OTTO-VON-GUERICKE-UNIVERSITY MAGDEBURG
FACULTY OF ECONOMICS AND MANAGEMENT

Explaining the Employability Gap of Short-term and Long-term Unemployed Persons

Stephan L. Thomsen

FEMM Working Paper No. 18, July 2008

F E M M

Faculty of Economics and Management Magdeburg

Working Paper Series

Otto-von-Guericke-University Magdeburg
Faculty of Economics and Management
P.O. Box 4120
39016 Magdeburg, Germany
http://www.ww.uni-magdeburg.de/

Explaining the Employability Gap of Short-term and Long-term Unemployed Persons*

Stephan L. Thomsen

Otto-von-Guericke-University, Magdeburg & ZEW, Mannheim

July 11, 2008

Abstract

This paper analyzes the determinants of employability differences between short-term and long-term unemployed persons. Knowing these differences could help to address active labor market policy programs more adequately to the needs of the job-seekers in order to increase integration rates into employment. Based on merged survey and register data differences in job finding chances of these groups are decomposed into a part due to differences in attributes and a part due to differences in valuing the attributes. The estimates clarify that current active labor market programs do not address important factors of employment. Particularly, health of the job seekers, limitations in the working ability and obstacles to employment comprising drug abuse, financial debts or care obligations for children or frail elderly play a significant role for successful placement. The conclusion is that policy makers should integrate these issues in the placement process.

Keywords: unemployment, employability, self-reported job chances, active labor market policy, decomposition, Germany

JEL Classification: J64, J68, C50

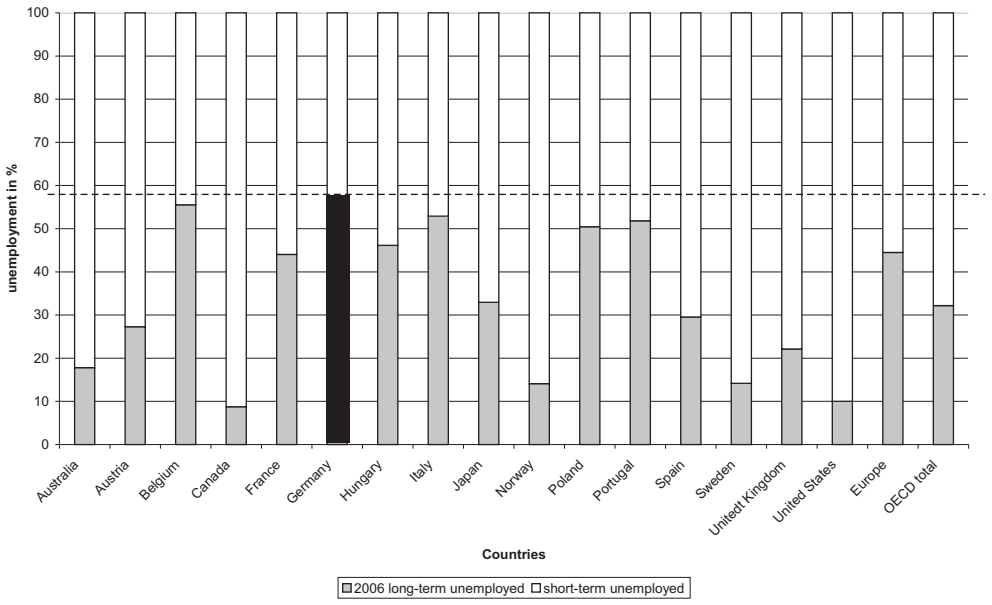
*I thank Gerd Heyer from German Ministry of Employment for supporting this work and Alisher Aldashev and Thomas Walter for helpful comments. The paper is part of the project *Social Code II - preparatory study on constructing an empirical measure of employability* ("SGB II - Vorstudie Beschäftigungsfähigkeit") of the Institute for Employment Research (IAB), Nuremberg, the Institute for Social Research and Politics of Society (ISG), Cologne, the Centre for European Economic Research (ZEW), Mannheim, the Institute for Labour and Qualification (IAQ), Gelsenkirchen, and the Chair of Labor Economics, University of Magdeburg, on behalf of the German Ministry of Employment.

Stephan L. Thomsen is Assistant Professor of Labor Economics at Otto-von-Guericke-University Magdeburg and Research Professor at Centre for European Economic Research (ZEW) Mannheim. Address: PO Box 4120, D-39016 Magdeburg, e-mail: stephan.thomsen@ovgu.de, phone: +49 391 6718431, fax: +49 391 6711218. Financial support from Stifterverband für die Deutsche Wissenschaft (Claussen-Simon-Stiftung) is gratefully acknowledged. The usual disclaimer applies.

1 Introduction

Reducing the risk of long-term unemployment is one central purpose of labor market policy. Although particularly European countries provide a number of different active labor market policy programs to reduce the risk of and the amount of long-term unemployment, these countries suffer from high long-term unemployment rates. Figure 1 provides shares of long-term unemployment on total unemployment for a selection of OECD countries. It becomes obvious that Germany, Belgium, Italy, Poland and Portugal experience long-term unemployed shares of all unemployed of more than 50 percent (according to the definition of the ILO). In contrast, the situation in countries like Australia, Canada or the US is less severe; here, the shares are between 10 to 20 percent.

Figure 1: Shares of long-term unemployment on total unemployment in selected OECD countries (2006)



Source: data from OECD website

The active labor market programs provided cover activities aiming at increasing the job search behavior, the human capital skills, or the work behavior of the unemployed for instance. However, the overviews by Martin and Grubb (2001) and Kluve (2006) clarify that many programs are not very successful reaching the intended goals. The ineffectiveness could be due to a number of reasons. For example, if people participate in a program they could be expected to reduce their job-search intensity during the program which counteracts the intended effects (locking-in effects, see e.g. van Ours, 2004). Moreover, participation in programs could be interpreted as a negative signal by potential employers, i.e. a lower productivity of the job-seeker, particularly for persons in subsidized jobs in a non-competitive market, see e.g. Thomsen (2007). Another source could be an inefficient match of job-seekers to available programs. The main reasons for this are the behavior of the caseworkers or the general set-up of the placement process. For example, Berger, Black, and Smith (2001) and Lechner and Smith (2007) show how the allocation of job-seekers into programs could be improved based on comparing estimated impacts of several programs. A

limitation of those attempts is that they could be accomplished ex post only taking the set of available programs as given. Although these three reasons have been proved to be relevant for the disappointing success of active labor market programs, the major reason may be that the available programs do not (or do not fully) meet the needs of the unemployed. On the one hand, specific needs may be unobservable to (or unrecognized by) the caseworker in charge, on the other hand, the set of available programs and activities may be incomplete or inflexible to address the needs correctly. For example, various studies have shown that health affects labor supply (Bartel and Taubman, 1979; Contoyannis and Rice, 2001) or, more detailed, that there are effects of drug abuse (Gill and Michaels 1992) or smoking behavior (Levine, Gustafson, and Velenchik, 1997; Cutler and Glaeser, 2005) but particularly the latter factors are typically neither regarded in labor market programs nor in evaluation studies.

Analyzing the factors driving employment chances, therefore, is a reasonable first step to shed light on the needs of job seekers. Moreover, the effects of the single factors may change over time, i.e. some factors that are of minor importance for the probability of leaving unemployment during the first weeks may be of larger relevance later in the unemployment spell. Therefore, regarding this time effects is required to derive correct policy recommendations for a more adequate design of labor market policy in a second step. Knowing about whether low employment probabilities are due to qualification, discrimination or other characteristics is crucial for designing labor market policy. For example, subsidized jobs (whether in a competitive or non-competitive market) are at least partly based on the belief that labor market disadvantages of long-term unemployed are due to employer discrimination (*low productivity signal*) and that those jobs provide the necessary skills to become permanently employed without any subsidies. Job search assistance programs (counseling on increased search efforts and job search programs coinciding with benefit sanctioning) assume job-seekers do not efficiently look for jobs but already possess the necessary human capital skills demanded by the market. Training programs, in contrast, are designed in order to increase human capital skills and qualification of unemployed and particularly long-term unemployed persons necessary for employment.

