

Sensitivity of matching-based program evaluations to the availability of control variables

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In case of acceptance, this material is to be placed on the our personal web pages as well as on the web page of the journal.

Appendix I.1: Technical details of the matching estimator used

Table I.1: A matching protocol for the estimation of a counterfactual outcome and the effects

Step 1	Specify a reference distribution defined by X .
Step 2	Pool the observations forming the reference distribution and the participants in the respective period. Code an indicator variable D , which is 1 if the observation belongs to the reference distribution. All indices, 0 or 1, used below relate to the actual or potential values of D .
Step 3	Specify and estimate a binary probit for $p(x) := P(D = 1 X = x)$
Step 4	Restrict sample to common support: Delete all observations with probabilities larger than the smallest maximum and smaller than the largest minimum of all subsamples defined by D .
Step 4	<p>Estimate the respective (counterfactual) expectations of the outcome variables.</p> <p>Standard propensity score matching step (multiple treatments)</p> <p>a-1) Choose one observation in the subsample defined by $D=1$ and delete it from that pool.</p> <p>b-1) Find an observation in the subsample defined by $D=0$ that is as close as possible to the one chosen in step a-1) in terms of $p(x), \tilde{x}$. (\tilde{x} denotes a subset of x) 'Closeness' is based on the Mahalanobis distance. Do not remove that observation, so that it can be used again.</p> <p>c-1) Repeat a-1) and b-1) until no observation with $D=1$ is left.</p> <p>Exploit thick support of X to increase efficiency (radius matching step)</p> <p>d-1) Compute the maximum distance (d) obtained for any comparison between a member of the reference distribution and matched comparison observations.</p> <p>a-2) Repeat a-1).</p> <p>b-2) Repeat b-1). If possible, find other observations in the subsample of $D=0$ that are at least as close as $R \cdot d$ to the one chosen in step a-2) (to gain efficiency). Do not remove these observations, so that they can be used again. Compute weights for all chosen comparisons observations that are proportional to their distance. Normalise the weights such that they add to one.</p> <p>c-2) Repeat a-2) and b-2) until no participant in $D=1$ is left.</p> <p>d-2) For any potential comparison observation, add the weights obtained in a-2) and b-2).</p> <p>Exploit double robustness properties to adjust small mismatches by regression</p> <p>e) Using the weights $w(x_i)$ obtained in d-2), run a weighted linear regression of the outcome variable on the variables used to define the distance (and an intercept).</p> <p>f-1) Predict the potential outcome $y^0(x_i)$ of every observation using the coefficients of this regression: $\hat{y}^0(x_i)$.</p> <p>f-2) Estimate the bias of the matching estimator for $E(Y^0 D = 1)$ as:</p> $\sum_{i=1}^N \left[\frac{1(D_i = 1)\hat{y}^0(x_i)}{N^1} - \frac{1(D_i = 0)w_i\hat{y}^0(x_i)}{N^0} \right]$ <p>g) Using the weights obtained by weighted matching in d-2), compute a weighted mean of the outcome variables in $D=0$. Subtract the bias from this estimate to get $\overline{E(Y^0 D = 1)}$.</p>
Step 5	Repeat Steps 2 to 4 with the nonparticipants playing the role of participants before. This gives the desired estimate of the counterfactual nonparticipation outcome.
Step 6	The difference of the potential outcomes is the desired estimate of the effect with respect to the reference distribution specified in Step 1.

The parameter used to define the radius for the distance-weighted radius matching (R) is set to 90%. This value refers to the distance of the worst match in a one-to-one matching. It is defined in terms of the propensity score. Different values for R are checked in the sensitivity analysis in Lechner, Miquel, and Wunsch (2011). The results were robust as long as R did not become 'too large'.

For the estimations based on the actual data, there is an issue on how to draw inference. Abadie and Imbens (2008) show that for matching estimators with a fixed number of comparison observations bootstrap-based inferences are not valid. However, the matching-type estimator implemented here is by construction smoother than the one studied by Abadie and Imbens (2008) because we have a variable number of comparisons and because we apply the bias adjustment procedure on top. Therefore, we use the bootstrap. It is implemented following MacKinnon (2006) by bootstrapping the p-values of the t-statistic directly based on symmetric rejection regions. Bootstrapping the p-values directly as compared to bootstrapping the distribution of the effects or the standard errors has advantages because the 't-statistics' on which the p-values are based may be asymptotically pivotal whereas the standard errors or the coefficient estimates are certainly not.

Appendix I.2: Descriptive statistics and estimated probit coefficients for the actual data

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data

Variable	Job search assistance								Training								
	Men				Women				Men				Women				
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	
Constant				-0.182				0.025					-0.920				-0.247
	Baseline characteristics																
Age in years	33.4	36.9	23.7	-0.006	34.3	37.8	23.5	0.010	35.2	36.7	10.4	-0.002	36.9	38.0	7.5	-0.005	
Age 20-24 years	0.24	0.18	11.5	-0.107	0.20	0.15	8.5	-0.077	0.17	0.19	2.4	0.066	0.11	0.15	8.3	-0.050	
Age 25-29 years (reference)	0.16	0.14	4.4		0.15	0.12	4.9		0.16	0.14	4.1		0.12	0.13	1.2		
Age 30-34 years (reference)	0.17	0.16	3.5		0.18	0.15	5.0		0.17	0.15	2.6		0.18	0.15	5.0		
Age 35-39 years (reference)	0.16	0.15	2.1		0.17	0.14	5.5		0.17	0.14	6.1		0.20	0.14	12.1		
Age 40-44 years (reference)	0.12	0.13	1.3		0.13	0.12	2.9		0.13	0.11	3.5		0.15	0.11	8.0		
Age 45-49 years (reference)	0.08	0.09	3.5		0.09	0.10	2.1		0.10	0.09	2.6		0.12	0.10	4.9		
Age >= 50 years	0.07	0.18	23.8	-0.244					0.10	0.18	16.2	-0.258					
Age 50-54 years					0.07	0.10	9.3	-0.239					0.08	0.10	6.4	-0.141	
Age >= 55 years					0.01	0.10	29.1	-0.726					0.03	0.11	22.7	-0.922	
No school degree	0.12	0.12	0.3	-0.023	0.07	0.08	3.5	-0.179	0.09	0.11	5.4	-0.050	0.03	0.08	14.4	-0.078	
Lower secondary school degree (reference)	0.55	0.61	8.5		0.46	0.47	1.3		0.52	0.61	13.4		0.42	0.48	8.9		
Upper secondary school degree	0.20	0.15	9.2	0.016	0.29	0.28	1.3	0.022	0.20	0.16	8.1	0.049	0.34	0.28	7.9	-0.058	
University entry school degree	0.12	0.11	1.5	-0.012	0.17	0.16	1.8	0.022	0.18	0.11	15.0	0.029	0.21	0.15	10.9	-0.030	
No vocational degree	0.37	0.34	3.8	-0.057	0.32	0.32	0.2	-0.065	0.27	0.33	10.1	0.039	0.22	0.33	17.2	0.022	
Completed apprenticeship degree (reference)	0.59	0.62	3.3		0.63	0.62	0.7		0.65	0.63	2.8		0.71	0.62	13.7		
University or college degree	0.03	0.04	2.2	<i>0.149</i>	0.05	0.05	1.3	-0.025	0.08	0.03	13.8	-0.016	0.06	0.05	5.3	0.018	
No German citizen	0.15	0.17	3.2	-0.062	0.09	0.11	5.6	-0.159	0.13	0.15	5.3	-0.099	0.07	0.12	12.1	-0.214	

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
At least one child	0.24	0.23	1.4	-0.013	0.38	0.33	8.6	0.075	0.23	0.23	0.1	0.097	0.41	0.32	13.0	0.056
At least one child < 3 years					0.04	0.03	1.6	-0.174					0.03	0.03	1.4	-0.112
At least one child 3-5 years					0.12	0.10	3.5	-0.017					0.15	0.11	9.3	0.013
Single	0.55	0.48	9.4	0.126	0.37	0.35	2.7	0.017	0.51	0.48	4.5	0.010	0.33	0.35	2.8	-0.087
Married	0.34	0.43	11.9	0.159	0.40	0.49	12.8	-0.074	0.40	0.43	3.9	-0.051	0.46	0.48	3.0	-0.150
Unmarried but cohabiting (reference)	0.04	0.04	2.1		0.05	0.03	7.5		0.03	0.04	3.3		0.04	0.03	2.0	
Lone parent (reference men)	0.01	0.01	2.5		0.11	0.07	9.1	0.036	0.01	0.01	1.0		0.11	0.08	7.0	-0.031
Timing of entry into unemployment and program																
Beginning of unemployment	36.5	32.2	17.7	-0.011	34.6	31.7	11.7	-0.024	30.1	31.7	7.0	0.000	28.3	31.5	12.9	-0.011
Beginning of unemployment Dec-Feb	0.22	0.31	14.3	-0.093	0.20	0.21	2.5	-0.117	0.24	0.32	11.5	-0.062	0.20	0.22	3.1	-0.110
Beginning of unemployment Mar-May (reference)	0.23	0.20	4.1		0.26	0.23	5.6		0.24	0.21	6.4		0.26	0.23	5.0	
Beginning of unemployment Jun-Aug	0.28	0.24	6.3	-0.020	0.31	0.29	2.1	-0.047	0.26	0.24	2.2	0.019	0.29	0.29	0.3	-0.058
Beginning of unemployment Sep-Nov	0.27	0.25	4.3	-0.011	0.23	0.26	5.5	-0.053	0.26	0.24	3.5	0.043	0.25	0.26	1.7	-0.051
Time to treatment in half-months	6.77	5.25	19.3	0.016	6.9	5.5	18.1	0.012	8.0	6.5	18.5	0.020	7.8	6.3	20.6	0.027
Time to treatment 1	0.22	0.28	10.0	0.069	0.19	0.22	4.2	-0.158	0.09	0.11	5.9	-0.062	0.08	0.14	12.3	0.041
Time to treatment 2	0.12	0.14	5.2	0.122	0.14	0.16	5.1	-0.049	0.12	0.12	0.9	-0.036	0.11	0.14	6.0	0.052
Time to treatment 3-6 (reference)	0.26	0.30	7.5		0.26	0.32	8.9		0.29	0.38	13.5		0.33	0.36	4.7	
Time to treatment 7-12	0.23	0.16	12.0	0.128	0.22	0.19	3.9	-0.012	0.29	0.25	6.1	0.193	0.26	0.23	5.8	0.052
Time to treatment > 12	0.18	0.12	13.1	0.165	0.19	0.11	16.7	-0.044	0.21	0.13	15.2	0.041	0.21	0.13	14.9	0.117
Last employment: non-firm characteristics																
Unskilled worker	0.41	0.37	5.2	0.029	0.23	0.21	2.9	-0.076	0.33	0.37	6.3	0.069	0.13	0.22	16.2	0.070
Clerk	0.18	0.16	3.6	0.306	0.35	0.35	0.3	0.039	0.31	0.16	26.5	0.099	0.50	0.35	21.3	-0.002
Part-time job					0.28	0.31	4.4	-0.038					0.28	0.31	4.7	-0.011
Occupation: Technical	0.18	0.16	2.5	0.088					0.21	0.16	9.0	-0.050				-0.148
Occupation: Construction	0.20	0.25	9.5	0.047					0.14	0.26	21.9	-0.001				-0.053
Occupation: Technical or construction					0.04	0.03	2.3	0.176					0.05	0.03	6.9	

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Occupation: Service higher skilled	0.23	0.23	0.9	0.029	0.52	0.52	0.1	0.242	0.31	0.22	13.3	-0.042	0.67	0.51	22.8	-0.120
Occupation: Service lower skilled (reference)	0.15	0.13	5.3		0.24	0.25	1.0		0.13	0.13	0.3		0.13	0.23	19.7	
Occupation: Other	0.23	0.22	1.6	0.077	0.19	0.19	0.1	0.000	0.21	0.22	1.0	-0.109	0.13	0.19	10.9	0.000
Last employment: firm characteristics																
Age of firm	316	338	6.1	0.000	345	356	3.2	0.000	321	338	5.0	0.000	332	356	6.7	0.000
Firm size	269	321	1.9	0.000	233	270	2.6	-0.292	232	320	3.8	0.000	271	269	0.1	-0.444
Closed firm	0.10	0.09	2.4	-0.369	0.08	0.08	1.4	0.044	0.10	0.09	1.8	-0.248	0.10	0.08	3.4	-0.093
Fraction minor employees	0.09	0.09	1.0	0.033	0.13	0.13	2.2	0.008	0.08	0.09	0.6	-0.013	0.13	0.13	3.2	0.048
Fraction part-time employees	0.15	0.15	1.7	-0.043	0.28	0.30	3.3	0.001	0.15	0.15	0.1	0.000	0.27	0.30	7.1	-0.008
Mean age of employees	33.8	34.9	5.9	-0.004	34.7	35.5	4.4	-0.012	34.4	34.9	3.2	-0.006	34.8	35.5	4.0	-0.007
Fraction of temporary workers	0.35	0.33	0.6	-0.008	0.27	0.32	2.0	0.000	0.30	0.34	1.8	-0.001	0.24	0.32	3.5	0.000
Mean tenure of employees	1234	1220	0.9	0.000	1289	1337	3.0	0.218	1317	1219	5.8	0.000	1345	1345	0.0	0.138
Fraction of non-German employees	0.27	0.25	5.1	0.195	0.24	0.23	2.2	-0.112	0.26	0.24	4.3	0.097	0.26	0.23	6.1	-0.122
Fraction of female employees	0.26	0.24	4.7	-0.025	0.57	0.59	3.8	0.040	0.27	0.24	7.5	0.075	0.54	0.59	11.9	0.031
Most frequent occupation: Technical	0.14	0.13	2.7	-0.159	0.05	0.05	1.6	0.078	0.16	0.13	5.6	-0.033	0.08	0.05	11.0	-0.024
Most frequent occupation: Construction	0.16	0.22	11.3	-0.133	0.02	0.02	0.7	-0.108	0.12	0.23	19.9	-0.048	0.04	0.02	5.0	0.045
Most frequent occupation: Service higher skilled	0.25	0.24	0.3	-0.124	0.45	0.44	1.4	-0.102	0.29	0.24	8.0	-0.055	0.48	0.44	5.9	0.042
Most frequent occupat.: Service lower skilled (reference)	0.12	0.10	4.2		0.19	0.20	2.2		0.11	0.10	2.1		0.14	0.20	11.9	
Most frequent occupation: Other	0.23	0.21	3.4	-0.111	0.20	0.20	0.7	0.007	0.22	0.20	2.0	0.019	0.15	0.20	8.2	0.109
Industry: Retail	0.16	0.12	8.6	-0.069	0.21	0.19	4.2	0.058	0.16	0.12	8.5	-0.007	0.23	0.19	7.0	0.051
Industry: Financial services	0.16	0.13	5.6	-0.034	0.17	0.16	3.0	-0.142	0.19	0.13	11.8	-0.101	0.20	0.16	8.9	0.022
Industry: Education and health					0.16	0.17	3.2	0.002					0.13	0.17	8.9	0.175
Industry: Missing	0.05	0.07	3.4	-0.078	0.06	0.06	0.1	-0.041	0.06	0.07	2.1	-0.373	0.05	0.06	2.1	0.075
Industry: Construction	0.18	0.24	11.4	-0.188					0.14	0.25	19.8	-0.148				
Industry: Other services (reference women)	0.11	0.12	2.0	-0.222	0.13	0.16	4.5		0.10	0.12	3.8	-0.162	0.11	0.16	6.0	
Industry: Other (men)	0.10	0.12	4.6	-0.161					0.10	0.12	5.4	-0.165				

