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**VOLUNTEERING AND WAGES.
THE CASE OF LABOUR MARKET ENTRANTS IN
GERMANY**

Introduction

The nonprofit sector as the main area of volunteering¹ activities populated by different kinds of independent clubs, associations and foundations, continues to grow rapidly. The goods and services produced in this sector account for even 7 percent of GDP in some countries, such as Canada and USA. Nonprofit organisations become significant employers² as they depend also on the work of paid staff. Hence, economists are increasingly interested in this topic, although it would seem that the increasing number of people willing to work without financial gratification should throw them into confusion. Fortunately, economics (especially at the micro-level) has been developing tools to comprehend and analyze this phenomenon. At least five decades ago when Nobel prize winner, Gary Becker, started applying economic theory to the analysis of human behaviour, much of the phenomena of discrimination, faith, philanthropy and altruism have been studied. It is no longer surprising for economists to ask questions such as: why do people volunteer? Which determinants

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We define volunteering according to D.H. Smith, *Altruism, volunteers and volunteerism*, in: J.D. Harmann (ed.), *Volunteerism in the eighties*, Lanham, MD, University Press of America 1992, p.26, as “an activity performed not because of biological, economic or legal coercion but motivated mostly by expected psychical values, which are valued more than the remuneration for this work.” Two remarks need to be made with reference to this definition. Firstly, we allow for other motives for volunteering, not only psychical profits. Secondly, we situate volunteering in non-profit and/or public sector to distinguish it from other forms of unpaid activity like domestic work or internships in for-profit companies.

² e.g. 12,5% of the total nonagricultural employment in the Netherlands, 11,5% in Ireland, cf. H. Anheier, L. Salamon, *Volunteering in Cross-National Perspective: Initial Comparisons*, Civil Society Working Paper, No. 10/2001.

favor and which hinder charitable commitment? What are the individual gains from volunteering?

There are several branches of economic studies on topics related to volunteering. Institutional economics is relatively rich in this regard, explaining the emergence of nonprofit organizations as an outcome of a special kind of Schumpeterian entrepreneurship³. Along this line, the comparative advantages of nonprofit organisations over commercial firms⁴ and public institutions⁵ have been analyzed. The theoretical foundations for these studies were developed by Hansmann⁶ and Weisbrod⁷. Besides volunteering per se, many studies raise the question on whether individuals employed in nonprofit firms also perform a kind of volunteer work by being paid less than what they could earn in the commercial sector⁸.

In the field of neoclassical economics, the phenomenon of volunteering is usually the individual choice problem with additional assumptions concerning the utility function (i.e. it is allowed that one's utility

³ cf. Ch. Badelt, *Entrepreneur Theories of the Non-profit Sector*, *Voluntas*, Vol. 8, No. 2/1997, pp.162-178; B. Weisbrod, *The Nonprofit Economy*, Harvard University Press, 1988.

⁴ cf. S. Rose-Ackerman, *Altruism, Nonprofits and The Economic Theory*, *Journal of Economic Literature*, Vol. 34, No. 2/1996, pp. 701-728; B. Dollery, J. Wallis, *The Political Economy of the Voluntary Sector*, Edward Elgar Publishing, 2003.

⁵ L. Salamon, *Of Market Failure, Voluntary Failure, and Third-Party Government*, *Journal of Voluntary Action Research*, No. 16/1987.

⁶ H. Hansmann, *The Role of the Nonprofit Enterprise*, *The Yale Law Journal*, No. 89/1980, pp. 835-901.

⁷ B. Weisbrod, *Toward a Theory of the Voluntary Nonprofit Sector in a Three-Sector Economy*, in: B. Weisbrod (ed.) *The Voluntary Nonprofit Sector*, Lexington, MA, 1977, pp. 51-76.

⁸ for empirical studies see, B. Weisbrod, *Nonprofit and Proprietary Sector Behavior: Wage Differentials Among Lawyers*, *Journal of Labor Economics*, Vol. 1, No. 3/1983, pp. 246-263; A. Preston, *The Effects of Property Rights on Labor Costs of Nonprofit Firms: An Application to the Day Care Industry*, *Journal of Industrial Economics*, Vol. 36, No. 3/1988, pp.337-350; A. Preston, *The Nonprofit Worker in a For-profit World*, *Journal of Labor Economics*, No. 7/1989, pp. 438-463; A. Preston, *Women in the White-Collar Nonprofit Sector: The Best Option or the Only Option?*, *Review of Economics and Statistics*, Vol. 72, No. 4/1990, pp. 560-568; F. Handy, E. Katz, *The Wage Differential Between Nonprofit Institutions and Corporations: Getting More by Paying Less*, *Journal of Comparative Economics*, No. 26/1998, pp.246-261; Ch. Ruhm, C. Borkoski, *Compensation in the Nonprofit Sector*, NBER Working Paper 7562/2000.

