Chapter 3
Reemployment or Unemployment

Previous research on displaced workers' labor market prospects shows that workers with a higher educational level are substantially more likely to return to employment than low-educated workers. There seem to be two main reasons for this finding. First, the demand for high-skilled labor is rising as a consequence of the automation of production processes and technological change that is skill-biased in favor of highly educated workers. Second, education is an important signal to employers about workers' unobserved abilities such as their ability to learn. We therefore hypothesize that low- and mid-educated workers encounter more difficulties in finding a job than highly educated workers (hypothesis H1, see Sect. 1.4).

With respect to reemployment after job loss, studies also show that older workers experience much greater difficulties in returning to the active labor force than younger workers. This phenomenon may be due to older workers' longer firm tenure which goes along with a skills profile that contains a large amount of firm-specific skills not readily transferable to a new firm. Accordingly, we expect older workers to have more difficulty in returning to the active labor force than younger workers (hypothesis H1).

We begin our empirical analysis with the question whether displaced workers managed to return to the active labor force within the time that passed between their job loss and our survey. We assess this question based on our combined data and then compare the finding with the counterfactual outcome of a control group of non-displaced workers. We then identify the socio-demographic and contextual factors that potentially favor or inhibit workers' reemployment and discuss how this result compares with findings from earlier studies and different contexts. We conclude by discussing the implications of our results for our hypotheses.

3.1   Labor Market Status Two Years After Displacement

Figure 3.1 shows that at the moment of the survey – on average 23 months after job displacement – 66 % of the workers were again working as employees and 3 % were self-employed or worked in a family company. 8 % of the workers went into early retirement and 3 % retired regularly. 14 % were unemployed still receiving unemployment benefits, but 3 % were unemployed the entitlement having been expired. Finally, 2 % of the workers did training or childcare and 1 % were unable to work because of disability. If we group these categories into broader categories, 69 % of workers were back in employment, 11 % retired, 17 % were still or again unemployed and 3 % had dropped out of the labor force.

How do these results compare with the findings from other plant closure studies? A survey conducted in 2007 in Switzerland finds reemployment rates between 72 % and 92 % and unemployment rates between 8 % and 28 % – depending on the company – 1-6 years after job loss (Weder and Wyss 2010: 27). The authors do not, however, consider workers exiting the labor force into retirement or training. To compare their findings with our results, we thus have to reproduce their analysis by excluding the retired and labor force dropouts. This approach provides us with a reemployment rate of 80 % and an unemployment rate of 20 % – and thus similar results. However, since the study by Weder and Wyss was conducted in the context of the boom phase of 2002–2006 and displacements taking place in phases of macroeconomically favorable conditions tend to lead to substantially higher reemployment rates (Kletzer 2001: 44), it would have been unsurprising if we had observed lower reemployment than their study.

Moreover, the response rate of the survey conducted by Weder and Wyss was about 30 % and thus more than 30 percentage points lower than the response rate in our own survey. Since survey response is not a random phenomenon – more
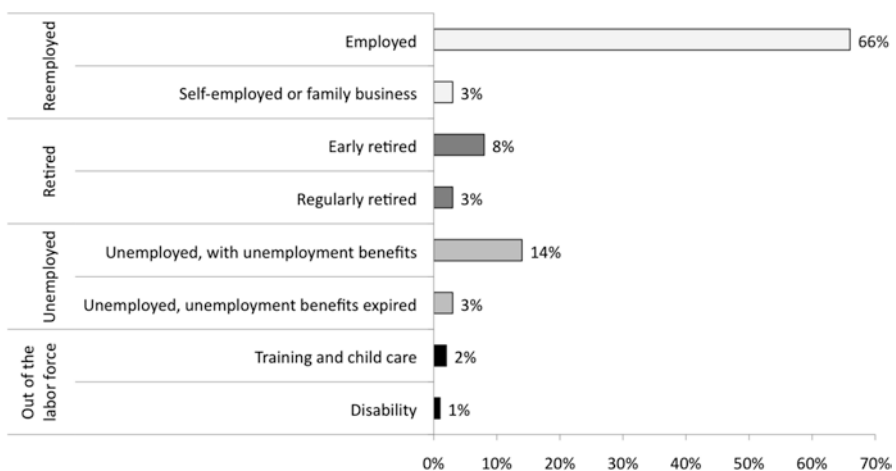

Fig. 3.1 Displaced workers' labor market status about 2 years after job loss. N=887

motivated and better-educated individuals being more likely to participate – a higher response rate leads to observations that are more representative for the entire survey population. In the case of a low response rate it is likely that only the most motivated and highly educated workers answered the survey. Accordingly, we would again expect the reemployment rate of the study by Weder and Wyss to be higher than in our survey.

Comparing our results with a Finnish study, our reemployment rate is slightly higher. More precisely, Jolkkonen et al. (2012: 88) find for Finland that 61 % of the displaced manufacturing workers were back in employment, 14 % were still unemployed, 19 % in training and 5 % had left the labor force. Yet, this study assessed workers' labor market status only 10 months after displacement and the workers thus had less time to find a job than those in our study before they were surveyed. At the same time, in the Finnish study the unemployment rate is lower but the proportion of workers in training is much higher than in our study. This difference is perhaps due to a substantially larger proportion of unemployed workers participating in active labor market programs in Finland than in Switzerland.