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Industry: Manufacturing (reference men)	0.24	0.20	6.2		0.17	0.16	1.7	0.014	0.25	0.20	9.3		0.17	0.17	0.0	0.011
Industry: Other (women)					0.09	0.10	2.3	-0.013					0.11	0.10	3.0	-0.005
Short-term (2 years) labour market history																
Half-months employed in last 6 months	7.5	7.7	3.3	-0.030	8.2	8.0	2.2	-0.014	7.9	7.7	3.6	-0.029	8.5	8.0	7.3	-0.010
Half-months employed in last 24 months	30.4	30.2	1.1	-0.002	32.1	31.4	3.3	0.001	31.9	29.9	8.8	0.014	33.2	31.3	8.7	-0.002
Time since last employment if in last 24 months	4.9	4.6	1.8	-0.001	4.0	4.2	1.9	0.051	4.7	4.7	0.2	0.000	3.8	4.3	4.1	0.157
No employment in last 24 months	0.93	0.92	1.6	0.195	0.93	0.93	0.6	-0.002	0.94	0.92	5.2	-0.004	0.94	0.93	3.0	-0.051
Number of employers in last 24 months	1.78	1.69	4.9	-0.022	1.6	1.7	1.4	0.011	1.8	1.7	5.2	-0.039	1.6	1.7	3.3	0.031
Half-months unemployed in last 6 months	1.82	1.69	2.8	-0.014	1.3	1.4	3.2	-0.018	1.5	1.7	5.9	-0.009	1.1	1.5	9.6	-0.020
Half-months unemployed in last 24 months	10.1	10.3	1.0	0.001	6.8	7.9	6.9	0.004	8.7	10.5	10.6	0.005	5.8	8.1	14.4	-0.024
Unemployed 6 months before	0.26	0.25	1.5	-0.041	0.19	0.22	4.6	-0.033	0.22	0.26	5.5	-0.025	0.18	0.22	7.6	-0.054
Time since last unemployment if in last 24 months	8.90	9.92	6.0	0.005	7.3	7.3	0.0	0.371	9.0	10.1	6.7	0.000	6.2	7.4	7.8	0.228
No unemployment in last 24 months	0.41	0.36	7.2	0.217	0.56	0.50	7.6	-0.077	0.45	0.34	15.5	0.125	0.63	0.50	18.9	-0.053
Unemployed 24 months before	0.24	0.28	7.1	-0.107	0.17	0.20	5.5	0.008	0.21	0.29	12.7	-0.034	0.14	0.20	11.7	0.006
Number of unemployment spells in last 24 months	0.65	0.78	9.9	-0.026	0.43	0.58	13.5	0.055	0.61	0.80	14.8	-0.007	0.39	0.59	17.8	-0.095
Any program in last 24 months	0.19	0.13	11.9	-0.116	0.14	0.11	6.3	0.033	0.16	0.13	5.3	0.041	0.13	0.11	4.7	0.071
Half-months out of labour force in last 6 months	2.2	2.1	1.6	-0.024	1.9	1.9	0.4	0.005	2.0	2.1	1.7	-0.005	1.8	1.9	2.7	0.000
Half-months out of labour force in last 24 months	6.7	6.8	0.5	-0.003	8.3	7.9	2.3	-0.020	6.7	6.8	1.3	0.003	8.1	7.8	1.9	-0.014
Out of labour force 6 months before	0.15	0.16	0.2	0.008	0.16	0.15	0.7	-0.081	0.15	0.16	0.7	-0.059	0.14	0.15	2.0	0.049
Out of labour force 24 months before	0.15	0.15	1.0	0.001	0.23	0.21	3.6	0.023	0.15	0.15	0.9	-0.022	0.24	0.21	4.6	-0.035
Time since last out of labour force if in last 24 months	6.0	6.0	0.1	-0.002	7.0	6.8	0.8	-0.002	5.9	6.0	0.4	0.001	6.5	6.8	2.1	0.000
No out of labour force in last 24 months	0.48	0.49	1.8	-0.049	0.48	0.49	0.4	-0.084	0.51	0.49	4.1	0.021	0.54	0.48	7.5	-0.047
Number of out of labour force spells in last 24 months	0.80	0.78	1.4	-0.060	0.72	0.75	2.3	-0.054	0.68	0.79	8.4	0.023	0.63	0.76	10.9	-0.022

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Long-term (10 years) labour market history																
Half-months employed in last 10 years	125	137	12.7	-0.001	120	133	14.1	0.000	135	137	1.7	-0.001	137	133	3.3	0.000
Tenure with last employer	22.6	22.8	0.4	0.000	26.2	22.6	6.9	-0.001	22.8	22.4	1.0	-0.001	21.9	22.5	1.2	0.001
Average employment duration	49.6	51.4	2.4	0.001	52.9	56.8	5.2	0.000	57.6	50.5	9.5	0.000	61.6	56.8	5.9	0.000
Number of employers in last 10 years	4.9	4.5	7.7	<i>0.014</i>	4.0	4.0	2.2	-0.004	4.8	4.5	4.9	0.010	3.8	4.0	2.9	0.021
Total time with last employer in last 10 years	47.6	62.5	16.6	0.000	55.6	64.9	10.1	0.000	52.3	61.9	10.3	-0.001	63.4	65.7	2.4	<i>0.001</i>
Half-months unemployed in last 10 years	34.9	35.3	0.8	-0.001	24.6	26.1	2.7	-0.001	31.3	35.6	7.5	-0.001	21.2	26.4	10.3	0.002
Time since last unemployment if in last 10 years	28.9	24.7	7.1	<i>0.001</i>	33.4	27.4	8.4	0.000	30.4	24.3	10.0	<i>0.001</i>	32.6	27.1	7.6	0.000
No unemployment in last 10 years	0.22	0.22	0.6	0.079	0.33	0.33	0.1	-0.062	0.26	0.21	8.3	0.034	0.40	0.33	10.3	-0.095
Number of unemployment spells in last 10 years	1.67	2.13	14.5	<i>-0.026</i>	1.0	1.4	13.6	-0.022	1.5	2.2	19.3	-0.030	0.95	1.36	15.4	-0.056
Duration of last unemployment spell	18.3	17.2	2.3	0.000	16.3	14.9	3.2	0.000	16.9	17.5	1.4	0.000	13.3	15.0	4.3	0.001
Average unemployment duration	15.3	14.0	3.7	0.000	12.4	12.1	0.8	0.000	14.0	14.1	0.3	0.000	11.1	12.1	3.4	0.000
Any program in last 4 years	0.23	0.16	12.3	0.110	0.17	0.13	6.7	0.094	0.21	0.16	8.3	-0.083	0.17	0.14	6.6	0.003
Any program in last 10 years	0.29	0.21	13.0	0.081	0.23	0.19	6.4	0.045	0.28	0.22	9.9	-0.002	0.23	0.19	7.5	-0.104
Number of programs in last 10 years	0.44	0.29	13.9	0.046	0.32	0.25	7.6	0.061	0.38	0.30	8.8	0.150	0.32	0.25	6.7	0.142
Half-months out of labour force in last 4 years	16.6	15.5	4.1	-0.002	23.1	20.8	6.8	0.003	16.3	15.5	2.9	0.000	22.7	20.7	5.5	-0.001
Half-months out of labour force in last 10 years	77.4	65.3	13.0	0.001	94.0	78.9	15.8	0.001	71.0	65.5	5.9	0.000	80.6	78.3	2.4	0.002
Out of labour force 4 years before	0.28	0.24	6.2	0.055	0.39	0.33	9.2	0.001	0.27	0.24	4.5	0.024	0.34	0.33	1.5	0.107
Time since last out of labour force if in last 10 years	0.10	0.15	8.7	-0.062	0.09	0.12	7.4	0.110	0.14	0.14	0.7	-0.009	0.14	0.12	4.4	-0.012
No out of labour force in last 10 years	46.8	44.8	2.3	0.000	48.0	46.5	1.9	0.001	47.1	44.4	3.3	0.000	50.9	46.1	5.7	0.000
Number of out of labour force spells in last 10 years	2.77	2.58	5.9	-0.035	2.4	2.3	1.1	<i>-0.027</i>	2.4	2.6	6.5	-0.015	2.0	2.3	11.7	-0.014
Distance to hypothetical labour market entry	50.3	40.7	10.8	<i>-0.001</i>	58.4	46.7	12.1	0.000	43.5	41.0	2.9	0.000	44.6	46.2	1.8	0.000
Distance to hypothetical labour market entry non-Germans	11.4	10.4	1.8	0.000	8.2	7.6	1.3	0.001	9.2	9.5	0.6	0.000	5.8	7.8	4.5	0.001
Average out of labour force duration	36.5	31.8	7.3	-0.001	51.9	43.0	11.8	-0.001	35.9	31.8	6.3	-0.001	45.7	42.5	4.5	0.000

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Benefits and UI claim																
Amount of unemployment benefit	311	311	0.0	-0.010	223	214	5.6	0.000	3.2	3.1	2.0	0.000	2.2	2.1	3.9	0.000
Remaining UI claim	276	315	13.8	<i>0.000</i>	302	332	11.2	0.000	308	315	2.5	0.000	335	333	0.5	0.000
No UI claim	0.14	0.12	4.5	-0.257	0.08	0.08	0.8	-0.113	0.09	0.12	6.4	-0.091	0.06	0.08	5.5	0.034
UI claim 1-5 months	0.11	0.11	0.5	-0.180	0.09	0.12	6.2	-0.244	0.09	0.11	4.6	-0.170	0.08	0.12	10.5	-0.080
UI claim 6-8 months	0.15	0.16	1.0	-0.011	0.19	0.17	4.9	-0.198	0.18	0.16	4.6	-0.159	0.14	0.17	4.4	0.017
UI claim 9-11 months	0.13	0.13	1.4	<i>-0.080</i>	0.10	0.12	3.5	-0.175	0.12	0.14	3.1	-0.110	0.09	0.12	6.4	-0.084
UI claim 12 months (reference)	0.35	0.27	11.0		0.38	0.30	12.3		0.34	0.27	11.4		0.44	0.29	21.7	
UI claim > 12 months	0.13	0.20	15.1	0.041	0.15	0.22	12.8	-0.052	0.17	0.20	6.5	-0.036	0.19	0.22	5.6	0.002
Compliance with benefit conditions, employability and mobility																
Fully mobile within Germany	0.35	0.34	1.8	0.017	0.39	0.37	3.3	-0.028	0.38	0.34	6.1	-0.005	0.38	0.37	1.7	0.026
Average number of vacancy referrals	0.09	0.11	1.8	-0.050	0.07	0.08	0.9	-0.025	0.08	0.11	2.9	0.039	0.06	0.08	2.1	0.090
No vacancy referral	0.16	0.34	29.8	-0.368	0.17	0.36	32.1	-0.251	0.18	0.33	24.1	-0.526	0.22	0.36	21.8	-0.578
Any form of non-compliance with benefit conditions	0.24	0.19	9.2	0.052	0.11	0.10	2.9	-0.038	0.19	0.19	0.0	0.084	0.07	0.10	7.2	0.001
Health																
Health impairment or disability	0.17	0.22	9.0	-0.069					0.16	0.22	11.3	0.005				
Health impairment or disability affects employability	0.10	0.14	10.0	-0.086					0.09	0.15	11.9	-0.049				
Health impairment					0.15	0.21	11.3	-0.031					0.14	0.22	15.3	-0.043
Health impairment affects employability					0.08	0.12	9.4	<i>-0.118</i>					0.06	0.13	15.1	0.040
Disability					0.03	0.05	6.7	-0.040					0.03	0.05	8.3	-0.071
Total duration reported in sick during receipt of benefits	1.4	1.6	2.9	-0.002	1.2	1.4	3.6	0.001	1.3	1.6	6.7	-0.012	1.1	1.4	6.6	-0.009
Did not report in sick during receipt of benefits	0.69	0.69	0.4	-0.003	0.74	0.73	1.5	-0.036	0.72	0.68	5.7	-0.072	0.75	0.72	4.4	-0.040
Characteristics of job looked for																
Looking for high-skill job	0.04	0.05	2.8	0.019	0.05	0.06	2.5	-0.029	0.09	0.04	13.6	-0.072	0.07	0.05	6.0	-0.059
Looking for unskilled or skilled job	0.45	0.43	3.1	-0.005	0.41	0.40	1.9	-0.015	0.35	0.42	10.4	<i>0.061</i>	0.29	0.41	17.9	0.053

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Occupation looked for: Technical	0.21	0.19	4.0	0.082					0.26	0.19	12.7	0.079				
Occupation looked for: Construction	0.22	0.26	7.2	-0.115					0.14	0.26	21.5	0.047				
Occupation looked for: Technical or construction					0.04	0.03	6.0	0.277					0.06	0.03	9.4	0.259
Occupation looked for: Service higher skilled	0.22	0.21	1.4	0.014	0.53	0.53	0.3	0.201	0.29	0.21	13.7	0.014	0.70	0.52	25.2	0.012
Occupation looked for: Service lower skilled (reference)	0.14	0.13	2.6		0.21	0.22	1.5		0.14	0.14	0.5		0.12	0.23	19.6	
Occupation looked for: Other	0.20	0.19	2.5	-0.058	0.20	0.19	0.8	-0.029	0.16	0.18	4.7	0.063	0.11	0.19	15.8	0.088
Looking for part-time job					0.27	0.28	1.6	-0.016					0.34	0.28	8.5	-0.054
	Detailed Regional information															
Regional GDP growth	19.8	20.9	6.7	-0.001	19.8	20.7	6.1	0.003	20.2	21.0	4.8	0.002	21.2	20.7	2.5	0.001
Travel time to next big city on public transport	61.3	66.9	8.5	0.000	60.3	64.4	6.4	0.000	64.5	67.4	4.5	0.000	61.4	64.5	4.8	0.000
Share of non-Germans in region	9.1	9.2	1.3	0.002	9.0	9.5	7.5	0.009	9.3	9.2	1.2	-0.008	9.7	9.5	2.7	-0.010
Local unemployment rate in %	8.8	8.3	11.5	-0.007	8.5	8.2	6.8	-0.005	8.5	8.3	4.5	0.014	8.2	8.2	0.4	0.016
Big city	0.48	0.47	2.7	-0.126	0.49	0.48	0.8	0.049	0.46	0.47	0.5	-0.074	0.52	0.48	5.9	0.019
Rural area	0.10	0.15	11.9	0.073	0.11	0.13	5.3	0.030	0.13	0.16	5.0	-0.076	0.11	0.13	4.3	-0.068
Net migration	3.4	3.8	9.6	-0.005	3.5	3.9	8.2	-0.013	3.8	3.8	1.5	-0.024	3.8	3.9	1.3	-0.023
	Pre-treatment outcomes															
Employed 4 years before	0.56	0.56	0.3	0.054	0.51	0.54	4.9	0.104	0.58	0.56	3.6	0.158	0.57	0.54	3.2	0.209
Earnings 4 years before	786	910	9.2	0.000	564	627	6.0	0.000	920	900	1.5	0.000	669	625	4.2	0.000
Cumulated duration employed 4 years before	59.4	60.2	2.1	-0.001	59.1	59.9	2.2	-0.001	61.8	60.0	4.7	-0.004	61.3	59.9	3.7	-0.002
Cumulated earnings 4 years before	52.1	57.3	9.3	-0.004	38.2	39.9	3.8	0.010	60.7	56.8	6.5	0.002	44.0	39.7	9.3	0.004
Cumulated duration of UI 4 years before	7.8	9.9	13.5	0.000	5.9	7.5	11.5	0.003	7.4	10.0	17.1	0.001	5.6	7.7	14.6	0.006
Cumulated UI benefits 4 years before	1.5	2.0	16.3	-0.011	0.81	1.10	12.4	-0.070	1.4	2.1	17.7	-0.015	0.82	1.12	12.8	-0.039

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Region dummies																
Baden-Wurttemberg	0.12	0.12	0.3	-0.045	0.13	0.14	2.6	0.116	0.12	0.11	0.9	0.058	0.15	0.14	1.7	0.116
Bavaria	0.09	0.23	28.0	-0.160	0.12	0.21	17.4	0.017	0.15	0.23	14.5	-0.320	0.17	0.21	7.0	-0.107
Lower Saxony, Bremen	0.17	0.16	1.5	<i>0.072</i>	0.15	0.15	0.4	0.120	0.19	0.16	4.7	0.019	0.15	0.15	1.0	<i>0.087</i>
Northrhine-Westphalia (reference)	0.28	0.26	3.7		0.26	0.27	1.9		0.27	0.26	1.7		0.24	0.27	4.8	
Schleswig-Holstein, Hamburg	0.19	0.07	25.2	0.205	0.20	0.08	25.4	0.327	0.11	0.07	9.6	0.550	0.11	0.07	8.9	0.625
Hessen	0.07	0.08	2.3	-0.052	0.07	0.08	3.4	-0.018	0.08	0.08	0.0	-0.067	0.07	0.08	2.1	-0.017
Rhineland- Palatinate, Saarland	0.08	0.08	0.8	0.002	0.07	0.07	1.1	0.328	0.08	0.08	0.2	0.018	0.11	0.07	9.2	0.093
Industry- and occupation-specific experience																
Average duration in last occupation	25.1	24.7	0.8	-0.001	28.2	24.6	6.5	0.000	24.5	24.1	0.8	-0.001	23.9	24.3	0.9	0.000
Average duration in last industry	20.5	19.6	2.9	-0.003	22.0	19.4	7.8	-0.002	18.6	19.2	2.0	0.000	18.3	19.4	3.4	0.000
Total duration in last occupation	75.4	93.0	16.7	-0.001	82.8	97.1	13.9	0.000	80.1	92.7	11.7	0.000	97.5	97.7	0.2	0.000
Total duration in last industry	40.6	42.0	2.8	0.001	41.8	41.5	0.5	0.000	39.6	41.7	4.1	0.002	39.6	41.4	3.8	0.000
Number of occupations in last 10 years	3.7	3.3	10.4	0.011	2.9	2.7	5.8	0.016	3.6	3.3	8.3	0.011	2.7	2.7	2.5	0.007
Number of industries in last 10 years	2.2	1.9	12.9	0.030	2.0	1.9	7.6	-0.005	2.1	1.9	10.2	<i>0.022</i>	1.8	1.8	0.9	0.024
Earnings history																
Earnings in last job	833	867	5.3	0.001	599	603	0.5	0.000	9.4	8.6	10.9	0.000	6.7	6.0	10.7	0.000
Average earnings in last 10 years	661	723	14.4	0.011	517	537	5.7	0.000	7.5	7.2	6.0	0.000	5.8	5.3	10.9	0.000
Cumulated earnings in last year	14592	15042	2.8	0.005	11293	10887	3.1	0.000	17.1	14.9	13.0	0.000	13.0	10.8	15.8	0.000
Cumulated earnings in last 2 years	14170	15528	8.2	0.004	10429	10882	3.3	0.000	16.8	15.4	8.2	0.000	12.1	10.8	9.5	<i>0.000</i>

Table to be continued.