depends on the characteristics of the others⁹). We can distinguish two main streams of neoclassical economic research on volunteering. The first tries to define the volunteering supply function (i.e. to establish the determinants of voluntary work). Besides intuitive factors such as income, amount of leisure time, personal attributes and family characteristics, various studies investigate the role of government expenditures¹⁰, religious activity and health¹¹, relational motives¹², volunteering partner¹³, social pressures¹⁴, home ownership¹⁵ and gender¹⁶. Additionally, some authors¹⁷ take into account the heterogeneity of the voluntary sector, analyzing voluntary work in education, health and religion sectors. The second stream of the neoclassical analysis concentrates on different kinds of benefits from voluntary work such as: satisfaction¹⁸, creation of social capital¹⁹ and meeting new people²⁰.

⁹ For theoretical introduction see, G. Becker, *A Theory of Social Interactions*, The Journal of Political Economy, Vol. 82, No. 6/1974, pp. 1063-1093.

¹⁰ S. Ziemek, *Economic Analysis of Volunteers' Motivations – A Cross-country Study*, The Journal of Socio-Economics, No. 35/2006, pp. 532-555.

¹¹ R. Gomez, M. Gunderson, *Volunteer Activity and The Demands of Work and Family*, Industrial Relations, vol. 58, No. 4/2003.

¹² L. Prouteau, F. Wolff, *On The Relational Motive for Volunteer Work*, Industrial Relations Working Paper Series, 2006.

¹³ F. Hackl, M.Halla, G. Pruckner, *Volunteering and Income: The Fallacy of good Samaritan*, Johannes Kepler University of Linz Working Paper, No. 415/2004.

¹⁴ R. Freeman, *Working For Nothing: The Supply of Volunteer Labor*, National Bureau of Economic Research, Working Paper No. 5435/1996.

¹⁵ E. Gleaser, D. DiPasquale, *Incentives and Social Capital: Are Homeowners Better Citizens?*, NBER Working Paper 6363/1998.

¹⁶ M. Mueller, *Economic Determinants of Volunteer Work by Women*, Signs, Vol. 1, No. 2/1975, pp. 325-338.

¹⁷ L. Segal, B. Wiesbrod, *Volunteer Labor Sorting Across Industries*, Working Paper 95-12/2002, Northwestern University.

¹⁸ S. Meier, A. Stutzer, *Is Volunteering Rewarding in Itself?*, *Economica*, vol. 75, Issue 297/2008, pp. 39-59; see also the related concept of “warm glow”: J. Andreoni, *Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving*, The Economic Journal, Vol. 100, No 401/2000, pp. 464-477.

¹⁹ J. Isham, J. Kolodinsky, G. Kimberly, Middlebury College Economics Discussion Paper, No. 03-05R, 2004.

²⁰ L. Prouteau, F. Wolff, *On The Relational Motive for Volunteer Work*, Industrial Relations Working Paper Series, 2006.

Within this stream there are also several studies investigating the labour market return to volunteering (i.e. the influence of voluntary work experiences on the wage rate or employment prospects). The economic explanation of this relationship is threefold: volunteers, through their activities gain experience and skills (human capital theory), enter social networks which provide wider access to job offers (social capital theory), and enrich their curriculum vitae to signal desirable unobserved characteristics to potential employers (signaling/screening theory). The relationship between charitable work and unemployment was studied by Romero²¹ as well as Erlinghagen²². The impact of volunteering on the wages was the subject of studies by Day and Devlin²³, Hackl et al.²⁴ and Prouteau and Wolff²⁵. Interestingly, all these studies demonstrate a wage premium from volunteering.

Our research belongs to the last group of research. Using the micro-data from the German Socio-Economic Panel (GSOEP; the short description of the dataset is to be found at the end of the text) we try to establish the links between volunteering and the wage rate. Assuming that investment motivations are most likely among volunteers at the beginning of professional career we constrain our sample to individuals who enter the labour market for the first time. Within this group we verify whether: i) voluntary work experiences have an impact on the wage rate ii) this impact varies across educational level and employment status groups. The paper is organised as follows. Section two presents the weaknesses of the contemporary research on the labour market return to volunteering, section three describes the hypotheses and the contextual

²¹ C. Romero, *The Economics of Volunteering: A Review*, in: *America's Aging, Productive Roles in an Older Society*, Comitee on an Aging Society, Institute of Medicine and National Research Council, 1986, pp. 23-50.