Considering the results by Kletzer (2001: 31) based on the US Displaced Worker Survey, our analysis provides higher average reemployment rates. For manufacturing workers displaced between 1979 and 1999, the author reports a reemployment rate of 64 %. Displaced manufacturing workers in the US thus seem to face slightly more difficulties in returning to a job than those in Switzerland. This result becomes more pronounced by the fact that Kletzer's analysis measures workers' reemployment rate within up to 5 years after while our analysis includes workers up to 2 years after job loss.

What explains the comparatively high reemployment rate of our study? First, this outcome may be due to the differences between studies with respect to workers' tenure. Since in the US displaced workers have by definition tenure of at least 3 years (Devens 1986: 40), workers in the study conducted by Kletzer (2001) are likely to be more strongly attached to their pre-displacement firms. Because of their higher share of firm-specific skills they may experience greater difficulties in finding a new job than the workers with lower tenure in our sample.

Second, it is possible that among the workers in Kletzer's sample some individuals were laid off for just cause instead of being displaced because of plant closure. Although the Displaced Worker Survey distinguishes between various reasons for job loss, it is plausible that self-reported data underestimates the share of workers who were fired, because survey respondents are reluctant to admit failure (Kuhn 2002: 15). If potential future employers know that workers were laid off for just cause, they seem to refrain from hiring them. Gibbons and Katz (1991) described this phenomenon as the "lemon effect of layoffs". According to this idea, employers avoid hiring workers laid off individually because they fear that they were displaced because of unfavorable characteristics such as low productivity. In contrast, workers displaced together with the entire workforce are not assumed to be individually responsible for their job loss.

Three additional explanations probably account even better for our finding (see Oesch and Baumann 2015). In absolute terms, employment in Switzerland's

Fig. 3.2 Labor market status 2 years after displacement calculated for four different data subsets. Note: Survey data N=742, Weighted survey data N=742, Register data N=322, Combined data N=887

manufacturing sector was stagnating rather than decreasing over the period under study. This possibly led to the more robust reemployment prospects of workers displaced from a manufacturing plant in Switzerland as compared to other countries. Moreover, Switzerland's labor market was not strongly affected by the economic crisis of 2008. Even though the national unemployment rate rose between 2008 and 2010 before falling again in 2011, the unemployment rate was never higher than 4.5 % at the national level or 7.2 % in any of the districts studied here. Workers who were not able to find a job in manufacturing thus may have had job opportunities in other sectors. Finally, Switzerland's educational system provides a standardized certification of vocational training. Accordingly, workers with upper secondary education – who represent the majority of the workforce – acquire industry- rather than merely firm-specific skills during their apprenticeship. If workers lose their job, they seem to transit relatively smoothly to other companies in the same sector.

We now turn to a robustness test of the results presented in Fig. 3.1 by comparing the outcome for different data subsets. In Fig. 3.2 we present the workers' labor market status based on (1) survey data only, (2) weighted survey data only, (3) register data only, and (4) survey and register data combined. A Pearson chi^2 test reveals that the results for the datasets (1), (2) and (4) are not significantly different from one another. But as is clearly visible from Fig. 3.2, dataset (3) leads to substantially different results: reemployment and unemployment are more frequent here than in the other datasets (for reemployment: 74.5 % as compared to 68.2 %, 69 % and 69.2 %). This is not surprising since workers going into retirement or exiting the labor force less frequently request unemployment benefits, and since the register data does not indicate whether workers have transited from unemployment to retirement. For this reason, we are unable to identify the retired based on register data. Another noteworthy feature of our database is that the combined data contains a slightly larger proportion of reemployed and unemployed workers than the survey data; in contrast, the proportion of retired workers is slightly smaller. This result

Table 3.1 Probability of being employed, retired, unemployed or out of the labor force in 2011 for the treatment and the control group in our sample and a control group based on the Swiss Household Panel (in %)

Labor market status in 2011	Treatment group (workers displaced in 2009)	Control group (workers in the SHP not displaced in 2009)	Average treatment effect on the treated (Difference)
Employed	69 %	93 %	−24 percentage points
Retired	11 %	4 %	+7 percentage points
Unemployed	17 %	1 %	+16 percentage points
Out of the labor force	3 %	2 %	+1 percentage point
N	887	4265	

Note: The approach used is radius caliper matching with a radius of 0.001. The radius chosen is narrow, which implies that the workers in our control group are thus highly similar to the workers in the treatment group. Tests with other radiuses revealed similar results (ATT between −20 % and −25 % for reemployment). The results were consistent with and without bootstrapping (with up to 999 replications)

stems from the combination of the survey data with the register data – a data sub-set from which retired workers are missing.

In order to gauge the causal effect of plant closure on workers' labor market prospects, we run a difference-in-difference analysis, comparing the displaced workers' outcome with the counterfactual outcome of non-displaced workers. Very likely, not all of the workers would have been employed in 2011 if their plant had not closed down. Some would have been in full-time training, stopped working in order to care for their children or gone into retirement. Some would probably have been unemployed because they quit their job and did not find a new job or had been displaced individually.