In this paper, differences in the employability between short-term and long-term unemployed persons are studied in order to reveal the crucial factors of job-finding chances regarding unemployment duration in a comparative static way. The empirical analysis is based on unique survey data of almost 4,000 short-term and long-term unemployed persons merged with administrative data for Germany. These data include usually unavailable information of job-seekers covering, e.g., soft skills, concessions the job-seeker is willing to make for a new job, health and the time able to work a day, importance of peers, self-assessed job finding chances and a set of obstacles for employment integration like financial debts, care obligations for children or frail elderly or drug abuse including alcohol. Self-assessed job-finding chances are regarded explicitly in the analysis to avoid bias due to anticipation effects. The employment gap of short-term and long-term unemployed is decomposed into explained and unexplained differences using the group of short-term unemployed as a reference group representing high employability. Whereas the technique of decomposition has a long tradition to analyze between-group differences dating back to the works of Oaxaca (1973) and Blinder (1973),

this is the first application (to my knowledge) to analyze employability differences with the focus on recommendations for the design of active labor market policy programs. Moreover, in order to study the employability gap between short-term and long-term unemployed persons one has to take account of the discrete nature of the outcome of interest, i.e. employment. This is considered by applying the extension of the Oaxaca-Blinder decomposition by Fairlie (2005).

The results highlight three significant findings: First, differences in skills measured by elementary skills, formal education and soft skills could explain a small part of the employment gap between short-term and long-term unemployed persons only. Hence, providing courses that aim at increasing skills of the individuals (at least in Germany) may reduce the employment gap, but the scope is limited. Moreover, this may explain why training programs in Europe and particularly in Germany are not more successful in employment integration of participants. Second, differences in obstacles to employment measured in terms of drug abuse, financial debts or care obligations are crucial. If long-term unemployed persons would be equal in characteristics to the short-term unemployed, the employment gap between both groups would be clearly more narrow. Third, differences in the state of health and in particular limitations in working ability account largely for the employment gap. For this reason, policy makers should spend more attention on the last two findings in the placement process. Moreover, the set of active labor market programs should be revised addressing these aspects in order to increase employability of the participants.

The paper is organized as follows: Section 2 provides the econometric methodology applied to the data to decompose the employability gap. A description of the data including descriptive statistics of the sample and an estimation of the determinants for reporting good job chances is presented in section 3. The empirical results are given in section 4. The final section concludes.

2 Methodology

To estimate the underlying causes for different employment chances of short- and long-term unemployed, it is reasonable to identify differences due to characteristics of the two groups (*endowments*) and differences due to different effects of the endowments (*coefficients*) separately. When outcomes of interest could be estimated by linear regression (e.g. wages), a common approach is the decomposition of the effects in the average value of a dependent variable Y as suggested by Oaxaca (1973) and Blinder (1973) that could be expressed by

$$\bar{Y}^s - \bar{Y}^l = \left[(\bar{X}^s - \bar{X}^l)\hat{\beta}^s\right] + \left[\bar{X}^l(\hat{\beta}^s - \hat{\beta}^l)\right], \tag{1}$$

where $\bar{Y}^s(\bar{Y}^l)$ is the average outcome for the short-term (long-term) unemployed. Let $\bar{X}^j$ be a row vector of the average values of the independent variables and $\hat{\beta}^j$ the vector of coefficient estimates for group j with $j \in \{s, l\}$ (with s denoting short-term unemployed and l denoting long-term unemployed persons in the case at hand). The first term on the right-hand side captures differences in the outcome due to characteristics, the second term are differences in coefficients capturing the 'price' of the characteristics. This term also includes the contribution of the difference in outcomes due to unobserved or unmeasurable endowments.

However, if the outcome of interest is binary, e.g. employment, and estimation of the outcome equations within each of the groups is based on a non-linear technique, e.g. probit or logit model, decomposing differences in means is not feasible. For that case, Fairlie (2005) suggests a decomposition technique that extends the Oaxaca-Blinder-technique to the discrete case[1]:

$$\bar{Y}^s - \bar{Y}^l = \left[\sum_{i=1}^{N^s} \frac{F(X_i^s \hat{\beta}^s)}{N^s} - \sum_{i=1}^{N^l} \frac{F(X_i^l \hat{\beta}^s)}{N^l}\right] + \left[\sum_{i=1}^{N^l} \frac{F(X_i^l \hat{\beta}^s)}{N^l} - \sum_{i=1}^{N^l} \frac{F(X_i^l \hat{\beta}^l)}{N^l}\right], \tag{2}$$

with N^j denoting the sample size of group j. With $\bar{Y}^j$ as the average employment probability of group j and $F(\cdot)$ as the cumulative distribution function from the logistic distribution, eq. 2 holds exactly for a logit model including a constant term (Fairlie, 2005). In this specification, the coefficient estimates for the employment probability of the short-term unemployed ($\hat{\beta}^s$) are used as weights for the differences due to characteristics. The short-term unemployed distributions of the independent variables ($\bar{X}^s$) are the weights for the differences in coefficients. Alternatively, the employment probability gap between short- and long-term unemployed persons could be decomposed by

$$\bar{Y}^s - \bar{Y}^l = \left[\sum_{i=1}^{N^s} \frac{F(X_i^s \hat{\beta}^l)}{N^s} - \sum_{i=1}^{N^l} \frac{F(X_i^l \hat{\beta}^l)}{N^l}\right] + \left[\sum_{i=1}^{N^s} \frac{F(X_i^s \hat{\beta}^s)}{N^l} - \sum_{i=1}^{N^s} \frac{F(X_i^s \hat{\beta}^l)}{N^s}\right]. \tag{3}$$

Here, the estimated coefficients and distribution of the independent variables of the long-term unemployed are used as weights for the two decomposition terms. Estimating the decomposition according to eq. 2 can lead to different parameter estimates than estimation by eq. 3. Unfortunately, as shown by Oaxaca and Ransom (1994), the actual nondiscriminatory structure should not necessarily lie between the short-term and the long-term structure of the estimates. Hence, Oaxaca and Ransom (1994) suggest to weight the first term of the decomposition using coefficient estimates from a pooled model of all short-term and long-term unemployed persons. This weight allows to estimate the employment probability of the individuals that would exist in the absence of unmeasurable differences.

Besides the total contribution of all independent variables to the gap in employment probabilities as given by eq. 2 and eq. 3, contributions of single independent variables or groups of variables are of interest for policy purposes. Following Fairlie (2005), the contribution of a single variable X_1 (with $\hat{\beta}^*$ denoting the coefficient from a logit model on the pooled sample) is given by

$$\frac{1}{N^l} \sum_{i=1}^{N^l} F(\hat{\alpha}^* + X_{1i}^s \hat{\beta}_1^* + X_{2i}^s \hat{\beta}_2^*) - F(\hat{\alpha}^* + X_{1i}^l \hat{\beta}_1^* + X_{2i}^s \hat{\beta}_2^*) \tag{4}$$

if $N_s = N_l$ and a natural one-to-one matching of short-term and long-term unemployed observations is assumed. Each variable contributes to the gap in terms of the change in the average predicted probability from replacing the distribution of the long-term unemployed with that of the short-term unemployed of that variable holding the other variables constant. It should be noted that the independent contributions of the variables depend on the values of the other variables. Hence, estimates

[1] Besides Fairlie (2005), there are a number extensions of the technique of decomposition proposed in the literature. An early example is given by Gomulka and Stern (1990). More recently Yun (2004; 2005) suggests a generalization of the Oaxaca (1973)-Blinder (1973)-decomposition for any functional form of the outcome equation.

of the employment gap may be sensitive to the choice of the variables. In sum, contributions from individual variables have to be equal to the total contribution from all variables.

