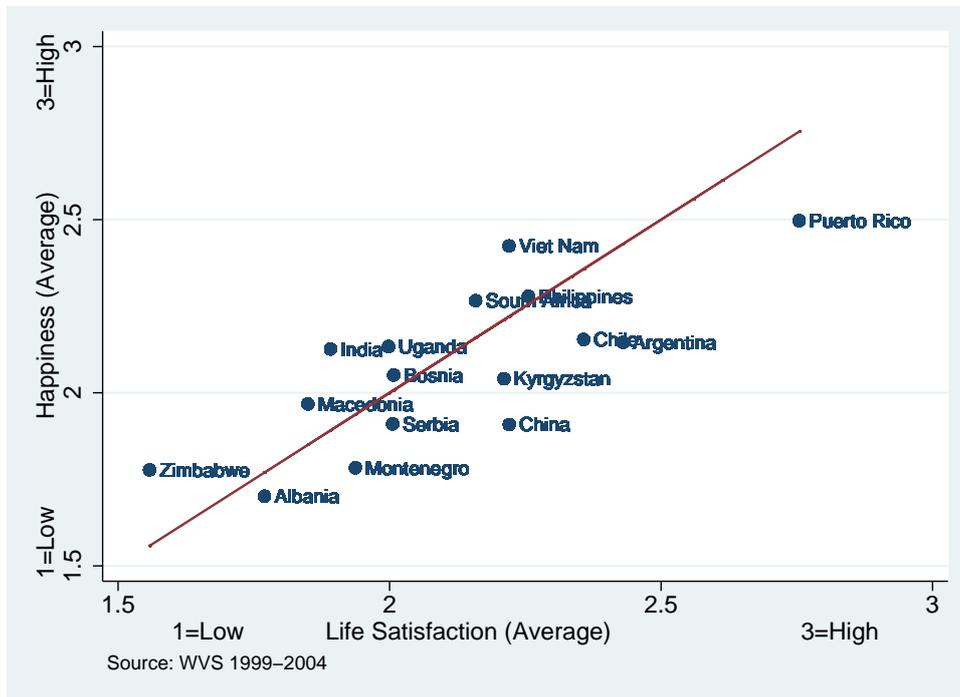
The two proxies for well-being, happiness and satisfaction are positively associated and most of the countries considered are quite close to the 45 degree line (Figure 2). Although on average people tend to report slightly lower level of satisfaction, both measures should give consistent results regarding the question addressed in this paper. However, it is argued that in most cases, happiness should be preferred since it allows to capture people's ultimate objective or interest (Veenhoven (2012), Ng (2015)).

5 Results and discussion

The estimation results of equation (1) are reported in Tables 3 and 4. The results from equation (2) are reported in Table 5 (see the annexes).
Two types of information are used from those tables:

(i) The marginal effects on the probability to claim a given level of well-being (mainly Happiness) conditional on volunteering summarized in Tables 3 and 4. Note that these tables also include the interaction effects of volunteering and employment status on well-being in order to evaluate whether there is scope for investment motive to be dominant.

(ii) The predicted probabilities to get a job during the time period 2000-2003 given volunteering at the start of the period (Table 5, Panel A). Moreover, the differential effects across age cohorts in terms of difference-in-differences (Diff-in-Diff hereafter) of the predicted probabilities are provided in Panel B, Table 5.

14

They allow to evaluate the employability premium related to volunteering and how it varies across age cohorts and beneficiary sectors.

Using these two points combined with the identification strategy described in section 3, a conclusion is drawn on the type of motivation more likely to be salient in each considered beneficiary sector and the implications.

The following discussion starts with the beneficiary sectors where the consumption motive is more likely to be dominant, and proceeds with the investment motive sectors. The last point includes organizations where none of the motive is identified as dominant.

