

## Technical Appendix to

# A CASEWORKER LIKE ME – DOES THE SIMILARITY BETWEEN THE UNEMPLOYED AND THEIR CASEWORKERS INCREASE JOB PLACEMENTS?

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### Appendix A: Sample Selection

The population for the microeconomic analysis are all individuals who registered as unemployed any time during the year 2003 at one of the 103 employment offices under study. In total 239,004 persons registered as new *jobseekers* during the year 2003. Notice that we consider only the first registration in 2003 for each person and subsume any further registrations within the outcome variables, i.e. the analysis is person based and not spell based.

We restrict our analysis to the 103 regional employment offices that were independently operating agencies responsible for a specific geographic area.<sup>1</sup> We do not include the canton Geneva in our study since in this canton the employment offices are functionally specialised according to professions and employability of the jobseekers. This is in striking contrast to all other cantons, which largely follow a geographic structuring. We further exclude five employment offices from the analysis: three offices that were newly established, split, or re-organised during the year 2003, one employment office that specialised on the difficult cases in Solothurn and the tiny employment office in Appenzell-Innerrhoden, which did not participate in the survey.

After excluding those offices, 219,540 people remain who registered in one of the 103 offices. For 215,251 people the first caseworker was well defined, whereas for the other 4,289 no caseworker was (yet) assigned. The reason for this is that it may take several weeks until the first counselling meeting with a caseworker takes place. In total, 1,891 different caseworkers were identified in the data.

We exclude foreigners without a yearly or permanent work permit, as they are not fully entitled to all services of the employment services. We also exclude individuals on disability or applying for it and restrict the sample to the prime-age population. The remaining sample size is 136,606.

We further restrict the sample to Swiss caseworkers, Swiss unemployed and require that they speak the cantonal language as their mother tongue. (We thereby also eliminate all caseworkers of unknown nationality.) Hence we obtain a more homogeneous population, which should make the interpretation of our estimated treatment effects easier.<sup>2</sup> Finally, we eliminate caseworkers

<sup>1</sup> These employment offices had their own staff, a chief officer and some flexibility in implementing the federal and cantonal policies. Some employment offices operate a number of smaller branches, e.g., in remote areas, or separate between short and longer-term unemployed. These employment offices usually swap staff between these branches and pursue a common strategy. Thus, we consider them as a single entity.

<sup>2</sup> A substantial fraction of the unemployed in Switzerland is foreign. Not all of them are fully attached to the Swiss labour market, partly due to language problems (Switzerland has four official languages) or cultural differences. Furthermore, seasonal work permits, seasonal migration, repeat and return migration are not uncommon, implying that foreigners who temporally or permanently leave Switzerland are not further tracked in the unemployment data system. Such issues are of much less concern for the prime-age Swiss population.

with unknown gender (=7 unemployed lost) and unknown age (=266 unemployed lost), such that we retain 61,011 unemployed persons.

Unfortunately, for 22,391 cases, information on education is missing for either the unemployed or the caseworker. Eliminating these observations, we obtain the final sample size of 38,620 observations. Table A.1 summarises the number of observations lost due to these various restrictions.

Table A.2 examines how these sample restrictions affected the distributions of the observed characteristics. In the first column we show the average characteristics for the full sample of 239,004 persons. In the next column, we show the means for the sample with 61,011 unemployed persons, which is obtained after applying the sample selection criteria on the basis of employment office, age, nationality, eligibility and having been unemployed long enough to be assigned to a caseworker. Clearly this changes the average characteristics somewhat, e.g. deleting all the foreigners increases earnings and reduces the fraction of married people. These selection criteria were applied in order to obtain a more homogeneous population, and selection is based mostly on *exogenous* characteristics. (The only concern could be absence of caseworkers' information including nationality, when we restrict our sample to Swiss caseworkers, as we suspect that many of these caseworkers with missing nationality are in fact Swiss.)

For many of these 61,011 cases, however, information on education is missing either for the caseworker and/or for the unemployed. (See the last two rows of Table A.1.) This is a more serious concern since education is a key variable in our analysis. Therefore, in the last two columns of Table A.2, we show the average characteristics for the subsample of the 38,620 people with full information on education and for the subsample of 22,391 people where the information on education is missing either for the unemployed or for the caseworker. From Table A.2 we see that these two sub-samples are very similar in almost all characteristics, such that it appears that education is missing at random. The only exception is that those unemployed with known education have been somewhat more often unemployed in recent years. In other words, for those unemployed who have been unemployed repeatedly, the information on education is more frequently available.