²² M. Erlinghagen, *Arbeitslosigkeit und ehrenamtliche Tätigkeit im Zeitverlauf. Eine Längsschnittanalyse der westdeutschen Stichprobe des Sozio-oekonomischen Panels (SOEP) für die Jahre 1992 und 1996*, *Kölner Zeitung für Soziologie und Sozialpsychologie*, Vol. 52, No. 2/2000, pp. 291-310; The author, however, did not find any evidence of unemployed people being more likely to volunteer.

²³ K. Day, R. Devlin, *The Payoff to Work without Pay: Volunteer Work as an Investment in Human Capital*, *Canadian Journal of Economics*, No. 5/1998, pp. 1179-1191

²⁴ F. Hackl, M.Halla, G. Pruckner, *Volunteering and Income...*

²⁵ L. Prouteau, F. Wolff, *Does Voluntary Work Pay off in the Labor Market?*, Industrial Relations Working Paper Series, 2006.

factors of the study, section four describes the estimation techniques, presents the results and concludes.

1. Volunteering and wages – weak points of the existing research

The research on the labour market return to volunteering is not much developed and needs a critical analysis. The common weakness of the contemporary research is the expectation that the relationship between volunteering and the wage rate should be positive. It must be highlighted that within the abovementioned theoretical frameworks (i.e. human capital, social capital and screening/signaling theories), this relationship might be negative too. People could devote more time to studying rather than to volunteering in order to accumulate more human capital. Similarly, social networks may induce additional constraints imposed by social pressure affecting the rational cost-benefit calculations. Thus, it can be hypothesised that one would accept the recommended job even if it was not the best offer in terms of payment. Also signaling theory does not provide clear expectations about the impact of volunteering on the earnings. The possibility of the wage penalty resulting from volunteering is rarely taken into account. The exception is the study of Prouteau and Wolff²⁶ who demonstrated 5,5 - percent return to volunteering in the public sector but 1,7 - percent wage penalty in the private sector.

Secondly, in the existing research, the uniform impact of volunteering on the wage rate is anticipated regardless of the individual human capital endowment. Various empirical surveys indicate that volunteers usually perform simple jobs which contribute little to the accumulation of human capital - volunteering leads mainly to the acquisition of general human capital, e.g. communication skills, self-discipline, organization of work. These skills are also available through other ways of human capital investment such as schooling.

Thirdly, the demand-side factors of the volunteering decision are rarely taken into account. According to the oft-quoted article by Freeman²⁷: “for the most part, volunteers are people with higher potential

²⁶ Ibidem, p. 28.

²⁷ R. Freeman, *Working For Nothing: The Supply of Volunteer Labor...*, p. 6.

earnings or greater demands on their time; the employed, married persons, those with larger families, persons in the 35-54 peak earnings ages; the more highly educated; professionals and managers. Most strikingly, volunteers have higher wages and family incomes”. Freeman demonstrated that better educated, richer individuals are simply more frequently asked to volunteer or donate. Many studies, e.g. Day and Devlin²⁸, Hackl et al.²⁹ do not solve this problem, hence the question about the causality between volunteering and the wage rate remains open. In the former study the authors assume that³⁰: “if there exists a positive correlation between earnings and volunteer work solely because higher income individuals are more likely to volunteer then the type of volunteer organization should not matter”. This is not necessarily true. For example, there is an evidence that people in rich regions are also less faithful. In fact, the only negative relationship between charitable activity and wage rate found by the authors occurred among persons volunteering in religious groups. In the latter study the authors create simultaneous equation models to eliminate the simultaneity problem. In their model one of the identifying variables (i.e. those correlated with volunteering decision but uncorrelated with unobserved factors influencing the wage rate) was whether the respondent was engaged in a club during childhood. It might be expected that this variable is correlated with the wage rate through household-level variables, e.g. family status or parents’ education. Hence, 18,7 – percent wage premium to volunteering demonstrated by the authors is likely to be overestimated.