Table I.2 Descriptive statistics and estimated probit coefficients for the actual data (continued)

Variable	Job search assistance								Training							
	Men				Women				Men				Women			
	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff	P	NP	SD	Coeff
Outcomes																
Employment rate 4 years after	0.45	0.41	5.8		0.51	0.43	10.2		0.49	0.41	10.4		0.52	0.43	13.5	
Half-monthly earnings in EUR 4 years after	786	799	0.8		598	531	5.9		961	785	11.1		708	510	16.2	
Fraction of half-months employed in year 4 after	0.44	0.42	2.3		0.47	0.44	5.7		0.46	0.42	7.3		0.52	0.43	13.5	
Average half-monthly earnings in year 4 after	781	840	4.3		568	549	1.8		947	819	8.5		715	524	16.5	
Cumulated half-months employed 4 years after	34.2	39.0	10.3		36.7	38.8	4.5		36.7	38.4	3.5		40.3	38.0	4.7	
Cumulated earnings 4 years after in EUR	34653	41034	11.3		25038	27091	4.6		41397	40104	2.1		31641	25961	12.2	
Cumulated half-months of UI 4 years after	11.3	15.9	26.0		11.2	15.2	22.5		10.9	15.5	25.9		11.5	15.1	19.7	
Cumulated UI benefits 4 years after in EUR	4316	6534	25.6		3040	4003	16.1		4588	6436	20.3		3347	4001	10.6	
Number of observations	2267	32660			1452	22067			1754	30189			1570	20816		

Note: P: Mean among participants (fractions if not stated otherwise), NP: Mean among nonparticipants (fractions if not stated otherwise), SD: Absolute standardized difference in percent (difference in sample means of respective participants and corresponding nonparticipants divided by the square root of the sum of the empirical variances in the two subsamples). Coeff: Estimated coefficient of a probit model for selection into the respective program. The probit models also include several interaction terms between the beginning of unemployment and time to treatment, as well as time to treatment and vacancy referrals. Reference groups for dummies are indicated. 'before' and 'after' means before and after the beginning of the unemployment spell that determines membership in our population of interest. If not mentioned otherwise, all variables are measured at the beginning of this unemployment spell. Variables related to information in this spell are measured at the (simulated for controls) start of the program. Earnings are measured as earnings per half-month. 'Cumulated' measures sum up the half-monthly measures. Beginning of unemployment spell is measured in half-months where the first half of January 2000 equals '1'. All monetary measures are in EUR of the year 2000.

Appendix I.3: Descriptive statistics for the placebo data

Table I.3: Descriptive statistics for the placebo data

Variable	Job search assistance						Training					
	P	Men		Women		P	Men		Women		SD	
		NP	SD	P	NP	SD		NP	SD	P	NP	SD
Baseline characteristics												
Age in years	33.7	37.1	22.8	34.6	38.0	23.3	35.0	36.8	12.0	36.8	38.1	9.1
Age 20-24 years	0.23	0.17	10.7	0.19	0.15	7.5	0.18	0.19	2.3	0.12	0.15	7.3
Age >= 50 years	0.08	0.19	23.2				0.10	0.19	16.9			
Age 50-54 years				0.07	0.10	9.4				0.08	0.11	6.8
Age >= 55 years				0.01	0.11	29.3				0.03	0.12	22.8
No school degree	0.12	0.12	1.7	0.07	0.08	3.7	0.09	0.11	4.8	0.04	0.08	13.6
Upper secondary school degree	0.20	0.15	8.6	0.29	0.28	2.8	0.20	0.16	7.8	0.33	0.28	8.0
University entry school degree	0.12	0.11	2.5	0.17	0.16	2.4	0.17	0.10	14.1	0.20	0.14	10.5
No vocational degree	0.37	0.34	4.1	0.32	0.32	2.2	0.28	0.34	8.7	0.23	0.34	16.9
University or college degree	0.03	0.04	2.4	0.05	0.05	2.7	0.07	0.03	12.9	0.06	0.04	5.5
No German citizen	0.15	0.17	3.1	0.09	0.12	5.2	0.13	0.16	4.8	0.07	0.12	11.6
At least one child	0.23	0.23	2.0	0.39	0.32	9.8	0.23	0.23	2.0	0.41	0.32	13.4
At least one child < 3 years				0.04	0.03	2.3				0.03	0.03	2.4
At least one child 3-5 years				0.12	0.10	5.0				0.15	0.10	9.8
Single	0.54	0.48	9.5	0.36	0.35	2.7	0.52	0.48	5.4	0.33	0.35	3.2
Married	0.35	0.43	11.8	0.41	0.49	12.1	0.40	0.43	4.8	0.46	0.48	3.3
Lone parent				0.11	0.07	9.2				0.10	0.07	7.1
Timing of entry into unemployment and program												
Beginning of unemployment	35.9	32.0	16.1	33.8	31.5	9.2	30.4	31.8	5.8	28.8	31.7	11.8
Beginning of unemployment Dec-Feb	0.23	0.32	14.3	0.20	0.21	3.1	0.24	0.32	12.2	0.20	0.22	3.6
Beginning of unemployment Jun-Aug	0.28	0.24	6.7	0.30	0.29	2.5	0.26	0.24	3.0	0.29	0.29	2.2
Beginning of unemployment Sep-Nov	0.27	0.24	3.9	0.23	0.27	5.5	0.26	0.24	3.7	0.25	0.26	2.7
Time to treatment in half-months	6.7	5.1	19.2	6.7	5.4	17.0	7.7	6.5	15.3	7.5	6.2	17.7
Time to treatment 1	0.21	0.28	12.0	0.19	0.22	6.1	0.09	0.11	4.6	0.09	0.14	11.3
Time to treatment 2	0.12	0.14	5.1	0.14	0.16	4.7	0.12	0.12	2.0	0.12	0.14	5.1
Time to treatment 7-12	0.23	0.16	12.5	0.22	0.19	4.8	0.29	0.25	5.6	0.26	0.23	5.0
Time to treatment > 12	0.17	0.11	12.5	0.18	0.10	15.2	0.20	0.13	12.8	0.19	0.13	13.0
Last employment: non-firm characteristics												
Unskilled worker	0.41	0.37	5.7	0.23	0.21	2.9	0.34	0.37	5.3	0.14	0.22	15.5
Clerk	0.18	0.16	3.4	0.36	0.35	2.2	0.29	0.15	25.2	0.48	0.34	20.5
Part-time job				0.28	0.31	4.3				0.28	0.31	4.8
Occupation: Technical	0.18	0.16	2.9				0.20	0.16	8.1			
Occupation: Construction	0.20	0.26	10.1				0.14	0.26	21.3			
Occupation: Technical or construction				0.04	0.03	2.4				0.05	0.03	5.7
Occupation: Service higher skilled	0.23	0.22	1.8	0.53	0.52	2.2	0.30	0.22	13.3	0.66	0.50	22.6
Occupation: Other	0.23	0.22	2.4	0.19	0.19	2.3	0.22	0.22	2.0	0.14	0.19	10.0

Table to be continued.

Table I.3: Descriptive statistics for the placebo data (continued)

Variable	Job search assistance						Training					
	Men			Women			Men			Women		
	P	NP	SD	P	NP	SD	P	NP	SD	P	NP	SD
Last employment: firm characteristics												
Age of firm	316	340	6.6	344	357	4.0	321	339	5.1	333	357	6.9
Firm size	288	324	2.2	236	273	3.0	241	326	3.9	272	269	2.1
Closed firm	0.10	0.09	2.5	0.08	0.08	2.2	0.10	0.09	2.5	0.09	0.08	3.3
Fraction minor employees	0.09	0.09	2.0	0.13	0.14	3.0	0.08	0.09	1.9	0.13	0.13	3.4
Fraction part-time employees	0.15	0.15	2.1	0.28	0.30	3.7	0.15	0.15	1.9	0.27	0.30	6.4
Mean age of employees	33.9	35.0	5.8	34.7	35.5	4.9	34.3	35.0	3.8	34.8	35.6	4.3
Fraction of temporary workers	0.37	0.33	1.6	0.26	0.32	2.7	0.29	0.34	2.2	0.25	0.33	3.5
Mean tenure of employees	1231	1219	1.8	1295	1340	3.4	1303	1215	5.2	1336	1346	2.2
Fraction of non-German employees	0.26	0.24	4.6	0.24	0.23	2.8	0.26	0.24	4.7	0.25	0.23	5.2
Fraction of female employees	0.26	0.24	5.0	0.58	0.59	3.9	0.26	0.24	7.3	0.55	0.59	10.5
Most frequent occupation: Technical	0.14	0.13	2.9	0.05	0.05	2.4	0.16	0.13	5.3	0.08	0.04	9.4
Most frequent occupation: Construction	0.16	0.23	11.8	0.02	0.02	2.4	0.13	0.23	19.9	0.03	0.02	4.6
Most frequent occupation: Service higher skilled	0.25	0.24	1.7	0.45	0.44	2.3	0.29	0.24	8.3	0.48	0.43	7.1
Most frequent occupation: Other	0.23	0.20	4.0	0.20	0.20	2.3	0.22	0.20	2.6	0.16	0.20	7.9
Industry: Retail	0.16	0.12	8.3	0.21	0.19	4.5	0.16	0.12	8.4	0.23	0.19	6.9
Industry: Financial services	0.15	0.13	5.8		0.15	3.2	0.18	0.12	11.9	0.20	0.15	8.4
Industry: Education and health				0.16	0.17	3.2				0.14	0.17	7.6
Industry: Missing	0.06	0.07	2.7	0.06	0.06	2.3	0.06	0.07	2.7	0.05	0.06	3.2
Industry: Construction	0.18	0.25	12.1				0.14	0.25	20.1			
Industry: Other services	0.11	0.12	2.2				0.10	0.12	4.0			
Industry: Other (men)	0.10	0.12	5.0				0.10	0.12	5.2			
Industry: Manufacturing				0.17	0.16	2.7				0.17	0.17	2.3
Industry: Other (women)				0.09	0.10	4.1				0.11	0.10	2.9
Short-term (2 years) labour market history												
Half-months employed in last 6 months	7.5	7.8	4.3	8.1	8.0	2.3	7.8	7.7	2.9	8.4	8.0	7.0
Half-months employed in last 24 months	30.1	30.2	1.9	31.9	31.4	3.0	31.5	29.8	7.8	32.9	31.2	8.0
Time since last employment if in last 24 months	4.9	4.6	2.4	4.1	4.2	2.2	4.7	4.7	2.0	3.9	4.3	3.8
No employment in last 24 months	0.93	0.92	1.9	0.93	0.93	2.3	0.94	0.92	5.2	0.94	0.93	3.8
Number of employers in last 24 months	1.8	1.7	5.5	1.6	1.7	2.2	1.8	1.7	6.4	1.6	1.7	2.7
Half-months unemployed in last 6 months	1.9	1.7	4.0	1.3	1.4	3.1	1.6	1.7	4.2	1.1	1.5	9.3
Half-months unemployed in last 24 months	10.4	10.3	1.9	6.9	8.0	6.4	9.0	10.6	9.3	6.1	8.2	13.3
Unemployed 6 months before	0.27	0.25	3.2	0.20	0.22	4.0	0.23	0.26	4.2	0.18	0.23	7.2
Unemployed 24 months before	0.25	0.29	6.3	0.17	0.20	5.8	0.21	0.29	12.8	0.15	0.20	10.7
Time since last unemployment if in last 24 months	9.1	10.0	5.4	7.3	7.3	2.1	9.0	10.2	7.1	6.6	7.5	5.8
No unemployment in last 24 months	0.39	0.36	5.4	0.55	0.50	7.2	0.44	0.34	14.2	0.60	0.49	16.6

Table to be continued.

Table I.3: Descriptive statistics for the placebo data (continued)

Variable	Job search assistance						Training					
	Men			Women			Men			Women		
	P	NP	SD	P	NP	SD	P	NP	SD	P	NP	SD
Number of unemployment spells in last 24 months	0.67	0.78	8.9	0.44	0.59	13.3	0.64	0.81	13.6	0.42	0.60	16.3
Any program in last 24 months	0.19	0.12	12.5	0.14	0.11	6.6	0.16	0.13	6.5	0.14	0.11	6.1
Half-months out of labour force in last 6 months	2.2	2.1	2.3	2.0	1.9	2.0	2.0	2.1	2.4	1.8	1.9	3.0
Half-months out of labour force in last 24 months	6.8	6.8	1.8	8.3	7.8	3.2	6.7	6.9	2.4	8.1	7.8	2.8
Out of labour force 6 months before	0.16	0.16	1.8	0.16	0.15	2.1	0.15	0.16	2.1	0.14	0.15	2.7
Out of labour force 24 months before	0.16	0.15	2.4	0.23	0.21	4.0	0.15	0.14	2.1	0.24	0.21	5.2
Time since last out of labour force if in last 24 months	6.1	6.0	1.9	7.0	6.8	2.3	5.9	6.0	2.1	6.6	6.9	2.4
No out of labour force in last 24 months	0.47	0.49	2.9	0.48	0.49	2.3	0.51	0.48	4.1	0.53	0.48	6.4
Number of out of labour force spells in last 24 months	0.81	0.78	2.5	0.73	0.75	2.6	0.69	0.79	8.0	0.65	0.77	9.8
Long-term (10 years) labour market history												
Half-months employed in last 10 years	125	138	14.0	121	134	14.1	134	137	3.6	135	133	2.4
Tenure with last employer	22.3	22.9	2.1	25.6	22.4	6.3	22.4	22.4	2.1	22.1	22.5	2.3
Average employment duration	49.2	51.5	3.4	53.2	57.1	5.3	56.5	50.2	8.5	60.2	56.6	4.7
Number of employers in last 10 years	4.9	4.5	8.3	4.0	4.0	2.5	4.8	4.5	6.1	3.9	4.0	2.6
Total time with last employer in last 10 years	47.2	63.6	18.3	55.7	65.5	10.7	51.0	62.6	12.6	61.7	66.0	4.6
Half-months unemployed in last 10 years	35.8	35.3	1.8	24.8	26.2	3.1	32.1	35.8	6.4	21.7	26.7	9.9
Time since last unemployment if in last 10 years	28.3	24.4	6.6	33.0	27.0	8.4	29.3	24.0	8.9	32.0	26.7	7.5
No unemployment in last 10 years	0.21	0.22	1.9	0.33	0.33	2.2	0.25	0.21	7.6	0.39	0.33	8.9
Number of unemployment spells in last 10 years	1.7	2.2	14.2	1.0	1.4	14.2	1.6	2.2	18.6	1.0	1.4	15.8
Duration of last unemployment spell	18.8	17.1	3.8	16.3	14.8	3.8	17.2	17.5	2.1	13.7	15.1	3.9
Average unemployment duration	15.8	13.9	5.3	12.5	12.1	2.4	14.2	14.1	1.9	11.3	12.2	3.3
Any program in last 4 years	0.23	0.15	13.1	0.17	0.13	7.2	0.21	0.16	9.4	0.17	0.13	7.9
Any program in last 10 years	0.29	0.21	14.2	0.23	0.19	7.0	0.28	0.21	10.8	0.24	0.19	8.5
Number of programs in last 10 years	0.43	0.28	14.9	0.32	0.25	8.3	0.38	0.29	9.5	0.32	0.25	7.7
Half-months out of labour force in last 4 years	16.7	15.4	4.9	23.18	20.65	7.4	16.30	15.40	3.4	22.80	20.56	6.4
Half-months out of labour force in last 10 years	76.6	64.5	13.0	92.80	77.94	15.6	71.56	65.12	6.9	81.81	78.04	4.2
Out of labour force 4 years before	0.28	0.24	6.5	0.39	0.33	9.4	0.27	0.24	5.0	0.35	0.33	3.4
Time since last out of labour force if in last 10 years	0.11	0.15	8.9	0.09	0.12	7.6	0.14	0.14	2.2	0.13	0.12	3.2
No out of labour force in last 10 years	46.2	44.7	2.4	47.6	46.4	2.4	47.0	44.2	3.6	50.1	45.8	5.2
Number of out of labour force spells in last 10 years	2.8	2.6	6.6	2.4	2.3	2.3	2.4	2.6	5.5	2.1	2.4	10.5

Table to be continued.