The control group is constructed based on data from the Swiss Household Panel and represents workers who did not lose their job in 2009. We create a control group that is similar to the displaced workers in terms of their age, education and sex by matching them by means of propensity score matching. We follow the workers in our control group who were not displaced in 2009 – the year when most of the workers in our sample lost their job – through 2011 and assess their labor market situation at that moment – the year when we interviewed the workers in our sample. We measure the Average Treatment Effect on the Treated (ATT), which represents the difference in the chance of being employed in 2011 between workers who experienced a plant closure in 2009 and those who did not lose their job in that year.

Table 3.1 presents the results of our analysis. In the treatment group, 69 % of the workers were (re-)employed in 2011 while this was the case for 93 % of the workers in the control group. The remaining 7 % of the workers in the control group comprise 1 % who were unemployed, 2 % who were out of the labor force and 4 % who were retired. Accordingly, workers who were displaced in 2009 because of plant closure were 24 percentage points less likely to be employed in 2011, 7 percentage points more likely to be retired, 16 percentage points more likely to be unemployed

and 1 percentage point more likely to be out of the labor force. We can thus maintain that job displacement has a strong causal effect on the workers' labor market situation.

However, since the control group does not correspond to the treatment group in terms of education and sex as discussed in Chap. 2, we test the robustness of the unemployment level of the control group by comparing it to the average unemployment rate in Switzerland. The unemployment rate as defined by the International Labor Organization (ILO) for workers aged 15–65 was 4.2 % in 2009, 4.7 % in 2010 and again 4.2 % in 2011 (OECD Statistics). As Table 3.1 above shows, the unemployment rate of our constructed control group was 1 % during this period and thus lower than the average Swiss unemployment rate. The lower unemployment rate of the control group is partially due to the fact that we observe individuals who were employed in 2009 while the average Swiss unemployment rate includes workers who finished their education or training. In addition, the average Swiss unemployment rate includes workers from all sectors and not only from the manufacturing sector. Nevertheless, it is possible that with the estimate we computed for our control group we underestimate the counterfactual, the unemployment probability that the displaced workers would have had if they had not lost their job.

3.2   Labor Market Status by Socio-demographic Characteristics

We now turn to the analysis of the labor market status by socio-demographic characteristics. We start in Table 3.2 with a descriptive analysis. Pearson chi^2 tests indicate that the labor market status differs significantly by sex, education, collar (blue-/white-collar), age, nationality, civil status and plant. Women have a higher reemployment rate than men, but the same unemployment rate. The difference between the sexes results from the larger proportion of men going into retirement. More precisely, in contrast to women, men went much more often into *early* retirement (2 % of women versus 11 % of men). One possible explanation is that the women in our sample are on average younger (42) than the men (46). Another reason for this difference may be that because of non-standard employment patterns over women's life course their occupational pension savings are more modest and they thus are less likely to be able to afford early retirement.

The reemployment rates do not vary strongly according to educational levels: while 72 % of the workers with a tertiary degree found a new job, this was the case for 70 % of workers with upper secondary education and for 66 % of workers without upper secondary education. However, the difference is larger with respect to the unemployment rate. While only 13 % of the workers with tertiary education were unemployed, 22 % of the workers without upper secondary education were unemployed. If we add the workers who left the labor force, workers without upper secondary education were twice as likely to be either unemployed or out of the labor force as workers with tertiary education (27 % versus 13 %).

Table 3.2 Labor market status by sex, education, collar, age, nationality and plant (in %)

	Reemployed	Retired	Unemployed	Out of labor force	N
Sex					
Women	75	4	17	5	*151*
Men	68	12	17	2	*735*
Education					
Less than upper secondary education	66	7	22	5	*148*
Upper secondary education	70	10	18	3	*482*
Tertiary education	72	15	13	0	*223*
Collar					
Blue-Collar	68	9	19	3	*544*
White-Collar	71	14	13	2	*328*
Age					
<30	86	0	7	7	*97*
30–39	90	0	8	2	*133*
40–49	87	0	12	1	*252*
50–54	82	0	15	3	*130*
55–59	53	14	30	3	*110*
>59	12	51	34	3	*150*
Nationality					
Switzerland	71	12	15	3	*594*
France	40	9	49	2	*57*
Germany or Austria	82	13	5	0	*39*
Italy, Portugal or Spain	62	19	14	4	*77*
Non-European Union countries	77	0	21	2	*106*
Plant					
Plant 1 (Geneva) (6.9%; 21 months)	44	8	46	2	*102*
Plant 2 (Biel) (5.5%; 22 months)	70	4	22	4	*177*
Plant 3 (NWS 1) (3.3%; 34 months)	80	8	9	4	*240*
Plant 4 (Bern) (2.5–2.9%; 15–24 months)	61	28	10	1	*221*
Plant 5 (NWS 2) (4.6–5.0%; 20–25 months)	82	1	15	2	*147*
Total	69	11	17	3	

Note: N(total)=887, N(sex)=886, N(education)=853, N(collar)=872, N(age)=865, N(nationality)=881, N(plant)=887. The rows add up to 100%. For every plant we indicate in brackets the unemployment rate at the district level in the month after the displacement and the number of months between the displacement and the survey. Pearson chi^2 tests and Fisher's exact tests indicate significant relationships at the level $p<0.01$ between employment status on the one hand and sex, education, collar, age, nationality, plant on the other

An analysis of more detailed educational categories (not shown) reveals that workers with a pre-apprenticeship were the least often reemployed (55 % as compared to 69–73 % for the other educational categories) and by far the most often unemployed (35 % as compared to 11–18 %). But the sample size of this group is small (n = 29) and therefore the results have to be read with caution. Interestingly, the analysis also shows that workers with tertiary *vocational* education had the highest reemployment (73 %) and the lowest unemployment rate (11 %). Workers with a university degree instead had a slightly lower reemployment rate (71 %) and a higher unemployment rate (15 %).