Table 1: Estimation Procedure

Step	Description
1.	Calculate predicted $\hat{Y}_i$ for each observation in long-term unemployment and short-term unemployment sample
2.	Draw random sub-sample of short-term unemployed equal in size to long-term unemployed sample
3.	Rank observations according to predicted probability $\hat{Y}_i$ in both samples
4.	Match individuals on predicted probabilities
5.	Calculate the decompositions estimates
6.	Repeat steps 1 to 6 for numerous times (e.g. 1000) randomizing the order of variables in step 1
7.	Calculate the mean value of the estimates from the separate decompositions in step 5

However, if sample sizes of the two groups in comparison differ the one-to-one matching of observations has to be replicated. To do so, a random sub-sample of the larger group in comparison should be drawn equal in size to the smaller group. Then, the individual calculated predicted probabilities from the pooled model are ranked separately and observations are matched by ranks. Decomposition estimates are obtained based on the matched sample. These estimates clearly depend on the random sub-sample. To get an estimate for the hypothetical decomposition I repeat the procedure 1,000 times and use the mean value of the estimates as the results for the entire larger sample. Table 1 summarizes the steps of the estimation procedure. Finally, because of the non-linearity of the decomposition the ordering of the variables could affect the results. For this reason, in addition to randomizing the sort order of the individuals the order of the explanatory variables is randomized in the estimation as well.

3 Data

The empirical analysis is based on merged register and survey data of short- and long-term unemployed persons in Germany. Information was collected in computer-assisted telephone interviews in September and October 2006. Data were completed by information merged from register data providing the employment states in February 2007. The original sample contained 4,000 equally shared short- and long-term unemployed persons in August 2006. To consider urban and rural regions in East and West Germany a geographical stratification was imposed. Only people aged 18 to 57 are regarded. People aged 58 could choose a so-called relaxed benefit entitlement. Within this scheme they are no more required to actively search for employment, but could remain on welfare benefits until retirement age. A further precondition on the sample is work ability. All persons, independently if short-term or long-term unemployed were registered as work able and available to the labor market at the employment offices. For this reason, every person in the sample could be expected to get employed.

The survey's purpose was the measuring of individual's employability as an intermediate outcome of employment. For this reason, the data provide a rich and comprehensive characterization of the unemployed person's labor market and social situation. Besides this, from register data information on age, region, level of education and employment state is added. All in all, the data provide nine categories of variables, covering labor market state and employment history, skills, obstacles to employment, health conditions, labor market orientation, job search efforts and concessions to new job, social stability, experiences with activation by employment agency and socio-demographic information (see Appendix A for a more detailed description).

A further asset of the data is the assessment of the job finding chances by the individuals. Persons may have quite realistic expectations about their situation and their job finding chances on average, i.e. even in the group of long-term unemployed there may be a sub-group with good job finding prospects that actually anticipates the situation. Ignoring anticipation may lead to biased estimates as observed employment rates are due to a different distribution of persons reporting good and bad chances in the groups of short-term and long-term unemployed (see, e.g., van den Berg, 2001). For this reason, I will analyze the employability gap taking account of the self-assessed job chances throughout this paper. Before presenting the estimation results, two questions should be considered. First, by which characteristics do short-term and long-term unemployed persons differ? And, second, who are the persons reporting good job chances or – in short – what determines good chances?

To answer the first question, Table 2 compares means of selected variables of short-term and long-term unemployed persons distinguishing persons with good and bad job chances (more detailed descriptives are given in Table A.1 in the Appendix). In addition, p-values of t-tests on equality are added to allow for a meaningful discussion of differences. The first thing to note is that unemployed persons reporting good chances are the minority independently of unemployment duration but the share of short-term unemployed reporting good chances is larger than that of long-term unemployed. Employment integration about six months after the interview differs significantly between short-term and long-term unemployed persons, where long-term unemployed are worse off. Surprisingly, although in the group of short-term unemployed persons reporting good chances experience a higher employment rate as well, for long-term unemployed this is not observed. In this group, persons reporting bad chances tend to have higher actual employment chances.

Regarding the other characteristics in the table shows that persons reporting good job chances are more homogeneous a group than persons reporting bad chances. In the group reporting good chances, long-term unemployed have lower elementary skills in reading. Furthermore, employment integration may be hampered due to a higher level of drug abuse and financial debts. In addition, the share of long-term unemployed in good health is slightly smaller and the share of persons with limited working ability (3 to 6 hours) is higher compared to the short-term unemployed. Finally, long-term unemployed are willing to make larger concessions to get a job in terms of a longer commuting time (workplace far away), acceptance of a job below their formal qualification or acceptance of a lower wage than in the last job (about 20% less).

In contrast, comparing short-term and long-term unemployed persons reporting bad job chances reveals differences in means in almost all of the selected characteristics. Long-term unemployed

Table 2: Means of Selected Variables

	Good Job Chances			Bad Job Chances		
	Short-term Unemployed	Long-term Unemployed	p-value[a]	Short-term Unemployed	Long-term Unemployed	p-value[a]
employment[b]	0.330	0.090	0.000	0.252	0.096	0.000
Soft skills						
capacity for teamwork	0.975	0.967	0.640	0.975	0.940	0.000
learning aptitude	0.977	0.967	0.532	0.947	0.934	0.102
working accuracy	0.989	0.967	0.096	0.978	0.949	0.000
Elementary skills						
reading (poor)	0.000	0.016	0.007	0.009	0.013	0.250
reading (satisfactory)	0.103	0.156	0.102	0.135	0.160	0.048
reading (good)	0.897	0.828	0.035	0.856	0.827	0.024
calculating (poor)	0.005	0.008	0.626	0.015	0.029	0.007
calculating (satisfactory)	0.280	0.361	0.086	0.325	0.395	0.000
calculating (good)	0.715	0.631	0.074	0.660	0.576	0.000
Personality						
responsibility	0.984	0.975	0.524	0.969	0.940	0.000
socially integrated	0.822	0.795	0.493	0.785	0.691	0.000
Obstacles to employment						
drug abuse	0.016	0.049	0.031	0.030	0.081	0.000
financial debts	0.009	0.082	0.000	0.029	0.073	0.000
care obligations	0.100	0.131	0.329	0.120	0.152	0.009
Health						
health (poor)	0.052	0.098	0.063	0.101	0.200	0.000
health (satisfactory)	0.162	0.205	0.263	0.212	0.260	0.001
health (good)	0.786	0.697	0.040	0.687	0.540	0.000
Working ability						
less than 3 hours	0.007	0.000	0.361	0.012	0.043	0.000
3 to 6 hours	0.023	0.123	0.000	0.063	0.116	0.000
6 to 8 hours	0.087	0.107	0.498	0.136	0.198	0.000
8 and more hours	0.884	0.770	0.001	0.790	0.643	0.000
Concessions for a new job						
workplace far away	0.492	0.615	0.016	0.469	0.537	0.000
job below (formal) qualification	0.765	0.877	0.007	0.798	0.853	0.000
change of occupation	0.428	0.508	0.116	0.302	0.346	0.007
significantly lower wage than last job	0.267	0.385	0.011	0.238	0.416	0.000
No. of observations	439	122		1,459	1,821	

[a] p-value from t-test on equality of means of variable for short-term and long-term unemployed.
[b] Employment six months after interview.

possess lower soft-skills, i.e. capacity for teamwork or working accuracy, and the level of elementary skills is lower, too. In addition, long-term unemployed persons do less frequently take responsibility for actions and their social integration indicating the size of the peer group is smaller as well. The remaining characteristics show less favorable characteristics of the long-term unemployed. However, the question to be answered is in how much these differences account for different employment chances. This will be analyzed in the next section.

Having discussed the differences between short-term and long-term unemployed persons taking account of the self-reported job chances, we will now turn to answering the question what determines good chances. For that reason, Table 3 provides the results of three probit models on the probability of good chances. Marginal effects are reported for the estimation of the full sample and the subsamples of short-term and long-term unemployed as well. Starting with the full sample, the results show a clear negative effect of unemployment duration on self-assessed job chances, reducing the probability by .135. This result reflects well-known negative effects of unemployment duration.

