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Labor market experience and well-being after firm closure: Survey evidence on displaced manufacturing workers in Switzerland

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Labor market experience and well-being after firm closure. Survey evidence on displaced manufacturing workers in Switzerland

Isabel Baumann

Summary

This study examines how plant closure affected individuals' careers and lives about two years after they lost their job. We analyze the displaced workers' reemployment prospects and study for reemployed workers the characteristics of their new jobs in terms of reemployment sectors, wages, and job quality. Additionally, we inquire how workers' sociability and subjective well-being were affected by job loss.

Our analysis is based on our own survey conducted in Switzerland in 2011. The survey included the workforce of five manufacturing companies that had closed down two years earlier. We addressed the risk of biases typically prevailing with observational data by complementing it with register data from the public unemployment insurance. Moreover, we use a control group based on matched data from the Swiss Household Panel.

We find that workers experience strongly diverging outcomes after plant closure: on the one hand, high proportions of the workers experience a smooth transition after plant closure. More than two-thirds of the workers returned to employment, more than half of them within less than six months. With respect to their social lives, we find that positive changes in relationships with their spouse, family and friends are more frequent than negative changes.

On the other hand, for a small group of workers plant closure had a detrimental effect. Close to twenty percent remained unemployed. About ten percent of the workers were long-term unemployed and subsequently often were reemployed in jobs of lower quality. Unemployed workers and workers who dropped out of the labor force were particularly prone to find their subjective well-being decreasing.

The most vulnerable subgroup in our study were workers over 55. This result stands in striking contrast to a large body of literature that considers labor market institutions to be primarily biased against young workers. Our findings show that older workers not only take longer to find a job but are also less likely to return to employment. Moreover, if they manage to find a job, they experience the severest cuts in wages and job quality of all cohorts. From a life-course perspective this result is remarkable since it shows that workers are not protected from hardship in their late careers. In light of the current demographic changes this finding may have important policy implications.

Résumé

Cette étude analyse l'impact des fermetures d'entreprises sur les travailleurs licenciés. Plus précisément, nous examinons les chances de réinsertion des travailleurs dans le marché du travail et – pour ceux qui l'ont fait avec succès – dans quels secteurs, pour quels salaires et avec quelle qualité d'emploi ils sont réengagés. Nous nous intéressons également aux répercussions engendrées par la perte de l'emploi sur la sociabilité et le bien-être subjectif des travailleurs concernés.

Notre analyse se base sur les données d'une enquête que nous avons menée en 2011. Cette enquête cible le personnel de cinq entreprises industrielles suisses qui avaient fermé leurs portes deux ans auparavant. Pour dépasser les biais typiques liés aux données d'observation, nous utilisons en complément des données administratives issues de l'assurance chômage publique. De plus, nous utilisons un groupe de contrôle basé sur des données appariées provenant du Panel Suisse de Ménage.

Nos analyses montrent des résultats fortement contrastés. D'un côté, la majeure partie des travailleurs ont vécu une transition professionnelle plutôt facile : plus des deux tiers des personnes ont retrouvé un travail et parmi elles plus de la moitié en moins de six mois. Par rapport aux relations sociales, tant avec leur partenaire, qu'avec les membres de leur famille et leurs amis, les changements expérimentés étaient plus fréquemment positifs que négatifs.

De l'autre côté, cependant, pour une petite partie de travailleurs la fermeture de leur entreprise a eu des conséquences très négatives sur leur carrière et leur bien-être. Au moment de notre enquête, presque vingt pourcents des travailleurs étaient au chômage. Les personnes au chômage et celles qui avaient quitté le marché du travail ont été particulièrement affectées par une diminution de leur bien-être subjectif.

Les plus vulnérables parmi les travailleurs licenciés étaient ceux qui étaient âgés de plus de 55 ans. Notre analyse montre que les travailleurs âgés ont beaucoup moins fréquemment retrouvé un travail. Pour les personnes de plus de 55 ans qui ont tout de même retrouvé un emploi, la réinsertion a durée plus longtemps, les pertes de salaire étaient plus conséquentes et la diminution de la qualité de l'emploi plus grande que pour les autres cohortes. Au vu des changements démographiques actuels, ce résultat interpellant peut avoir des implications politiques importantes.

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Introduction

This study examines the impact of job loss on individuals' careers and lives, a topic that has been widely studied by social scientists. Our study innovates on three accounts. First, we examine the effect of plant closure[1] on an array of outcomes ranging from workers' wages and their social lives to their subjective well-being. Thus, we focus not only on economic factors as has been done by a large part of the plant closure literature but also on the social and psychological consequences of job displacement. Second, by conducting our own survey, we are able to analyze a population on which very little data is publicly available in Switzerland or in Europe. We surveyed 1200 workers who lost their job because of plant closure after the financial crisis of 2008, using a study design which addresses typical methodological limits of observational data such as nonresponse bias. In addition, we had the opportunity to personally meet some of the affected workers and thereby received more comprehensive insights into their experience of plant closure. Third, we measure the effect plant closure has on workers' lives by comparing it with a counterfactual outcome. To constitute a control group we use data from the Swiss Household Panel that we match by means of propensity score matching.

From a sociological perspective, job loss challenges workers' quality of life by threatening their economic security, social recognition and social relationships. Since in Western societies individuals' social status depends heavily on participation in the labor market, being made redundant usually induces a feeling of failure and threatens workers' identity (Gallie and Paugam 2000; Senett 1998). Already in the 19th century Durkheim (1933 [1893]) argued that in modern societies employment has an integrative function and that individuals' social status is significantly determined by their particular occupational function. Consequently, plant closure constitutes a major social issue with far-reaching consequences, not only for the laid-off individuals and their families but also for entire regions. A seminal study conducted in Austria during the Great Depression of the 1930s by Jahoda, Lazarsfeld, and Zeisel (1971 [1933]) documented the disrupting effects of massive job displacement on a village community. The researchers found that joblessness not only put families in a difficult financial situation but also paralyzed the workers in their endeavors to keep up a regular daily

[1] We use the terms "firm closure" and "plant closure" interchangeably, the latter being used more often in the academic literature.

structure and pursue leisure activities as they did before losing their job. At the community level this adversity led to a corrosion of common activities and shared responsibilities.

Similarly, the financial crisis of the early 21st century has produced severe economic damage. The Great Recession has led to massive job destruction, not only in the financial sector, but also in manufacturing, services, and the public sector (Baccaro 2010: 342). This situation both gives rise to a need and provides an opportunity to collect and analyze data about how workers deal with the critical situation of job loss.

Understanding the impact of plant closure on workers' careers and lives

In this study we examine the occupational and life transitions of manufacturing workers in Switzerland who lost their job as a consequence of plant closure in 2009 or 2010. A first research question addresses the workers' reemployment prospects. It has been argued that workers made redundant because of plant closure return more easily to employment than workers who are laid off individually (Gibbons and Katz 1991). The explanation is that individual layoff acts as a negative signal to future employers, indicating a lower ability of the worker, whereas such a signal does not exist in the case of plant closure. However, earlier research suggests that although workers affected by redundancy are employable – as they were working before displacement –, their reemployment prospects are highly uncertain (Kuhn 2002).

A second set of questions examines the characteristics of the jobs in which workers are reemployed. Employment in the tertiary sector has been steadily increasing in the recent decades while the employment in the secondary sector stagnated. This process raises the question whether displaced manufacturing workers have to change sector in order to avoid long-term unemployment. The skills of manufacturing workers may be little transferable to the service sector, thereby forcing workers to accept jobs which do not correspond to their skill profile (Iversen and Cusack 2000: 326). As a consequence they would not receive the same financial returns to their skills and have to put up with wage losses. In addition, having experienced a spell of unemployment seems to be a general handicap for workers' career prospects (Dieckhoff 2011). Accordingly, displaced workers may be at risk of being reemployed in more precarious jobs as compared to both their pre-displacement job and to workers who were continuously employed.

Third, based on the assumption of negative spillover effects of employment quality on other realms of workers' lives, our study aims to contribute to the ongoing debate about how job loss affects workers' sociability and life satisfaction. Gallie (2003: 61-2) highlights that

the two most influential traditions of labor market research since the 1960s, the neo-Marxist and the liberal theories, share the view that the nature of work tasks and work organization is at the center of individuals' well-being and broader social cohesion. In a similar vein, Kalleberg (2009: 1-2) argues that if workers experience occupational downgrading, their work experience and economic security are likely to be negatively affected, which in turn may have far-reaching consequences for their family life and social participation. It is therefore of crucial interest to examine how plant closure affects workers' life satisfaction. Mass displacement usually comes as a shock for the workers concerned and leaves them with anxiety about their future careers (Gallo et al. 2006). Subjective well-being is closely linked to the quality of the workers' new job but also to their social relationships, which may have suffered as a consequence of the uncertainty following displacement. Because individuals' sociability seems to be closely linked to their well-being, we examine how plant closure affected workers' social relationships and how household members jointly adjusted to job loss.

Fourth, our study emphasizes that workers are vulnerable to different extents to critical events such as plant closure. One of the principal aims of our study is to identify the socio-demographic and contextual characteristics which acted as resources or constraints in the workers' occupational transition. The goal of this emphasis is to provide explanations for the mechanisms behind smooth and difficult occupational transitions. Plant closure may thus be a triggering factor of completely divergent career outcomes, thereby contributing to labor market segmentation or even social exclusion (Kalleberg and Sorensen 1979: 354). Referring to a concept from life-course sociology, we try to understand whether the critical event of plant closure was rather a "turning point" or a "transition." A transition stands for gradual change connected with acquiring or relinquishing new roles. The notion of turning point refers to the stages at which a life trajectory shifts in direction or is discontinuous in form (Settersten 2003: 25). In the context of our study, the concept of transition describes the passage into an occupational position that is similar to the one occupied before displacement. The notion of turning point, by contrast, is used to describe the situation of individuals who completely leave the labor market after displacement or who experience a radical change in the social status related to their job.