5.1 Consumption motive

From the results provided in Table 3, people seem relatively more likely to volunteer for consumption motive in two sectors: Women's groups and Peace movements (columns (6) and (7)). The former beneficiary sector consists in women's associations with the purpose of defending their own rights and fight for more equality between men and women. The latter includes organizations seeking to achieve ideals like ending wars and violence in the world. In both sectors, there is a welfare premium from volunteering and it does not vary with employment status (columns (6) and (7) of Table 3). In Women's groups for instance a volunteer is 3.3 percentage points more likely to evaluate her happiness as high and relatively less as low or medium than would do her counterpart who does not volunteer there.[7] Similarly, in peace movements, a volunteer is on average more likely (6 percentage points) to rank her well-being as medium and relatively less likely to rank it as low. Given that in the two cases, these rankings hold no matter the volunteer's employment status (interaction effect not significant), it is sufficient to conclude that consumption motive is on average the key motivation for volunteering in the two sectors. In other words, people volunteering in Women's groups and Peace movements seem on average much more concerned about the sheer joy of being member of the groups and taking part to the activities (more intrinsically motivated) than seeking for experience and networking for better job prospects (investment motive). Note that these results are identical to the predictions using satisfaction as a measure of well-being (Table 4). In such a context and given the different theories shown in Table 1, two types of implication might arise in those sectors in the presence of extrinsic incentives for volunteering: either (a) an undermining of intrinsic motivation by any attempt to extrinsically motivate volunteers, for example by using money as reward (Cognitive evaluation, Over-justification, Motivation crowding theories) or on the contrary, (b) its enhancement (self determination theory, general interest theory). Everything will depend on the nature of the different specific condi-

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[7]These results hold at 10% significance level.

tions under which in each beneficiary sector, one or the other scenario occurs. However, an analysis of the different conditions conducive to a crowding-out or a crowding-in of intrinsic motivation in the different beneficiary sectors under study are out of the scope of this paper and left for future research.

There are three other beneficiary sectors where there is a welfare premium related to volunteering: Social Welfare for the elderly or deprived persons, Religious and Church Organizations and Health Organizations (Table 3, columns (1), (2) and (8)). Volunteers in those sectors are in fact on average relatively less likely to rank their level of happiness as low or even medium as compared to non-volunteers. In religious and church organizations for example, people involved in volunteer activities are 10 percentage points more likely to feel strongly happier than their counterpart who are not. However this welfare premium related to volunteering significantly differs by employment status. For those three beneficiary sectors, people do not seem to engage in volunteering mainly for intrinsic motive or consumption purposes. People who are not employed tend in fact to report more often a relatively higher level of happiness (interaction terms in columns (1), (2) and (8), Table 3), that is, they would report a relatively higher welfare premium from volunteering than people who already have a job. Obviously there is scope for investment motive to be the leading reason for volunteering in the three cases since the opportunity cost of time that matters mainly for investment motive actually seems to translate into a relatively higher welfare cost for employed people as compared to the unemployed.

As presented in the identification strategy, further analysis is required for each of the three beneficiary sectors in order to figure out whether it is rewarding or not that volunteering is mainly led by investment motive.

5.2   Investment motive

As sketched in the previous section, the three beneficiary sectors where investment motive is more likely to be the leading motive are: social welfare for the elderly or deprived people, religious and church organizations and health organizations (Table 3). There are though two questions to be addressed in analyzing those beneficiary sectors from the perspective of investment motive: (a) does it on average make any difference in terms of job prospects to volunteer in either of the sectors and (b) how does it matter across age cohorts to volunteer for better job prospects? To the first question, the answer is yes for two beneficiary sectors: social welfare for the elderly or deprived people and health organizations (Table 5, Panel A, columns (1) and (8)). It is not the case for religious and church organizations (column (2)) where there is on average no significant difference in terms of job prospects between volunteers and non-volunteers. However, regarding the second question, there are some significant differences by age classes not only in that beneficiary sector but also in health organizations (Table 5, Panel B,

16

columns (2) and (8)). These differences can be observed in particular for people aged between 45-54 or above 65 years.