Table 3: Probit Estimates on Self-assessed Labor Market Chances[a]

	Full Sample	Short-term Unemployed	Long-term Unemployed
	marg. eff.	marg. eff.	marg. eff.
Soft skills			
capacity for teamwork	0.0003	-0.0519	0.0168
learning aptitude	0.0374	0.0636	0.0108
Elementary skills (references: poor skills)			
reading (satisfactory)	0.0103	0.9441***	-0.0375
reading (good)	0.0192	0.4294***	-0.0549
calculating (satisfactory)	0.0962	0.0964	0.0820
calculating (good)	0.0928*	0.0997	0.0709
internet (satisfactory)	-0.0176	-0.0460*	0.0037
internet (good)	0.0093	0.0192	-0.0002
Education (reference: low-skilled)			
medium-skilled	0.0027	0.0099	-0.0059
high-skilled	-0.0076	-0.0283	0.0105
Personality			
responsibility	0.0518*	0.0637	0.0313
socially integrated	0.0136	0.0129	0.0105
Labor market chances and job search			
applied for job	0.0487***	0.0592***	0.0353***
within last 4 weeks	0.0259	0.0840	-0.0140
work experience	0.0215*	0.0166	0.0189*
social network	-0.0138	-0.0308	0.0010
No. of job search channels (reference: zero or one)			
two	-0.0429	-0.1017	-0.0005
three or more	-0.1067**	-0.2577***	-0.0024
Obstacles to employment			
drug abuse	-0.0059	-0.0330	0.0094
financial debts	-0.0106	-0.1261**	0.0275
care obligations	-0.0147	-0.0238	-0.0058
Health (reference: poor)			
health (satisfactory)	0.0334	0.0837*	0.0254
health (good)	0.0458**	0.0821**	0.0364**
Working ability (reference: 8 hours or more)			
less than 3 hours	-0.0625	0.0051	–[b]
3 to 6 hours	0.0056	-0.0863**	0.0430**
6 to 8 hours	-0.0289*	-0.0361	-0.0194
Concessions for a new job			
work place far away	0.0058	0.0066	0.0074
job below (formal) qualification	-0.0082	-0.0227	0.0072
change of occupation	0.0386***	0.0519**	0.0237**
significantly lower wage than last job	0.0013	0.0168	-0.0098
Socio-demographics (reference age group: 18 to 24 years)			
woman	-0.0180*	-0.0288	-0.0085
no. of persons in household	0.0091**	0.0380*	0.0021
no. of persons in household (squared)	-0.0001	-0.0030	-0.0000
25 to 34 years	0.0223	0.0553*	-0.0060
35 to 44 years	-0.0090	0.0017	-0.0188
45 to 57 years	-0.0751***	-0.1175***	-0.0423**
Regions (reference: West Germany, urban)			
West Germany, rural	-0.0140	-0.0224	-0.0109
East Germany, urban	-0.0237*	-0.0231	-0.0254*
East Germany, rural	-0.0321**	-0.0689***	-0.0069
long-term unemployed	-0.1345***	–	–
pseudo R^2	0.1392	0.0952	0.0785
No. of observations	3,836	1,898	1,860

[a] See text for details. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[b] 78 long-term unemployed persons with work ability of less than 3 hours had to be dropped as this group reported bad job chances only.

People become discouraged or even desperate the longer they are unemployed (see, e.g. Clark and Oswald, 1994). Moreover, the reduced employment probability with longer unemployment duration is also noticed by the individuals (see, e.g. Meyer, 1990). An interesting result from the estimation is that self-assessed job chances are not (or only loosely) related to skills. Neither soft skills nor formal education reveal significant effects. However, a small positive effect (significant at 10%) is found in the elementary skills for people with good calculating skills. Although this independence between job chances and skills has no direct implication for the value of the characteristics for employment probability, it indicates that people differ in the labor market behavior independently of skill level. Therefore, self-reported job chances could reflect normally unobserved aspects such as motivation, activity and self-esteem of the job-seekers. Significant coefficients of further characteristics support this argumentation. People who are willing to take responsibility for actions, report a good work experiences, have a good health, are flexible to change occupation and have applied for jobs are more likely to report good chances. In contrast, persons who use a larger number of job search channels (and have not been successful at the time of the interview), who are not able to work a whole day (6 to 8 hours), are old (45 to 57 years) or live in East Germany have a lower probability of good job finding chances. In addition, woman are slightly more pessimistic about their job chances, too.

Some differences could be obtained from the estimations of the subgroups of short-term and long-term unemployed persons. Although again, skills show no effect for the probability of reporting good chances for the long-term unemployed, there are positive effects in the group of short-term unemployed persons with respect to elementary skills in terms of reading and a small negative effect for those who report sufficient compared to poor internet knowledge. Most of the other estimates are comparable, but frequently more pronounced than in the full sample. A bit surprising is the effect of work ability for long-term unemployed persons; here, persons able to work 3 to 6 hours a day assess themselves better job finding chances than persons able to work a full day. A last difference worth to mention refers to the regional dummy variables: a strong negative effect on the probability of good job chances compared to living in an urban region in West Germany is found for short-term unemployed if the live in rural East Germany. In contrast, this effect could not be approved for long-term unemployed, but those long-term unemployed are less likely to assess good job finding chances if they live in urban East Germany.

4 Estimation Results

According to the differences between groups revealed above estimation of the determinants of the employability gap is carried out in five separate decompositions. The first decomposition addresses the central question of the paper, namely the employment gap between short-term and long-term unemployed persons. However, particularly in the group of short-term unemployed but also in the group of long-term unemployed people are heterogeneous with respect to employment chances. In the group of the short-term unemployed, there may be a number of persons who will leave unemployment quickly, but there are persons with a large risk of becoming long-term unemployed,

too. Even in the group of the long-term unemployed, persons' employment chances differ. To distinguish groups with good and bad job finding chances I use the self-reported information of the individuals. The next two decompositions are based on this information, where the employment gap only for the subgroup of persons reporting good chances (decomposition two) and of those reporting bad prospects (three) are analyzed. Finally, the assumption of whether self-reported job finding chances are apt to capture unobservable information about motivation, work habits and self-esteem of the individual as well as a self-assessed measure of marketability and therefore defines distinct groups of job seekers should be empirically tested. To do so, I decompose the employability gap between persons with good and bad chances in the group of short-term unemployed (decomposition four) and in the group of long-term unemployed (decomposition five).

4.1 Employment Probability

Let us start the discussion by taking a look on the results of the binary logit models of employment. Table 4 provides the results of the pooled coefficients for the five comparisons analyzed. As models 4 and 5 are intended to measure differences with respect to the self-assessed job finding chances, it is useful to consider the first three models separately.

The results show a mixed picture for the relevance of skills for the employment chances. Whereas soft and elementary skills have no significant effects except for learning aptitude in the bad job findings' sample, higher education implies a positive effect on employability in the full sample and for persons assessing bad job chances. However, for persons reporting good job finding chances there is no effect of any skill variable at all. Unfortunately, the variables capturing the concessions the unemployed person is willing to make for a new job do not show any effect at all. In the variables describing labor market chances, job search and the number of job search channels, applications for jobs have a positive effect in the full as well as in the subsamples. Further effects are in line with expectations. For example, persons with characteristics that could be interpreted as obstacles to employment, e.g. drug abuse (including alcohol) and care obligations for children or frail elderly, have a lower employment probability in the full sample and if they report bad job chances. Despite, financial debts that would lead to foreclosure of earnings from employment do not imply a significant effect. In addition, a limited working ability a day reduces the employment chances as well which may be due to a lower productivity of these persons. Given that these kinds of health aspects are only marginally regarded within active labor market programs, spending more effort on designing and providing activities that improve job seekers' working ability and reduce drug abuse or providing support with care obligations could be concluded from the results. An interesting result is found for the number of persons in the household. There is a positive, but diminishing effect of a larger number of persons which may, on the one hand, denote a larger responsibility of the person to earn a living, and, on the other hand, reflect a more stable social network on average with positive effects on self-esteem and job search behavior. For persons with good job finding chances these characteristics are not relevant.