The type of collar did not make a large difference regarding reemployment, but with respect to unemployment. Among the white-collar workers (managers, professionals, technicians and clerks) 71 % found a new job while this was the case for 68 % of the blue-collar workers (craft workers, machine operators and assemblers and elementary occupations). Regarding unemployment, 13 % of the white-collar workers were without a job, as against 19 % of the blue-collar workers. If we combine those in unemployment and those out of the labor force, the contrast is stronger: while 22 % of the blue-collar workers were inactive, this was the case for only 15 % of the white-collars. There is also a substantial difference regarding retirement: 14 % for white-collars versus 9 % for blue-collars. This difference is entirely due to early retirement: 11 % of the white-collars and only 6 % of the blue-collars retired early.

If we look into more detailed occupational groups we find that workers in elementary occupations (59 %) and clerks (62 %) had the lowest reemployment and the highest unemployment rates (22 % and 23 %). In contrast, managers (79 %), plant operators (72 %) and technicians (72 %) had the highest reemployment and the lowest unemployment rates (3 %, 17 % and 14 %). This result confirms that the type of collar did not importantly affect reemployment: white-collars (comprising managers, technicians and clerks) and blue-collars (comprising plant operators and elementary occupations) are represented among the occupations with both the highest and lowest reemployment rate.

The strongest differences exist between age categories. While among workers aged 16–50 over 82 % were reemployed 2 years after the survey, this was the case for only 53 % of those aged 55–59 and for only 13 % of those over 60. This difference may be partly explained by the fact that workers in this age group have the possibility of retiring. Indeed, 15 % of the 55–59 year olds and 49 % of the 60–64 year olds retired. However, a large proportion of the older workers who were not reemployed at the moment of the survey were unemployed: 30 % of the 55–59 year olds and 36 % of the 60–64 year olds.

If we look at nationality, we find that workers from Germany and Austria had the highest reemployment (82 %) and the lowest unemployment rate (5 %). Workers from non-European Union countries – such as citizens from Turkey or Kosovo – had the second highest reemployment (75 %) but also the second highest unemployment rate (21 %). This result is due to the fact that almost none of them retired or quit the labor force. The Swiss as well as the Italian, Portuguese and Spanish have intermediate rates of reemployment (71 % and 62 % respectively) and unemploy-

ment (15 % and 14 % respectively). Citizens from these Southern countries of the European Union went more often into retirement than other workers (19 %). Finally, the French workers have a particularly low reemployment rate (40 %) and a very high unemployment rate (49 %). This result may be due to the fact that the plant in Geneva employed a large number of French citizens living in neighboring France – and these workers encountered particular difficulties in finding a job. This may be due both to a more adverse economic situation in the Geneva area and to the functioning of the French unemployment insurance system which enables workers to transit into early retirement from a much lower age than in Switzerland while being formally unemployed.[1]

Large differences in the reemployment rates can also be identified between the workers of the five different plants. One explanation may be the differences in regional unemployment rates. In the month after the displacement the unemployment rate was only 2.5–2.9 % in the district where Plant 4 (Bern) was located, while it was 6.9 % in the district where Plant 1 (Geneva) was located. The particularly high level of unemployment in Plant 1 may also be due to the fact – mentioned above – that a large share of its workers were cross-border workers from France, where the labor market prospects were generally gloomier.

3.3 Determinants of Reemployment

We now analyze the net influence of an array of socio-demographic and contextual factors on the likelihood of being reemployed by means of a multinomial logistic regression. Our dependent variable is the post-displacement labor market status. We distinguish between three outcomes: (i) reemployed, (ii) retired, and (iii) unemployed or out of the labor force.[2] We combine the unemployed and labor force dropouts in one category because most of the labor force dropouts have tried to search for a job and we thus assume that they quit the labor force because they were not successful in finding a job. As independent variables we use education, age, tenure, nationality and district unemployment rate. We estimate a model with the covariates education, age, tenure, nationality, district unemployment, duration since displacement, sex, civil status, collar, and plant. Since in nonlinear models – such as logistic regressions – the coefficients are only able to indicate the significance and the direction of the effect, we calculate the average marginal effects (AME), which provide us additionally with information about the size of the effect (Bornmann and

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[1] Although the benefits for older unemployed workers were becoming less favorable in the aftermath of the crisis, in 2008 unemployed workers were exempted from job search from the age of 57.5 (Source: Droit Finances: http://droit-finances.commentcamarche.net/, Pole Emploi: www.pole-emploi.fr)

[2] In order to test the robustness of our results, we complemented the multinomial with binomial logistic regression models with the same independent variables, distinguishing between being (i) reemployed and (ii) unemployed or out of the labor force. Since the retirees are excluded from this analysis the sample size is smaller (N=581). The outcomes were basically the same.

Williams 2013: 567). Since our data are nested at the plant level, we use clustered standard errors.