Finally, the implicit assumption about the invariant individual motivations in the life span seems doubtful. The graph of the intensity of voluntary activity over the life cycle is an inverse “U” - shaped with the maximum value between the age of 35-45. According to some authors³¹, this evidence clearly shows that volunteering cannot be treated as an investment good. The peak of charitable activities falls within the period when volunteering is expensive due to high opportunity costs (high income, hence high value of free time) and short returns-to-investment period. However, we can still expect that investment motivations may exist in the early stages of life when the returns-to-investment period is long and opportunity costs are relatively low.

²⁸ K. Day, R. Devlin, *The Payoff to Work without Pay...*

²⁹ F. Hackl, M.Halla, G. Pruckner, *Volunteering and Income...*

³⁰ K. Day, R. Devlin, *The Payoff to Work without Pay...*p. 1188.

³¹ e.g. M. Mueller, *Economic Determinants of Volunteer Work by Women...*

Hypotheses and contextual factors of the scrutiny

Taking into account the remarks presented in the previous section, we modify the assumptions and hypotheses concerning the labour market return to volunteering in our study. We assume that the investment motivations will be most likely among volunteers at the beginning of the professional career. From this reason we constrain our sample to the labour market entrants only (i.e. the respondents who reported to having been employed for the first time in the year of survey). We hypothesise that volunteering will give the labour market return (wage premium) only to the individuals with low educational level. We expect that for better educated persons volunteering will be redundant as the human capital investment.

In Germany, a large proportion of secondary school leavers continue learning in the elaborate system of vocational education below college/university level. Education at this level usually follows two trajectories, either in full-time vocational schools (up to 4 years) or in the so-called 'dual system' where attendance in part-time vocational schools is combined with firm-based apprenticeship training. Despite the declining enrolment experienced within recent years, the latter remains the most popular career path in Germany. Currently 50 to 60 percent of young people in Germany have passed apprenticeship by the age of 24. In the 'dual system' the trainee is tied to the firm for up to three years. Within this period, an apprentice receives a large portion of general and specific training³². The classic Beckers' human capital theory³³ implies that firms are especially interested to keep the workers who have obtained specific training. Besides this, a long period of firm-based training gives the em-

³² There is a discussion if the on-the-job training received during the apprenticeship period is general or firm-specific. Although it is emphasised that the state regulated training agenda, the firms are supposed to follow, guarantees the general character of the training, many authors claim that it is often inevitable that an apprentice also learns firm specific skills e.g. through the use of the unique equipment and machinery, cf. W. Smits, T. Zwick, *Why do business service firms employ fewer apprentices?*, International Journal of Manpower, Vol. 25, No.1/2004, pp.36-54.

³³ cf. G. Becker, *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, The University of Chicago Press, Chicago IL, 1964.

ployer a good opportunity to screen for the best workers and detect their otherwise unobserved characteristics. The human capital and screening/signaling theories indicate that employers will be highly interested to employ former trainees. If we take into account the imperfections of the labour market (e.g. imperfect competition in the labour market, information asymmetry) and some institutional characteristics of the German labour market (e.g. firms cannot reward considerably more the workers hired from other firms) it is not a surprise that on average around 90 percent of apprentices in Germany are subsequently offered the job in the same company³⁴. These findings suggest that as early as at the secondary educational level, the “dual system” marginalizes the labour market importance of the “informal” training obtained through volunteering. However, volunteering experiences may turn out to be useful much earlier – in the phase of applying for apprenticeship positions. This leads to the hypothesis that volunteering experiences will increase the apprenticeship wage of trainees. This relationship will be consistent with the screening/signaling theories but not with the human capital theories. The apprenticeship wage is an effect of collective bargaining and the wage rate is rather stable within particular branches or sectors, varying with the year of apprenticeship training. The difference between the wages at the vocational level can result from the selection process preceding the apprenticeship period. The company is not obliged to take the apprentice and training candidates are responsible for applying directly to the employer. We can expect that in the branches or sectors that provide better labour market perspectives and offer higher wages, the demand for training places will exceed their supply³⁵. The applicants to the most popular places will be brought under the selection procedure. In these circumstances (at the stage when curriculum vitae is usually blank) volunteering experiences can play an important role.

³⁴ cf. P. Ryan, *The School-to-Work Transition: A Cross-National Perspective*, Journal of Economic Literature, Vol. 39, 2001, pp. 34-92.

³⁵ e.g. Zwick, *Apprenticeship Training in Germany – Investment or Productivity Driven?*, ZEW Discussion Paper No. 07-023/2007, reports that business service firms are less likely to employ apprentices. The main reason is inflexible training agenda which hardly follows the changing requirements of the firms operating in this dynamic sector. The business service firms rely in greater extent on the more generally skilled university graduates.