Using a tailor-made survey

We analyze our research questions by drawing on our own survey of the complete workforce of five manufacturing plants which closed down in 2009 or 2010 for reasons such as

bankruptcy or delocalization of production. The workers were surveyed about two years after their job loss, which allows us to examine the mid-term effects of job displacement. However, our data is cross-sectional and only the retrospective information about workers' pre-displacement jobs provides us with a quasi-longitudinal data structure. Although longitudinal studies are always to be preferred, cross-sectional studies using retrospective recall constitute a second-best solution (Hardt and Rutter 2004). The advantage of having two assessments of workers' situations – one before and one after displacement – is that we can measure within-individual changes such as changes in wages, job quality or well-being.

Our data was complemented with register data from the public unemployment insurance and from firm registers, which extends the number of observations and enhances the reliability of the data. Moreover, for some of our analyses we use a difference-in-difference design to measure the causal effect of plant closure on workers' lives. Using data from the Swiss Household Panel and a technique known as propensity score matching, we construct a control group in order to compare the outcomes of displaced workers with those of non-displaced workers.

Unequal outcomes

Our analysis reveals that about two-thirds of the displaced workers managed to return to a job within two years of displacement while about a sixth were still or again unemployed. Among the reemployed, more than two-thirds returned to a job in manufacturing and thus were not forced into a low-end service job in order to avoid unemployment. On average, reemployed workers experience a slight wage decrease, but variance is substantial. Asked about their subjective evaluation of wage losses, twice as many workers indicate to have experienced strong wage losses than strong wage gains. Also in terms of other job quality indicators, some lose out heavily while others experience an improvement as compared to their pre-displacement job. We find that with respect to both job quality and wages, older workers disproportionately have to put up with losses.

This leads us to the most striking finding of our study: an age over 55 seems to strongly hamper workers' career prospects after plant closure. In contrast, if older workers were able to enter retirement either regularly or through early retirement plans, their transition – in terms of subjective well-being – was much smoother. The retired constitute the subgroup of workers which evaluate the change in their life satisfaction between before and after displacement most positively. Since most of the retirees retired *early*, their high levels of well-being suggest that a majority of them decided voluntarily to take this path and were not pushed out of the

labor force. Still, a minority seems to have been forced into this pathway as an alternative to long-term unemployment.

The finding that older workers are the most vulnerable subgroup in the labor market after job loss stands in stark contrast to a large body of literature that argues that labor market institutions are biased against young workers. A study covering 27 OECD countries shows that in most countries the rate of unemployment is substantially higher for young than prime-age workers (Breen 2005). Youth unemployment is particularly high where employment protection is high and where the educational system fails to clearly signal the candidate's suitability for a particular job (Gangl 2002: 48). Since Switzerland has weak employment protection and a highly standardized vocational education system that certifies credentials and links the educational system closely to jobs, young people manage the transition from school to work much better than in most countries (Buchmann and Sacchi, 1998; Breen and Buchmann 2002: 294; Breen 2005: 130). However, an educational system that strongly accentuates vocational training may lead to labor market constraints in workers' late careers.

In sum we find that plant closure had unequal impacts on the careers and lives of the individuals examined. While the majority of the workers overcame this occupational rupture with only minor mid-term effects, for a small proportion of the workers plant closure had a harmful effect. For them, hard-earned achievements and expectations in terms of career prospects or financial security seem to have been destroyed.

Structure

The first chapter presents the theoretical approach used in this study and discusses the scholarly literature on job loss and on its consequences for the workers affected. The discussion is based on both research about the experience of unemployment in general and studies on plant closures more specifically. The most solid studies offer a comparison between the outcomes of workers who experience job displacement and workers who were continuously employed. This research setting offers a post-hoc reconstruction of an experiment and is assumed to provide results that allow a causal interpretation of the effect of job loss on occupational trajectories as it addresses the problem of self-selection into job loss. This first chapter is completed by the presentation of our theoretical model and our hypotheses.

The second chapter presents our tailor-made survey. We discuss biases that typically arise when observational data is collected. We describe the survey design we use to address these potential problems as well as the data collection procedure. We examine whether the

measures we take to enhance data quality are successful in this endeavor. We discuss the construction of a control group of non-displaced workers, which corresponds to the standard methodological approach in the plant closure literature and finish by addressing the main limits of our study.

The following chapters present the empirical results of our study. Chapter 3 examines workers' labor market status two years after displacement. We start out with a descriptive analysis based on the data from our own survey before we compare the outcome with the evolution of the labor market prospects of non-displaced workers. We proceed with identifying the socio-demographic and contextual factors that potentially explain the workers' reemployment prospects.

In Chapter 4 we address older workers' transition into early retirement and discuss possible drivers behind this pathway. We put emphasis on early retirement plans provided by most plants in our sample and discuss how they affect older workers' occupational transitions after plant closure.

The fifth chapter explores workers' job search strategies and the duration of unemployment for both the reemployed and the still unemployed. We examine how socio-demographic characteristics, contextual factors and individual strategies affect the workers' labor market outcomes. We also briefly discuss the workers who quit the labor force and went into training, childcare or disability after job loss.

Chapter 6 analyzes the sectors and occupations in which workers are reemployed. In modern economies deindustrialization has shifted employment from manufacturing to the service sector. In this context, we examine whether the decline of job opportunities in manufacturing forces displaced industrial workers to change occupation and switch to the low-skilled services. In addition, we analyze whether workers had to change occupation in order to be able to find a job.

The seventh chapter focuses on workers' wages. We begin by comparing the overall wage distribution before and after displacement. Although this analysis provides us with the important information about whether the median wage – or the wage at different deciles respectively – changed as a consequence of plant closure, it does not offer clear indication about the scope of wage change at the individual level. We therefore go on to assess the within-individual wage change between the pre- and post-displacement job. This outcome is then compared with the evolution of the wages of non-displaced workers in order to simulate the counterfactual outcome. Finally, we discuss possible drivers of the observed individual-level wage changes.

Chapter 8 examines workers' job quality in the new job. Finding a job does not in itself guarantee that displaced workers experience a successful occupational transition after plant closure. Indeed, workers may have accepted jobs of lower quality in order to avoid long-term unemployment. We discuss the contract types, job security, skill match and job authority of the new jobs before we scrutinize whether the occupational transition after plant closure leads to changes in job satisfaction.

Chapter 9 looks into the question of how plant closure affects the social relationship between the displaced workers and their significant others. We begin with the discussion of the coping strategies workers developed on the household level. We then analyze how the quality of their sociability has changed. Finally, we describe the impact of plant closure on workers' well-being and discuss how changes in workers' social and occupational lives have affected their life satisfaction.

The conclusion comes back to our central research questions. We discuss the central findings of our study and sketch out their policy implications. In addition, we briefly address the question whether our findings can be generalized and show how our results contribute to a comprehensive understanding of occupational transitions after plant closure.

1. The debate about the consequences of job displacement

Since the 1970s scholars have shown an increasing interest in the study of the social and economic consequences of plant closure. One strand of research addresses the topic from an economic perspective, investigating the impact of plant closure on workers' occupational trajectory and financial situation. The main interests of these studies are reemployment rates, unemployment durations and wage differences between the pre- and post-displacement job. Another strand of research strives at understanding the consequences of job displacement in terms of workers' well-being and social life, in other words, it assesses the nonpecuniary costs of unemployment. We try to bridge these different research interests and will propose a model to investigate the impact of plant closure on workers' lives in a more encompassing way.

In this chapter we discuss the literature on the consequences of job displacement on displaced workers' occupational situation, their sociability and well-being. The first section focuses on reemployment, unemployment and labor force exit. A second section discusses the type and quality of the post-displacement jobs. Third, we address how workers' sociability and subjective well-being is affected by job loss. Finally, we conclude by suggesting a theoretical model of occupational transitions after plant closure and present our hypotheses.

1.1 Reemployment, unemployment or labor force exit

A growing body of plant closure literature

The growing academic interest in job displacement may stem from the increasing number of workers affected by plant closures, relocations, restructurings and downsizings. In the United States, the displacement rate has risen significantly since the early 1970s (Hamermesh 1989: 52-3; Brand 2006: 275-6). The increase in the number of plant closure studies thus possibly reflects the growing public attention to this phenomenon. However, there may be another reason for this expansion.

The study of the consequences of job displacement requires appropriate data. In the United States, the launch of the Displaced Worker Survey (DWS) in 1984, conducted biannually as a complement to the Current Population Survey (CPS), made it possible to study the relevant population in more detail. The availability of this data source triggered many publications on job displacement. Where register data is accessible, as in Sweden (see Eliason and Storrie 2003) or in the state of Pennsylvania (see Jacobsen et al. 1993), this type of data provides an even more

valuable source of information, being more reliable and exhaustive than survey data. Finally, for the study of the long-term consequences of plant closure longitudinal data is indispensable. However, the availability of this type of data is relatively novel since the two longest running panel surveys based on representative national samples such as the Panel Study of Income Dynamics in the US (PSID) or the Socio-Economic Panel Study in Germany (GSOEP) were established in 1968 and 1984 respectively. The increasing accessibility of appropriate data thus may be an alternative explanation for the growing interest in studying the impact of job displacement on workers' ensuing life trajectories.

To date, most plant closure studies have been based on American data. "Earning Losses of Displaced Workers" by Jacobson, LaLonde and Sullivan (1993) is one of the most influential early studies. The innovation of this study was the use of a longitudinal *administrative* dataset from Pennsylvania. Earlier studies usually used survey data from the Displaced Workers Survey (Podgursky and Swaim 1987; Kletzer 1989; Addison and Portugal 1989; Gibbons and Katz 1991; Carrington 1993; Fallick 1993), or the Michigan Panel Study of Income Dynamics (Ruhm 1991). Another novelty in job displacement studies of the early 1990s was the inclusion of a control group of non-displaced workers (Ruhm 1991; Jacobson et al. 1993). Offering a counterfactual for workers who continued to be employed, this approach made it possible to more precisely measure the effect of displacement on wages.

In the late 1990s and early 2000s European job displacement studies emerged. Based on administrative data, Margolis (1999) discusses wage losses of French displaced workers as compared to non-displaced workers. Couch (2001) and Burda and Mertens (2001) use longitudinal data from the German Socio-Economic Panel. Kriechel and Pfann (e.g. 2002; 2005; 2011) use data from a large firm closure in the Netherlands and discuss different problems such as the role of specific and general human capital in the reemployment prospects of displaced workers. Plant closure in Northern Europe was investigated by Eliason and Storrie (2006) who rely on a unique Swedish administrative dataset, linking employer with employee data. Appelqvist (2007) uses a similar dataset from Finland, analyzing the effect of the business cycle on job displacement outcomes. Jolkonnen et al. (2012) conduct their own survey on manufacturing workers in Finland and analyze the workers' reemployment prospects about a year after displacement.