Figure 3.3 indicates that education matters for job prospects even if we control for all other covariates. Workers with upper secondary education have 6 percentage points better reemployment prospects than workers without. Tertiary education proves to be even more important with an advantage of 8 percentage points as compared to less than upper secondary education. Our hypothesis H1 that more highly educated workers have better chances on the labor market thus seems to be supported.[3]

However, age has an even stronger effect on the chance of being reemployed than education. Workers aged over 55 have significantly lower prospects than those under 30. More precisely, workers aged 55–59 have a 28 percentage points lower and workers aged over 59 a 50 percentage points lower chance of finding a job. The importance of age also becomes evident if we consider the pseudo R^2 (not shown): no other independent variable affects the model fit of our data more strongly than age.[4]

In a life-course perspective, a situation where young workers experience the most detrimental effects is the worst, the argument being that if workers experience hardship at a young age, they will suffer cumulative disadvantages over their lifetime. At the same time, our result implies that even if job loss happens late in workers' so far continuous careers, they are not immune to calamity.

Our findings for tenure are not certain. Although workers with intermediate tenure (6–10 years) are slightly but significantly less likely to be reemployed than workers with a tenure of under 2 years, this result does not correspond to the prediction based on labor market theory. We therefore cannot adequately interpret this result.

With respect to nationality, we find that French workers have significantly lower reemployment prospects than workers with Swiss nationality, the difference amounting to 6 percentage points. This finding is probably not due to workers' nationality *per se,* but to the country in which they live – the local labor market situation. We therefore tested an additional model where we inserted a control for "country of residence".[5] Indeed, this variable picks up the effect of French nationality, workers

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[3] We also ran an analysis with more detailed educational categories. We found that as compared to workers without upper secondary education, all higher educational levels provide statistically significant positive effects – with the exception of pre-apprenticeship, which is a short form of apprenticeship. The best reemployment prospects were found for workers with a degree from a university of applied sciences.

[4] We also tested models using age squared and tenure squared but the results were basically the same. In addition, we created more detailed age variables. Using an age variable with 12 categories (instead of 6 categories as shown in Table 3.2) resulted in significantly lower reemployment prospects for workers over the age of 53 (significant at $p < 0.1$), over the age of 57 (significant at $p < 0.01$) and over the age of 61 (significant at $p < 0.01$) as compared to workers aged 33 to 36.

[5] The results are included in Figure 3.3 since the inclusion of the country of residence substantially decreases our sample size. 26 % of the workers living in France are of Swiss nationality (n = 16). The negative effect of living in France remains if we compute the model only for Plant 1.
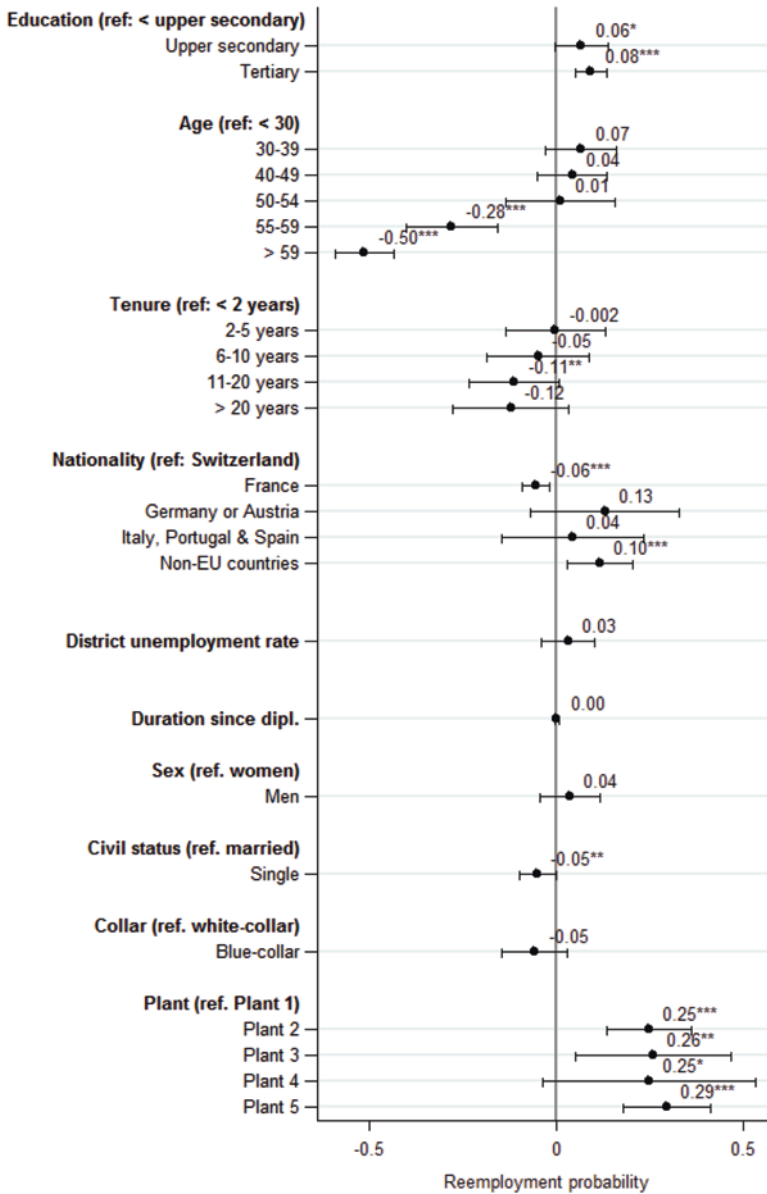
Education (ref: < upper secondary)
Upper secondary — 0.06*
Tertiary — 0.08***