The estimation strategy and results

Since the yearly samples of labour market entrants are relatively small we merged all the groups from all the waves of GSOEP for which information about volunteering was also available. Our dependent variable has become the natural logarithm of the hourly wage rate³⁶. Because we have special interest in the impact of volunteering with regard to human capital endowment, we interact volunteering and skills variables³⁷. In order to take into account the distinct types of labour market entry, we introduce interaction terms between volunteering and employment status variables. In addition, we control for age, gender, public/private sector of work, unemployment spell before employment, size of the company and professional experience (the difference between the month of survey and first month of employment)³⁸. These variables are not reported in the tables. Because of the regime differences as well as the different perception of voluntary work between East and West Germany, we decided to focus on the western states only. Having chosen the model specification, we subsequently follow the same group of individuals and rerun the regressions 2 and 4 years later respectively.

The cross tabulations show that the characteristic of our sample is consistent with the tendency present in the German labour market³⁹. The majority of the labour market entrants are the apprentices (57%) and only one quarter of job beginners are full-time employed. The average age of the trainee is almost 19 years which reflects the fact that in Germany,

³⁶ Calculated as a last month wage deflated by the consumer price index specific for the particular year divided by the weekly working hours and divided by 4.33. The wages earned in marks were divided by the official mark/euro exchange rate.

³⁷ In the GSOEP dataset volunteering variable is usually reported in four ranges. We transform it into a dummy variable where „1” corresponds to „once a week” or „once a month” answers and „0” otherwise. The skill-variable is constructed as follows: „3” indicates any university degree, „2” any secondary level degree with any form of vocational training, „1” maximum secondary education and lack of vocational training.

³⁸ In order to control for the macro trends we initially included national unemployment rate specific for a particular year of survey. Since this variable was never statistically significant we finally decided to exclude it from the specification.

³⁹ cf. H. Steedman, *The Economics of Youth Training in Germany*, The Economic Journal, No. 103/1993, pp.1279-1291.

contrary to the tendency in other countries, the apprenticeship path is not the domain of low achievers – many young people start their apprenticeship after completing the upper secondary level (Hochschulreife). Almost 14 % of the respondents admitted to having volunteered. The share of volunteers is relatively stable across the skills and employment status groups.

Table 1. Wage determinants: the impact of volunteering for different employment status groups at the time of labour market entry

VARIABLES	COEFF.	P-VALUE ⁴⁰	COEFF.	P-VALUE
Low-skilled	(ref.)	(ref.)	(ref.)	(ref.)
medium-skilled	0.177	0.000	0.187	0.000
high-skilled	0.419	0.000	0.426	0.000
volunteering	-0.166	0.129	-0.122	0.123
vol*med-skilled	0.093	0.531		
vol*high-skilled	0.066	0.686		
full-time	(ref.)	(ref.)	(ref.)	(ref.)
part-time	-0.008	0.912	-0.006	0.935
vocational training	-0.647	0.000	-0.643	0.000
vol*part-time	0.264	0.174	0.249	0.190
vol*voc training	0.192	0.103	0.152	0.105
number of obs.		1148		1148
adj. R-squared		0.5175		0.5168

Source: *German Socio-Economic Panel*, 1986-2005.

Table 1 shows the estimates of two OLS wage regression specifications for the labour market entrants' sample. Since the interaction terms between skills and volunteering variables turned out to be insignificant, we have decided to exclude them from the model. Thus, we reject the hypothesis that labour market return to volunteering varies with the educational level. As we can see on the right hand side of the table, the omission of these terms does not influence the other coefficients much. The strongly negative coefficient of the vocational training variable is consistent with the empirical evidence that apprenticeship wages are, on average, 1/3 of the wage of a skilled worker. The impact of volunteering

⁴⁰ P-value in statistical hypotheses testing is the probability of having the test statistic value at least as extreme as the observed one on the condition that the null hypothesis is true.

which changes direction depending on employment status is worth attention although the interaction coefficients are not statistically significant⁴¹. It is plausible to conclude that the negative relationship between volunteering and the wage rate reflects the effect of the latter on the former (among full-time workers, the opportunity cost of volunteering is relatively high due to the higher wage rate and their shortage of free time). However, the risk of simultaneity is reduced by the choice of sample (i.e. persons who have just started to earn their wages). Since the wage information is recent, it is less likely that wages would have a substantial effect on (past and current) volunteering decisions of the job-beginners.