Regional differences in the employment chances could not be established. Although signs of the

Table 4: Logit Estimates on Employment for Different Samples

	Full Sample	Good Job Chances	Bad Job Chances	Short-term Unemployed	Long-term Unemployed
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Soft skills					
capacity for teamwork	0.0695	0.2213	0.0240	0.0224	0.2577
learning aptitude	0.4027	-0.8019	0.5873**	0.7262**	-0.1257
Elementary skills (references: poor skills)					
reading (satisfactory)	0.2968	–	0.3212	1.5399	-0.6421
reading (good)	0.2508	–	0.2566	1.5234	-0.7679
calculating (satisfactory)	-0.1411	-1.1333	-0.0391	-0.9296*	1.5412
calculating (good)	0.2159	-0.5836	0.2631	-0.5540	1.8293*
internet (satisfactory)	0.0544	-0.1593	0.0981	-0.0148	0.1934
internet (good)	-0.0352	0.1999	-0.0945	-0.0226	-0.1635
Education (reference: low-skilled)					
medium-skilled	0.2935***	-0.1126	0.4030***	0.1280	0.6872***
high-skilled	0.4334***	0.2950	0.4798***	0.2974	0.7283***
Personality					
responsibility	0.0892	-0.1712	0.1451	0.1914	-0.0292
socially integrated	0.0121	0.0231	0.0141	0.1506	-0.2705
Labor market chances and job search					
applied for job	0.4630***	0.4831*	0.4815***	0.4867***	0.4282**
within last 4 weeks	0.0065	0.0086	-0.0988	-1.1112	1.1502*
work experience	0.0082	-0.2887	0.0455	0.0221	-0.0475
social network	0.0677	-0.1345	0.0933	0.0420	0.1510
No. of job search channels (reference: zero or one)					
two	0.3749	1.4234	0.1071	1.4107*	-0.6750
three or more	0.1930	0.0628	0.3131	1.1667	-0.6341
Obstacles to employment					
drug abuse	-1.0023**	-0.3648	-1.1358**	-0.7796	-1.2946*
financial debts	-0.4180	-0.4393	-0.3783	-0.3877	-0.4901
care obligations	-0.5405***	-0.5580	-0.5630***	-0.5739***	-0.4609
Health (reference: poor)					
health (satisfactory)	0.2647	0.1098	0.3028	0.1554	0.4864
health (good)	0.3218*	0.8573	0.2326	0.3275	0.2619
Working ability (reference: 8 hours or more)					
less than 3 hours	-0.7446	–	-0.7051	-0.3008	-1.5824
3 to 6 hours	-0.9395***	-1.6592	-0.9059***	-0.8437**	-1.0154**
6 to 8 hours	-0.5467***	-0.1191	-0.6106***	-0.5968***	-0.5210**
Concessions for a new job					
work place far away	0.0258	-0.0709	0.0428	0.0835	-0.0910
job below qualification	-0.0628	-0.0619	-0.0620	-0.1167	0.1088
change of occupation	-0.1418	-0.1013	-0.1354	-0.2868**	0.1897
significantly lower wage	-0.0238	-0.0238	-0.0590	0.0379	-0.1494
Socio-demographics (reference age group: 18 to 24 years)					
woman	-0.1538	-0.1804	-0.1638	-0.0891	-0.2864
no. of persons in hh	0.1976*	-0.0535	0.3368**	0.1706	0.1876
no. of persons in hh (squared)	-0.0297*	0.0034	-0.0517**	-0.0245	-0.0361
25 to 34 years	-0.0394	-0.3385	0.0272	0.0779	-0.3957
35 to 44 years	-0.0576	-0.1767	-0.0548	0.0698	-0.4838
45 to 57 years	-0.3150*	-0.3453	-0.3217*	-0.1308	-0.8687***
Regions (reference: West Germany, urban)					
West Germany, rural	0.0340	-0.1497	0.0632	0.0911	-0.0615
East Germany, urban	-0.1020	-0.1706	-0.0886	-0.0983	-0.0824
East Germany, rural	-0.0023	0.3753	-0.0813	0.1514	-0.2945
Group[a]	-0.9724***	-1.5608***	-0.9093***	-0.2155*	0.3946
Good job chances	0.1228		–	–	–
Constant	-2.7494***	0.3068	-3.2361***	-3.4283***	-4.0817***
pseudo R^2	0.1126	0.1256	0.1117	0.0616	0.1003
no. of obs.	3,836	558	3,275	1,898	1,938

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[a] Group is a dummy taking value 1 if person in long-term unemployed in columns 1 to 3. In columns 4 and 5 group denotes persons with bad job finding chances.

estimates for the East German regions are negative in reference to West German urban regions that is due to lower labor market dynamics, a smaller labor demand and a higher unemployment rate, none of the estimates is significant. Hence, regional effects of aggregate labor demand and supply are of minor importance for individual employment. Finally, a clear negative effect is found for the variable group capturing the two groups whose employability gap will be decomposed in the next step, i.e. in models 1 to 3 a dummy taking 1 if the person is long-term unemployed, in models 4 and 5 a dummy taking 1 if persons report bad job chances. As expected, to a substantial amount employment probability depends on the duration of unemployment. In that sense, the variable group in models 1 to 3 measures the residual time effect in the comparative static comparison.

Finally, in models 4 and 5 estimating employment probability for short-term and long-term unemployed persons the determinants are comparable to that of the first three models. The only parameter of interest is the group parameter distinguishing persons with good and bad job chances (group=1). For short-term unemployed, a negative effect from self-reported bad job chances on actual employment six months later could be established. Thus, job-finding chances could ceteris paribus explain some of the employment difference. For long-term unemployed persons, however, no such effect is found.

4.2 Explaining the Gap in Job Finding Chances

The discussion up to this point has revealed a number of interesting facts that affect the employability of the unemployed. Two are of particular importance: First, employment rates of short-term and long-term unemployed persons differ. Second, employment rates differ with respect to the self-reported job findings for short-term unemployed persons, too. Clearly, the why of these differences has to be analyzed. For this reason, Table 5 provides the results of the decomposition of the employment gap for five groups. The first column presents the estimates for the full sample, i.e. the decomposition of the employment gap between short-term and long-term unemployed. Self-reported job finding chances are considered as a regressor. These results are the reference for the estimates in columns two and three, where the employment gap between short-term and long-term unemployed persons is decomposed separately for the group of persons reporting good job chances and bad job chances. Finally, as a prove of sensitivity, the last two columns provide separate decompositions of the employment gap between persons with good and bad job chances in the group of short-term and long-term unemployed persons. The upper panel of the table shows the employment rates for the distinct groups in comparison where group 1 refers to the short-term unemployed (models 1 to 3) or group with good job finding chances (4 and 5). In addition, the difference in job finding chances is given as well as the part that could be explained by differences in attributes between short-term and long-term unemployed persons.