Age (ref: < 30)
30-39 — 0.07
40-49 — 0.04
50-54 — 0.01
55-59 — -0.28***
> 59 — -0.50***

Tenure (ref: < 2 years)
2-5 years — -0.002
6-10 years — 0.05
11-20 years — -0.11**
> 20 years — -0.12

Nationality (ref: Switzerland)
France — -0.06***
Germany or Austria — 0.13
Italy, Portugal & Spain — 0.04
Non-EU countries — 0.10***

District unemployment rate — 0.03

Duration since dipl. — 0.00

Sex (ref. women)
Men — 0.04

Civil status (ref. married)
Single — -0.05**

Collar (ref. white-collar)
Blue-collar — -0.05

Plant (ref. Plant 1)
Plant 2 — 0.25***
Plant 3 — 0.26**
Plant 4 — 0.25*
Plant 5 — 0.29***

-0.5   0   0.5
Reemployment probability

Fig. 3.3 Average marginal effects (*AME*) for a multinomial logistic regression for being reemployed. N=664. Note: The dependent variable is multinomial and differentiates between three outcomes: (i) employed, (ii) unemployed or out of the labor force and (iii) retired. Only the AME for (i) relative to (ii) are shown. The second outcome – (iii) as compared to (ii) – is mainly determined by age and therefore of minor interest here. Significance levels: * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Standard errors are clustered at the plant level. We tested whether there is collinearity between education and occupation. The correlation between education and collar is –0.46 (and –0.51 between education and ISCO 1-digit occupational groups). However, although the correlation is rather high, the result for collar barely changes if we drop education from the regression analysis. Finally, we also tested whether the negative effect of age remains if we include a measure for change of occupation. The age effect indeed remained significant. Reading example: As compared to workers with less than upper secondary education, workers with upper secondary education are 6 percentage points and workers with tertiary education 8 percentage points more likely to be reemployed

who live in France having 18 percentage points lower reemployment prospects than workers living in Switzerland.

Returning to our analysis of the effect of nationality on workers' reemployment prospects, we find moreover that workers from non-EU countries have a significantly higher chance of being reemployed than Swiss workers of 10 percentage points. As discussed earlier, this result primarily reflects the low probability of workers with a non-EU nationality transiting into retirement but not their low likelihood of being unemployed.

The district unemployment rate does not seem to have an impact on workers' reemployment chances if we control for plants. The district unemployment rate only becomes significant if we construct categories. Under this condition, workers who live in a district with an unemployment rate of over 6 % are significantly less likely to find a job than those in a district with less than 3 % unemployment.[6] For the other categories, the effect is not significant.

With respect to civil status, our analysis shows that workers who are single are 5 percentage points less likely to find a job than those who are married or have a partner. A plausible explanation may be that workers with a partner (and possibly children – a variable that we cannot control for, for lack of information) were more strongly under pressure to return to employment than workers without family obligations. In addition, single workers are probably more likely to retire early since they are more flexible than married partners who tend to retire together (Rice et al. 2011).

The reemployment prospects are in all models significantly worse for the workers of Plant 1 (Geneva), even after controlling for the district unemployment rate and the workers' nationality. Accordingly, the labor market context of Geneva makes it much more difficult for unemployed workers to find their way back into employment. As discussed above, a potential reason for this result may be that a large share of the workers in Plant 1 live in France. Yet, even if we include the variable "country of residence" in the analysis, we still find that workers of Plant 1 (Geneva) have a significantly lower chance of finding a new job than workers of Plants 2 (Biel) and 5 (NWS 2). Thus, the potential explanation mentioned earlier does not seem to turn out to be correct: the effect we find for Plant 1 is apparently not due to the fact that a large proportion of workers in this plant live in France. An alternative explanation may be that workers of Plant 1 have had fewer incentives to search for a job because of a particularly favorable redundancy plan. Although the redundancy plans in Plants 3 (NWS 1), 4 (Bern) and 5 (NWS 2) also provided a financial compensation for job loss, we learned that workers in Plant 1 received their termination pay in the form of a higher wage for their last 3 months in the plant. As the unemployment benefits are based on the last 6 monthly wages, this measure led to comparatively higher unemployment benefits for workers in Plant 1 (Geneva). This may have indirectly contributed to the lower reemployment rate in Plant 1 as workers in this plant felt less pressure to find a job and possibly had a