Table I.3: Descriptive statistics for the placebo data (continued)

Variable	Job search assistance						Training					
	P	Men		Women		P	Men		Women		SD	
		NP	SD	P	NP	SD		NP	SD	P	NP	SD
Distance to hypothetical labour market entry	49.4	40.1	10.5	56.7	46.1	11.1	44.0	40.8	3.9	45.7	46.3	2.2
Distance to hypothetical labour market entry non-Germans	11.4	10.3	2.4	8.3	7.6	2.6	9.5	9.5	2.1	6.1	7.9	4.3
Average out of labour force duration	35.9	31.5	6.8	51.2	42.5	11.7	35.9	31.6	6.7	46.1	42.2	5.4
Benefits and UI claim												
Amount of unemployment benefit	3.1	3.1	2.3	2.2	2.1	3.7	3.1	3.1	2.0	2.2	2.1	3.7
Remaining UI claim	275	318	15.1	301	334	12.1	305	316	3.8	330	333	2.1
No UI claim	0.15	0.12	6.0	0.08	0.08	2.3	0.10	0.12	5.7	0.06	0.08	5.0
UI claim 1-5 months	0.11	0.11	1.7	0.09	0.12	6.2	0.09	0.11	4.2	0.08	0.12	9.8
UI claim 6-8 months	0.16	0.16	1.8	0.19	0.16	4.7	0.18	0.16	4.8	0.15	0.17	3.7
UI claim 9-11	0.13	0.14	1.9	0.11	0.12	3.5	0.13	0.14	2.8	0.10	0.12	5.7
UI claim > 12 months	0.13	0.21	15.4	0.15	0.22	13.6	0.17	0.21	7.5	0.18	0.22	6.7
Compliance with benefit conditions, employability and mobility												
Fully mobile within Germany	0.35	0.34	2.1	0.40	0.37	3.8	0.38	0.33	6.3	0.38	0.37	2.6
Average number of vacancy referrals	0.10	0.11	1.9	0.07	0.08	2.8	0.09	0.11	2.7	0.07	0.08	2.7
No vacancy referral	0.17	0.35	29.5	0.18	0.38	31.2	0.19	0.34	24.4	0.23	0.37	22.0
Any form of non-compliance with benefit conditions	0.24	0.18	9.9	0.12	0.10	4.0	0.20	0.19	2.1	0.08	0.10	6.4
Health												
Health impairment or disability	0.17	0.22	8.4				0.16	0.22	11.6			
Health impairment or disability affects employability	0.10	0.15	9.1				0.09	0.15	12.1			
Health impairment				0.15	0.22	11.4				0.14	0.22	15.4
Health impairment affects employability				0.08	0.12	9.3				0.07	0.13	15.2
Disability				0.03	0.05	6.9				0.03	0.05	8.8
Total duration reported in sick during receipt of benefits	1.5	1.6	2.1	1.2	1.4	3.5	1.3	1.6	6.4	1.2	1.4	6.0
Did not report in sick during receipt of benefits	0.68	0.69	2.3	0.74	0.73	2.3	0.71	0.68	5.2	0.74	0.72	4.3
Characteristics of job looked for												
Looking for high-skill job	0.04	0.05	2.9	0.05	0.06	3.2	0.08	0.04	12.7	0.07	0.05	6.2
Looking for unskilled or skilled job	0.45	0.42	3.3	0.41	0.40	2.5	0.36	0.42	9.3	0.30	0.41	17.5
Occupation looked for: Technical	0.21	0.18	4.3				0.25	0.18	11.9			
Occupation looked for: Construction	0.21	0.26	7.8				0.15	0.27	20.5			
Occupation looked for: Technical or construction				0.04	0.03	5.5				0.05	0.03	8.7
Occupation looked for: Service higher skilled	0.22	0.21	2.1	0.53	0.53	2.2	0.29	0.21	13.5	0.68	0.51	24.6
Occupation looked for: Other	0.20	0.18	2.8	0.20	0.19	2.3	0.16	0.19	4.4	0.12	0.20	15.1
Looking for part-time job				0.28	0.28	2.0				0.33	0.28	8.2

Table to be continued.

Table I.3: Descriptive statistics for the placebo data (continued)

Variable	Job search assistance						Training					
	Men			Women			Men			Women		
	P	NP	SD	P	NP	SD	P	NP	SD	P	NP	SD
Detailed Regional information												
Regional GDP growth	20.0	21.0	6.2	19.8	20.8	6.2	20.2	21.0	4.9	21.1	20.7	2.7
Travel time to next big city on public transport	62.6	67.3	7.3	61.8	64.6	4.4	64.4	67.6	5.0	61.7	64.7	4.7
Share of non-Germans in region	9.2	9.2	1.9	9.0	9.5	7.4	9.3	9.2	2.3	9.7	9.5	3.3
Local unemployment rate in %	8.7	8.2	11.1	8.5	8.2	6.1	8.5	8.3	4.4	8.2	8.2	2.1
Big city	0.48	0.46	3.1	0.48	0.48	2.3	0.47	0.47	1.9	0.52	0.48	5.9
Rural area	0.10	0.16	12.6	0.11	0.13	5.6	0.13	0.16	5.4	0.11	0.13	4.4
Net migration	3.4	3.9	9.1	3.5	3.9	8.5	3.8	3.8	2.4	3.8	3.9	2.6
Pre-treatment outcomes												
Employed 4 years before	0.55	0.56	2.0	0.51	0.55	4.9	0.58	0.56	3.4	0.56	0.54	2.8
Earnings 4 years before	783	920	10.1	567	631	6.2	902	900	2.0	662	622	3.9
Cumulated duration employed 4 years before	58.7	60.3	4.1	58.8	60.0	3.4	61.3	59.9	3.7	60.8	59.8	3.0
Cumulated earnings 4 years before	51.7	57.7	10.6	38.0	40.1	4.7	59.6	56.6	5.0	43.3	39.4	8.2
Cumulated duration of UI 4 years before	8.1	10.0	12.8	6.0	7.6	11.6	7.6	10.2	16.7	5.8	7.8	13.7
Cumulated UI benefits 4 years before	1.5	2.1	15.6	0.8	1.1	12.5	1.5	2.1	17.5	0.8	1.1	12.0
Region dummies												
Baden-Wurttemberg	0.13	0.12	2.1	0.14	0.14	2.3	0.12	0.11	2.2	0.15	0.14	2.6
Bavaria	0.10	0.24	27.7	0.13	0.21	16.5	0.16	0.24	14.2	0.18	0.21	6.5
Lower Saxony, Bremen	0.17	0.16	2.2	0.16	0.15	2.5	0.19	0.16	4.5	0.14	0.15	2.3
Schleswig-Holstein, Hamburg	0.17	0.07	22.7	0.17	0.07	22.0	0.11	0.07	9.3	0.10	0.07	7.9
Hessen	0.07	0.08	2.1	0.07	0.08	3.3	0.08	0.08	2.0	0.07	0.08	2.8
Rhineland- Palatinate, Saarland	0.08	0.08	2.0	0.07	0.07	2.3	0.08	0.08	2.0	0.10	0.07	8.0
Industry- and occupation-specific experience												
Average duration in last occupation	24.6	24.7	1.7	27.5	24.4	5.8	24.5	24.1	2.0	24.2	24.3	2.1
Average duration in last industry	20.2	19.6	2.4	21.3	19.3	6.4	18.5	19.2	2.9	18.7	19.4	3.0
Total duration in last occupation	75.4	94.2	18.0	83.3	98.1	14.3	78.8	93.5	13.8	95.7	97.9	2.6
Total duration in last industry	40.6	42.2	3.3	41.3	41.5	2.3	39.3	41.8	5.0	39.4	41.6	4.7
Number of occupations in last 10 years	3.7	3.3	10.7	2.9	2.7	5.7	3.6	3.3	9.5	2.7	2.7	2.4
Number of industries in last 10 years	2.1	1.9	13.1	2.0	1.8	7.6	2.1	1.9	11.3	1.9	1.8	2.0
Earnings history												
Earnings in last job	832	870	5.7	596	603	2.2	9.3	8.6	9.3	6.6	5.9	9.9
Average earnings in last 10 years	663	727	14.7	517	539	6.1	7.4	7.2	4.3	5.7	5.3	10.2
Cumulated earnings in last year	14.5	15.1	3.7	11.2	10.9	2.9	16.8	14.8	11.7	12.7	10.6	15.0
Cumulated earnings in last 2 years	14.1	15.6	9.5	10.4	10.9	4.0	16.5	15.3	6.8	11.9	10.7	8.3

Table to be continued.

Table I.3: Descriptive statistics for the placebo data (continued)

Variable	Job search assistance						Training					
	Men			Women			Men			Women		
	P	NP	SD	P	NP	SD	P	NP	SD	P	NP	SD
Outcomes												
Employment rate 4 years after	0.45	0.41	6.6	0.48	0.43	6.9	0.46	0.41	7.5	0.48	0.42	8.9
Half-monthly earnings in EUR 4 years after	844	795	3.3	577	527	4.4	937	775	9.9	618	502	9.5
Fraction of half-months employed in year 4 after program start	0.43	0.42	1.4	0.47	0.44	6.0	0.43	0.42	2.0	0.47	0.43	7.7
Average half-monthly earnings in year 4 after program start	800	842	2.9	588	546	3.6	886	815	4.7	629	517	9.6
Cumulated half-months employed 4 years after	39.2	39.0	1.9	41.0	38.7	4.8	40.6	38.2	5.0	41.8	37.7	8.3
Cumulated earnings 4 years after in EUR	39140	41172	3.5	27982	27027	2.8	44418	39856	7.1	30156	25631	9.2
Cumulated half-months of UI 4 years after	13.0	16.2	17.1	12.3	15.3	16.5	13.3	15.6	12.4	13.2	15.2	10.7
Cumulated UI benefits 4 years after in EUR	5024	6644	17.7	3232	4056	13.5	5496	6492	10.3	3603	4033	6.6

Note: Averages over 500 replications. P: Mean among participants (fractions if not stated otherwise), NP: Mean among nonparticipants (fractions if not stated otherwise), SD: Absolute standardized difference in percent (difference in sample means of respective participants and corresponding nonparticipants divided by the square root of the sum of the empirical variances in the two subsamples). Coeff: Estimated coefficient of a probit model for selection into the respective program. The probit models also include several interaction terms between the beginning of unemployment and time to treatment, as well as time to treatment and vacancy referrals. 'before' and 'after' means before and after the beginning of the unemployment spell that determines membership in our population of interest. If not mentioned otherwise, all variables are measured at the beginning of this unemployment spell. Variables related to information in this spell are measured at the (simulated for controls) start of the program. Earnings are measured as earnings per half-month. 'Cumulated' measures sum up the half-monthly measures. Beginning of unemployment spell is measured in half-months where the first half of January 2000 equals '1'. All monetary measures are in EUR of the year 2000.

Appendix I.4: Wald tests for the importance of blocks of variables in propensity score and outcome equations

Table I.4: P-values of Wald tests for the importance of blocks of control variables in the selection and the outcome equations

Blocks of variables	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Job search assistance - men															
Propensity score	0	0	2	0	0	0	1	14	5	2	0	6	3	0	0
Employed 4 years after	0	0	1	0	0	0	0	0	0	0	0	0	0	93	1
Half-monthly earnings 4 years after	0	0	1	11	0	0	0	0	11	0	0	0	0	8	0
Cumulated employment 4 years after in half-months	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Cumulated earnings 4 years after	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated UI receipt 4 years after in half-months	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1
Cumulated UI benefits 4 years after	0	0	7	0	0	0	0	0	0	0	1	0	0	0	55
Job search assistance - women															
Propensity score	0	0	37	15	2	0	21	5	5	16	0	64	3	0	0
Employed 4 years after	0	0	13	25	2	0	0	0	29	0	0	0	4	33	4
Half-monthly earnings 4 years after	0	0	12	15	7	0	0	0	0	0	2	0	0	0	0
Cumulated employment 4 years after in half-months	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated earnings 4 years after	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated UI receipt 4 years after in half-months	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2
Cumulated UI benefits 4 years after	0	0	4	0	0	0	0	0	0	0	0	0	2	1	39
Training - men															
Propensity score	0	0	0	0	2	0	29	0	12	1	0	2	2	0	0
Employed 4 years after	0	0	0	0	0	0	2	0	0	0	0	0	0	56	4
Half-monthly earnings 4 years after	0	0	5	2	0	0	0	0	0	0	0	0	0	25	0
Cumulated employment 4 years after in half-months	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated earnings 4 years after	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated UI receipt 4 years after in half-months	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated UI benefits 4 years after	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
Training - women															
Propensity score	0	0	0	0	0	1	7	18	7	1	0	12	0	0	0
Employed 4 years after	0	10	3	0	0	0	0	0	50	0	0	0	7	69	0
Half-monthly earnings 4 years after	0	0	24	8	3	0	0	0	0	0	1	0	0	0	0
Cumulated employment 4 years after in half-months	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated earnings 4 years after	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Cumulated UI receipt 4 years after in half-months	0	0	2	0	0	0	0	0	0	0	0	0	0	1	17
Cumulated UI benefits 4 years after	0	0	5	0	0	0	0	0	0	0	0	0	7	16	5

Note: Blocks 0 to 14 refer to the blocks of variables defined in Table 1. 'Propensity score' refers to the estimated selection model (probit), while the next six lines relate to outcome regression in the control pool. The first outcome regression is based on a probit model, while the others are linear regressions using OLS.

Appendix I.5: Complete results based on placebo treatments (simulation)

Table I.5: Job search assistance - men (without hierarchical specifications)

	Outcome variables	4 years after program start	Average in year 4 after program start			Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of p(x) with full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
True model		0.1	1	0.001	1	0.09	65	0.01	-1
Baseline	0.30	0.9	-22	-0.8	-53	-2.11	-3711	-0.85	-435
Mueser et al. (2007)	0.68	1.0	18	0.6	14	0.28	414	-0.02	3
Lalonde (1986), Dehejia and Wahba (1999)	0.42	0.4	-8	-0.3	-21	-1.06	-1574	-0.45	-222
Heckman and Smith (1999)	0.62	1.8	11	0.7	-8	-0.01	-989	-0.27	-143
Dolton and Smith (2010)	0.54	0.7	-17	-0.4	-37	-1.24	-2443	-0.71	-319
Baseline and timing of program start	0.58	0.1	-22	-0.8	-37	-1.42	-2318	-0.47	-326
Baseline and non-firm characteristics of last job	0.34	1.0	-15	-0.6	-44	-1.77	-3099	-0.58	-317
Baseline and firm characteristics of last job	0.39	1.2	-2	0.1	-24	-1.05	-2067	-0.36	-207
Baseline and short term labour market history	0.43	1.3	4	0.3	-17	-0.61	-1524	-0.18	-117
Baseline and long term labour market history	0.48	1.5	10	0.5	-11	-0.47	-1255	-0.03	-13
Baseline and UI benefit claim	0.34	1.4	-14	-0.2	-46	-1.36	-3274	-0.56	-499
Baseline and individual job search effort, employability and mobility	0.46	1.7	8	0.3	-21	-0.98	-2224	-0.54	-295
Baseline and health information	0.31	-0.2	-50	-1.9	-81	-3.19	-5060	-0.87	-475
Baseline and characteristics of job looked for	0.32	0.9	-14	-0.6	-43	-1.84	-3106	-0.61	-306
Baseline and detailed regional characteristics	0.41	1.5	3	0.1	-26	-1.02	-2280	-0.66	-349
Baseline and pre-treatment outcomes	0.34	1.7	9	0.3	-19	-0.83	-1811	-0.44	-196
Baseline and region dummies	0.54	1.2	7	0.0	-15	-1.02	-1604	-0.49	-198
Baseline and industry and occupation-specific experience	0.37	1.5	3	0.0	-25	-1.25	-2325	-0.49	-263
Baseline and earnings history	0.31	1.5	1	-0.2	-31	-1.50	-2700	-0.77	-376
Baseline and characteristics of last job	0.41	1.2	-2	0.1	-23	-0.88	-1928	-0.31	-185
Baseline and job search information	0.47	1.9	17	0.6	-12	-0.66	-1685	-0.40	-218
Baseline and information on timing and UI claim	0.60	0.2	-21	-0.5	-35	-1.13	-2126	-0.20	-196
Baseline and labour market history without characteristics of last job	0.56	0.9	3	0.1	-13	-0.61	-1119	-0.03	4
Baseline and labour market history with characteristics of last job	0.60	0.6	4	0.2	-6	-0.39	-678	0.04	34
Baseline and regional information	0.56	1.8	15	0.5	-8	-0.50	-1300	-0.55	-251
Baseline and employment history	0.41	1.8	6	0.5	-18	-0.75	-1938	-0.32	-184
Baseline and unemployment history	0.45	1.4	1	0.4	-17	-0.41	-1353	-0.06	-31
Baseline and out-of-labour-force history	0.35	1.4	-5	-0.3	-39	-1.67	-3181	-0.76	-421

Table I.5 to be continued.