To our knowledge, only one piece of research has chosen a comparative approach: the book *Losing Work, Moving On*, edited by Peter J. Kuhn (2002), which offers not only an in-depth description of the labor market of ten countries under study, but also detailed data on a standardized set of indicators and measures. This approach significantly improves the comparability of the results between a broad series of industrialized countries in Europe, Northern America, Australia and

Japan. Finally, there are four literature reviews, all of them focusing on US studies (Hamermesh 1989; Fallick 1996; Couch and Placzek 2010; Brand 2015). Couch and Placzek's article additionally replicates the methodology applied by Jacobson et al. (1993), using a different dataset.

Reemployment prospects after job loss

There is a broad consensus that job seekers experience decreasing reemployment chances over the course of unemployment. This adverse effect of long periods of unemployment is called "negative duration dependence" (Gebel 2009: 663). On the one hand, this phenomenon may come about because of self-selection into longer unemployment durations: better employable workers flow out of unemployment early, and over time only the less employable workers stay in the group of the unemployed. In this view, individual employability remains constant over time.

On the other hand, "true duration dependence" may be at stake, a situation where the duration of unemployment itself reduces workers' employability (Machin and Manning 1999: 12). If this mechanism is at work, all individuals who are unlucky enough to stay unemployed for a while will experience a decreasing probability of finding a job. How could "true duration dependence" be explained? A first approach is the signaling theory, which goes back to Spence (1973) and suggests that employers interpret the unemployment duration as an indicator for unobservable characteristics such as productivity or motivation (Blanchard and Diamond 1994). In this view a long spell of unemployment stigmatizes workers as being unproductive or having low motivation. Second, proponents of the human capital theory argue that if workers do not use their occupational skills for a long period they lose their routine and thus are less productive when returning to work (Pissarides 1992: 1371). A third explanation is that long spells of unemployment have negative effects on job seekers' self-confidence and motivation (Newman 1999). This in turn reduces the intensity of their job search, which reduces their chances of finding a new job (Young 2012b: 19; Flückiger 2002: 15-6).

It is, however, difficult to determine which mechanisms are at work since an analysis requires information about usually unobserved factors such as motivation, productivity, self-confidence and skills. Machin and Manning (1999: 17) claim based on an international comparison of OECD data that there is little evidence for true duration dependence but that instead unobserved heterogeneity explains the outcome of negative duration dependence. However, two studies based on longitudinal data from the UK, the US and Germany find no support for pure heterogeneity for either country (Jackman and Layard 1991: 97; Gangl 2004: 178). Other studies using experimental data equally reject the unobserved heterogeneity argument: Oberholzer-Gee (2008), Kroft et al. (2013) and Eriksson and Rooth (2014) show, based on data from Switzerland, the US and Sweden respectively,

that if fictive job applications with identical profiles but varying unemployment spells are sent to companies, employers consider a long unemployment duration as a signal of workers' low productivity. Erikson and Rooth (2014: 1029) find that for low and mid-skilled jobs unemployment spells of over nine months lead to a stigma effect while Kroft et al. (2013: 1128) find the strongest stigma occurring during the first eight months. Although not consistent with respect to the effect of varying durations these findings provide evidence that true duration dependence is at work. Additionally, the studies suggest that the signaling theory explains the phenomenon – at least in part. Nevertheless, there remains a debate in the literature about the mechanism at work behind negative duration dependence.

Which individual factors drive workers' reemployment chances? Previous findings suggest that education plays an important role, higher educational levels being assumed to generate better reemployment chances (Fallick 1993: 317). One explanation is that education serves as a signal to the employer for characteristics that are not apparent in a job seeker's application such as productivity, motivation, self-discipline or the ability to learn quickly (Sauer et al. 2010: 1110; Rider and Roberts 2011: 30). In other words, an employer may be interested in the educational attainments of individuals not only as certifying specific competences, but further as an indicator for attributes that employers consider desirable but that cannot be known with any certainty before a candidate is actually taken on (Jackson et al. 2005: 11).

Another explanation of why higher levels of education are likely to enhance workers' reemployment prospects is that in OECD countries demand for highly educated workers has risen over the last decades (OECD 2008: 166). A study that analyzes the occupational structure of the US manufacturing sector observes that the proportion of high-skilled labor grew substantially between the late 1950s and the late 1980s as compared to low-skilled labor (Berman et al. 1994: 372-3). This shift went along with a relative increase in high-skilled workers' wages in the same period (Berman et al. 1994: 369). This phenomenon – called skill-biased technological change – has been attributed to technological advance as a growing number of routine tasks, traditionally carried out by low-skilled workers, are replaced by machines (Liu and Grusky 2013: 1335). At the same time, the finding that industries with particularly high levels of investment in automation also experience a strong demand for skilled labor suggests that the skills of highly educated workers are complementary to these new technologies (Berman et al. 1994: 372, 387).

The finding, based on US and UK data, of growth in both low-end and high-end occupations challenged this view (Autor and Dorn 2009: 27, Goos and Manning 2007: 122). This phenomenon of job polarization may be explained by the inability of machines to replace low-skilled but still nonroutine tasks involving hand-eye coordination such as caring, serving or cleaning (Autor and

Dorn 2009: 31). Routine tasks, however, which are typically carried out by mid-skilled workers such as clerks or machine operators, can more easily be automated.

For Switzerland, evidence suggests that the occupational change in the last two decades is best described as a combination of both phenomena: Jobs in the middle of the occupational hierarchy decreased most strongly, pointing to a process of polarization (Oesch and Rodriguez Menes 2011: 514). At the same time, low-skilled jobs decreased too – though to a weaker extent than mid-skilled jobs – while jobs with high skill requirements experienced strong growth, a pattern that implies occupational upgrading (Oesch and Rodriguez Menes 2011: 517; Oesch 2013: 76). This result makes the prediction of low-educated workers' reemployment prospects difficult but suggests that the highly educated are likely to have the most promising reemployment prospects after job loss.

Research on displaced workers' reemployment prospects strongly suggests that age plays a paramount role, older displaced workers consistently experiencing more difficulties in finding a new job than younger workers. A study based on the US Health and Retirement Survey, focusing on workers aged over 50, finds that prospects of returning to work declines from about the age of 56 and is very low after the age of 60 (Chan and Stevens 2001: 496). As compared to workers aged 50, workers aged 56 have a 5 percentage points lower reemployment rate and at the age of 62 it is about 30 percentage points lower. A study based on US Displaced Worker Survey data from 1984 to 1996 finds that as compared to the 25-34 year olds, the 45-54 year old cohort have about a 5 percentage points lower and the 55-64 year old cohort about a 19 percentage points lower reemployment rate (Farber 1997: 93, see also Farber 2005: 19).

For Europe the results point in the same direction. A Finnish study shows that older workers from the age of 40 have much lower reemployment prospects than younger workers: the reemployment prospects of workers over the age of 50 are only a third of those under the age of 35 (Jolkkonen et al. 2012: 88-9). Likewise, in Switzerland older displaced workers have a hard time in finding new jobs: in a survey of workers of three large industrial plants that closed between 2001 and 2006, Wyss (2009: 40-1) shows that age is the factor that has the most adverse effect on the workers' reemployment prospects.

In addition, older workers face generally longer unemployment durations than younger workers. Flückiger (2002: 20) documents this phenomenon for Switzerland based on data from the Swiss Labour Force Survey (SLFS). Similarly, in their study on reemployment patterns of older workers who experienced job loss, Chan and Stevens (2001: 491-2) report that workers over the age of 60 are more likely to experience longer spells of unemployment than workers in their 50s: two years after displacement, about 60% of workers aged 50-55 and about 45% of those aged 55-60 are reemployed, but only 20% of those aged 60-64. The large body of empirical evidence for older

workers' bleak labor market prospects in different countries thus points to the fact that we are confronted with a widespread phenomenon. However, the mechanism underlying this phenomenon is still a puzzle.

A first potential explanation refers to internal labor markets and suggests that firms promote careers *within* their organization (Daniel and Heywood 2007: 37). Generally speaking, employers prefer to hire young workers who stay in the firm throughout their career. For the companies this has the advantage that the returns to the workers' on-the-job training are higher. To incite employees to stay in their organization firms apply steep wage profiles where firm tenure is strongly rewarded (so-called "deferred compensation").

A second explanation for older workers' reduced labor market prospects is the cohort effect of education. As a result of educational expansion, younger workers are on average better educated than the older and therefore have better chances on the labor market. The older workers who completed their education a long time ago may also be less flexible since it is more difficult to adjust to new job requirements and technologies (Cha and Morgan 2010: 1137). This places them in a disadvantaged position in comparison with younger workers.

Third, older workers may have difficulties in finding a job because of high firm tenure. High tenure implies high specialization for one firm; high-tenured workers may not have many skills transferable to other companies (Couch and Placzek 2010: 574). The negative effect of tenure on reemployment prospects has, however, been contested: it has been argued that high firm tenure may be a positive signal to the future employer in terms of a good job match (Greenaway et al. 2000: 66; Arulampalam 2001: F590). Other authors have argued that the association between tenure and reemployment prospects is U-shaped. Evidence for this third option is provided by a Finnish study which found that an intermediate tenure offers workers the best reemployment perspective after plant closure (Jolkkonen et al. 2012: 89). Hence, the impact of tenure for workers' reemployment chances seems to be ambiguous.