A quarter (bad job finding chances) to a third (good job finding chances) of the short-term unemployed has found a job six months after the interview, whereas only about 9 percent of the long-term unemployed have been successful. Consequently, the gaps in employment chances amount to between about 16 to 24 percent. All in all, except for the model decomposing the employability gap of

Table 5: Non-linear Decomposition of the Employment Gap

	Full Sample	Good Job Chances	Bad Job Chances	Short-term Unemployed	Long-term Unemployed
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
	% expl.	% expl.	% expl.	% expl.	% expl.
Employment (group 1)	0.2698	0.3303	0.2515	0.3303	0.0902
Employment (group 2)	0.0955	0.0902	0.0958	0.2515	0.0958
Difference	0.1743	0.2401	0.1557	0.0788	-0.0057
Total explained	0.0611	0.0379	0.0522	0.0391	0.0221
	35.03%	15.80%	33.52%	49.60%	-391.04%
Contributions from differences in[a]					
Soft skills	0.0012	-0.0009	0.0009	0.0033**	0.0002
	0.67%	-0.36%	0.56%	4.18%	-3.08%
Elementary skills	0.0045*	0.0183**	0.0028	0.0031	-0.0003
	2.59%	7.64%	1.81%	3.93%	5.45%
Education	0.0034***	-0.0008	0.0034***	0.0014	0.0006
	1.98%	-0.34%	2.20%	1.84%	-11.14%
Personality	0.0006	-0.0002	0.0007	0.0015	-0.0018
	0.32%	-0.09%	0.47%	1.94%	32.29%
Job application	0.0050***	-0.0031	0.0042***	0.0089***	0.0049**
	2.87%	-1.27%	2.67%	11.29%	-86.53%
within last 4 weeks	0.0001	0.0000	-0.0011	0.0073	0.0025*
	0.04%	0.00%	-0.69%	9.25%	-43.86%
No. of job search channels	0.0021	0.0033	0.0039	-0.0091	-0.0015
	1.20%	1.37%	2.52%	-11.49%	26.74%
Work experience and	0.0013	-0.0032	0.0027	0.0000	0.0006
social network	0.77%	-1.31%	1.72%	0.05%	-10.23%
Drug abuse	0.0037***	0.0011	0.0035***	0.0014	0.0005
	2.14%	0.44%	2.24%	1.72%	-8.04%
Financial debts	0.0024*	0.0044	0.0018	0.0015	0.0000
	1.39%	1.85%	1.14%	1.88%	-0.18%
Care obligation	0.0032***	0.0044	0.0027***	0.0026**	0.0010
	1.82%	1.82%	1.76%	3.25%	-17.08%
Health	0.0045	0.0138**	0.0020	0.0042	0.0002
	2.57%	5.76%	1.29%	5.33%	-2.82%
Work ability					
less than 3 hours	0.0019	–	0.0018	0.0003	0.0010
	1.08%	–	1.17%	0.37%	-16.96%
3 to 6 hours	0.0066***	0.0135**	0.0053***	0.0043***	0.0002
	3.79%	5.61%	3.38%	5.48%	-2.75%
6 to 8 hours	0.0069***	0.0007	0.0066***	0.0064***	0.0030*
	3.93%	0.28%	4.24%	8.15%	-53.19%
Concessions for new job	0.0019	-0.0023	0.0030	-0.0053*	0.0014
	1.07%	-0.96%	1.91%	-6.78%	-24.76%
Woman	0.0007	-0.0004	0.0004	0.0013	0.0022
	0.39%	-0.17%	0.29%	1.65%	-38.91%
No. of persons in hh	0.0034	-0.0031	0.0052**	0.0000	-0.0007
	1.94%	-1.29%	3.36%	0.02%	11.90%
Age	0.0039**	0.0017	0.0020	0.0079	0.0087**
	2.25%	0.71%	1.31%	10.09%	-154.58%
Region	-0.0001	-0.0090	0.0003	-0.0019	-0.0004
	-0.06%	-3.74%	0.18%	-2.41%	6.87%
Good job chances	0.0040	–	–	–	–
	2.27%	–	–	–	–

[a] Contribution estimates are mean values of the decomposition using 1,000 subsamples of group 1 in each comparison. See text for details. Estimation was carried out with FAIRLIE module by Jann (2007).
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

persons with good job chances, more than a third of the difference (33.52 to 35.03 percent) could be explained by differences in endowments. The remaining differences are due to a different valuing of the attributes. One reason for this different valuing may be statistical discrimination by potential employers. However, as it is impossible to interpret these price effects of characteristics in a sensible manner, the discussion concentrates on the differences in endowments.

The lower panel provides contributions to the employability gap from the explanatory variables. Below the coefficient estimates the contributions in percent are given for ease of interpretation. To abbreviate presentation, the effects of characteristics of the same category are summarized. Obviously, one would expect long-term unemployed to possess a lower qualification and, hence, a lower productivity compared to short-term unemployed which could be a reason for the longer unemployment duration. Policy makers therefore spend a large amount of the annual budget for labor market policy on training courses intended to increase the human capital skills of the individuals. Empirical evaluations of the programs have shown that their value in regards to increased employment chances and sustainable employment is not without doubt at least for Germany (see, e.g., Hujer, Thomsen, and Zeiss, 2006, Lechner and Wunsch, 2008 for Germany, and Martin and Grubb, 2001 for an international summary). A reason for the unsatisfactory effects of the programs could be derived from the estimates here. Although short-term and long-term unemployed persons differ in *elementary skills* (reading, calculating and internet) and *(formal) education* (medium- and high-skilled), these differences could explain only a very small fraction of the difference in the gap of job finding rates. In the full sample, only about 1.98 percent of the gap are explained by differences in education and another 2.59 percent by differences in elementary skills. Moreover, educational differences play a role for the long-term unemployed reporting bad job chances, but not for those with good perspectives. In elementary skills, the picture is reversed with respect to the reported job finding chances. These results clarify that the focus of active labor market policy on reducing these deficits for long-term unemployed persons with training programs could increase the employment chances only slightly. This could, at least in part, explain why training programs in Germany are not more successful in integrating unemployed persons into the labor market. In addition, observed differences in *soft skills* (capacity of teamwork and learning aptitude) do not contribute to the employability gap either, i.e. actual job finding chances are not lower for long-term unemployed persons due the lower level of soft skills they possess.

Differences in job search activity of short-term and long-term unemployed explain further 2.87 percent (full sample) of the employability gap. If long-term unemployed persons would apply for jobs as often as the short-term unemployed do, the gap would be narrowed. This is also true for the subsample of persons with bad job finding chances. For the subsample of persons with good job finding chances, the result could not be affirmed; however, the descriptives have shown that long-term unemployed in this group report more frequently having applied for a job than the short-term unemployed. Except the insignificant result for the group with good job chances this finding indicates that urging unemployed persons to look more intensively for jobs could reduce the employability gap. In addition, the estimates in Table 4 attest a significant positive effect of job applications on employment. Hence, programs addressing this issue, e.g. job search monitoring or intensive counseling provides, could decrease the employability gap between both groups and, therefore, raise the employment chances of the long-term unemployed. As these programs are less expensive compared to traditional training courses, they could provide a cost-effective means to reduce unemployment. In line with that, a number of studies have validated positive effects of these programs, for example Blundell, Costa Dias, Meghir, and van Reenen (2004) for the UK, Crépon,

Dejemeppe, and Gurgand (2005) for France or Hujer, Thomsen, and Zeiss (2006a) for Germany.

Compared to differences in skills or job search, differences with respect to characteristics appointing *obstacles to employment* (drug abuse, financial debts, care obligations) account for a larger part of the employability gap. Summing up the single contributions of the variables in this category explains about 5.35 percent (5.14 percent) in the full sample (bad job findings). This means that if long-term unemployed had the same amount of obstacles to employment as the short-term unemployed this would reduce the employment gap of 17.43 percent by about 0.92 percentage points (full sample) or that of 15.57 percent by about 0.80 percentage points (bad job finding samples). Among the characteristics in this group, drug abuse (including alcohol) contributes largest to the gap, followed by care obligations for children or frail elderly and financial debts (that are significant only in the full sample). This is a very important finding as active labor market programs do rarely if at all take account of these issues. Moreover, register data and most survey data do not contain such information. The estimates provide empirical evidence that spending more attention on these aspects and providing activities that mitigate the level or circumvent that these problems constitute over the unemployment spell could reduce the employment gap between short-term and long-term unemployed significantly.

Furthermore, differences in health conditions comprising the ability to work a full day determine 11.37 percent (full sample), 8.80 percent (bad job findings) and 11.65 percent (good job findings) of the gap. That means that if long-term unemployed were equal in health and working ability to the short-term unemployed the employment gap of 17.34 would be 1.98 percentage points narrowed. Except in the group of persons reporting good job findings, health state plays a minor role but differences in work ability explain the majority of the gap with a clearly larger contribution than that of skills or education. Two implications could be derived from this finding. First, health conditions and working ability are crucial for job finding chances. Second, compared to the differences in elementary skills and education, health differences and particular differences in the working ability are more important and policy makers should focus on programs improving the physical (and mental) health of the unemployed in order to increase employment chances. In light with the dissatisfying outcomes of many active labor market programs aiming to improve human capital skills, a reorganization of the activities may be arranged at no increase of costs.