Table I.5: Job search assistance - men (continued)

	Outcome variables	4 years after program start	Average in year 4 after program start			Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of p(x) with p(x) of full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Standard variables (blocks 9-13 excluded)	0.90	0.0	-4	-0.2	-6	-0.26	-376	0.11	25
All without timing of program start	0.87	<i>0.8</i>	<i>20</i>	<i>0.6</i>	<i>15</i>	<i>0.46</i>	<i>481</i>	<i>-0.31</i>	<i>-204</i>
All without non-firm characteristics of last job	0.99	0.0	1	0.0	0	-0.04	-18	0.01	3
All without firm characteristics of last job	0.98	<i>0.2</i>	<i>4</i>	0.1	3	0.01	24	<i>-0.06</i>	<i>-29</i>
All without short term labour market history	0.97	-0.1	-2	-0.1	-3	<i>-0.15</i>	<i>-163</i>	<i>-0.06</i>	<i>-21</i>
All without long term labour market history	0.96	0.1	2	0.1	2	0.06	63	<i>-0.05</i>	<i>-29</i>
All without employment, unemployment and out-of-labour-force history	0.92	0.1	-2	-0.1	-3	<i>-0.29</i>	<i>-395</i>	<i>-0.10</i>	<i>-60</i>
All without UI benefit claim	1.00	<i>-0.2</i>	0	<i>-0.2</i>	-1	<i>-0.11</i>	-9	-0.06	<i>-18</i>
All without individual job search effort, employability and mobility	0.94	<i>-0.2</i>	<i>-6</i>	<i>-0.3</i>	<i>-7</i>	<i>-0.41</i>	<i>-442</i>	<i>0.11</i>	<i>38</i>
All without health information	1.00	<i>-0.2</i>	<i>-4</i>	-0.1	<i>-4</i>	<i>-0.11</i>	<i>-125</i>	0.01	0
All without characteristics of job looked for	0.99	0.0	-1	0.0	-1	0.02	-6	-0.01	-11
All without detailed regional characteristics	0.98	-0.1	0	0.0	-1	-0.06	-64	-0.01	-1
All without pre-treatment outcomes	1.00	-0.1	<i>-4</i>	<i>-0.2</i>	<i>-5</i>	<i>-0.18</i>	<i>-232</i>	0.00	-7
All without region dummies	0.90	<i>0.2</i>	<i>5</i>	<i>0.1</i>	0	0.01	<i>-129</i>	0.01	<i>-17</i>
All without industry and occupation-specific experience	1.00	0.0	2	-0.1	-1	<i>-0.11</i>	-97	0.03	3
All without earnings history	0.99	-0.1	-1	-0.1	-1	-0.03	-15	-0.01	-4
All without characteristics of last job	0.97	<i>0.3</i>	<i>5</i>	0.1	2	-0.01	7	-0.02	<i>-16</i>
All without job search information	0.93	0.0	<i>-5</i>	-0.1	<i>-5</i>	<i>-0.31</i>	<i>-400</i>	<i>0.12</i>	<i>32</i>
All without information on timing and UI claim	0.86	<i>0.9</i>	<i>19</i>	<i>0.6</i>	<i>11</i>	<i>0.29</i>	<i>239</i>	<i>-0.22</i>	<i>-56</i>
All without labour market history without characteristics of last job	0.90	-0.1	<i>-5</i>	<i>-0.3</i>	<i>-9</i>	<i>-0.50</i>	<i>-758</i>	<i>-0.17</i>	<i>-111</i>
All without labour market history with characteristics of last job	0.86	<i>0.3</i>	<i>3</i>	<i>-0.1</i>	<i>-5</i>	<i>-0.48</i>	<i>-641</i>	<i>-0.30</i>	<i>-176</i>
All without regional information	0.85	0.1	1	0.0	-3	<i>-0.21</i>	<i>-365</i>	<i>0.06</i>	<i>13</i>
All without employment history	0.99	0.1	2	0.1	2	-0.04	-49	0.00	1
All without unemployment history	0.96	-0.1	-2	-0.0	-2	<i>-0.18</i>	<i>-227</i>	<i>-0.06</i>	<i>-41</i>
All without out-of-labour-force history	0.99	-0.1	-3	0.0	-2	-0.01	-33	0.01	-2

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.6: Job search assistance - women (without hierarchical specifications)

	<i>Outcome variables</i>	4 years after program start	Average in year 4 after program start			Cumulated effects over the first 4 years after program start			
<i>Specification of propensity score</i>	Correlation of p(x) with p(x) full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
True model		-0.1	1	-0.2	0	-0.06	50	0.00	-5
Baseline	0.33	0.4	-7	0.0	-12	-1.39	-1301	-0.13	4
Mueser et al. (2007)	0.64	1.0	16	0.7	15	0.29	491	-0.03	67
Lalonde (1986), Dehejia and Wahba (1999)	0.42	0.3	-4	0.0	-9	-1.16	-1049	-0.13	-9
Heckman and Smith (1999)	0.58	1.2	3	0.7	0	0.20	-230	-0.10	18
Dolton and Smith (2010)	0.52	0.4	-5	0.0	-7	-0.43	-438	-0.70	-112
Baseline and timing of program start	0.57	0.4	-3	0.2	-6	-1.00	-942	0.07	17
Baseline and non-firm characteristics of last job	0.34	0.2	-15	-0.1	-20	-1.40	-1609	-0.08	0
Baseline and firm characteristics of last job	0.38	1.0	7	0.8	3	-0.32	-473	-0.05	27
Baseline and short term labour market history	0.44	0.4	2	0.2	0	-0.57	-314	0.02	88
Baseline and long term labour market history	0.51	0.8	11	0.8	11	-0.09	124	0.22	165
Baseline and UI benefit claim	0.39	0.8	-5	0.4	-11	-0.53	-1037	-0.33	-186
Baseline and individual job search effort, employability and mobility	0.48	0.1	-2	-0.3	-8	-1.33	-995	-0.01	56
Baseline and health information	0.33	-0.3	-20	-0.9	-26	-2.18	-1965	-0.13	5
Baseline and characteristics of job looked for	0.34	0.2	-11	-0.1	-16	-1.37	-1443	-0.04	11
Baseline and detailed regional characteristics	0.38	1.2	13	0.7	6	-0.32	-285	-0.12	35
Baseline and pre-treatment outcomes	0.37	0.8	3	0.5	-1	-0.66	-639	-0.23	4
Baseline and region dummies	0.50	0.7	2	0.2	-5	-0.88	-804	-0.14	23
Baseline and industry and occupation-specific experience	0.37	0.7	10	0.3	3	-0.85	-494	0.02	64
Baseline and earnings history	0.34	0.5	-3	0.1	-10	-1.21	-1173	-0.23	-26
Baseline and characteristics of last job	0.39	0.9	8	0.6	2	-0.41	-497	-0.04	35
Baseline and job search information	0.49	0.3	3	-0.1	-2	-1.08	-774	-0.02	43
Baseline and information on timing and UI claim	0.60	0.3	-11	0.1	-14	-0.93	-1185	-0.08	-70
Baseline and labour market history without characteristics of last job	0.56	0.4	2	0.3	2	-0.30	-154	0.10	91
Baseline and labour market history with characteristics of last job	0.59	0.4	6	0.4	7	-0.06	101	0.04	75
Baseline and regional information	0.51	1.3	14	0.8	6	-0.23	-301	-0.18	15
Baseline and employment history	0.42	0.7	6	0.3	2	-0.68	-473	0.06	93
Baseline and unemployment history	0.47	0.6	7	0.4	6	-0.30	-81	0.13	134
Baseline and out-of-labour-force history	0.42	0.8	5	0.4	-1	-0.92	-714	-0.13	17

Table I.6 to be continued.

Table I.6: Job search assistance - women (continued)

	Outcome variables	4 years after program start	Average in year 4 after program start			Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of p(x) with p(x) of full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Standard variables (blocks 9-13 excluded)	0.88	0.8	4	0.7	2	0.29	11	0.17	39
All without timing of program start	0.87	0.1	12	0.0	10	0.32	563	-0.30	-114
All without non-firm characteristics of last job	0.99	-0.1	-1	-0.1	0	-0.06	-24	-0.01	-3
All without firm characteristics of last job	0.99	-0.3	-3	-0.4	-3	-0.26	-110	0.02	5
All without short term labour market history	0.98	0.0	-1	-0.1	-2	-0.08	-84	-0.09	-23
All without long term labour market history	0.94	-0.5	-7	-0.5	-8	-0.38	-363	0.00	0
All without employment, unemployment and out-of-labour-force history	0.89	0.0	0	-0.1	-2	-0.30	-299	-0.25	-54
All without UI benefit claim	0.98	-0.6	-5	-0.4	-4	-0.34	-205	0.10	66
All without individual job search effort, employability and mobility	0.91	0.4	-1	0.3	-1	0.04	-113	0.14	27
All without health information	1.00	-0.2	-2	-0.1	-1	0.01	20	-0.01	-2
All without characteristics of job looked for	1.00	0.1	1	0.0	0	-0.03	12	-0.03	-1
All without detailed regional characteristics	0.99	-0.2	-3	-0.2	-2	-0.08	-25	-0.03	-5
All without pre-treatment outcomes	1.00	-0.3	-6	-0.3	-5	-0.17	-172	-0.03	-4
All without region dummies	0.91	-0.4	-7	-0.3	-6	-0.19	-161	0.00	-3
All without industry and occupation-specific experience	0.99	-0.1	1	-0.1	1	0.06	110	0.01	1
All without earnings history	0.99	-0.2	0	-0.1	0	-0.07	-40	-0.02	-5
All without characteristics of last job	0.98	-0.1	1	-0.2	1	-0.14	38	0.01	3
All without job search information	0.88	0.5	4	0.5	5	0.21	169	0.04	15
All without information on timing and UI claim	0.82	0.9	16	0.6	15	0.45	555	-0.27	-17
All without labour market history without characteristics of last job	0.85	0.2	0	0.0	-2	-0.45	-446	-0.35	-106
All without labour market history with characteristics of last job	0.83	-0.1	-6	-0.4	-10	-0.87	-855	-0.37	-122
All without regional information	0.88	-0.4	-12	-0.5	-11	-0.70	-593	0.08	7
All without employment history	0.99	-0.1	-2	-0.1	-2	-0.21	-215	0.00	1
All without unemployment history	0.96	0.0	0	-0.1	-1	-0.22	-160	-0.11	-31
All without out-of-labour-force history	0.98	0.0	-3	0.0	-2	-0.02	-74	-0.02	-8

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.7: Training - men (without hierarchical specifications)

	<i>Outcome variables</i>	4 years after program start	Average in year 4 after program start		Cumulated effects over the first 4 years after program start				
<i>Specification of propensity score</i>	Correlation of p(x) with p(x) full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
True model		0.000	-3	-0.1	-2	-0.06	-30	0.01	1
Baseline	0.36	1.3	37	0.6	21	-0.14	213	-0.53	-291
Mueser et al. (2007)	0.62	1.6	45	1.3	38	1.07	1504	-0.28	-172
Lalonde (1986), Dehejia and Wahba (1999)	0.44	1.2	38	0.7	24	0.03	322	-0.90	-461
Heckman and Smith (1999)	0.55	1.3	44	0.9	31	0.60	952	-0.63	-404
Dolton and Smith (2010)	0.38	1.8	90	1.1	73	0.68	2751	-1.14	-375
Baseline and timing of program start	0.54	1.7	53	1.0	37	0.43	1215	-0.22	-91
Baseline and non-firm characteristics of last job	0.52	1.5	33	1.2	27	0.73	852	-0.18	-192
Baseline and firm characteristics of last job	0.53	2.3	73	2.1	67	1.70	2860	-0.01	-27
Baseline and short term labour market history	0.48	1.0	45	0.6	36	0.42	1445	-0.44	-205
Baseline and long term labour market history	0.57	1.5	57	1.1	49	0.92	2035	-0.11	-36
Baseline and UI benefit claim	0.39	1.4	41	0.6	22	-0.19	164	-0.77	-392
Baseline and individual job search effort, employability and mobility	0.50	2.1	64	1.5	47	0.72	1386	-0.49	-253
Baseline and health information	0.37	0.4	14	-0.6	-6	-1.34	-1214	-0.86	-459
Baseline and characteristics of job looked for	0.45	1.1	31	0.5	20	0.06	556	-0.17	-120
Baseline and detailed regional characteristics	0.40	2.1	63	1.3	45	0.63	1326	-0.45	-239
Baseline and pre-treatment outcomes	0.42	1.8	45	1.3	33	0.64	976	-0.55	-329
Baseline and region dummies	0.42	1.7	61	1.1	47	0.54	1581	-0.37	-150
Baseline and industry and occupation-specific experience	0.41	2.4	75	1.8	61	1.03	2088	-0.14	-75
Baseline and earnings history	0.39	1.0	14	0.2	-5	-0.66	-1278	-0.87	-560
Baseline and characteristics of last job	0.60	2.2	53	2.1	50	1.69	2050	-0.02	-137
Baseline and job search information	0.57	1.8	54	1.4	43	0.81	1444	-0.12	-95
Baseline and information on timing and UI claim	0.57	1.4	34	0.8	19	0.15	285	-0.59	-310
Baseline and labour market history without characteristics of last job	0.65	1.0	30	0.7	26	0.55	925	-0.20	-150
Baseline and labour market history with characteristics of last job	0.75	1.0	21	0.9	22	0.79	958	-0.02	-92
Baseline and regional information	0.45	2.4	74	1.8	59	1.03	2038	-0.38	-179
Baseline and employment history	0.44	1.5	54	1.0	42	0.47	1317	-0.40	-205
Baseline and unemployment history	0.51	2.1	68	1.7	62	1.62	2828	-0.36	-131
Baseline and out-of-labour-force history	0.40	1.5	44	0.4	20	-0.37	-81	-0.84	-465

Table I.7 to be continued.