Table 2: Wage determinants: the impact of volunteering at the time of labour market entry and after 4 years

VARIABLES	COEFF.	P-VALUE	COEFF.	P-VALUE
low-skilled	(ref.)	(ref.)	(ref.)	(ref.)
medium-skilled	0.242	0.000	0.113	0.006
high-skilled	0.439	0.000	0.282	0.000
volunteering	-0.055	0.599	0.119	0.034
full-time	(ref.)	(ref.)	(ref.)	(ref.)
part-time	-0.210	0.128	-0.068	0.381
vocational training	-0.675	0.000	-0.811	0.000
vol*part-time	0.622	0.065	0.110	0.582
vol*voc training	0.217	0.096	-0.139	0.701
number of obs.		420	436	
adj. R-squared		0.6049	0.4968	

Source: German Socio-Economic Panel, 1986-2005.

Table 2 shows the estimates for the same model and same sample for two points in time: just after entry into the labour market and four years later. In order to reduce the risk of simultaneity in the second model (after 4 years), we use the lagged volunteering variable (from the labour market entry period). We were forced to limit our sample (not all surveyed job beginners were questioned 4 years later; more than 200 became unemployed or inactive). As a result, the size of the sample used in the second regression is approximately 40 percent of the initial one. Despite these changes in the sample, the coefficients for job beginners are following the same patterns: negative impact of volunteering on the

⁴¹ Almost significant at 10 percent level.

wages of full-time workers and positive impact (significant at the 10% level) on the apprenticeship wages. It is striking that this relationship is reversed after four years - there is a strong positive wage premium of (lagged) volunteering among full-time workers and there is no significant effect of (lagged) volunteering among vocational trainees. How can we explain this relationship?

We expect that this is a further consequence of the selection process at the apprenticeship level. The majority of full-time employed were the apprentices in our first regression (in our sample the initial group of trainees almost ‘vanishes’ after 4 years by joining the full-time workers’ group⁴²). The ex-trainees who had their apprenticeships in ‘better’ sectors continue their careers there. Unfortunately, we cannot exclude the impact of individual unobserved heterogeneity. It is possible that the more gifted persons are both more prone to voluntary activity and earn more, *ceteris paribus*. If it were to be true, however, the effect of volunteering should not change with respect to work experience and employment status.

Conclusions

Our research did not directly confirm our hypothesis that volunteering will have the positive impact on the wage rate among people poorly endowed with human capital. The wage premium from volunteering was not present within any skill-group. Yet, we found the wage premium from volunteering among the apprentices. Interestingly this effect was constant over time and still present after the transition into the full-time employment. We claim that volunteering experiences can be helpful whilst applying for apprenticeship position. In the German context where the vast majority of trainees are subsequently offered a job in the same company, better apprenticeship position can result in the employment of higher quality. This would explain why the wage premium from volunteering persists over time. Our results need caution, however. The positive relationship can be the effect of unobserved individual heterogeneity. Yet, the fact that the positive effect of volunteering is observable only in the specific group encourages further research.

⁴² We run similar pair of regressions for two years interval as well. Although all the coefficients of interest followed the same pattern, none of them were statistically significant. It can stem from the fact that the group of apprentices had split – some of trainees started regular work whereas a relatively large group was still on training.

It must be emphasised, however, that the country-specific features can play an important role in our analysis. In Germany, for example, the widespread firm-placed vocational education may depreciate the role of volunteering as a signal. On the other hand, relatively high employment protection in Germany rises the costs of recruiting an inapt worker, hence should increase the importance of potential signaling devices including voluntary work experiences. There are other contextual factors which may influence the results of our analysis such as: wage-setting mechanisms, the size of the non-profit and public sector, the relationship between these two sectors etc. Without the exact recognition and identification of these factors the results should not be generalised.

Description of the data

In the analysis we exploit the data from the German Socio-Economic Panel (GSOEP). This dataset includes information at the individual- and household-level on education and training, labour market participation, leisure time activities, income and wealth, health, household organization and equipment, opinion-related questions etc. The dataset has a panel structure - the same entities are repeatedly interviewed over the subsequent survey waves what enables not only cross-sectional but also dynamic analyses. The German Socio-Economic Panel begun in 1984 with a sample of 6,000 households living in the western states of the Federal Republic of Germany. In 1990 the survey of households in the eastern states were initiated and merged with the western sample to provide a representative sample of a reunited Germany. There were several “refreshments” of the sample; in 1998 around 1,000 randomly selected households were added, and approximately 6,000 in 2000. So far, 23 waves have been collected covering the period between 1984 and 2006.

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