The number of *persons living in the household* (persons in household, persons in household squared) explains some of the gap only in the sample of persons reporting bad job chances. Moreover, an *age* (age groups) effect is established in the full sample. The other variables in analysis do not contribute to the employment gap. This shows that the differences between long-term and short-term unemployed persons in regards to *personality* (responsibility, social integration) or willingness to make *concessions for a new job* (work place far away, job below formal qualification, change of occupation, lower wage) do not affect the probability of getting a job. Improving those aspects, therefore, will imply hardly any effect.

Finally, models 4 and 5 have been estimated to provide a sensitivity check of the self-reported job chances capturing further unobserved influences. As persons compared in each of the models

have almost the same duration of unemployment, the problem of negative duration dependence should be solved. Unfortunately, actual employment rates in the group of long-term unemployed persons do not differ much and, hence, interpretation of the coefficients is difficult as differences in endowments overexplain the gap. In contrast, almost half of the employability gap of the short-term unemployed persons with good and bad job finding chances could be explained by differences in endowments. Besides differences in the number of applications for jobs written (11.29 percent), obstacles to employment, reduced work ability and and age seem to contribute much to the gap. In addition, short-term unemployed willing to make a lot of concessions for a new job are worse off. The results for obstacles to employment particularly due to care obligations and work ability limitations are plausible as they are linked to the productivity of the individual, a higher job search activity of those individuals approximated by applications for a new job would narrow the gap, too.

5 Conclusion

To lower the risk of long-term unemployment and to reduce the level of unemployment governments in many OECD countries offer various active labor market policy programs. However, evaluations of the effects of these programs have shown that the majority of the activities lead to at best small positive effects for the participating individuals. There are a number of possible reasons for this unsatisfying result. Programs could be regarded as negative signals of productivity, duration of programs could be too long and so-called locking-in effects overcompensate positive program effects, or placement of job-seekers to available programs could be inefficient. Indeed, as a further reason programs' effectiveness could suffer from inadequate design to meet the needs of the job-seekers.

The aim of this paper was to identify job-seekers' needs conditional on the job-finding chances. Knowing about the determinants of employability differences between short-term and long-term unemployed persons could help to (re-)arrange programs concentrating on factors of crucial relevance for labor market success. Having access to unique information including usually unobservable items like self-reported job chances, drug abuse, financial debts, care obligations, limitations of working ability of the job-seeker the employment gap has been decomposed into effects due to differences in endowments and effects due to a different valuing of these differences.

The results show that skill differences are an important source of the employment gap but the scope of increasing the employment chances of long-term unemployed by increasing human capital is limited. This is in line with the empirical findings on the effects of vocational training programs that show negative or at best small positive employment effects for the participating individuals, see e.g. Hujer, Thomsen, and Zeiss (2006b) or Lechner and Wunsch (2008).

Far more relevant for the differences in employment between short-term and long-term unemployed persons are differences in terms of obstacles to employment like drug abuse, financial debts or care obligations for children or frail elderly. Reducing the problem in the group of long-term unemployed persons or circumvention of the formation of these problems over the unemployment spell could reduce the difference in employment and, thus, increase the employment chances of the long-term

unemployed. A further important finding refers to state of health and differences in the working ability of the groups. Mitigating the differences in these characteristics between both groups could narrow the employment gap as well.

Up to now, however, these aspects are only marginally (if at all) regarded within the placement process in many countries. Revising the goal and purpose of active labor market programs with a more explicit consideration of these findings, therefore, could be expected to be of value for employment integration of unemployed persons and reducing the number of long-term unemployed people.

References

Bartel, A., and P. Taubman (1979): "Health and Labor Market Success: The Role of Various Diseases," *Review of Economics and Statistics*, 61(1), 1–8.

Berger, M. C., D. Black, and J. A. Smith (2001): "Evaluating Profiling as a Means of Allocating Government Services," in *Econometric Evaluation of Labour Market Policies*, ed. by M. Lechner, and F. Pfeiffer, vol. 13 of *ZEW Economic Studies*, pp. 59–84. Physica-Verlag, Heidelberg.

Blinder, A. S. (1973): "Wage Discrimination: Reduced Form and Structural Variables," *Journal of Human Resources*, 8, 436–455.

Blundell, R., M. Costa Dias, C. Meghir, and J. van Reenen (2004): "Evaluating the Employment Impact of a Mandatory Job Search Assistance Program," *Journal of the European Economic Association*, 2(4).

Clark, A. E., and A. J. Oswald (1994): "Unhappiness and Unemployment," *The Economic Journal*, 104(424), 648–659.

Contoyannis, P., and N. Rice (2001): "The impact of health on wages: Evidence from the British Household Panel Survey," *Empirical Economics*, 26(4), 599–622.

Crépon, B., M. Dejemeppe, and M. Gurgand (2005): "Counseling the unemployed: does it lower unemployment duration and recurrence?," Working Paper No. 2005-27, Paris-Jourdan Sciences Economiques.

Cutler, D. M., and E. Glaeser (2005): "What Explains Differences in Smoking, Drinking, and Other Health-Related Behaviors?," *American Economic Review (Papers and Proceedings)*, 95(2), 238–242.

Fairlie, R. W. (2005): "An extension of the Blinder-Oaxaca decomposition technique to logit and probit models," *Journal of Economic and Social Measurement*, 30, 305–316.

Gill, A. M., and R. J. Michaels (1992): "Does Drug Use Lower Wages?," *Industrial and Labor Relations Review*, 45(3), 419–434.

Gomulka, J., and N. Stern (1990): "The Employment of Married Women in the United Kingdom 1970-83," *Economica*, 57, 171–199.

Hujer, R., S. L. Thomsen, and C. Zeiss (2006a): "The Effects of Short-Term Training Measures on the Individual Unemployment Duration in West Germany," Discussion Paper No. 06-65, ZEW, Mannheim.

——— (2006b): "The Effects of Vocational Training Programmes on the Duration of Unemployment in Eastern Germany," *Allgemeines Statistisches Archiv*, 90(2), 299–322.

Jann, B. (2007): "FAIRLIE: Stata module to generate nonlinear decomposition of binary outcome differentials," Stata module. Statistical Software Components, Boston College Department of Economics.

Kluve, J. (2006): "The Effectiveness of European Active Labor Market Policy," Discussion Paper No. 2018, IZA, Bonn.

Lechner, M., and J. Smith (2007): "What is the Value Added by Caseworkers," *Labour Economics*, 14(2), 135–151.

Lechner, M., and C. Wunsch (2008): "What Did All the Money Do? On the General Ineffectiveness of Recent West German Labour Market Programmes," *Kyklos*, 61(1), 134–174.

Levine, P. B., T. A. Gustafson, and A. D. Velenchik (1997): "More Bad News for Smokers? The Effects of Cigarette Smoking on Wages," *Industrial and Labor Relations Review*, 50(3), 493–509.

Martin, P., and D. Grubb (2001): "What Works and for Whom: A Review of OECD Countries Experiences with Active Labour Market Policies," *Swedish Economic Policy Review*, 8, 9–56.

Meyer, B. (1990): "Unemployment Insurance and Unemployment Spells," *Econometrica*, 58, 757–782.

Oaxaca, R. (1973): "Male-Female Wage Differentials in Urban Labor Markets," *International Economic Review*, 14, 693–708.

Oaxaca, R., and M. Ransom (1994): "On discrimination and the decomposition of wage differentials," *Journal of Econometrics*, 61(1), 5–21.

Thomsen, S. L. (2007): *Evaluating the Employment Effects of Job Creation Schemes in Germany*, vol. 36 of *ZEW Economic Studies*. Physica-Verlag.

van den Berg, G. J. (2001): "Duration Models: Specification, Identification, and Multiple Durations," in *Handbook of Econometrics*, ed. by J. J. Heckman, and E. Leamer, vol. 5, chap. 55, pp. 3381–3462. North-Holland, Amsterdam.

van Ours, J. C. (2004): "The Locking-In Effect of Subsidized Jobs," *Journal of Comparative Economics*, 32(1), 37–52.