Table I.7: Training - men (continued)

	Outcome variables	4 years after program start	Average in year 4 after program start			Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of p(x) with p(x) full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Standard variables (blocks 9-13 excluded)	0.86	<i>0.5</i>	11	<i>0.3</i>	9	<i>0.28</i>	349	<i>0.06</i>	23
All without timing of programme start	0.90	<i>0.7</i>	22	<i>0.6</i>	20	<i>0.55</i>	908	<i>-0.24</i>	-125
All without non-firm characteristics of last job	0.98	<i>-0.3</i>	<i>-4</i>	<i>-0.3</i>	<i>-5</i>	<i>-0.32</i>	<i>-214</i>	0.03	14
All without firm characteristics of last job	0.97	<i>0.2</i>	2	0.0	-1	-0.01	-41	<i>-0.05</i>	<i>-24</i>
All without short term labour market history	0.98	<i>-0.1</i>	-2	0.0	0	0.00	-24	<i>-0.04</i>	<i>-22</i>
All without long term labour market history	0.95	<i>0.2</i>	4	<i>0.2</i>	5	<i>0.17</i>	276	<i>-0.08</i>	<i>-43</i>
All without employment, unemployment and out-of-labour-force history	0.92	<i>0.3</i>	4	<i>0.3</i>	3	0.08	37	<i>-0.14</i>	-89
All without UI benefit claim	0.99	0.1	3	0.0	1	<i>0.17</i>	214	-0.02	<i>-56</i>
All without individual job search effort, employability and mobility	0.94	0.0	-3	0.0	-2	-0.03	-123	<i>0.16</i>	48
All without health information	1.00	<i>0.2</i>	3	<i>0.2</i>	4	<i>0.31</i>	328	0.03	18
All without characteristics of job looked for	0.99	0.1	2	0.1	2	<i>0.14</i>	148	0.01	-3
All without detailed regional characteristics	0.98	<i>0.2</i>	7	<i>0.2</i>	5	<i>0.17</i>	279	0.01	3
All without pre-treatment outcomes	1.00	<i>-0.2</i>	<i>-4</i>	<i>-0.1</i>	<i>-2</i>	<i>-0.04</i>	<i>-54</i>	<i>-0.01</i>	<i>-18</i>
All without region dummies	0.97	0.0	-1	-0.1	-2	-0.07	<i>-148</i>	<i>0.08</i>	24
All without industry and occupation-specific experience	0.99	<i>0.3</i>	5	<i>0.2</i>	5	<i>0.11</i>	158	<i>-0.05</i>	<i>-21</i>
All without earnings history	1.00	0.1	3	0.1	4	0.07	201	0.02	0
All without characteristics of last job	0.93	<i>-0.1</i>	0	<i>-0.3</i>	<i>-3</i>	<i>-0.25</i>	<i>-140</i>	<i>-0.03</i>	<i>-11</i>
All without job search information	0.93	<i>0.1</i>	2	<i>0.0</i>	2	<i>-0.04</i>	33	<i>0.10</i>	31
All without information on timing and UI claim	0.89	<i>0.8</i>	21	<i>0.6</i>	21	<i>0.64</i>	954	<i>-0.23</i>	<i>-178</i>
All without labour market history without characteristics of last job	0.89	<i>0.4</i>	7	<i>0.2</i>	4	-0.01	6	<i>-0.18</i>	<i>-108</i>
All without labour market history with characteristics of last job	0.79	<i>0.3</i>	18	<i>-0.1</i>	10	<i>-0.31</i>	112	<i>-0.38</i>	<i>-201</i>
All without regional information	0.96	<i>0.2</i>	3	<i>0.2</i>	3	0.07	73	<i>0.06</i>	23
All without employment history	0.99	0.1	4	<i>0.2</i>	4	0.02	74	<i>-0.09</i>	<i>-42</i>
All without unemployment history	0.96	0.0	-3	0.0	-3	<i>-0.12</i>	<i>-210</i>	<i>-0.09</i>	<i>-56</i>
All without out-of-labour-force history	0.98	<i>0.3</i>	8	<i>0.5</i>	11	<i>0.45</i>	510	<i>-0.04</i>	<i>-17</i>
All without long term labour market history	0.95	<i>0.2</i>	4	<i>0.2</i>	5	<i>0.17</i>	276	<i>-0.08</i>	<i>-43</i>
All without UI benefit claim	0.99	0.1	3	0.0	1	<i>0.17</i>	214	-0.02	<i>-56</i>
All without individual job search effort, employability and mobility	0.94	0.0	-3	0.0	-2	-0.03	-123	<i>0.16</i>	48
All without health information	1.00	<i>0.2</i>	3	<i>0.2</i>	4	<i>0.31</i>	328	0.03	18
All without characteristics of job looked for	0.99	0.1	2	0.1	2	<i>0.14</i>	148	0.01	-3
All without detailed regional characteristics	0.98	<i>0.2</i>	7	<i>0.2</i>	5	<i>0.17</i>	279	0.01	3
All without pre-treatment outcomes	1.00	<i>-0.2</i>	<i>-4</i>	<i>-0.1</i>	<i>-2</i>	<i>-0.04</i>	<i>-54</i>	<i>-0.01</i>	<i>-18</i>

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.8: Training - women (without hierarchical specifications)

	<i>Outcome variables</i>	4 years after program start	Average in year 4 after program start		Cumulated effects over the first 4 years after program start				
<i>Specification of propensity score</i>	Correlation of p(x) with p(x) of full model	employ-ment rate in %	half-monthly earnings in EUR	employ-ment rate in %	half-monthly earnings in EUR	half-months em-ployed	earnings in EUR	half-months unem-plied	benefit receipt from UI in EUR
True model		-0.001	-2	-0.1	-2	-0.06	-58	0.00	3
Baseline	0.45	1.9	45	1.6	41	0.77	1601	0.13	56
Mueser et al. (2007)	0.68	1.7	30	1.7	30	1.36	1310	-0.26	-83
Lalonde (1986), Dehejia and Wahba (1999)	0.50	1.9	23	1.6	17	0.76	237	-0.27	-126
Heckman and Smith (1999)	0.62	1.6	24	1.6	24	1.41	1109	-0.21	-156
Dolton and Smith (2010)	0.44	1.7	68	1.6	70	1.52	3297	-0.54	19
Baseline and timing of programme start	0.61	2.3	48	1.9	43	1.03	1632	0.21	121
Baseline and non-firm characteristics of last job	0.52	2.2	33	1.9	32	1.03	1079	0.01	-52
Baseline and firm characteristics of last job	0.53	2.0	43	1.9	42	1.39	1840	-0.03	-6
Baseline and short term labour market history	0.58	0.6	40	0.7	43	0.75	2137	-0.25	0
Baseline and long term labour market history	0.59	0.9	36	0.9	39	0.74	1897	-0.16	26
Baseline and UI benefit claim	0.51	1.3	43	1.1	40	0.78	1774	-0.31	-28
Baseline and individual job search effort, employability and mobility	0.53	1.2	40	0.9	38	0.49	1547	0.12	74
Baseline and health information	0.46	0.9	29	0.4	26	-0.32	792	-0.05	24
Baseline and characteristics of job looked for	0.52	1.8	35	1.5	33	0.74	1200	0.04	1
Baseline and detailed regional characteristics	0.47	2.4	49	2.1	46	1.45	1857	0.10	34
Baseline and pre-treatment outcomes	0.50	1.8	32	1.6	30	1.17	1246	-0.29	-139
Baseline and region dummies	0.47	1.7	45	1.5	44	0.86	1818	0.11	67
Baseline and industry and occupation-specific experience	0.45	2.3	54	2.0	51	1.25	2059	0.08	62
Baseline and earnings history	0.50	1.2	17	0.8	12	0.26	219	-0.38	-234
Baseline and characteristics of last job	0.59	2.0	36	1.9	36	1.31	1457	-0.04	-59
Baseline and job search information	0.60	1.3	33	1.1	32	0.45	1182	0.06	36
Baseline and information on timing and UI claim	0.68	1.3	31	1.1	27	0.79	1121	-0.14	-37
Baseline and labour market history without characteristics of last job	0.68	0.4	12	0.6	15	0.61	832	-0.16	-113
Baseline and labour market history with characteristics of last job	0.77	0.8	6	0.9	10	0.74	634	-0.25	-143
Baseline and regional information	0.49	2.4	51	2.1	47	1.39	1874	0.12	51
Baseline and employment history	0.49	1.1	37	0.8	35	0.43	1567	-0.21	-19
Baseline and unemployment history	0.57	1.3	47	1.4	50	1.46	2698	-0.26	37
Baseline and out-of-labour-force history	0.51	1.2	38	0.9	35	0.31	1352	-0.32	-64

Table I.8 to be continued.

Table I.8: Training - women (continued)

	Outcome variables	4 years after program start	Average in year 4 after program start		Cumulated effects over the first 4 years after program start				
Specification of propensity score	Correlation of p(x) with p(x) of full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Standard variables (blocks 9-13 excluded)	0.88	0.5	3	0.5	2	0.21	1	0.16	50
All without timing of programme start	0.89	0.0	0	0.1	2	0.18	228	-0.21	-45
All without non-firm characteristics of last job	0.99	0.1	4	0.1	4	0.05	104	-0.02	-10
All without firm characteristics of last job	0.96	0.0	-2	0.0	-2	-0.08	-108	0.08	29
All without short term labour market history	0.97	0.1	2	0.0	1	-0.07	-26	-0.08	-32
All without long term labour market history	0.97	0.0	3	0.1	4	0.08	170	0.01	3
All without employment, unemployment and out-of-labour-force history	0.90	0.2	4	0.0	-1	-0.27	-306	-0.08	-34
All without UI benefit claim	0.98	0.2	0	0.2	2	0.24	154	-0.14	-77
All without individual job search effort, employability and mobility	0.97	0.4	0	0.3	1	0.17	-10	0.03	3
All without health information	1.00	0.1	0	0.1	0	0.04	35	0.01	7
All without characteristics of job looked for	0.98	-0.3	-3	-0.2	-2	-0.17	-63	0.03	1
All without detailed regional characteristics	0.99	0.0	5	0.1	5	-0.02	170	0.01	8
All without pre-treatment outcomes	0.99	0.0	-3	-0.1	-3	-0.06	-120	0.00	6
All without region dummies	0.98	0.0	-3	-0.1	-3	-0.04	-57	0.05	6
All without industry and occupation-specific experience	0.99	-0.1	-2	0.0	-1	-0.06	-50	0.03	14
All without earnings history	0.98	-0.1	2	-0.1	2	-0.04	123	0.05	16
All without characteristics of last job	0.95	-0.1	2	-0.1	2	-0.13	48	0.05	22
All without job search information	0.94	0.3	1	0.3	1	0.12	-36	0.09	14
All without information on timing and UI claim	0.85	0.3	7	0.4	10	0.53	621	-0.23	-103
All without labour market history without characteristics of last job	0.87	0.1	7	-0.1	2	-0.33	-178	-0.11	-24
All without labour market history with characteristics of last job	0.81	0.3	11	0.0	5	-0.38	-26	-0.20	-42
All without regional information	0.96	-0.2	-3	-0.1	-1	-0.15	-22	0.06	21
All without employment history	0.98	0.1	0	0.1	1	-0.01	20	-0.01	2
All without unemployment history	0.95	0.0	0	-0.2	-3	-0.22	-242	-0.03	-13
All without out-of-labour-force history	0.98	-0.1	-3	-0.2	-5	-0.12	-172	0.05	19

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.9: Hierarchical specifications: training - men

	Outcome variables	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of <i>p</i> -scores with full model in %	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unem. employed	benefit receipt from UI in EUR
Baseline characteristics	36	1.3	37	0.6	21	-0.14	213	-0.53	-291
Timing info, region dummies, UI claim	61	1.5	44	0.8	29	0.34	896	-0.55	-283
Timing of programme start	54	1.7	53	1.0	37	0.43	1215	-0.22	-91
Region dummies	42	1.7	61	1.1	47	0.54	1581	-0.37	-150
UI benefit claim	39	1.4	41	0.6	22	-0.19	164	-0.77	-392
Pre-treatment outcomes	64	1.3	32	0.8	21	0.51	716	-0.41	-211
Short-term labor market history	78	0.7	18	0.5	13	0.37	475	-0.06	-43
Short-term labor market: employment	66	1.3	36	0.9	27	0.56	965	-0.41	-206
Short-term labor market: unemployment	67	1.4	42	1.0	33	0.86	1414	-0.27	-125
Short-term labor market: ofl	65	1.0	29	0.5	19	0.24	551	-0.41	-200
Short-term labor market: earnings	66	1.2	27	0.8	18	0.36	384	-0.47	-244
Short-term labor market: last job non-firm	73	1.0	21	0.8	18	0.58	709	-0.15	-94
Long-term labor market history	84	0.6	17	0.4	13	0.33	516	0.10	33
Long-term labor market history: employment	79	0.7	19	0.5	15	0.39	612	-0.03	-24
Long-term labor market history: unemployment	81	0.6	17	0.4	14	0.46	688	0.05	9
Long-term labor market history: ofl	79	0.8	20	0.5	16	0.41	621	-0.02	-27
Long-term labor market history: earnings	78	0.6	18	0.4	13	0.37	562	-0.01	-22
True model	100	0.0	-3	-0.1	-2	-0.06	-30	0.01	1
Health information	85	0.4	13	0.2	9	0.06	201	0.10	28
Individual job search effort, employability and mobility	92	0.5	19	0.4	15	0.42	714	-0.07	-24
Industry and occupation-specific experience	86	0.5	14	0.4	11	0.39	515	0.05	16
Firm characteristics of last job	89	0.5	11	0.4	9	0.32	402	0.17	62
Characteristics of job looked for	85	0.6	14	0.4	11	0.30	417	0.10	25
Detailed regional characteristics	86	0.5	12	0.4	9	0.24	305	0.04	11

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.10: Hierarchical specifications: training - women

	Outcome variables	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
Specification of propensity score	Correlation of <i>p</i> -scores with full model in %	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Baseline characteristics	45	1.9	45	1.6	41	0.77	1601	0.13	56
Timing info, region dummies, UI claim	70	1.4	32	1.2	28	0.85	1178	-0.21	-53
Timing of programme start	61	2.3	48	1.9	43	1.03	1632	0.21	121
Region dummies	47	1.7	45	1.5	44	0.86	1818	0.11	67
UI benefit claim	51	1.3	43	1.1	40	0.78	1774	-0.31	-28
Pre-treatment outcomes	71	1.5	29	1.4	25	1.10	1045	-0.14	-48
Short-term labor market history	82	0.6	12	0.6	11	0.40	442	0.07	30
Short-term labor market: employment	73	1.2	24	1.1	20	0.78	834	-0.14	-52
Short-term labor market: unemployment	76	1.4	30	1.4	30	1.27	1444	0.02	16
Short-term labor market: ofl	74	0.9	23	0.7	18	0.50	648	-0.17	-62
Short-term labor market: earnings	74	0.8	8	0.5	3	0.24	-8	-0.18	-75
Short-term labor market: last job non-firm	74	1.7	23	1.4	19	0.90	657	-0.09	-30
Long-term labor market history	87	0.5	7	0.5	5	0.28	208	0.11	34
Long-term labor market history: employment	83	0.7	8	0.6	8	0.37	247	0.13	40
Long-term labor market history: unemployment	84	0.5	10	0.5	9	0.43	434	0.11	32
Long-term labor market history: ofl	84	0.5	6	0.5	6	0.26	229	0.07	32
Long-term labor market history: earnings	82	0.7	13	0.6	12	0.41	439	0.04	20
True model	100	-0.1	-2	-0.1	-2	-0.06	-58	0.00	3
Health information	87	0.2	4	0.1	2	-0.10	22	0.09	31
Individual job search effort, employability and mobility	91	0.0	2	0.0	2	-0.15	27	0.08	30
Industry and occupation-specific experience	88	0.4	7	0.5	7	0.29	287	0.10	33
Firm characteristics of last job	92	0.4	4	0.4	4	0.30	185	0.02	6
Characteristics of job looked for	89	0.4	3	0.4	3	0.18	134	0.12	47
Detailed regional characteristics	88	0.6	2	0.6	1	0.29	30	0.08	31

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.11: Hierarchical specifications: job search assistance - men

Specification of propensity score	Outcome variables	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	Correlation of <i>p</i> -scores with full model in %	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Baseline characteristics	30	0.9	-22	-0.8	-53	-2.11	-3711	-0.85	-435
Timing info, region dummies, UI claim	75	0.2	-8	-0.2	-15	-0.63	-1054	-0.17	-147
Timing of programme start	58	0.1	-22	-0.8	-37	-1.42	-2318	-0.47	-326
Region dummies	54	1.2	7	0.0	-15	-1.02	-1604	-0.49	-198
UI benefit claim	34	1.4	-14	-0.2	-46	-1.36	-3274	-0.56	-499
Pre-treatment outcomes	77	0.3	-3	-0.2	-10	-0.50	-702	-0.06	-69
Short-term labor market history	83	0.3	0	0.0	-3	-0.16	-232	0.07	3
Short-term labor market: employment	78	0.3	-1	-0.1	-6	-0.41	-580	-0.05	-54
Short-term labor market: unemployment	79	0.4	0	0.0	-5	-0.09	-235	0.05	-4
Short-term labor market: olf	77	0.3	2	0.0	-4	-0.26	-410	-0.05	-61
Short-term labor market: earnings	77	0.1	-9	-0.3	-16	-0.62	-994	-0.10	-89
Short-term labor market: last job non-firm	78	0.4	1	0.0	-5	-0.28	-468	-0.03	-48
Long-term labor market history	88	0.0	-5	-0.1	-7	-0.29	-392	0.13	35
Long-term labor market history: employment	85	0.2	-2	0.0	-5	-0.09	-290	0.07	13
Long-term labor market history: unemployment	86	0.1	-4	0.0	-6	-0.17	-328	0.13	37
Long-term labor market history: olf	84	0.3	0	0.0	-4	-0.17	-278	0.07	16
Long-term labor market history: earnings	83	0.4	-1	0.1	-3	-0.11	-278	0.10	19
True model	100	0.1	1	0.1	1	0.09	65	0.01	-1
Health information	88	0.1	-1	0.0	-4	-0.24	-354	0.08	12
Individual job search effort, employability and mobility	95	0.0	-2	-0.2	-3	-0.13	-151	-0.03	-14
Industry and occupation-specific experience	89	0.1	-3	0.0	-5	-0.20	-299	0.13	40
Firm characteristics of last job	90	0.0	-5	0.0	-6	-0.18	-296	0.16	53
Characteristics of job looked for	89	0.1	-3	-0.2	-6	-0.27	-349	0.10	29
Detailed regional characteristics	90	-0.1	-7	-0.3	-8	-0.32	-414	0.11	27