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[6] We also entered the district unemployment in a quadratic form. However, the square term did not reveal a significant effect.
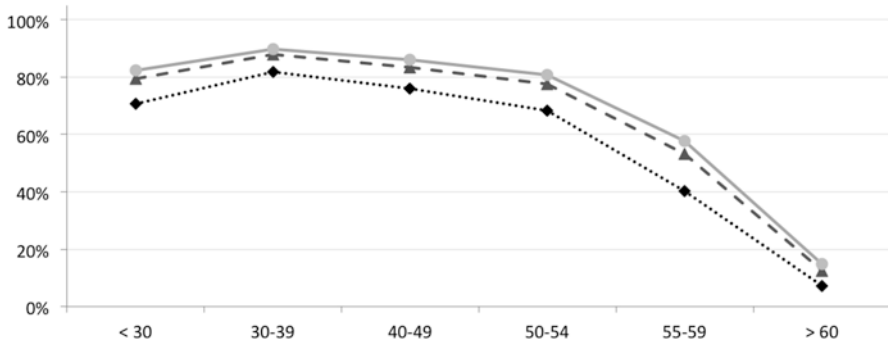
Fig. 3.4 Predicted probability for a blue-collar Swiss married man to be reemployed (as compared to being unemployed or out of the labor force) by age and educational groups (Based on analyses conducted for Fig. 3.3). N=664

higher reservation wage than the workers in the other plants. However, the differences between the plants do not seem to be solely due to the specificities of the redundancy plans. The plant with the highest reemployment prospects – even after controlling for covariates – was not Plant 2 (Biel) without a redundancy plan but Plant 5 (NWS 2), where a redundancy plan existed.

This finding is again interesting in terms of the life-course paradigm which highlights the relevance of contextual factors. Our result shows that, depending on the geographic context with its specific features such as local institutions or culture, outcomes can be strongly divergent. In order to test whether our results are driven more strongly by some plants, we ran Model 5 for each plant separately (not shown).[7] Since the number of observations in these analyses is small, the standard errors are in some cases very large and the results thus not very robust. However, the analyses seem to confirm the finding that older workers are less likely to be reemployed than younger workers – the result being mainly driven by Plants 1 (Geneva) and 5 (NWS 2) and to a lesser extent by Plant 3 (NWS 1).

Figure 3.3 reveals that education and age play an important role in displaced workers' reemployment. In order to illustrate these findings, we graphically present the probability for a blue-collar Swiss married man (the modal category) to be reemployed, holding collar, nationality and civil status constant and varying only education and age. With respect to the effect of education, Fig. 3.4 shows that workers who have no upper secondary education have the lowest reemployment chances across all age cohorts. Interestingly, the difference between workers with upper secondary and tertiary education is very small, but the size of the difference is consistent across age groups. The finding that education has a positive impact on workers' reemployment prospects confirms our hypothesis H1. The effect is, however, less strong than we expected. One reason for this outcome may be that the education variable does not appropriately measure what we intended to assess, namely

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[7] The result for Plant 2 did not achieve convergence and thus revealed no result.

workers' skills. Probably, the availability of information about work experience or attended continuous training throughout workers' career would allow us to assess their skill profile more precisely. A broader, more encompassing measure of workers' skills may have provided us with more explanatory power.

With respect to the effect of education, our results are in line with earlier research. Wyss (2009) finds for Switzerland that low-educated workers have a probability of being unemployed of 26 %, workers with an intermediate level of education a probability of 23 % and highly qualified workers a substantially lower probability of 4 %. Tertiary education thus protects workers best by far from unemployment. This last result stands in contrast to our study where both upper secondary *and* tertiary education reduce the risk of unemployment. For the US, Kletzer (2001: 49–51) finds that manufacturing workers with a college degree (tertiary education) have a 13 percentage points higher reemployment rate than workers with a high school degree (upper secondary education). The study finds that the educational level more strongly affects the reemployment prospects of younger workers (under 45) than of older workers. This finding contradicts our results – at least for male Swiss blue-collar workers – where the educational level matters more for older than for younger workers (see Fig. 3.3). Overall it thus seems that in the US the workers' level of education plays a slightly more important role than in Switzerland.

With respect to the effect of age, Fig. 3.4 confirms that age can been singled out as the most important factor determining whether workers are reemployed or unemployed 2 years after their displacement. This finding conforms to other displaced worker studies. The Swiss study by Wyss (2009: 40–1) reports for workers over 55 a likelihood of over 20 % of remaining in unemployment, whereas workers between 46 and 55 only have a 3 % likelihood and those under 46 a less than 1 % likelihood. Jolkkonen et al. (2012: 88) find for Finland that the workers' disadvantage in terms of reemployment starts from the age of 40. The most severe handicap is however experienced by workers over 50. A US study by Farber (1997: 93) based on the Displaced Worker Survey finds that workers over the age of 55 have about 20 percentage points lower reemployment prospects than younger workers. This result has been confirmed by the same author in a later study where he shows that for workers over 55 the proportion of the reemployed oscillates between 40 % and 60 % and for younger workers between 60 % and 80 %, depending on the business cycle (Farber 2005: 18–9).

Other studies from Switzerland have come to similar conclusions about older job seekers' vulnerability in the labor market. A recent report by the OECD (2014aPlease fix "a" or "b" for OCED (2014)., b: 19) shows that the reemployment rate of workers between 55 and 64 is comparatively low for Switzerland and below the average of the European Union. As mentioned above, Wyss (2009: 40–1) reports that an advanced age is one of the main disadvantages after job loss in Switzerland. A qualitative study in which Swiss employers were interviewed about their hiring practices finds that employers clearly target young workers when they have a lack of skilled personnel (Trageser and Hammer 2012: 363).