Yun, M. (2004): "Decomposing differences in the first moment," *Economics Letters*, 82, 275–280.

——— (2005): "Hypothesis test when decomposing differences in the first moment," *Journal of Economic and Social Measurement*, 30, 295–304.

A Appendix

This appendix provides additional information on the data used in the analysis as they are taken from a proprietary survey of the Federal Ministry of Employment merged with register information. The questionnaire of the survey contains 48 questions that could be categorized by content in the following categories.

(i) **Labor market state and employment history:** Questions of this category comprise, e.g., the duration of unemployment, labor market state before actual unemployment.

(ii) **Skills:** Self-assessed information on elementary skills, e.g., reading and writing ability, calculating, familiarity with the internet are measured in grades ranging from 1 (very good) to 6 (insufficient). For the analysis, these variables have been recoded to three grades (poor/sufficient/good). Moreover, education is considered in three classes (low/medium/high). Soft skills comprise willingness to learn, accuracy in working behavior and capacity for teamwork, besides others. Information on personality measures whether the individual is socially integrated or is willing to take responsibility for actions.

(iii) **Obstacles to employment:** Questions of this category address whether integration into employment is hampered due to care obligations for children or frail elderly, drug abuse (including alcohol), or financial debts.

(iv) **Health conditions:** Characteristics are surveyed in terms of the actual state of health, certain health limitations and the amount of hours the person is able to work per day.

(v) **Labor market orientation:** This category summarizes statements on work orientation and motivation. In one question, people should assess the chances of finding a suitable job with answers in four categories ranging from very likely to very unlikely. The answer scheme of this question is of particular importance for analyzing the employment gap between short-term and long-term unemployed persons as it conveys usually unavailable information of the individual. In the empirical analysis, I use this information to distinguish unemployed persons with good labor market prospects (person reports finding a job *likely* or *very likely*) and with bad labor market prospects (*unlikely* and *very unlikely*).

(vi) **Job search efforts and concessions to new job:** Variables of this category cover difficulties in job search, the number of job applications, contact to the employment agency during the last six months. Examples for the types of concessions asked in the questionnaire are whether the person is willing to accept a significantly lower wage than in the last job, to commute for up to 1.5 hours to the new working place and to accept a job below the individual's qualification.

(vii) **Social stability:** The situation of the individual within her social environment and her peer-group is described by items like job loss occurred due to social instability, the size of the peer-group (knowledge of other unemployed persons in a similar situation) or the usage of counseling and further activities of the employment agency.

(viii) **Experiences with activation by employment agency:** People are asked about their experiences with the caseworker and the job search process organized and administered by the agency. The main items in this category cover contents of counseling and benefit sanctions.

(ix) **Socio-demographic information:** In this category information on gender, age, and the number of persons living in the household is available.

Given the rich data on the labor market situation of the individuals I analyze the gap in job finding chances between short-term and long-term unemployed persons regarding a variety of usually non-observable factors. In order to parsimoniously specify the empirical model I select a subset of variables from each of the categories. The final set of variables has been chosen with the purpose to provide a good fit of the model for the employment probability in the full sample. To enable direct comparison of the estimates for the different groups, the same specification is used for the other comparisons, too. Descriptive statistics of the variables are given in Table A.1.

Table A.1: Means of Selected Variables

	Good Job Chances			Bad Job Chances		
	Short-term Unemployed	Long-term Unemployed	p-value[a]	Short-term Unemployed	Long-term Unemployed	p-value[a]
employment[b]	0.330	0.090	0.000	0.252	0.096	0.000
Soft skills						
capacity for teamwork	0.975	0.967	0.640	0.975	0.940	0.000
learning aptitude	0.977	0.967	0.532	0.947	0.934	0.102
working accuracy	0.989	0.967	0.096	0.978	0.949	0.000
Education						
low-skilled	0.487	0.557	0.173	0.524	0.576	0.003
medium-skilled	0.394	0.320	0.134	0.371	0.339	0.052
high-skilled	0.118	0.123	0.892	0.105	0.086	0.061
Elementary skills						
reading (poor)	0.000	0.016	0.007	0.009	0.013	0.250
reading (satisfactory)	0.103	0.156	0.102	0.135	0.160	0.048
reading (good)	0.897	0.828	0.035	0.856	0.827	0.024
writing (poor)	0.011	0.000	0.237	0.015	0.025	0.053
writing (satisfactory)	0.228	0.246	0.676	0.269	0.305	0.023
writing (good)	0.761	0.754	0.878	0.716	0.671	0.005
calculating (poor)	0.005	0.008	0.626	0.015	0.029	0.007
calculating (satisfactory)	0.280	0.361	0.086	0.325	0.395	0.000
calculating (good)	0.715	0.631	0.074	0.660	0.576	0.000
internet (poor)	0.098	0.156	0.072	0.155	0.235	0.000
internet (satisfactory)	0.200	0.246	0.277	0.280	0.272	0.644
internet (good)	0.702	0.598	0.031	0.565	0.493	0.000
Personality						
responsibility	0.984	0.975	0.524	0.969	0.940	0.000
socially integrated	0.822	0.795	0.493	0.785	0.691	0.000
Labor market chances and job search						
applied for job	0.765	0.803	0.377	0.668	0.619	0.004
within last 4 weeks	0.882	0.869	0.704	0.917	0.829	0.000
work experience	0.784	0.713	0.103	0.751	0.620	0.000
social network	0.599	0.574	0.615	0.611	0.496	0.000
No. of job search channels						
no channels	0.002	0.008	0.333	0.002	0.003	0.691
one	0.021	0.008	0.364	0.007	0.014	0.043
two	0.039	0.025	0.457	0.036	0.037	0.944
three or more	0.820	0.828	0.842	0.872	0.775	0.000
Obstacles to employment						
drug abuse	0.016	0.049	0.031	0.030	0.081	0.000
financial debts	0.009	0.082	0.000	0.029	0.073	0.000
care obligations	0.100	0.131	0.329	0.120	0.152	0.009
Health						
health (poor)	0.052	0.098	0.063	0.101	0.200	0.000
health (satisfactory)	0.162	0.205	0.263	0.212	0.260	0.001
health (good)	0.786	0.697	0.040	0.687	0.540	0.000
Working ability						
less than 3 hours	0.007	0.000	0.361	0.012	0.043	0.000
3 to 6 hours	0.023	0.123	0.000	0.063	0.116	0.000
6 to 8 hours	0.087	0.107	0.498	0.136	0.198	0.000
8 and more hours	0.884	0.770	0.001	0.790	0.643	0.000
Concessions for a new job						
workplace far away	0.492	0.615	0.016	0.469	0.537	0.000
job below (formal) qualification	0.765	0.877	0.007	0.798	0.853	0.000
change of occupation	0.428	0.508	0.116	0.302	0.346	0.007
significantly lower wage than last job	0.267	0.385	0.011	0.238	0.416	0.000
Socio-demographics						
woman	0.396	0.393	0.954	0.467	0.465	0.926
no. of persons in household	2.626	2.393	0.122	2.600	2.370	0.041
18 to 24 years	0.146	0.123	0.522	0.123	0.065	0.000
25 to 34 years	0.367	0.328	0.429	0.215	0.228	0.360
35 to 44 years	0.321	0.311	0.839	0.282	0.291	0.586
45 to 57 years	0.166	0.238	0.071	0.380	0.416	0.037
Regions						
West Germany, urban	0.301	0.287	0.769	0.266	0.238	0.070
West Germany, rural	0.246	0.246	0.998	0.238	0.245	0.638
East Germany, urban	0.271	0.197	0.096	0.257	0.253	0.801
East Germany, rural	0.182	0.270	0.032	0.239	0.264	0.110
No. of observations	439	122		1,459	1,821	

[a] p-value from t-test on equality of means of variable for short-term and long-term unemployed.
[b] Employment six months after interview.