Fourth, there is a widespread belief that older workers are less productive than younger workers because of reduced mental and physical capacities and are more frequently affected by injuries or sickness. Particularly, older workers are assumed to experience declining abilities to learn, as a study from the US emphasizes (Wrenn and Maurer 2004: 234). Older workers are therefore likely to be disadvantaged in a labor market where rapidly developing technologies require constant adaptation to new tasks. However, studies that thoroughly examine this question highlight that the link between age and performance is not clear-cut: some studies find a negative relation between age and performance, but others find a positive relation or none at all (Hansson et al. 1997: 206; Ng and Feldman 2008: 392). A possible explanation for these inconclusive results is that while

workers' mental and physical capacities indeed decrease with age, older workers are able to compensate for this loss with their experience and knowledge and consequently maintain a similar performance than in previous years (Park 1994: 195). Regarding the risk of accidents, two studies from the US have revealed that older workers experience injuries that are more serious. However, injuries among older workers are less frequent and less consequential in terms of reduced working hours than among younger workers (Silverstein 2008: 273; Pransky et al. 2005: 108). The assumption that older workers exhibit a lower performance at work than younger workers is thus not justified, but the belief seems to persist.

Another factor likely to influence labor market success in Switzerland is workers' national origin. Evidence for this assumption is provided by a field experiment in which employers received two applications that were similar regarding all job-related factors with the exception of the applicant's name (Fibbi et al. 2003). The results reveal that applicants with a typical Kosovar name were about 60 percentage points less likely and applicants with a typical Turkish name about 30 percentage points less likely to be invited to a job interview than applicants with a typical Swiss name. In applications where a Portuguese name was used there was no significant difference in the frequency of invitations. A study with a similar design from Sweden finds that job applicants with local names are about 50 percentage points more often invited to interviews (Carlsson and Rooth 2007). A Swiss study on job displacement observes that foreigners had a four times higher risk of remaining unemployed than the Swiss after controlling for socio-demographic factors such as age and education (Weder and Wyss 2010: 43).

One possible explanation for the differences in labor market prospects of workers with different national origins is discrimination. Employers may have a general aversion to individuals with particular backgrounds (Sheldon 2007: 40). Another explanation is that employers use workers' nationality or surname as a signal for their unobserved skills and knowledge. This hypothesis is particularly plausible since in hiring procedures there is an information asymmetry about workers' abilities. All other characteristics being constant, employers prefer applicants with a national origin that correlates (or is believed to correlate) with higher performance (Bonoli and Hinrichs 2012: 340). Since the quality of the same type of education differs between countries, job seekers with a foreign national origin may indeed perform better or worse than natives even if they have the same formal qualifications (Sheldon 2007: 41). Moreover, natives are likely to have a better command of the local language and may – but of course do not have to – be better informed about the local context (e.g. political situation, customers of a company) than immigrants. Evidence for this assumption is provided by a study conducted in Switzerland that finds that the wage returns on education and work experience are lower if they were acquired abroad (De Coulon et al. 2003).

There is evidence that workers' unemployment durations and reemployment prospects are not only mediated by individual characteristics but also by contextual factors. The prevailing unemployment rate at the moment of displacement is clearly relevant: the higher the unemployment rate, the lower the demand for labor. This leads to higher competition among job seekers and results in longer spells of unemployment. This effect seems to be consistent across different countries. For the US it has been shown that mid-age displaced manufacturing workers had a 20 percentage points higher reemployment chance in the boom period between 1993 and 1996 as compared to the recession 1981 to 1983 (Kletzer 2001: 49). A Finnish study observes that reemployment is much more difficult for workers displaced during the recession in the early 1990s than those who lost their job in the more prosperous late 1990s: in the three years after plant closure, workers displaced in 1992 were employed, on average, only about eight months a year while those displaced in 1997 were employed about eleven months a year (Appelqvist 2007: 18). Likewise, Swedish workers experienced a stronger negative effect of displacement if they lost their job during the recession of the early 1990s than under better cyclical situations in the late 1980s and late 1990s (Eliason and Storrie 2003: 13).

Job search and repeated job loss

An extensive literature has explored how individuals search for jobs. One strand of the literature examines the strategies job seekers adopt, suggesting that they possess the capacity to exert control over their career by anticipating future scenarios and adjusting actions accordingly (Sweet and Moen 2011: 3). Obviously, job seekers may face constraints on the demand side of labor, be it because of employers' preferences and hiring procedures or because of adverse macroeconomic conditions. Using a particular job search strategy thus does not automatically lead to more and better job opportunities, but is assumed to have a positive impact on reemployment as compared to not using the strategy.

One strategy that is expected to have an effect is the intensity of the job search, measured as the number of applications someone writes within a defined time. The higher workers' search intensity, the more employers learn that they are looking for a job, which in turn likely increases the number of job opportunities (Burgess and Low 1998: 242). A second strategy is to apply unsolicited. Unsolicited applications are a signal to potential employers that the job seeker is highly interested in the job and in general strongly motivated. A qualitative study on the low-skilled sectors in six European countries suggests that employers appreciate unsolicited applications most of all recruitment channels (Bonoli and Hinrichs 2012: 352).

Third, job seekers may inform their friends and acquaintances that they are looking for a job. The activation of the social network is a strategy that seems to help finding better jobs and to reduce the duration of the job search (Franzen and Hangartner 2006: 364). Two arguments are brought forward to explain the mechanisms behind this strategy: First, the information asymmetry involved in hiring processes leads employers to look for information about future employees – such as motivation or social skills – that is not apparent in a formal application. A third party who knows the candidate personally – a social contact of the applicant – may provide this lacking information to the employer (Marsden and Gorman 2001: 470). Second, contacts have been described as channels of information through which news about a vacancy reaches the job seeker or employers learn about possible candidates.

According to Granovetter (1995), the most valuable information about jobs and candidates flows though networks of acquaintances – so-called "weak ties". In contrast to "strong ties" – such as family and friends – "weak ties" function as bridges to socially more distant groups of closely related individuals and thus allow information to circulate in a wide network. However, Granovetter's research focuses on employed and not unemployed workers.

In a Swiss study on the use of informal contacts among unemployed workers, Oesch and von Ow (2015: 14-6) distinguish between work-related and communal social contacts; the latter refers to non-work related contacts such as family, friends, neighbors or acquaintances from a sports club or a volunteering activity. The authors show that both types of contacts are important for the job search of unemployed workers, but while work-related contacts are mainly used by highly educated male job seekers, communal ties seem to be important for job seekers with weaker employability such as working-class South European immigrants with low levels of education and workers over 55.

However, if job seekers remain unemployed for a longer time, work-related contacts may gradually fade away. Evidence for this phenomenon is provided by a Danish study which observed that one year after losing their job, two-thirds of the workers no longer had contact with their former colleagues (Larsen 2008: 11). A Swedish study based on longitudinal data reports that only strong ties had a positive effect on displaced workers' reemployment prospects (Korpi 2001: 166-7). At the same time the study shows that the size of the network is in fact more relevant than the types of the contacts: every additional contact increases the workers' reemployment probability more than any other job search strategy.

However, the claim that the use of social contacts is a strategy that reduces workers' unemployment durations has been challenged by Mouw (2003). He maintains that the previous analyses of this topic face an endogeneity problem: instead of showing the effect of individuals'

social contacts on their reemployment prospects, the existing literature merely shows that those individuals who have a large network also have good reemployment prospects. He suspects that the same individual characteristics that lead to a large and – in terms of job search – helpful social network also lead to better reemployment chances. To underline his argument, he provides evidence from fixed-effect analysis of longitudinal data (Mouw 2003: 890-891). He shows that, controlling for other characteristics, workers who use contacts do not have better job prospects than those who do not use contacts. His analysis furthermore provides evidence that jobs found through the social network do not differ in terms of wages, occupational prestige or unemployment duration for jobs found through other channels. He argues that it is not the use of social contacts *per se* that is important but the type of friends job seekers have. Because of homophily, higher-ranked individuals tend to have higher-ranked friends and therefore have better chances of finding their job through their contacts.

A fourth strategy that workers may adopt in order to find a job is to commute long distances (Kaufmann et al. 2004). Commuting seems to be a burden: A study based on women in Texas shows that commuting is one of the daily activities that individuals dislike most (Kahneman et al. 2004: 431-2). Scholars assume that workers' acceptance of commuting increases if they are compensated in terms of wages or other benefits. However, a study based on German longitudinal data suggests that even if commuters are compensated, they are less satisfied than those who do not commute (Stutzer and Frey 2008: 349). This result seems paradoxical and raises the question why individuals accept long distance commuting – sometimes even without compensation (Stutzer and Frey 2008: 355). To explain this puzzle, the authors test whether job seekers with less opportunities and more financial pressure accept commuting more readily, which however does not seem to be the case. An alternative explanation that the authors have brought forward is that workers accept longer commuting distances because they do not correctly anticipate the costs of this decision. Workers who find a job in another, economically more dynamic region may prefer moving there instead of accepting to commute. However, this decision involves a trade-off between workers' occupational advancement and their private life since relocating usually entails giving up the usual environment and social relationships.

Displaced workers seem to have an increased risk of multiple job losses. A study using US data from the Panel Study of Income Dynamics for the period 1968-1988 observes that multiple job loss was frequent in the US in the 1970s and 1980s: about 40% of the workers who had lost their job once, were displaced or laid off a second or a third time (Stevens 1997: 172). Most of the multiple displacements happened within five years of the first displacement. Another US study based on a labor market simulation confirms these results, showing that recently (re-)employed workers face a

higher propensity to lose their job than longer tenured workers (Pries 2004: 214). This suggests that a first job loss makes workers vulnerable to experiencing subsequent involuntary job separations.

Two explanations account for these findings. First, as Farber emphasizes in a literature review (1998) and in his own analysis of US longitudinal data (1994), a large proportion of all new job matches are destroyed within a short time. Displaced workers thus have a higher risk of repeated job loss than average workers, simply because they have recently entered a new employment. New employment relationships are unstable as they often turn out to be bad matches and thus are more likely to be terminated prematurely. Second, the above-cited studies by Stevens (1997) and Pries (2004) rely on data containing workers displaced both because of plant closure and because of layoff without distinguishing between the two reasons for job loss. This may be misleading since it is less surprising that workers dismissed for just cause lose their job repeatedly. Indeed, these workers may have individual characteristics that are generally unpopular among employers.