Our finding that older workers suffer most from plant closure contradicts one strand of the international literature which argues that labor market institutions are

biased primarily against young workers (Allmendinger 1989; Blanchflower and Freeman 2000; Gangl 2002; Breen 2005). A possible explanation for our contrasting result may be that in Switzerland young workers are comparatively well integrated into the labor market. With its weak employment protection and a highly standardized vocational training system that signals workers' productivity, employers in Switzerland may be less reluctant to hire young workers than in other contexts. It thus seems that the age-bias in Switzerland rather disadvantages older workers but not the young.

Yet, the scope of the negative age effect on workers' reemployment prospects may not have been fully assessed by the international job displacement literature since analyses often do not include workers over 60. For instance, the study by Eliason and Storrie (2006) based on Swedish data and the study by Jacobson et al. (1993) based on administrative data from Pennsylvania include only workers up to age 50. The study by Couch (2001) using German longitudinal data examines workers up to age 55. In our study in contrast, workers over age 54 constitute 28 % – and thus a large proportion – of the sample.

Theoretically, our finding is not easy to explain. It is possible that factors that we do not observe in our models explain older workers' difficulties. For instance, older workers may be less productive than younger workers. However, this view does not seem to hold, as studies have shown that age *per se* does not provide reliable information about workers' productivity. A study from Austria that measures productivity at the firm level claims that there is no link between age and productivity (Mahlberg et al. 2013: 11). A Dutch study shows that although *physical* productivity decreases after the age of 40, *cognitive* productivity is not affected by age (van Ours 2010: 457). If, however, older workers are not hired because they are physically less productive, only older workers in physically demanding occupations – blue-collar occupations – would face hurdles when trying to return to employment. In other words, we would have to find a difference between blue- and white-collar workers in our data. However, this is not the case and we find no evidence that older workers' encounter less difficulty in finding a new job if they have an occupation that foremost demands cognitive skills.

An alternative explanation may be that generous welfare provisions cause the age effect by making it interesting for older workers to wait for retirement by remaining unemployed for a while. However, this assumption does not seem to hold: First, unemployment benefits for workers over 55 are limited to a maximum of 2 years and there are few incentives to retire early in Switzerland. Accordingly, without early retirement plan as contained in some redundancy plans, it would be difficult to remain without working until regular retirement age. Second, further analyses show that unemployed workers over 54 made strong efforts to apply for jobs: 26 % of them applied for 50–100 jobs and 46 % for over 100 jobs (see Fig. A.2 in the Annex). As compared to younger unemployed workers, those over 54 put the greatest effort into the job search. Third, the unemployed aged between 55 and 59 experience a stronger decrease in overall life satisfaction (−3.4 points on an 11-point scale) as compared to the unemployed on average (−2.8 points). This finding suggests that older workers' unemployment is involuntary.

With respect to the explanatory factors collar, nationality and sex, our results contrast with other earlier findings: unlike Fallick (1996: 7), Kletzer (2001) and Jolkkonen et al. (2012: 88), we could not identify a substantial effect of the workers' collar on their reemployment prospects. Similarly, in contrast to studies from the US by Hamermesh (1989: 54) and Farber (1997: 93), nationality and sex do not seem to play a central role in the context of our study.

3.4 Conclusion

In sum, in this chapter we have shown that about two-thirds of the displaced workers were back in employment about 2 years after displacement. 17 % of the workers were still or again unemployed at that moment, 3 % out of the labor force and 11 % retired. Reemployment is most strongly determined by workers' age. Workers aged over 55 encounter much more difficulty in finding a job than younger workers. Our hypothesis H1 that older workers face barriers after job loss can thus clearly be confirmed. With respect to education, workers with higher levels of education do have an advantage in terms of reemployment, as our hypothesis H1 predicted. However, education seems to make a less strong difference than age.

Comparing the displaced workers to a control group based on the Swiss Household Panel shows that displaced workers have a significantly and much higher risk of being unemployed 2 years after job loss. The experience of plant closure thus does have a clearly negative impact on workers' career prospects. However, as discussed in Chap. 2, the control and the treatment group are alike in terms of age but not in terms of education and sex. The control group contains a larger share of women and of workers with higher levels of education. Our estimation of the counterfactual outcome may therefore overestimate the employment rates and underestimate the unemployment rates since our analysis suggests that a tertiary-level of education positively affects workers' employment prospects. At the same time, since the control and treatment group are alike with respect to age, the variable that affects career outcomes most strongly, the counterfactual outcome may not be too strongly miscalculated.

How do these results contribute to the previous literature on labor market transitions after plant closure? First, these results indicate which worker subgroups are the most likely to experience a relatively smooth transition after job displacement: the younger and the better-educated workers. At the same time, they show which workers are the most vulnerable in the aftermath of plant closure: older workers. Second, it seems that following plant closures in the Swiss manufacturing sector, most workers are able to find a job. With the exception of the two oldest age cohorts, we find little evidence for the bleak expectation held by some scholars that displaced industrial workers are condemned to long-lasting unemployment.

In this chapter we have provided evidence for the scope of the impact plant closure has on workers' employment prospects. This finding allows policy makers to anticipate the extent of support that workers may need after non-self-inflicted job

loss. Moreover, showing which groups of workers are the most vulnerable to long-term unemployment helps to develop more targeted assistance that is more effective in eventually bringing them back to employment.

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