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Table I.12: Hierarchical specifications: job search assistance - women

Specification of propensity score	Outcome variables	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	Correlation of <i>p</i> -scores with full model in %	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
Baseline characteristics	33	0.4	-7	0.0	-12	-1.39	-1301	-0.13	4
Timing info, region dummies, UI claim	73	0.5	-8	0.2	-11	-0.52	-905	-0.20	-93
Timing of programme start	57	0.4	-3	0.2	-6	-1.00	-942	0.07	17
Region dummies	50	0.7	2	0.2	-5	-0.88	-804	-0.14	23
UI benefit claim	39	0.8	-5	0.4	-11	-0.53	-1037	-0.33	-186
Pre-treatment outcomes	75	0.5	-3	0.3	-4	-0.29	-446	-0.15	-61
Short-term labor market history	81	0.4	-2	0.3	-1	-0.10	-196	0.13	26
Short-term labor market: employment	77	0.9	2	0.5	-1	-0.09	-250	-0.09	-35
Short-term labor market: unemployment	79	1.0	6	0.9	7	0.36	163	0.06	4
Short-term labor market: olf	76	0.5	-2	0.3	-4	-0.39	-540	-0.15	-61
Short-term labor market: earnings	75	0.5	-5	0.2	-8	-0.36	-667	-0.13	-61
Short-term labor market: last job non-firm	76	0.7	-1	0.5	-3	-0.20	-447	-0.15	-57
Long-term labor market history	87	0.6	2	0.4	1	0.14	47	0.23	56
Long-term labor market history: employment	83	0.4	-3	0.3	-3	-0.06	-195	0.19	45
Long-term labor market history: unemployment	83	0.6	0	0.4	0	0.00	-49	0.17	37
Long-term labor market history: olf	84	0.3	-3	0.3	-2	-0.16	-217	0.12	14
Long-term labor market history: earnings	81	0.4	-5	0.1	-7	-0.23	-399	0.15	23
True model	100	-0.1	1	-0.2	0	-0.06	50	0.00	-5
Health information	87	0.5	-2	0.3	-2	-0.04	-143	0.14	24
Individual job search effort, employability and mobility	96	0.0	-1	0.0	-1	-0.16	-13	0.00	-7
Industry and occupation-specific experience	88	0.4	-2	0.4	-2	0.06	-108	0.17	39
Firm characteristics of last job	87	0.7	5	0.7	7	0.43	252	0.00	5
Characteristics of job looked for	88	0.6	-1	0.5	0	0.18	-33	0.15	31
Detailed regional characteristics	88	0.7	1	0.6	1	0.23	32	0.17	35

Note: *Correlation of p-scores* measures the correlation of the propensity scores of the full model and the reduced model indicated in the particular line for men and for women, respectively. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. The numbers show the estimated biases that are obtained from the simulations (standard errors are obtained directly from the 500 simulation samples).

Appendix I.6: Full set of regression results

Table I.13: Regression results of the bias (simulations) - all outcomes: training - men

Block of variables added to baseline specification	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months em- ployed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Baseline (constant in regression) (0)	<i>1.7</i>	<i>52</i>	<i>1.1</i>	<i>38</i>	<i>0.49</i>	<i>1094</i>	<i>-0.46</i>	<i>-262</i>
Timing of entry into unemployment & program (1)	<i>-0.4</i>	<i>-11</i>	<i>-0.3</i>	<i>-10</i>	<i>-0.16</i>	<i>-290</i>	<i>0.24</i>	<i>130</i>
Region dummies (2)	<i>0.1</i>	<i>8</i>	<i>0.1</i>	<i>9</i>	<i>0.25</i>	<i>518</i>	<i>0.03</i>	<i>32</i>
Benefits & UI claim (3)	<i>-0.2</i>	<i>-8</i>	<i>-0.2</i>	<i>-8</i>	<i>-0.28</i>	<i>-468</i>	<i>-0.15</i>	<i>-55</i>
Pre-treatment outcomes (4)	0.1	<i>-4</i>	<i>0.1</i>	<i>-2</i>	<i>0.19</i>	13	0.00	<i>-9</i>
Non-firm characteristics of last job (5)	<i>0.1</i>	<i>-5</i>	<i>0.2</i>	<i>-2</i>	<i>0.21</i>	<i>-18</i>	<i>0.15</i>	<i>44</i>
Labour market history, 2 years, employment (6a)	<i>-0.3</i>	<i>-9</i>	<i>-0.2</i>	<i>-6</i>	<i>-0.09</i>	<i>-161</i>	<i>0.15</i>	<i>75</i>
unemployment (6b)	0.1	<i>5</i>	<i>0.2</i>	<i>7</i>	<i>0.25</i>	<i>453</i>	0.01	<i>18</i>
out-of-labour force (6c)	-0.0	<i>2</i>	<i>-0.1</i>	<i>0</i>	<i>-0.11</i>	<i>-33</i>	<i>-0.05</i>	<i>-21</i>
earnings (8a)	<i>-0.3</i>	<i>-10</i>	<i>-0.3</i>	<i>-10</i>	<i>-0.31</i>	<i>-489</i>	0.01	<i>-4</i>
10 years, employment (7a)	0.1	<i>5</i>	<i>0.1</i>	<i>5</i>	<i>0.07</i>	<i>214</i>	<i>0.05</i>	<i>32</i>
unemployment (7b)	0.1	<i>3</i>	<i>0.2</i>	<i>6</i>	<i>0.29</i>	<i>435</i>	<i>0.12</i>	<i>81</i>
out-of-labour force (7c)	<i>-0.3</i>	<i>-7</i>	<i>-0.3</i>	<i>-8</i>	<i>-0.30</i>	<i>-425</i>	0.00	<i>-6</i>
earnings (8b)	<i>-0.1</i>	<i>-5</i>	<i>-0.1</i>	<i>-7</i>	<i>-0.20</i>	<i>-443</i>	<i>-0.10</i>	<i>-69</i>
Firm characteristics (last job) (9)	<i>0.1</i>	<i>2</i>	<i>0.3</i>	<i>6</i>	<i>0.39</i>	<i>478</i>	<i>0.12</i>	<i>53</i>
Industry- & occupation-specific experience (10)	<i>0.1</i>	<i>3</i>	<i>0.1</i>	<i>4</i>	<i>0.14</i>	<i>219</i>	<i>0.04</i>	<i>29</i>
Health (11)	<i>-0.6</i>	<i>-17</i>	<i>-0.8</i>	<i>-18</i>	<i>-0.81</i>	<i>-989</i>	<i>-0.16</i>	<i>-87</i>
Compliance with benefit condit., employability, mobility (12)	<i>0.1</i>	<i>6</i>	<i>0.2</i>	<i>6</i>	<i>0.21</i>	<i>286</i>	<i>-0.08</i>	<i>-20</i>
Characteristics of job looked for (13)	<i>-0.2</i>	<i>-8</i>	<i>-0.2</i>	<i>-6</i>	<i>-0.11</i>	<i>-180</i>	<i>0.14</i>	<i>58</i>
Detailed regional information (14)	0.0	<i>-1</i>	0.0	<i>-1</i>	<i>-0.02</i>	<i>-56</i>	<i>-0.01</i>	<i>2</i>
<i>R</i> ²	43	46	33	43	39	41	59	42

Note: The entries refer to the mean - across simulations - of the coefficients of an OLS regression of the bias (equal to the estimated effect because the true effect is zero) on dummy variables that are equal to one if the respective block of variables is included in the estimation of the propensity score. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. Sample size for each regression: 69 observations. Standard errors are obtained directly from the 500 simulation samples. The numbers in parentheses in column one indicate to which block in Table 1 this corresponds.

Table I.14: Regression results of the bias (simulations) - all outcomes: training - women

Block of variables added to baseline specification	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months em- ployed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Baseline (constant in regression) (0)	1.7	41	1.5	39	0.89	1607	-0.10	-19
Timing of entry into unemployment & program (1)	0.1	-3	0.0	-5	-0.08	-323	0.18	52
Region dummies (2)	0.0	1	0.0	1	0.05	57	0.01	9
Benefits & UI claim (3)	-0.5	-6	-0.5	-6	-0.23	-215	-0.11	-6
Pre-treatment outcomes (4)	-0.1	-8	0.0	-7	0.14	-249	-0.05	-53
Non-firm characteristics of last job (5)	0.1	-7	0.0	-7	-0.14	-407	0.09	14
Labour market history, 2 years, employment (6a)	-0.4	-7	-0.4	-6	-0.28	-241	0.09	35
unemployment (6b)	-0.1	2	0.0	3	0.15	258	-0.06	-2
out-of-labour force (6c)	0.1	4	0.2	5	0.18	265	0.02	15
earnings (8a)	-0.0	-4	-0.1	-5	-0.18	-347	-0.03	-33
10 years, employment (7a)	0.0	1	0.0	0	0.00	55	-0.02	-6
unemployment (7b)	-0.1	-1	0.0	2	0.15	200	0.07	45
out-of-labour force (7c)	-0.3	-4	-0.3	-4	-0.26	-215	-0.04	-14
earnings (8b)	-0.2	-6	-0.1	-6	-0.17	-284	-0.01	-22
Firm characteristics (last job) (9)	0.0	0	0.1	2	0.27	174	-0.08	-34
Industry- & occupation-specific experience (10)	0.2	4	0.2	4	0.19	207	0.03	6
Health (11)	-0.5	-6	-0.6	-6	-0.56	-363	-0.05	-7
Compliance with benefit condit., employability, mobility (12)	-0.5	-3	-0.5	-3	-0.33	-94	0.01	16
Characteristics of job looked for (13)	0.1	-3	0.0	-3	-0.03	-157	0.00	-3
Detailed regional information (14)	0.2	0	0.2	-1	0.16	-42	0.05	9
<i>R</i> ²	67	71	69	73	64	74	29	34

Note: The entries refer to the mean - across simulations - of the coefficients of an OLS regression of the bias (equal to the estimated effect because the true effect is zero) on dummy variables that are equal to one if the respective block of variables is included in the estimation of the propensity score. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. Sample size for each regression: 69 observations. Standard errors are obtained directly from the 500 simulation samples. The numbers in parentheses in column one indicate to which block in Table 1 this corresponds.

Table I.15: Regression results of the bias (simulations) - all outcomes: job search assistance - men

<i>Block of variables added to baseline specification</i>	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months em- ployed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Baseline (constant in regression) (0)	1.3	-4	-0.1	-32	-1.32	-2561	-0.52	-287
Timing of entry into unemployment & program (1)	-1.1	-14	-0.5	-3	-0.10	272	0.23	126
Region dummies (2)	-0.1	9	0.2	15	0.43	927	0.05	67
Benefits & UI claim (3)	0.1	0	0.1	0	0.21	39	0.06	-54
Pre-treatment outcomes (4)	0.0	7	0.2	10	0.35	618	0.11	81
Non-firm characteristics of last job (5)	-0.16	-5	-0.1	-4	-0.14	-207	-0.02	-9
Labour market history, 2 years, employment (6a)	0.1	2	0.2	4	0.23	284	0.08	36
unemployment (6b)	-0.1	1	0.1	3	0.09	186	0.09	49
out-of-labour force (6c)	0.0	0	-0.0	-1	0.03	4	-0.03	-16
earnings (8a)	0.0	2	0.1	2	0.02	52	-0.02	-3
10 years, employment (7a)	-0.1	0	0.0	1	0.01	57	0.06	28
unemployment (7b)	0.0	2	0.1	4	0.33	410	0.13	77
out-of-labour force (7c)	-0.1	-1	-0.1	-1	-0.14	-155	-0.02	-15
earnings (8b)	-0.0	-3	-0.2	-4	-0.20	-248	-0.08	-39
Firm characteristics (last job) (9)	-0.1	1	0.1	5	0.25	390	0.12	59
Industry- & occupation-specific experience (10)	-0.1	0	0.0	2	0.04	111	0.02	13
Health (11)	-0.4	-10	-0.4	-12	-0.51	-659	-0.13	-67
Compliance with benefit condit., employability, mobility (12)	0.3	11	0.4	11	0.45	557	-0.05	-12
Characteristics of job looked for (13)	-0.0	1	-0.0	1	-0.03	52	0.01	16
Detailed regional information (14)	0.1	3	0.1	2	0.13	105	-0.05	-27
<i>R</i> ²	38	16	11	44	52	69	68	70

Note: The entries refer to the mean - across simulations - of the coefficients of an OLS regression of the bias (equal to the estimated effect because the true effect is zero) on dummy variables that are equal to one if the respective block of variables is included in the estimation of the propensity score. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. Sample size for each regression: 69 observations. Standard errors are obtained directly from the 500 simulation samples. The numbers in parentheses in column one indicate to which block in Table 1 this corresponds.

Table I.16: Regression results of the bias (simulations) - all outcomes: job search assistance - women

<i>Block of variables added to baseline specification</i>	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months em- ployed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Baseline (constant in regression) (0)	0.6	0	0.3	-5	-0.94	-877	-0.09	24
Timing of entry into unemployment & program (1)	-0.5	-9	-0.3	-6	-0.26	-274	0.24	65
Region dummies (2)	0.3	6	0.2	6	0.37	355	-0.07	-9
Benefits & UI claim (3)	0.1	-2	0.1	-2	0.31	62	-0.16	-127
Pre-treatment outcomes (4)	0.1	4	0.2	5	0.32	332	0.00	8
Non-firm characteristics of last job (5)	-0.1	-3	-0.1	-4	-0.12	-179	0.02	0
Labour market history, 2 years, employment (6a)	-0.3	-3	-0.2	-1	-0.07	1	0.09	27
unemployment (6b)	0.1	1	0.0	1	0.09	133	0.01	10
out-of-labour force (6c)	0.1	3	0.1	3	0.18	178	0.04	8
earnings (8a)	0.0	1	0.0	0	-0.05	-23	-0.01	-1
10 years, employment (7a)	0.3	5	0.2	4	0.26	247	0.02	11
unemployment (7b)	-0.1	0	0.1	2	0.22	191	0.12	43
out-of-labour force (7c)	-0.0	0	-0.0	0	-0.09	-30	-0.02	-6
earnings (8b)	-0.1	-5	-0.1	-5	-0.16	-217	-0.04	-21
Firm characteristics (last job) (9)	0.2	4	0.3	6	0.40	311	-0.04	-7
Industry- & occupation-specific experience (10)	-0.2	0	-0.1	0	-0.06	5	0.02	7
Health (11)	-0.3	-6	-0.4	-7	-0.45	-350	-0.06	-19
Compliance with benefit condit., employability, mobility (12)	-0.5	1	-0.4	1	-0.17	86	-0.08	-12
Characteristics of job looked for (13)	-0.1	-3	-0.1	-3	-0.05	-112	0.02	-5
Detailed regional information (14)	0.3	6	0.3	5	0.30	251	-0.03	-1
<i>R</i> ²	39	40	34	46	59	56	50	50

Note: The entries refer to the mean - across simulations - of the coefficients of an OLS regression of the bias (equal to the estimated effect because the true effect is zero) on dummy variables that are equal to one if the respective block of variables is included in the estimation of the propensity score. *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. Sample size for each regression: 69 observations. Standard errors are obtained directly from the 500 simulation samples. The numbers in parentheses in column one indicate to which block in Table 1 this corresponds.