Early retirement and exit from the labor force

Focusing on older workers close to the retirement age, the question at stake is whether they tend to retire early or return to the labor force after job displacement. Two explanations that favor displaced workers' transition into early retirement have been distinguished. First, the transition into early retirement may be triggered by "push factors" that leave older workers who do not find a job without a better alternative than retiring (Desmet et al. 2005). Retirement would in this case be involuntary. Studies from the US and Europe find that since older workers have difficulties in finding a job after plant closure they are likely to choose this pathway (Chan and Stevens 2001; Ichino et al. 2007). In line with these results, a study that compares the transition into early retirement in OECD countries finds a positive link between the overall unemployment rate and the proportion of workers who retire early (Dorn and Sousa-Poza 2010: 434).

Second, "pull mechanisms" such as generous early retirement plans may incite older workers to leave the labor force before the official retirement age. A comparative study reports that the proportion of workers retiring rises with an increasing pension benefit replacement rate (Dorn and Sousa-Poza 2010: 343).[2] Men are probably more likely to retire early than women because they less often experience career interruptions due to child-rearing and are less often part-time employed (Bonoli 2003: 407-410). Such standard careers tend to go along with higher incomes and thus usually leave men with more ample retirement savings than women. Similarly, because workers who retire before the official retirement age often have to put up with – sometimes strongly –

[2] The replacement rate is the proportion of the former wage that is provided by the old-age pension.

reduced retirement benefits, workers with high wages seem to be more likely to retire early than those with low wages. Early-retired workers may even be forced to use their savings in order to make ends meet – a situation that is easier to cope with for workers who had higher wages when still working, since higher wages translate into higher occupational pensions. Finally, having an economically inactive partner may promote workers' transition into early retirement. Evidence from Switzerland and Germany suggests that men with a non-active partner and with higher wages are more likely to transit into early retirement (Dorn and Sousa-Poza 2005: 269; Knuth and Kalina 2002: 412). The reason for this phenomenon may be that partners have a preference for being in the same situation. Thus having a retired (or for other reasons non-working) partner may incite workers to retire early.

In fact, workers who become unemployed accumulate less old-age benefits than those who were employed during their entire active life. Accordingly, unemployed workers may be less likely to retire early for financial reasons (Seligman and Wenger 2005). This idea has been confirmed by studies conducted in Switzerland (Dorn and Sousa-Poza 2005: 270), Italy, and the UK (Tatsiramos 2010: 527). A second argument against the likelihood that older workers will transit into early retirement is that in Switzerland institutions do not promote early retirement.[3]

As an alternative to early retirement or unemployment, job displacement may lead workers of all ages to persistently exit the labor force for instance for training, child care or leisure (Knuth and Kalina 2002). On the one hand, workers with significant difficulties in finding a job may exit the labor market as an alternative to long-term unemployment. This "push-out" hypothesis suggests that workers were forced to leave because of a lack of opportunities in the labor market. On the other hand, the "pull-out" hypothesis assumes that specific incentives – such as early retirement rules – constitute a gateway for workers out of the labor force.

Exit from the labor force seems to be gender-structured, with an interaction effect between sex and civil status: based on data from the US Health and Retirement Survey it has been shown that married women have a 15 percentage points lower probability of going back to work than unmarried women, while for men marital status makes no difference (Chan and Stevens 2001: 496). This seems to point to a pull mechanism being at work, where displaced married women who probably have a husband with a stable income choose not to take on a new job.

[3] The case of Switzerland, however, stands in contrast to other continental European countries where policy promotes early retirement (for the case of Austria see Lalive 2008: 805).

1.2 The type and quality of the post-displacement job

Reemployment sectors and occupations

Structural change in the economy leads to labor reallocation across industries. Throughout the OECD a shift of employment from the goods-production industry to the services has taken place in recent decades. In the UK for instance, large labor reallocations take place from declining to expanding industries and they are often intermitted by a spell of unemployment (Greenaway et al. 2000: 58, 60). It is possible that plant closures in the manufacturing sector constitute a mechanism that mediates this adjustment process. In this logic, manufacturing workers who lose their job would then be absorbed mainly by expanding sectors such as services. Alternatively, an adjustment process may come about through cohort renewal if young workers enter sectors and occupations that are different to the ones that older workers were active in.

This view that displaced workers have to change sector in order to find a new job has been challenged by the finding that much larger labor reallocation processes take place within the same industries than across (OECD 2009: 121). While the net change of employment *across* industries in OECD countries between 1997 and 2004 was 4%, it was on average 18% *within* industries. This suggests that even in declining sectors new jobs are created. For displaced manufacturing workers this would imply that they may find a new job in their pre-displacement sectors.

Human capital theory suggests that workers prefer to stay in their pre-displacement sector because there they receive the highest returns on their skills (Fallick 1993; Haynes et al. 2002: 251; Neal 1995: 657). Yet, if the prospects in the pre-displacement sector are bleak, workers are pushed into other sectors (Fallick 1993: 314). A study based on longitudinal micro-data shows for the US and Germany that sectoral mobility increases with the duration of the spell of unemployment (Gangl 2003: 206). Similar results are found for the US and the UK, showing that the spells of unemployment are shortest for workers who find their jobs in their pre-displacement sector (Greenaway et al. 2000: 68).

The transition from one sector to another may be difficult. Much depends on the transferability of the workers' skills to their reemployment sectors. If the workers' skills are very specific to their former sector of employment they are likely to experience difficulties, for instance in form of wage losses, in transiting to other sectors (Cha and Morgan 2010: 1144).

For some groups of workers sectoral change seems to be easier than for others to transit to another sector. Workers with high sectoral tenure seem to have difficulties in finding a job in another sector because they have acquired a large amount of sector-specific skills for which employers in other sectors do not have much demand. If high-tenured workers nevertheless change sector, they are likely to suffer wage losses (Neal 1995: 664).

Moreover, the workers' education seems to influence their propensity to switch sector. Credentials, diplomas or certifications are considered objective attestations of skills. They help employers in other sectors to evaluate the portability of the workers' skills to their sector (Estevez-Abe 2005: 188). A study based on data from the US Current Population Survey finds that higher levels of education only improve workers' reemployment prospects in another industry, but not in their former industry (Fallick 1993: 317). This finding is explained by education acting as a signal for the workers' ability to learn in a new sector but not for the workers' performance in their former sector.

In addition, women experience particularly good employment prospects in the expanding private service sectors and in the public sector. A study comparing OECD countries shows that the occupational structure in the public service sector is strongly biased towards women (Estevez-Abe 2005: 197). This horizontal segregation seems to hold not only for the public sector: evidence from Germany suggests that in recent decades most of the jobs created in services – whether in the private or the public sector – were filled by women (Black and Spitz-Oener 2010: 190; Spitz-Oener 2006: 266). An explanation for women's overrepresentation in service jobs is that the increasing demand for skills such as dealing with people, training and teaching or counseling and advising in Western economies, which have been shown to be used at work more often by women than by men (Nickell 2001: 621). Moreover, women's tendency to be employed in the public sector may be due to the fact that a large proportion of women prefer jobs that are compatible with care work, such as part-time employment and jobs with flexible working hours (Hakim 2006: 289). Jobs of this type are more available in the public sector.

There is not only sectoral but also occupational change that may affect the workers' chance of finding a new job and the quality of these jobs. In this context, two questions may be raised: Which factors enhance the probability that displaced workers will change their occupation? If they change, into which occupations do they go? A possible answer may be found by considering the evolution of the demand for labor.

In Switzerland and the Scandinavian countries, there is an increase in employment at the top end of the occupational hierarchy: jobs in management and the professions are expanding, whereas routine jobs held by production workers and clerks decrease (Oesch and Rodriguez Menes 2011: 514; Fernández-Macías 2012: 15). Accordingly, we may expect that the displaced workers are more often employed in managerial or professional occupations after displacement than they were before displacement. Moreover, as a consequence of service sector growth we may expect workers, above all women, to transit to typical service occupations (Oesch and Rodriguez Menes 2011: 512).

Different factors seem to promote workers' occupational change after plant closure. First, long spells of unemployment lead job seekers to consider accepting jobs in other occupations. This has been demonstrated in a study on West Germany: every additional month of unemployment increases the likelihood of changing occupation by 6% (Velling and Bender 1994: 224). Second, in the US younger workers change occupation more often than older ones (Parrado et al. 2007: 446). The effect of age may be explained by tenure: older workers who have acquired a large amount of occupation-specific skills over their career receive lower returns in other occupations and thus prefer to stay in their former occupation. However, a study based on British and German data only partially confirms this hypothesis of the relevance of tenure: while the authors find for the UK that workers with longer experience are less likely to switch occupation, there is opposite evidence for Germany (Longhi and Brynin 2010: 660).

Determinants of post-displacement wages

A large body of research has shown that displaced workers – once reemployed – suffer from wage losses, sometimes substantial ones (Couch and Placzek 2010). Two different mechanisms may be at work when workers experience wage losses: loss of human capital or deferred compensation.

According to the concept of human capital, introduced by Becker (1962: 9), knowledge and skills act as a resource on which workers receive financial returns in the form of wages. In the context of plant closure, this approach interprets workers' change in wages as an expression of change in the level of valuation of workers' skills by pre- and post-displacement employers. A decrease in valuation may be the result of different processes.

First, if the displaced workers' skill profiles and the requirements of their new jobs are not compatible – if workers experience skill mismatch –, their post-displacement wages are likely to be lower than in their pre-displacement job (Allen and Van der Velden 2001: 444-5, Payne and Payne 1993). Holding education constant, a British study shows that workers who are overqualified in their jobs earn 18% less than peers with the same level of qualification who work in jobs for which they are appropriately qualified. At the same time, underqualified workers earn 18% more than workers with appropriate qualification for their job (Green and McIntosh 2007: 428, 436). Thus, workers who end up in a job requiring skills below their own level will earn less than those working exactly at their skill level, regardless of their actual level of skills (Allen and Van der Velden 2001: 450).

Second, long spells of unemployment may lead to the depreciation of workers' skills (Pissarides 1992: 1386). This in turn results in wage losses upon reemployment. Based on data from the US Displaced Worker Survey and correcting for selection effects, a 10% longer unemployment

duration is associated with a 1% wage decrease upon reemployment (Addison and Portugal 1989: 295).