Table A1  
*Sample Selection*

	Number of individuals	
	Deleted	Remaining
Population: all new jobseekers during the year 2003		239,004
Exclude Geneva and five other employment offices	-19,464	219,540
Exclude jobseekers not (yet) assigned to a caseworker	-4,289	215,251
Exclude foreigners without yearly or permanent work permit	-5,399	209,852
Exclude jobseekers without unemployment benefit claim	-18,434	191,418
Exclude jobseekers who applied for or claim disability insurance	-3,163	188,255
Restrict to prime-age population (24 to 55 years old)	-51,649	136,606
Exclude jobseekers whose caseworker's nationality information is missing	-12,185	124,421
Exclude jobseekers whose caseworker's gender is missing	-7	124,414
Exclude jobseekers whose caseworker's age is missing	-266	124,148
Retain only Swiss caseworkers	-10,193	113,955
Retain only Swiss unemployed	-42,922	71,033
Retain only unemployed whose mother tongue corresponds to the cantonal language	-10,022	61,011
Exclude unemployed whose caseworker's education is missing	-10,829	50,182
Exclude unemployed if information on their education is missing	-11,562	38,620

Table A2  
*Descriptive Statistics, Sample Averages*

	Full sample	Sample after exogenous restrictions	Education known	Education missing
<i>Number of unemployed</i>	239,004	61,011	38,620	22,391
Female	0.44	0.45	0.45	0.46
Age	34.9	36.6	36.4	36.9
Swiss nationality	0.64	1	1	1
Earnings (in last job, Swiss Francs)	3,800	4,525	4,513	4,547
Unemployment rate in industry (of last job)	4.83	4.57	4.58	4.56
Looking for part-time job	0.09	0.11	0.11	0.11
Not unemployed	0.05	0	0	0
Not eligible for unemployment benefits	0.03	0	0	0
Has exhausted unemployment benefits	<0.01	0	0	0
Marital status: single	0.48	0.54	0.54	0.54
married	0.42	0.33	0.33	0.33
divorced	0.09	0.12	0.12	0.12
widowed	0.01	0.01	0.01	0.01
Number of (dependent) persons in household	1.97	1.84	1.84	1.84
Qualification: missing	0	0	0	0
unskilled	0.24	0.10	0.10	0.12
semiskilled	0.16	0.12	0.13	0.10
skilled, but no recognised degree	0.05	0.02	0.02	0.01
skilled	0.55	0.75	0.75	0.77
Employability missing	<0.01	<0.01	<0.01	<0.01
very good, no need for help	0.01	0.02	0.02	0.01
good	0.09	0.11	0.11	0.11
average	0.53	0.53	0.52	0.54
average, without need for training*	0.14	0.17	0.16	0.17
average, with need for training <sup>†</sup>	0.06	0.06	0.05	0.05
difficult to employ	0.07	0.05	0.04	0.05
difficult, without need for training <sup>‡</sup>	0.04	0.04	0.04	0.03
difficult, with need for training <sup>§</sup>	0.03	0.02	0.02	0.02
difficult, with need for training in basic skills <sup>¶</sup>	<0.01	<0.01	<0.01	<0.01
very difficult case	<0.01	<0.01	0.01	<0.01
Job position (of last job): missing	<0.01	<0.01	<0.01	<0.01
self-employed	<0.01	<0.01	<0.01	<0.01
Management	0.06	0.10	0.10	0.09
qualified worker	0.56	0.71	0.71	0.71
assistant position	0.29	0.15	0.14	0.15
Apprentice	0.04	0	0	0
working from home	<0.01	0	0	0
student (at university)	0.02	0	0	0
pupil (at school)	0.02	0	0	0
Size of municipality: missing	<0.01	0	0	0
≥ 200,000 inhabitants	0.07	0.08	0.08	0.08
≥ 150,000	0.11	0.07	0.09	0.05
≥ 75,000	0.05	0.05	0.05	0.05
≥ 40,000	0.04	0.03	0.04	0.03
≥ 25,000	0.05	0.04	0.05	0.04
≥ 15,000	0.17	0.16	0.15	0.16
≥ 8,000	0.14	0.14	0.13	0.16
≥ 3,000	0.19	0.21	0.20	0.23
≥ 2,000	0.09	0.10	0.10	0.11
< 2,000	0.09	0.11	0.11	0.10