Figure 3: Diff-in-Diff across age cohorts for religious organizations
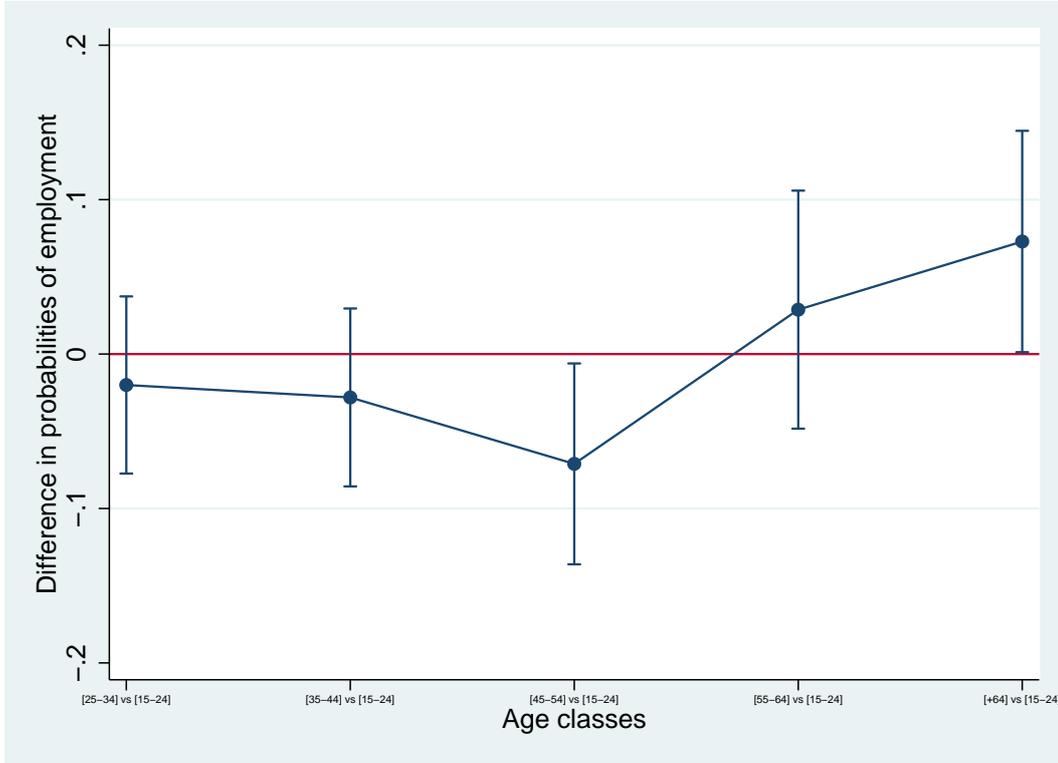
Source: Author's estimations based on World Values Survey database.

Figure 3 shows that for the elderly (+ 65 years old), the difference in probabilities to get a job between volunteers and non-volunteers in religious and church organizations is larger than in the youngest group (aged 15-24). In other words, for the +65 years old, volunteering in religious and church organizations for investment purposes seems relatively more rewarding as compared to the youngest group. This is mainly related to the fact that most of the people aged +65 years are retired, need to be active and to keep good connections with people in order not to feel useless to the society and these returns to volunteering significantly make them better off (Morrow-Howell *et al.* (2003)). In this respect, any sector likely to generate those returns are good candidate for them, except for the youngest. The +65 would thus tend to target sectors with less competition and requiring more life experience and general knowledge, in particular, if the experience accumulated over the course of their working period happens to be irrelevant. They are then relatively more attractive for such sectors compared to the youngest, and it is likely to be the case in religious and church organizations. On the youngest people side, the fact that there is a relative immobility of skills and workers across religious and church organizations, due to differ-

ences in religious practices, in faith and thereby, in the way the different tasks are executed, is deterrent. In fact, some valuable skills and capacity built in one religious organization might be useless or inappropriate in another organization (Bauder (2005), O'sullivan (2009), Kelly (2011)). The elderly people would be less concerned about this than would be the younger ones. Therefore, the younger someone is, the less likely she is to significantly benefit from an investment in religious and church organizations for better job prospects as compared to the elderly people.