Third, several studies have demonstrated a negative relationship between workers' education and wage losses. A study from the US finds that every additional year of education attenuates displaced workers' wage losses by a third (Chan and Stevens 2001: 568). A Dutch study reports that workers with more than intermediate vocational training experience lower wage losses than workers with lower levels of education (Kriechel and Pfann 2005: 231-2). Similarly, a Finnish study provides evidence for a linear relationship between education and wage losses – with the lowest losses for workers with a tertiary degree (Appelqvist 2007: 38). These findings suggest that pre- and post-displacement employers value higher levels of education more similarly than they do lower levels of education. While less educated workers may receive considerable returns in their pre-displacement firm because of the firm-specific knowledge they acquired, a new employer does not equally value their skills. Changing their job thus leads to substantial wage losses.

Fourth, research based on the US Displaced Worker Survey suggests that high *firm* tenure leads to large wage losses upon reemployment (Carrington 1993; Greenaway et al. 2000: 66; Kletzer 2001: 59; Cha and Morgan 2010: 1145; Couch and Placzek 2010). These findings have been explained with the argument that workers with high tenure received returns on firm-specific knowledge in their pre-displacement job but not by a new employer. In contrast, workers with short tenure received no compensation for firm-specific skills before displacement and thus do not experience substantial wage losses when reemployed. In addition to the *firm* tenure effect on wage losses, there may be a *sector* tenure effect. Indeed, a study based on the US Displaced Worker Survey has reported that tenure affects wage losses twice as much if workers change sector as compared to if they stay which seems to be due to sector-specific skills (Neal 1995: 657). Another study based on UK panel data finds that *occupational* tenure has the most negative effects on wage changes: while the wage returns for *occupational* tenure of 10 years are 13%, they are only 3% for *sector* tenure (Haynes et al. 2002: 249). Changing occupation thus is likely to induce higher wage losses than changing sector while staying in the pre-displacement occupation. For instance, a mechanic who worked in manufacturing before job loss hired as a mechanics in a company in the services is likely to experience almost no wage changes. In contrast, a mechanic who worked in the manufacturing and remains in the sector but is reemployed as a stocks clerk is likely to experience wage losses. This suggests that skills are better transferable between sectors than between occupations (Lee and Wolpin 2006: 28).

A second theory to explain displaced workers' wage losses focuses on deferred compensation. Deferred compensation is a situation where younger workers are underpaid and older workers

overpaid with respect to their productivity. Accordingly, over their career, workers' wages rise more strongly than their productivity. As mentioned earlier, deferred compensation is a strategy used by companies to motivate young employees to stay in the company and reward those who stay for their loyalty (Lazear 1990: 275). If workers instead change their job, for instance because of plant closure, this loyalty bonus is lost. Evidence for this theory is provided by a British study that shows that those firms which defer compensation – for example in the form of pensions – hire fewer older workers (Daniel and Heywood 2007: 43). In firms that offer pensions, only 3% of all the hirings are older workers as compared with 14% in average firms. Similarly, firms with steeper wage profiles hire fewer older workers than firms with flatter wage profiles. In addition, the findings about the negative effect of high firm tenure may corroborate the deferred compensation theory.

Finally, wage levels differ substantially between sectors or firms. As a consequence, if workers change sector or firm they may experience a wage change. Since in Switzerland collective wage bargaining is mostly organized on a sectoral level, workers may experience wage losses (gains) simply by changing into a sector with generally lower (higher) wages (Mach and Oesch 2003: 166). Based on data from the US, Jacobson et al. (1993: 703) maintain that the loss of firm rents such as union premiums increase the workers' wage losses.

For those workers who experience wage losses, these often turn out to be long-lasting. An analysis of the Panel Study of Income Dynamics shows that four years after involuntary job loss, workers in the US still earn about 14% less than non-displaced workers (Ruhm 1991: 322). Another study using the same dataset but for another time period finds that four years after displacement workers earn 10% less than the non-displaced (Stevens 1997: 174). Based on administrative data from Pennsylvania has found even wage losses of 20% compared to non-displaced workers six years after job loss. Moreover, wage losses in the US seem to be most severe for workers with the lowest incomes before displacement (Feather 1997: 37).

The evolution of job quality

Displaced workers are particularly vulnerable to reemployment in precarious jobs. A study based on UK Labor Force Survey data reveals that workers who have recently been unemployed end up much more frequently in non-standard employment than workers who were continuously employed (Payne and Payne 1993: 526-8). Evidence from the analysis of the European Community Household Panel (ECHP) shows that workers who go through a spell of unemployment are negatively affected in their job quality, even two years after returning to the active labor force (Dieckhoff 2011).

One reasons for this outcome may lie in a general change of employment relations. Some authors have suggested that the labor market is segmented and consists of secure "core" jobs on the one hand and insecure "peripheral" jobs on the other (Berger and Piore 1980). From this perspective, displaced workers may end up in the peripheral jobs if they lack alternative opportunities, for instance because of high aggregate unemployment (Kalleberg 2009: 2). In this situation they are likely to be willing to accept low-end jobs in order to avoid long-term unemployment or the exclusion from the labor market (Payne and Payne 1993: 530-1). However, Kalleberg (2009: 5-6) claims that precarious work – such as temporary jobs – is becoming more generalized and even concerns managers and professionals. It may thus be due to the current evolution of the labor market that the new jobs of displaced workers are less secure and of lower quality than their former ones. In the long run, non-displaced workers would then also be exposed to a similar risk of precarious work.

What do we understand by precarious jobs and which aspects does the concept of job quality encompass? Precarious work has been defined as employment that is uncertain and unpredictable from the workers' point of view and that does not permit workers to obtain or maintain occupational skills (Kalleberg 2009: 2). Job quality reflects the variety in the tasks, the level of personal initiative in carrying out the job, the opportunities for learning and self-development, the ability to participate in decision-making, and job security (Gallie 2003: 62,65). Indicators for job quality are – among other things – contract type, job security, skill match and job authority.

Contract type is an indicator for job quality since it reflects workers' job security and career prospects (Green 2008: 151). Permanent contracts are usually more advantageous than fixed-term or temporary contracts and imply better job security (Green 2008: 151). Data from the OECD countries shows that temporarily employed workers receive on average lower wages, less fringe benefits and are less satisfied with their jobs than the permanently employed (OECD 2002: 141,145,150). Workers who have experienced a phase of unemployment – such as displaced workers – seem to end up more often in temporary jobs than workers changing from employment to a new job. A study based on the UK Labor Force Survey shows that unemployed workers are five to ten times more likely to be reemployed in temporary jobs than the employed (Payne and Payne 1993: 528). Nevertheless, temporary employment is probably more advantageous than long-term unemployment and may in some cases – although not generally – serve as a stepping stone into permanent employment (Gerfin et al. 2005: 824; De Graaf-Zijl et al. 2011: 126).

Job insecurity is central to the concept of job quality. It represents the anticipation of an involuntary and stressful event (Sverke et al. 2002: 243). This anticipation is often as important a source of anxiety as the event itself (Sverke et al. 2002: 244). Job insecurity is widely understood as

a subjective measure assessing an individual experience. However, a Finnish study has shown a close relation between the subjective perception of job insecurity and the unemployment level at a given time (Nätti et al. 2005). Job insecurity is thus not "just in your head" (De Witte 2005). Worker categories that are particularly affected by job insecurity in four European countries are blue-collars, workers employed in the industrial sector, in temporary contracts as well as low-skilled and older workers (Näswall and De Witte 2003: 199-202).

Job quality can furthermore be assessed in terms of skill match. A mismatch between individuals' skills and the requirements of the job usually results in unsatisfactory employment relations. A small-scale study from the US finds that displaced workers suffer more often from skill mismatch than non-displaced workers (Leana and Feldman 1995: 1385). Particularly prevalent among displaced workers is overqualification. Being overqualified for a job usually comes along with lower job authority, lower earnings and may result in a lower social status (Green and McIntosh 2007: 436). Overqualification would be of minor importance if it were only a temporary phenomenon. But empirical evidence shows that among workers who are overqualified in their first job, two-thirds are still working in a job for which they are overqualified six years later (Green and McIntosh 2007: 428).

A final aspect of job quality that we discuss – even though there is no doubt that our account of job quality is not exhaustive – is job authority. Job authority reflects whether workers supervise the work of others. It expresses the hierarchical position of the workers and represents the autonomy they have in their job. A study based on longitudinal data from Wisconsin shows that as compared to non-displaced workers, displaced workers experience a reduction in job authority as a consequence of dismissal (Brand 2006: 290). In line with these results, a longitudinal study based on data from ECHP for Denmark, Austria, Spain and the UK finds that formerly unemployed workers were more likely to experience lower job authority in all countries except Austria (Dieckhoff 2011: 242).

1.3 Impact on sociability and well-being

Coping strategies on the household level

Job displacement does not only affect workers' occupational career but may also cause financial strains for their household. A Danish study on workers who become unemployed finds that nearly twice as many unemployed workers face difficulties in meeting their current expenses as compared to the employed (Andersen 2002: 186). Workers with low wages, few savings or experiencing long-term unemployment may adopt strategies to cope with income losses.

Individuals' lives are interdependent as it has been emphasized by life-course sociology (Elder 1994: 5). Accordingly, individuals' lives should be studied in their social context. With respect to plant closure the question arises of how individuals who are closely linked to the displaced worker respond to this critical event. If workers have a spouse or a family, these significant others may be involved in coping strategies adopted at the household level.

A first possible strategy in couple households is to increase the employment activity of the non-displaced partner. However, most research finds no evidence for this hypothesis. A study based on data from the UK observes that the wives of unemployed workers become even more likely to leave the workforce when their husbands become unemployed (Davies et al. 1994). Similarly, based on Swedish longitudinal data on workers displaced in 1987, it has been shown that the wives of these workers experience a decrease in wages which suggests that they quit their jobs following their husband's job displacement (Eliason 2011: 609). A third study reveals compatible results for the UK but opposite outcomes for the Czech Republic and Slovakia (Gallie et al. 2001: 46-7). The findings from the two Eastern European countries are thus the only ones that support the assumption that spouses enter or increase employment when their partners lose their jobs. More generally, the studies cited above seem to provide evidence for a polarization of dual-earner versus no-earner families (Gallie et al. 2001: 46). Possible explanations are either a selection effect where individuals with a similar likelihood of losing their job tend to become spouses, or that both partners experience the same constraints to being in employment because of adverse labor market conditions such as an economic crisis (Eliason 2011: 612).