Appendix I.7: Comparison of hierarchical and regression analysis

Table I.17: Comparison of biases obtained from regressions and hierarchical analyses

Outcome variables	Average in year 4 after program start				Cumulated effects over the first 4 years after program start				
	Employment rate in %		Half-monthly earnings in EUR		Half-months employed		Total earnings in EUR		
	Men	Women	Men	Women	Men	Women	Men	Women	
Training – hierarchical analysis									
Baseline (0)	0.6	1.6	21	41	-0.1	0.8	213	1601	
(0)+Timing of entry into unemployment and program (1), region dummies (2), benefits and UI claim (3)	0.8	1.2	29	28	0.3	0.9	896	1178	
(0)+(1+2+3)+Pre-treatment outcomes (4)	0.8	1.4	21	25	0.5	1.1	716	1045	
(0)+(1+2+3)+(4)+Last employment: non-firm characteristics (5), short-term labour market and earnings history (6+8a)	0.5	0.6	13	11	0.4	0.4	475	442	
(0)+(1+2+3)+(4)+(5+6)+(8a)+long-term labour market and earnings history (7+8b)	0.4	0.5	13	5	0.3	0.3	516	208	
<i>True model</i>	-0.1	-0.1	-2	0	-0.1	-0.1	-30	-58	
Training – regression analysis									
(0)	1.1	1.5	38	39	0.5	0.9	1094	1607	
(0+1+2+3)	0.7	1.0	27	29	0.3	0.6	854	1127	
(0+1+2+3+4)	0.8	1.1	25	22	0.5	0.8	867	878	
(0+1+2+3+4+5+6+8a)	0.6	0.8	15	11	0.4	0.5	618	406	
(0+1+2+3+4+5+6+8a+7+8b)	0.4	0.4	10	4	0.3	0.2	400	162	
<i>True model</i>	0.0	-0.1	1	-3	0.1	-0.1	158	-113	
Job search assistance – hierarchical analysis									
(0)	-0.8	0.0	-53	-12	-2.1	-1.4	-3711	-1301	
(0+1+2+3)	-0.2	0.2	-15	-11	-0.6	-0.5	-1054	-905	
(0+1+2+3+4)	-0.2	0.3	-4	-10	-0.5	-0.3	-702	-446	
(0+1+2+3+4+5+6+8a)	0.0	0.3	-3	-1	-0.2	-0.1	-232	-196	
(0+1+2+3+4+5+6+8a+7+8b)	-0.1	0.4	-7	1	-0.3	0.1	-392	47	
<i>True model</i>	0.1	-0.2	1	0	0.1	-0.1	65	50	
Job search assistance – regression analysis									
(0)	-0.1	0.3	-32	-5	-1.3	-0.9	-2560	-877	
(0+1+2+3)	-0.3	0.3	-19	-7	-0.8	-0.5	-1323	-733	
(0+1+2+3+4)	-0.1	0.5	-10	-2	-0.4	-0.2	-706	-401	
(0+1+2+3+4+5+6+8a)	0.0	0.3	-6	-3	-0.2	-0.2	-387	-292	
(0+1+2+3+4+5+6+8a+7+8b)	-0.1	0.4	-6	-2	-0.2	0.1	-322	-100	
<i>True model</i>	0.1	-0.1	4	0.6	0.1	0.0	233	90	

Note: Block numbers refer to the blocks of variables defined in Table 1. For the hierarchical analysis, all entries are taken directly from Tables I.9 to I.12. For the regression analysis, the entries in this table are computed from Tables I.13 to I.16 by summing up the respective coefficients.

Appendix I.8: Specifications used for benchmark studies

LaLonde (1986), Dehejia, Wahba (1999)	Age in years, Age 20-24 years, Age \geq 50 years, No school degree, Upper secondary school degree, University entry school degree, Married, No German citizen, Beginning of unemployment (quarter dummies), Big city, Employed in month 12/24 before, Cumulated earnings in last 12/24 months
Heckman, Smith (1999)	Age in years, Age 20-24 years, Age \geq 50 years, No school degree, Upper secondary school degree, University entry school degree, Married, No German citizen, Youngest kid 0-2/3-5, Earnings of last job, Cumulated earnings in last year, plus blocks 2, 6, 14
Mueser, Troske, Gorislavsky (2007)	Age in years, Age 20-24 years, Age \geq 50 years, No school degree, Upper secondary school degree, University entry school degree, No vocational degree, University or college degree, No German citizen, Beginning of unemployment (quarter dummies), Occupation of last job (dummies), Earnings of last job, Cumulated earnings in last 12/24 months, plus blocks 2, 4, 6
Dolton, Smith (2010)	Age 20-24 years, Age 25-29 years, Age 30-34 years, Age 40-44 years, Age 45-49 years, Age \geq 50 years, One child, Two or more children, Youngest kid 0-2/3-5, Health impairment or disability, Half-months unemployed in last 6 months, Fraction unemployed in last year, Unemployed in month 6/12 before, Number of unemployment spells in last year, Average unemployment duration in last year, plus block 2

Note: Block numbers refer to the blocks of variables defined in Table 1.

Appendix I.9: Full set of outcome variables for comparison with other studies

Table I.18: Bias of effects for selected specifications obtained from simulations

	Outcome variables		4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start		
	Correlation of $p(x)$ with $p(x)$ of full model	employment rate in %	half-monthly earnings in EUR	employment rate in %	half-monthly earnings in EUR	half-months employed	earnings in EUR	half-months unemployed	benefit receipt from UI in EUR
<i>Specification of propensity score</i>									
Training - men									
True model	1.00	0.0	-3	-0.1	-2	-0.06	-30	0.01	1
LaLonde (1986), Dehejia, Wahba (1999)	0.44	1.2	38	0.7	24	0.03	322	-0.90	-461
Heckman, Smith (1999)	0.55	1.3	44	0.9	31	0.60	952	-0.63	-404
Mueser, Troske, Gorislavsky (2007)	0.62	1.6	45	1.3	38	1.07	1504	-0.28	-172
Dolton, Smith (2010)	0.38	1.8	90	1.1	73	0.68	2751	-1.14	-375
Training - women									
True model	1.00	-0.1	-2	-0.1	-2	-0.06	-58	0.00	3
LaLonde (1986), Dehejia, Wahba (1999)	0.50	1.9	23	1.6	17	0.76	237	-0.27	-126
Heckman, Smith (1999)	0.62	1.6	24	1.6	24	1.41	1109	-0.21	-156
Mueser, Troske, Gorislavsky (2007)	0.68	1.7	30	1.7	30	1.36	1310	-0.26	-83
Dolton, Smith (2010)	0.44	1.7	68	1.6	70	1.52	3297	-0.54	19
Job search assistance - men									
True model	1.00	0.1	1	0.1	1	0.09	65	0.01	-1
LaLonde (1986), Dehejia, Wahba (1999)	0.42	0.4	-8	-0.3	-21	-1.06	-1574	-0.45	-222
Heckman, Smith (1999)	0.62	1.8	11	0.7	-8	-0.01	-989	-0.27	-143
Mueser, Troske, Gorislavsky (2007)	0.68	1.0	18	0.6	14	0.28	414	-0.02	3
Dolton, Smith (2010)	0.54	0.7	-17	-0.4	-37	-1.24	-2443	-0.71	-319
Job search assistance - women									
True model	1.00	-0.1	1	-0.2	0	-0.06	50	0.00	-5
LaLonde (1986), Dehejia, Wahba (1999)	0.42	0.3	-4	0.0	-9	-1.16	-1049	-0.13	-9
Heckman, Smith (1999)	0.58	1.2	3	0.7	0	0.20	-230	-0.10	18
Mueser, Troske, Gorislavsky (2007)	0.64	1.0	16	0.7	15	0.29	491	-0.03	67
Dolton, Smith (2010)	0.52	0.4	-5	0.0	-7	-0.43	-438	-0.70	-112

Note: *Italics*: significant on the 10% level, **bold**: significant on the 5% level, **bold italics**: significant on the 1% level. Standard errors are obtained directly from the 500 simulation samples.

Table I.19: Predicted bias for selected applications - all outcomes: men

	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months employed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Training								
DE: Fitzenberger, Osikominu, Völter (2008)	0.9	17	0.8	13	0.4	329	0.1	0
Lechner, Miquel, Wunsch (2011)	0.6	14	0.4	10	0.3	345	0.0	-14
Wunsch, Lechner (2008)	-0.1	0	-0.3	-2	-0.2	-96	0.0	7
CH: Gerfin, Lechner (2002)	0.8	26	0.8	26	0.8	1339	0.2	131
AT: Lechner, Wiehler (2011)	0.0	9	-0.1	7	-0.1	263	0.1	30
SE: Sianesi (2004, 2008)	1.4	47	1.3	42	1.2	1990	0.0	19
DK: Jespersen, Munch, Skipper (2008)	0	13	0.1	6	-0.3	-156	-0.2	-89
Job search assistance								
DE: Wunsch, Lechner (2008)	0.1	1	-0.1	-3	-0.2	-268	-0.1	-50
CH: Gerfin, Lechner (2002)	0.5	8	0.4	5	0.3	173	0.1	6
AT: Lechner, Wiehler (2011)	-0.3	-14	-0.3	-15	-0.5	-856	0.0	-37

Note: The biases are predicted by adding the relevant coefficients reported in Table A.1.

Table I.20: Predicted bias for selected applications - all outcomes: women

	4 years after program start		Average in year 4 after program start		Cumulated effects over the first 4 years after program start			
	employ- ment rate in %	half- monthly earnings in EUR	employ- ment rate in %	half- monthly earnings in EUR	half- months employed	earnings in EUR	half- months unem- ployed	benefit receipt from UI in EUR
Training								
DE: Fitzenberger, Osikominu, Völter (2008)	1.5	15	1.2	11	0.5	193	0.2	-4
Lechner, Miquel, Wunsch (2011)	0.6	4	0.6	3	0.4	120	0.1	23
Wunsch, Lechner (2008)	-0.2	-2	-0.3	-3	-0.4	-211	0.1	50
CH: Gerfin, Lechner (2002)	0.6	12	0.4	9	0.1	350	0.2	110
AT: Lechner, Wiehler (2011)	0.4	13	0.3	11	0.1	463	0.0	57
SE: Sianesi (2004, 2008)	1.2	27	1.0	25	0.5	951	0.2	80
DK: Jespersen, Munch, Skipper (2008)	1.0	15	0.3	10	-0.2	128	0.1	81
Job search assistance								
DE: Wunsch, Lechner (2008)	-0.1	-4	-0.3	-5	-0.3	-226	0.0	-5
CH: Gerfin, Lechner (2002)	0.1	0	0.0	-2	-0.1	-138	0.1	24
AT: Lechner, Wiehler (2011)	0.6	3	0.5	2	0.2	-3	0.1	17

Note: The biases are predicted by adding the relevant coefficients reported in Table A.1.

Appendix I.10: Sensitivity analysis

Table I.21: Comparison of biases obtained for different samples and treatment windows

Outcome variables	Average in year 4 after program start				Cumulated effects over the first 4 years after program start				
	Employment rate in %		Half-monthly earnings in EUR		Half-months employed		Total earnings in EUR		
	Men	Women	Men	Women	Men	Women	Men	Women	
Training									
Main model used in the paper									
Baseline	0.6	1.6	21	41	-0.1	0.8	213	1601	
Full model	-0.1	-0.1	-2	0	-0.1	-0.1	-30	-58	
Germans only									
Baseline	0.2	1.6	17.4	37	-0.5	0.7	305	1367	
Full model	0.2	0.1	5.5	-0.6	0.2	0.1	-118	10	
Treatment window 6 months									
Baseline	1.5	1.9	49	54	0.6	1.2	1347	2222	
Full model	-0.1	-0.0	-2	-1	-0.1	0.0	-66	-10	
Treatment window 18 months									
Baseline	0.6	1.4	22	38	0.1	0.7	198	1326	
Full model	0.0	0.0	1	1	0.0	0.1	80	34	
Job search assistance									
Main model used in the paper									
Baseline	-0.8	0.0	-53	-12	-2.1	-1.4	-3711	-1301	
Full model	0.1	-0.2	1	0	0.1	-0.1	65	50	
Germans only									
Baseline	-0.6	-0.2	-42	-15	-1.9	-1.5	-3312	-1459	
Full model	-0.1	-0.1	-1	-2	-0.1	0.0	-57	-2	
Treatment window 6 months									
Baseline	-0.1	0.4	-37	-6.5	-1.5	-0.7	-2873	-962	
Full model	-0.1	0.1	-1	1.0	-0	0.1	-63	97	
Treatment window 18 months									
Baseline	-0.9	-0.1	-56	-9	-2.2	-1.2	-3970	-1142	
Full model	0.0	-0.1	1	-1	0.0	-0.1	40	-56	

Note: All entries relating to the main model are taken directly from Tables I.5 to I.8.

Appendix I.11: Pre-treatment analysis

To provide supporting evidence for the validity of the unconfoundedness assumption in the actual data and the external validity of the selection model used to generate the simulated data we performed a pre-program test in the spirit of Heckman and Hotz (1989). We artificially shifted the beginning of unemployment and hence the (simulated) program start four years into the past for the actual data. We then use our identification and estimation strategy to estimate the program effects for the four years until the actual beginning of unemployment.

As control variables, we only use history information preceding the four years before the actual beginning of unemployment. This includes employment, unemployment, out-of-labour-force and earnings histories, occupation-specific experience, firm and non-firm characteristics of the last job, sickness and non-compliance histories as well as pre-treatment outcomes. Long-run labour market histories now only comprise 6 years because in total we observe 10 years backwards from the actual beginning of unemployment. Moreover, industry is not available before 1999. Therefore, we excluded this information. All remaining information is only observed for the actual unemployment spell and therefore cannot be pre-dated. The corresponding variables remain unchanged. Thus, in this exercise we can only condition on a subset (although a very large one) of the control variables used in the major study.

If our selection (correction) model is correct used this somewhat reduced set of control variables, the estimated program effects should be zero in this pre-treatment period because treated and controls should be comparable before program start. Indeed, we find no significant effects for the vast majority of half-months. This finding strongly supports our approach. The fact that it is based on a somewhat smaller set of control variables even adds to the power of this test. In order to obtain an impression about the significance of the effects shown in the figures below, note that the employment effects become significant (5% level) when they exceed an absolute value of about 0.03. The earnings effects become significant when they exceed an absolute value of about 35. This

only happens in very few half-months and there is no systematic pattern. Exact confidence intervals as well as results for unemployment, out-of-labor-force status and benefit receipt are available on request. The latter are in line with the results for employment and earnings.

Figure I.1: Results of the pre-treatment tests: effects on employment in %-points

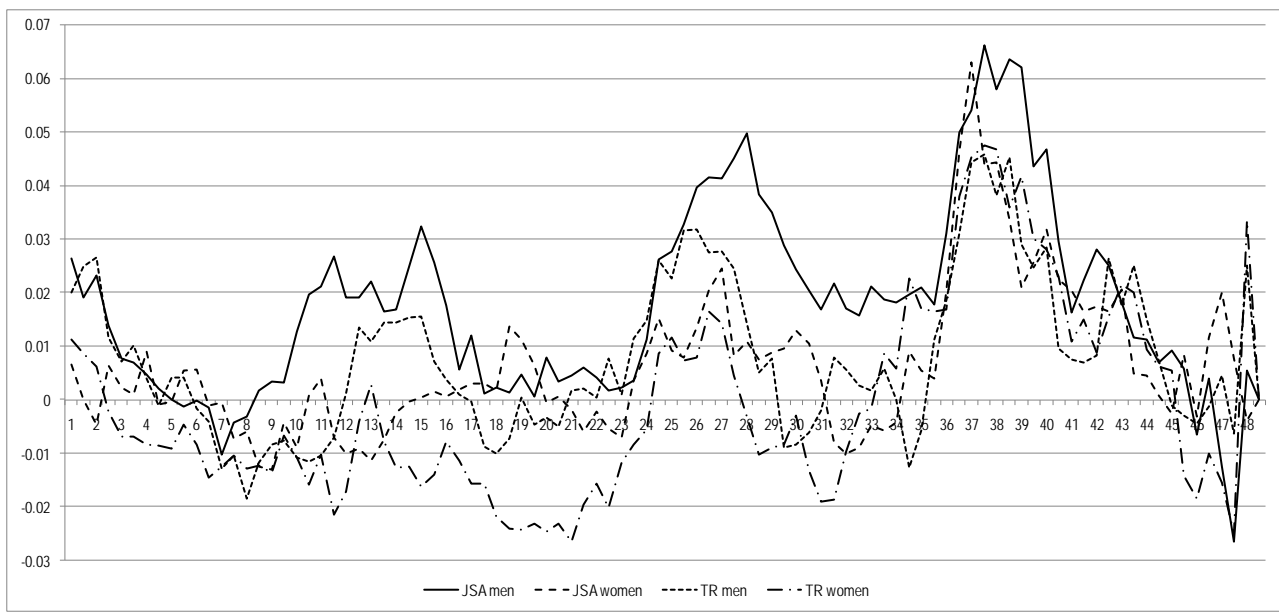


Figure I.2: Results of the pre-treatment tests: effects on earnings from employment in EUR