The other significant result for religious and church organizations (Figure 3) simply reflects that it is relatively more costly for the 45-54 years old to volunteer in religious and church organizations for the sake of a new job or for better job perspectives than it is for the youngest people (15-24). As shown in Panel A of Table 5 (column (2)) the 45-54 years old people are significantly more able on average to find a job than the youngest group, regardless of volunteering. So for them in fact, it is relatively less valuable to volunteer in religious and church organization for investment purposes than it would be for the 15-24 due to the characteristics of the sector exposed above (relative immobility of labor and skills for instance) which are more harmful (induce higher opportunity costs) for the 45-54 years old than for the 15-24 old.

There is no significant differences across age classes in terms of employability induced by volunteering for social welfare to the elderly persons. It might happen if for example volunteering is mainly directed to grandparents and takes the form of exchange for services where the volunteer (their child) provides them with some financial support or healthcare and in turn expects them to take care of some domestic chores, childcare, etc. (Wu & Li (2014)). The volunteer will in fact in such a context have relatively more time and energy at disposal for a new or a better job search. This holds irrespective of the volunteer's age. Similarly, in the case that extrinsic motive is exclusively guided by investment in know-how and networking, the returns in terms of employability do not significantly differ by age cohorts for social welfare to the elderly.

Finally, the results for health organizations (column (8)) and for religious and church organizations (column (8)) are similar except that the employability premium induced by volunteering in health organizations is significant only for the +65 years old people. The main explanation to this is work experience often required for health related activities.

The following section focuses on beneficiary sectors showing no salience of either motive.

5.3 Other beneficiary sectors

There are three sectors for which neither intrinsic motive nor investment motive is identified to be the predominant motive for volunteering in this paper. Those

beneficiary sectors include art, music or cultural activities, political parties and human rights. Therefore, on average, people volunteering in those sectors are as likely to be concerned with enjoying *per se* the tasks performed in the framework of their voluntary activities, as the experience or the better job prospects and opportunities volunteering provides them with. In this case, the two types of motive are likely to be self-reinforcing. However this observation needs further investigations.

6   Conclusion

This paper primarily contributes to the literature on volunteering and the underlying motives by considering the major beneficiary sectors separately and by identifying volunteers' predominant motivation (intrinsic versus extrinsic). The interest of this contribution is twofold: (a) it emphasizes the necessity to disaggregate volunteering in different beneficiary sectors for an analysis on the motives and (b) it implies that a knowledge on the leading motivation in each beneficiary sector is key for any policy aiming at improving productivity or the volunteers' endeavor, given the risk of a crowding-out of intrinsic motivation and self-interest.

The methodology is built on a simple model of consumption and investment and provides an empirical framework that compares volunteers and non-volunteers in different dimensions, controlling for their main socio economic-characteristics. These dimensions include well-being, employment and age cohorts.

The analysis results in two main findings. First, in peace movements and in women's groups and associations, volunteers seem mainly intrinsically motivated rather than seeking for investment in experience and networking for better job prospects. Therefore for those sectors, providing some extrinsic rewards (positive or negative) seeking for example for better performance or higher returns might not be worthwhile, in particular if these rewards are perceived as controlling or undermining autonomy. Second, for sectors concerned with social welfare for the elderly people and in religious and health organizations, the key motivation for volunteering is investment and the underlying returns (extrinsic returns). In this case, volunteers are more likely to positively respond to extrinsic incentives. Future research projects on the topic might focus on the conditions under which, a crowding-out effect occurs in the presence of extrinsic incentives in sectors where people are mainly intrinsically motived to volunteer, and to which extent a crowding-in effect would happen in such sectors, accounting for the intensive margin of volunteering.