Another possible response to the experience of financial strains is adjusting expenditures – a strategy that can also be adopted by single-person households. A longitudinal study based on the Panel Study of Income Dynamics addresses spending on food. The author observes a drop of 22 percentage points in food consumption for workers who do not receive unemployment benefits (Gruber 1997: 195). In contrast, at an unemployment benefit replacement rate of 84% workers were able to keep their food consumption at their pre-job loss level.

We cannot infer from food consumption to overall household spending since food – with the exception of dining out and high-end products – is a basic need and its consumption thus relatively inelastic. In addition, food consumption only represents about 20% of household's overall consumption bundle and the related results thus cannot be extrapolated to workers' overall spending adjustment after job loss (Gruber 1997: 195). This assumption has been confirmed by a Canadian study showing that workers who experience an income loss reduce their spending on clothes much more than on food (Browning and Crossley 2009: 1190). It seems therefore likely that households

reduce spending on goods that are not indispensable while they continue to spend similar amounts on necessities as they did before job loss.

Sociability

Job loss likely affects workers' social interactions. Intuitively we may expect that workers who lose their job face the risk of being socially isolated, for example because individuals bow out as a consequence of stigmatization or a lack of money that renders maintaining a social life difficult. Social isolation is problematic since it tends to have negative impacts on individuals' well-being and since workers may be cut off from information networks that are particularly important for job seekers (Gallie et al. 2003: 3, 12).

Studies on unemployed workers' sociability are inconclusive with respect to the risk of social isolation in the aftermath of job loss. Based on data from the ECHP, Gallie et al. (2003: 16) find that sociability patterns do not change when workers become unemployed. But they find different patterns on sociability for workers becoming unemployed and workers being continuously employed even before the unemployed lose their job. The authors report that while the workers becoming unemployed have on average larger social networks than those who are continuously employed, they are less active in associations (Gallie et al. 2003: 16). Another European study based on data from the UK, the Czech Republic, Slovakia and Bulgaria observes similar results: the unemployed see friends and relatives more frequently than the employed (Gallie et al. 2001: 47). However, the unemployed receive less practical and psychological support than the employed (Gallie et al. 2001: 48). On the contrary, a small-scale longitudinal study from the US finds contrasting results: employed workers have larger networks than the unemployed, but there is no difference in support received between unemployed and employed workers (Atkinson et al. 1986: 321). In sum, these findings do not allow for a clear-cut conclusion about change in sociability after job displacement.

A study from Denmark including unemployed and employed workers shows that the unemployed drastically lose their occupational ties. One year after job loss, 62% of the unemployed no longer have contact with former colleagues (Larsen 2008: 11). This development is problematic since the rupture from occupational networks may marginalize workers in the labor market and reduce their chance of finding a new job.

Scholars have examined the effects of job loss on spousal and family relations. In a small-scale longitudinal study from the US, Atkinson et al. (1986: 320) analyzed the change in marital relationships after the husband became unemployed. They find that job loss decreases the quality of the marital relation. However, after reemployment the relation recovered. In addition, more

cohesive family structures seem to be stress buffering for the displaced workers (Atkinson et al. 1986: 327).

There exists a debate about the reasons for the adverse effect of job loss on spousal relations. Tensions may stem from families' financial problems, which reduce their economic opportunities (Gallie et al. 2003: 3). A study based on longitudinal administrative data from Norway supports this argument (Hansen 2005: 142). The author shows that families receiving social security benefits – and thus being at the lower income end – before one of the spouses becomes unemployed are more likely to experience marital dissolution than families without such benefits.

A study from Norway based on the same type of data reveals that divorce is significantly more likely in couples where the husband experiences plant closure than where the husband is continuously employed, even if they control for selection effects (Rege et al. 2007: 13, 18). The authors test whether the reduction of earnings caused by plant closure affects the risk of divorce. However, their analysis does not support this assumption. For this reason they interpret their finding in the sense that marital dissolution results from the decline in husbands' indispensability because their spouses (or perhaps they themselves) consider them to be failing to fulfill the traditional breadwinner role. Support for this thesis is provided by a study from Sweden which finds large risks of divorce after displacement in couples where men lost their jobs but no significant effects if women were displaced (Eliason 2012: 1392). Accordingly, if such an effect is present in Scandinavian countries where mothers are highly involved in the labor market and often work full-time, we may assume that the effect is even stronger in Switzerland where mothers tend to work part-time.

Finally, a study based on US data focusing on job displacement reveals that the incidence of divorce rises for workers subject to individual layoffs but not for those experiencing plant closure (Charles and Stephens 2004: 516). In contrast to the studies from Scandinavia cited above, Charles and Stephens find this effect for both men and women. They explain this finding by indicating that spouses may or may not blame their partner depending on whether they were laid off individually or displaced as a consequence of plant closure (Charles and Stephens 2004: 519). An alternative explanation may be that reverse causality or unobserved heterogeneity trigger this outcome: workers who experience strong tensions in their marital relationship may become depressed or distracted and therefore be more likely to lose their job.

Displaced workers with family obligations experience more pressure to find a new job (Leana and Feldman 1995: 1383). The life-cycle stage of a family may thus determine how much hardship job loss causes (Moen 1980: 183). We may also expect families with higher household incomes to be less distressed by job loss than those with lower incomes. In line with this expectation, a panel

study from the US finds that children of single mothers are particularly vulnerable when their mothers lose their job (Brand and Simon Thomas 2014: 982). In fact, the authors find that young adults were negatively affected in their educational attainment and subjective well-being when their mothers were displaced while they were adolescent.

Subjective well-being

It is widely understood that losing a job leads to a substantial decrease in subjective well-being.[4] A meta-study reassessing the results of about a hundred studies mainly from the US shows that there is a broad consensus and significant evidence for the reduction of mental health after job displacement (McKee-Ryan et al. 2005: 63). A study based on German panel data shows that workers who are displaced by plant closures suffer from reductions in life satisfaction (Winkelmann and Winkelmann 1998: 7). Likewise, a more recent study based on German and Swiss panel data finds that workers becoming unemployment experience a substantial decrease in well-being (Oesch and Lipps 2013: 963). However, while it is widely accepted that job loss leads to a drop in workers' well-being, the mechanisms behind this phenomenon are much less clear.

An influential explanation of this phenomenon, called "latent deprivation model", goes back to Jahoda (1982). She argues that becoming unemployed is harmful since work fulfills some of our fundamental needs such as identity, social status, daily structure and engagement in activities meant for collective purposes. This idea has been challenged by findings from Denmark that unemployed do not worry much about having no purpose to get up in the morning or that they lose their social status (Andersen 2002: 185). In contrast, their largest concern was economic insecurity. Psychologists in turn claim that economic insecurity induced by job loss generates stress and uncertainty (McKee-Ryan et al. 2005: 68). In line with these findings, displaced workers are more likely to experience anxiety, depression and loss of self-esteem (Brand 2015: 15).

Workers are affected differently by job displacement. Evidence from German and Swiss longitudinal data indicates that men experience stronger decreases in well-being than women in the wake of job loss (Oesch and Lipps 2013: 963). Similar results are found for Germany (Clark et al. 2008: F238) and for Catalonia (Artazcoz et al. 2004: 83). A possible explanation is that the main responsibility to provide household income is still assigned to men and subsequently they suffer from job loss more strongly (Ernst Stähli et al. 2009: 334).

[4] The notion of subjective well-being expresses the degree to which individuals judge the quality of their lives favorable (Veenhoven 1993: 19). Theoretically the concept goes back to Bentham and aims at capturing individuals' pleasure and pain (Dolan, Layard, and Metcalfe 2011: 6).

It has been suggested that there may exist a "habituation effect" whereby unemployed workers become used to their situation as the duration of their unemployment spell increases. However, there is little evidence in support of that claim. Based on longitudinal data for Germany and Switzerland, such an effect was not found (Clark et al. 2008: F231; Oesch and Lipps 2013: 963). In contrast, it rather seems that unemployed workers' well-being slightly but continuously decreased over time, possibly as a consequence of the workers' increasing frustration over rejected job applications (Strandh 2000: 469; Flückiger 2002: 15).

When unemployed workers are reemployed, their well-being seems to recover. A study on recent waves of the US Panel Study of Income Dynamics finds that unemployed people who return to employment experience a significant increase in well-being (Young 2012a: 16). However, they do not achieve their pre-displacement level of well-being. The author assumes that reemployed workers either experience a lingering sense of labor market insecurity or that they suffered from occupational downward mobility.

Hence, the characteristics of the new job may explain workers' well-being when reemployed. A Swedish longitudinal study suggests that reemployed workers' life satisfaction depends on their contractual status in the labor market (Strandh 2000: 474). Workers entering a job with a permanent contract experience a stronger increase in well-being than those who go into temporary or self-employment. Based on data from the ECHP, it has been shown for Austria and Spain that workers who experienced a spell of unemployment are subsequently significantly less satisfied with their job security than workers who did not experience job loss (Dieckhoff 2011: 242). A literature review maintains that job insecurity is especially burdensome for workers since it represents a prolonged uncertainty (Sverke et al. 2002: 244). However, so long as job insecurity is of limited duration, it is not detrimental to workers' well-being (Brugard et al. 2009: 783).

Displaced workers who exit the labor force may experience different effects on their well-being depending on their destination. Winkelmann and Winkelmann (1998: 7) find a significant negative effect for workers who leave the labor force, but this effect is only half the size of the negative effect for the unemployed. A more differentiated analysis finds an increase in life satisfaction for workers going into university training or childcare (Strandh 2000: 474-5). For workers exiting into early retirement, Strandh reports a weakly positive but not significant effect.

Finally, it has been suggested that for some workers seeing their plant closing down may be a relieving event. This may be the case if the job security in the pre-displacement plant was very low and the workers therefore experienced great uncertainty regarding their career. A qualitative longitudinal study conducted in the State of New York reports positive effects of job displacement on workers' well-being (Sweet and Moen 2011: 24-5). More displaced workers reported health

improvements than health declines following their job loss. Even for individuals where the financial situation worsened, other aspects of their lives – such as emotional well-being and physical health – improved subsequently. Quitting their working environments implied for them a way out of job insecurity and an atmosphere of low morale.