Table A2  
(Continued)

	Full sample	Sample after exogenous restrictions	Education known	Education missing
Education of unemployed: unknown	0.26	0.23	0	–
Primary	0.04	<0.01	<0.01	–
lower secondary	0.23	0.11	0.15	–
higher secondary vocational	0.35	0.48	0.61	–
higher secondary academic	0.02	0.03	0.03	–
tertiary vocational	0.05	0.09	0.12	–
tertiary academic	0.04	0.06	0.08	–
<i>Employment and Earnings history in last 10 years</i>				
Number of months employed in last 10 years	74.99	90.97	89.86	92.98
Number of months employed in last 5 years	43.35	48.76	48.29	49.60
Number of employment spells in last 10 years	2.03	2.21	2.28	2.10
Number of employment spells in last 5 years	1.15	1.15	1.19	1.08
Average duration (in months) of employment spells in last 10 years	18.30	23.11	23.10	23.13
Average duration (in months) of employment spells in last 5 years	10.11	11.82	12.16	11.22
Average yearly earnings in last 10 years (SF)	30,338	38,930	38,080	40,400
Average yearly earnings in last 5 years (SF)	35,300	44,500	43,560	46,130
Number of months unemployed in last 10 years	6.8	6.6	7.0	5.9
Number of months unemployed in last 5 years	3.5	3.0	3.3	2.4
Number of unemployment spells in last 10 years	1.22	1.27	1.35	1.12
Number of unemployment spells in last 5 years	0.69	0.64	0.70	0.53
Average duration (in months) of unemployment spells in last 10 years	2.71	2.59	2.70	2.39
Average duration (in months) of unemployment spells in last 5 years	1.85	1.61	1.73	1.41
Ever been self-employed in last 10 years	0.19	0.27	0.27	0.27
Ever been self-employed in last 5 years	0.09	0.12	0.12	0.12
Has been out-of-labour-force in last 10 years	0.34	0.40	0.40	0.40
Has been out-of-labour-force in last 5 years	0.26	0.30	0.30	0.29
No interruptions in administrative data in last 10 years	0.55	0.46	0.46	0.47
No interruptions in administrative data in last 5 years	0.64	0.58	0.58	0.59
Has participated in long-training programme in last 2 years	0.04	0.04	0.04	0.03
Has participated in short-training programme in last 2 years	0.01	0.01	0.01	0.01

*Note.* Education known means that information on educational background is available for unemployed *and* caseworker. Otherwise education is missing for either the unemployed and/or the caseworker.

\*mittlere Vermittelbarkeit ohne Qualifikationsbedarf

<sup>†</sup>mittlere Vermittelbarkeit mit beruflichem Qualifikationsbedarf

<sup>‡</sup>schwer vermittelbar ohne Qualifikationsbedarf

<sup>§</sup>schwer vermittelbar mit beruflichem Qualifikationsbedarf

<sup>¶</sup>schwer vermittelbar/Qualifikationsbedarf für Grundqualifikationen

The main reason why education is missing for so many unemployed is that the online data information system used by the caseworkers previously did not elicit information on school education, until the introduction of a new data warehouse system. Until then the caseworkers only had to enter information on the job qualifications and labour market experiences after the first interview with the jobseeker (and some socio-demographic information). With the new data warehouse system an extended list of variables was collected in the online system. Quite a number

of caseworkers were, at least initially, reluctant to accept the additional administrative burden of entering the additional requested information (on education and other variables) into the computer. Given this background it is not surprising to see from Table A.2 that education seems to be missing at random.<sup>3</sup>

In addition to the descriptive analysis of missing education in Table A.2, we examined several alternative ways of handling missing values in the education variable in an appendix to the first version of this article (Behncke *et al.*, 2008). Those results confirmed that the estimated treatment effects do not seem to be biased due to selective missingness in the education variable.

<sup>3</sup> We would have been more concerned about this missing education if we had included foreigners in our sample because assigning foreign school degrees to any of the available education classes in the data information system could often be ambiguous and caseworkers facing this ambiguity might decide to not enter any information at all.