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ANNEXES

Table 3: First step analysis: Consumption motive and potential extrinsic motive using Happiness

Panel A of beneficiary sectors

	HAPPINESS[=Low-Medium-High]											
	(1)			(2)			(3)			(4)		
	Social welfare: Elderly/Disabled			Religious and church organization			Education Art/Music			Political parties or groups		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
employed	-0.0017	0.023**	-0.021**	-0.010	0.029***	-0.019*	-0.0015	0.030***	-0.028***	-0.0052	0.033***	-0.028***
volunteer	-0.066***	-0.019***	0.084***	-0.032***	-0.071***	0.10***	-0.019	-0.0054	0.024	-0.023	-0.0065	0.030
empl_vol	0.0078	0.085***	-0.093***	0.035**	0.0097**	-0.045**	-0.024	0.043*	-0.019	0.025	0.0070	-0.032
N	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105

Source: WVS database.

Panel B of beneficiary sectors

	HAPPINESS[=Low-Medium-High]											
	(5)			(6)			(7)			(8)		
	Human right			Women groups			Peace Movement			Health Organization		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
employed	-0.0040	0.033***	-0.029***	-0.0042	0.033***	-0.029***	-0.0034	0.032***	-0.029***	-0.0031	0.028***	-0.024***
volunteer	-0.026	-0.0073	0.033	-0.026*	-0.0072*	0.033*	-0.083***	0.060**	0.023	-0.044***	-0.012***	0.057***
empl*vol	0.0043	0.0012	-0.0055	0.0053	0.0015	-0.0069	0.023	0.0065	-0.030	0.0047	0.078***	-0.083***
N	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105

Source: WVS database.

Note: The coefficients reported in both panels are the marginal effects on the probability of having either level of Happiness conditional on volunteering and some controls. The dependent variable (Happiness) has three categories: ***Low, Medium*** and ***High***. In each column volunteering is characterized by the considered beneficiary sector (2nd row in the heading). For example column (1) reports the effects of volunteering for ***Social welfare*** on the probability of being in either category of happiness, the effect of employment and the interaction effect of volunteering and employment status. The control variables used are: education level, health status, gender, marital status and age. Their effects are in the expected direction and not reported for presentation purposes. The country fixed effects are also controlled for and the significance levels considered are: *** p<0.01, ** p<0.05, * p<0.1.

Table 4: First step analysis: Consumption motive and potential extrinsic motive using Satisfaction

Panel A of beneficiary sectors

SATISFACTION[=Low-Medium-High]

| | (1) | | | (2) | | | (3) | | | (4) | | |
| | Social welfare: Elderly/Disabled | | | Religious and church organization | | | Education Art/Music | | | Political parties or groups | | |
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
employed	-0.024***	0.019*	0.0049	-0.019***	-0.0054***	0.025***	-0.024***	0.012	0.012	-0.023***	0.012	0.012
volunter	-0.12***	0.097***	0.024	0.016	-0.052***	0.036**	-0.017	-0.0048	0.022	-0.014	0.042**	-0.028
empl_vol	0.035	-0.094***	0.059*	0.013	0.0038	-0.017	-0.014	-0.0040	0.018	-0.021	-0.0059	0.027
N	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105

Source: WVS database.

Panel B of beneficiary sectors

SATISFACTION[=Low-Medium-High]

| | (5) | | | (6) | | | (7) | | | (8) | | |
| | Human right | | | Women groups | | | Peace Movement | | | Health Organization | | |
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
employed	-0.016**	-0.0044**	0.020**	-0.027***	0.015	0.013	-0.026***	0.015	0.011	-0.018***	-0.0050***	0.023***
volunteer	-0.018	-0.0050	0.023	-0.046**	0.030*	0.017	-0.11***	0.10***	0.0091	-0.063***	0.043**	0.020
empl_vol	-0.050	0.048	0.0025	0.0041	0.0012	-0.0052	0.041	-0.084*	0.043	0.026	0.0072	-0.033
N	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105	16105

Source: WVS database.

Note: The coefficients reported in both panels are the marginal effects on the probability of having either level of Satisfaction conditional on volunteering and some controls. The dependent variable (Satisfaction) has three categories: *Low, Medium and High*. In each column volunteering is characterized by the considered beneficiary sector (2nd row in the headings). For example column (1) reports the effects of volunteering for *Social welfare* on the probability of being in either category of Satisfaction, the effect of employment and the interaction effect of volunteering and employment status. The control variables used are: education level, health status, gender, marital status and age. Their effects are in the expected direction and not reported for presentation purposes. The country fixed effects are also controlled for and the significance levels considered are: *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Second step analysis: Investment motive and comparative effects by age

Panel A: Effects of volunteering on employment by beneficiary sector

	Predicted Pr(Employed=1)							
	(1) Social welfare: Elderly Disabled	(2) Religious and church organization	(3) Education Art/Music	(4) Political parties or groups	(5) Human right	(6) Women groups	(7) Peace Mov.	(8) Health Organization
Volunteer	0.081**	0.007	0.010	-0.017	0.006	-0.012	0.034*	0.029*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)
$[25-34]vs[15-24]$	0.308**	0.311**	0.308**	0.310**	0.306**	0.307**	0.310**	0.311**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$[35-44]vs[15-24]$	0.400**	0.404**	0.402**	0.405**	0.399**	0.400**	0.404**	0.404**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$[45-54]vs[15-24]$	0.373**	0.376**	0.374**	0.376**	0.371**	0.372**	0.376**	0.377**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$[55-64]vs[15-24]$	0.101**	0.105**	0.104**	0.104**	0.105**	0.104**	0.106**	0.105**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
$[65 plus]vs[15-24]$	-0.154**	-0.150**	-0.146**	-0.151**	-0.147**	-0.149**	-0.146**	-0.147**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)
Observations	13910	13910	13910	13910	13910	13910	13910	13910

Source: WVS database
** p<0.01, * p<0.05

Panel B: Differential effects of volunteering on employment by age categories

	Predicted Pr(Employed=1)							
	(1) Social welfare: Elderly Disabled	(2) Religious and church organization	(3) Education Art/Music	(4) Political parties or groups	(5) Human right	(6) Women groups	(7) Peace Mov.	(8) Health Organization
$[25-34]vs[15-24]\#Volunteer$	-0.013	-0.020	0.056	-0.060	0.006	0.032	-0.010	0.045
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.05)	(0.04)
$[35-44]vs[15-24]\#Volunteer$	-0.051	-0.028	0.083*	-0.051	0.082	0.064	-0.015	0.063
	(0.04)	(0.03)	(0.04)	(0.04)	(0.05)	(0.03)	(0.05)	(0.04)
$[45-54]vs[15-24]\#Volunteer$	-0.083	-0.071*	0.084	-0.041	0.086	0.075	-0.024	0.050
	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.04)	(0.06)	(0.05)
$[55-64]vs[15-24]\#Volunteer$	-0.045	0.029	0.139*	0.033	0.245**	0.141*	0.053	0.108
	(0.05)	(0.04)	(0.06)	(0.06)	(0.08)	(0.06)	(0.07)	(0.06)
$[65 plus]vs[15-24]\#Volunteer$	0.019	0.073*	0.202**	0.012	0.259**	0.143*	0.127	0.143*
	(0.05)	(0.04)	(0.06)	(0.05)	(0.10)	(0.06)	(0.08)	(0.07)
Observations	13910	13910	13910	13910	13910	13910	13910	13910

Source: Author's estimations based on World Values Survey database.
Standard Errors in parenthesis.

Notes:
[1] In Panel A, the coefficients reported are the predicted probabilities of getting a job during the time period 2000-2003 given volunteering at the start of the period in a given beneficiary sector.
[2] Panel B reports the differences in the predicted probabilities of getting a job when one volunteers and compares it across age cohorts.
[3] In both panels the following variables are controlled for: education level, health status, gender, marital status, the different age classes and the country fixed effects. The significance levels considered are **** p<0.01, * p<0.05**.