1.4 A model of occupational transition after plant closure and hypotheses

Labor market transitions after plant closures are a complex process. In the context of this study it would be too ambitious to aim at understanding the transition in all its details. Nevertheless, we try to provide insights as to how the determinants that we have at hand are linked to a limited number of outcomes and how the outcomes are linked among them. In Figure 1.1, we illustrate our model of how we expect the determinants and outcomes that we study as well as the different aspects of the outcome to be interrelated.

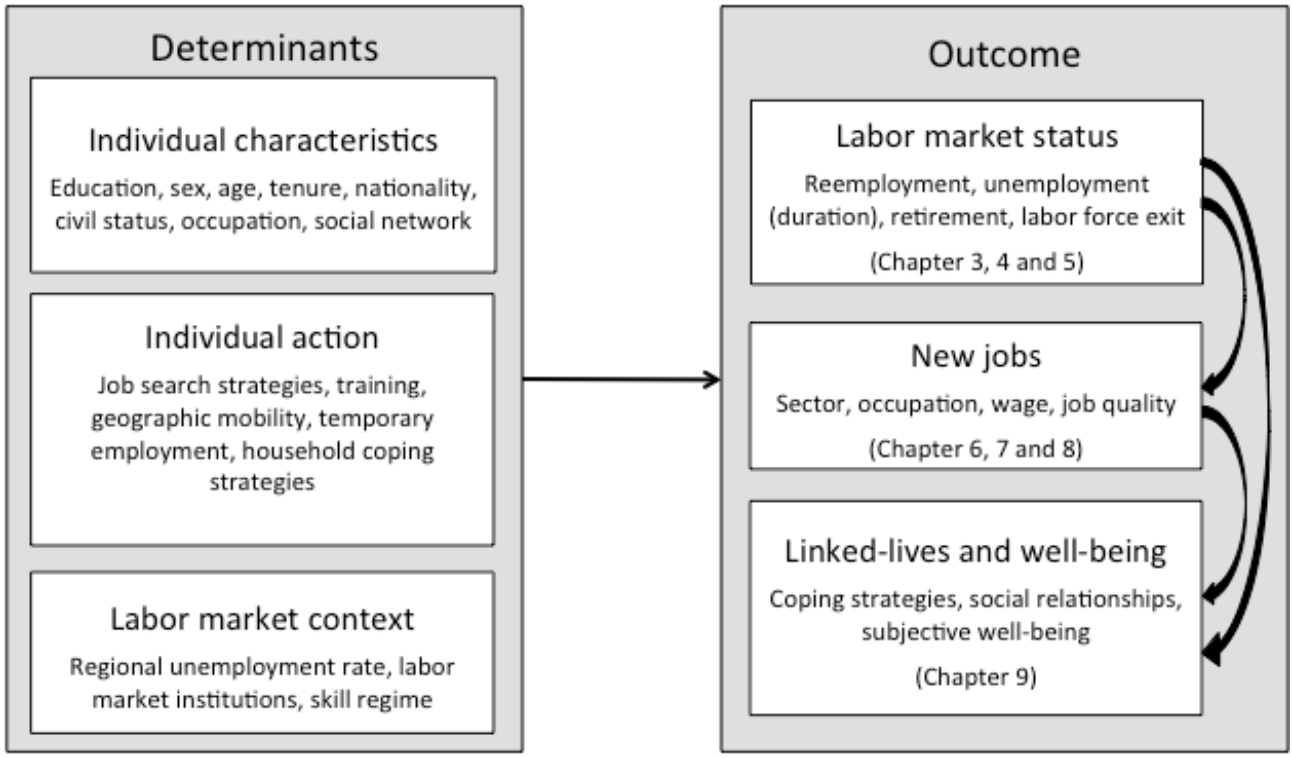
On the side of the determinants we have three main drivers: (i) characteristics of the individuals, (ii) actions of the individuals, and (iii) labor market context. The individual characteristics that we expect to be linked with post-displacement outcomes are the workers' education, sex, age, tenure, nationality, civil status, occupation, and their social network. The individuals' actions that seem to affect the transition are job search strategy, training, geographic mobility, temporary employment, and household coping strategies. The regional rate of unemployment is probably the best indicator for overall labor market context but also labor market institutions and the skill regime are important determinants of occupational transitions. Together with other factors such as employers' preferences or labor market policies, these determinants shape the displaced workers' job opportunities.

Schematically, we can distinguish four different labor market statuses: reemployed, unemployed, retired and labor force exit, the latter describing situations where workers have left the labor force for training, childcare, disability or other, not specified, situations. Unemployment duration is at the same time an outcome and a determinant: we analyze the factors that determine unemployment duration and discuss how it affects other outcomes. For the category of the reemployed, we assess the sectors and occupations, the wages and the quality of their new jobs. In order to understand the impact of plant closure on workers' sociability and well-being it is crucial to examine how their social relationships and life satisfaction have changed in the aftermath of plant closure.

We assume that the different outcomes are causally linked to one another. If workers experienced long unemployment spells or were still unemployed at the moment of our survey, labor market theory suggests that they are likely to experience an occupational downgrading once they returned to a job. Workers reemployed in insecure jobs have a nigh risk to experience a decrease in

well-being because of a latent feeling of uncertainty. Workers' labor market status is thus closely linked to their social lives and well-being, smoother occupational transitions being likely to go along with more positive outcomes in this respect.

Figure 1.1: Model of occupational transition after plant closure



The discussion of the literature presented above allows us to formulate our hypotheses that will be examined in the empirical chapters.

H1: Our expectation with respect to reemployment is that the rising demand for high-skilled workers and the importance of education as a signal for unobserved characteristics such as motivation, leads low- and mid-educated workers to encounter more difficulties in finding a job than highly educated workers. Furthermore, we expect that older workers have more difficulty in returning to the active labor force than younger workers. Referring to the theory of the transferability of specific skills, we assume that reemployment is more difficult for older workers because they typically have higher tenure and thus more firm- and sector-specific skills that are difficult to transfer to a new job.

H2: In line with our hypothesis that older workers encounter difficulties in finding a new job, we expect older workers to retire early in order to avoid long-term unemployment. We thus assume that older workers are rather pushed than pulled into early retirement and that they take this pathway involuntarily.

H3: A large body of literature suggests that social contacts are an important means to find a job. Some authors have argued that jobs acquired through individuals' social networks are found within a shorter time and are of better quality and better paid. We therefore predict that displaced workers who find their new jobs through social contacts experience advantages in terms of job quality as compared to those who find their jobs through other channels.

H4: Switzerland's vocational training system is highly standardized at the industry level with common training protocols and skill certification procedures. With respect to workers' reemployment sectors we expect that workers with vocational education – which in Switzerland most often means apprenticeships – disproportionately find new jobs in their pre-displacement sector, because they possess a sector-specific training.

H5: If workers nevertheless change sector, we hypothesize that push rather than pull mechanisms are at work. We expect sectoral changes to be triggered by the experience of long-term unemployment. Workers who change sector as a means to avoid long-term unemployment accept particularly often low-end jobs in the service sector.

H6: With respect to changes in wages we expect that high tenure, low qualification and change of sector or occupation most negatively affect wage losses. Workers with long tenure acquire a large amount of firm-specific skills during their employment in the pre-displacement company. Once these workers lose their job, they are unlikely to receive financial returns from a new employer to the skills that are specific to their pre-displacement firm. Accordingly, they experience important wage losses upon reemployment.

H7: Research has shown that long-term unemployed workers have the highest risk of occupational and social downgrading. The longer workers search for a job, the less likely they are to return to a job and the lower tends to be its quality. We therefore expect that those workers who tend to experience long unemployment spells are most prone to experience a drop in job quality upon reemployment. Such a scenario seems to be particularly likely for older workers since they tend to face the strongest barriers of returning to employment after job loss.

H8: With respect to workers' subjective well-being we expect that changes in workers' social relationships drive changes in their well-being most strongly, more strongly than changes in their financial situation. We highlight in particular the effect critical events – such as plant closure – can have on marital relationships. Previous literature has shown that job loss is likely to lead to persistent tensions between spouses. In this sense, plant closure thus may leave long-lasting scars in workers' social lives even after their return to employment.

2. A tailor-made plant closure survey

In Switzerland there is no data publicly available for workers who lost their job because their plant shut down. For this reason, we ran our own survey. This chapter presents this survey including its design and the procedure we chose to collect data. The chapter is organized as follows: we first discuss whether using plant closure data may alleviate the problem that unemployment is a selective phenomenon and that particular groups of workers are more prone to lose their job than others. Next, we present out sampling strategy and discuss how potential survey bias may threaten the validity of our data. We address our data collection procedure and explain how we linked survey data to register data. We go on to analyze potential bias in the data that we collected and describe the construction of a control group. We then present the institutional and labor market context of our study. Finally, we discuss the main limits of our study.

2.1 Can plant closure data avoid selection bias?

Job loss is a typical non-random phenomenon: workers with particular characteristics such as lower levels of education have a higher probability of losing their job (Balestra and Backes-Gellner 2013: 23). A non-random selection into unemployment would be less a cause for concern if we could control for all of the workers' characteristics that are relevant for reemployment. But important characteristics such as motivation, work performance or social skills are usually not observed by researchers and thus cannot be controlled for. If workers with unobserved characteristics that hinder reemployment are overrepresented in the group of the displaced workers, the negative effect of job loss on the average workers will be overestimated. In such a case the results would be affected by selection bias.

It has been argued that a strategy to address this bias is the use of plant closure data (Brand 2006). If the workers of a company are displaced because of economic failure, the reason for job loss cannot be attributed to the workers themselves; it may thus be exogenous to them. In other words, if the whole workforce of a company is displaced, it may be reasonable to assume that the employer did not dismiss workers based on their performance, motivation or other individual characteristics (Gibbons and Katz 1991: 352). Accordingly, observable and unobservable characteristics are likely to be similarly distributed among workers displaced by plant closure and among workers not displaced – as would be the case in an experiment with random attribution to treatment.

However, more recent research argues that even with plant closure data there may still be a selection bias at work. In fact, workers may self-select into firms with a higher propensity to close down. Belonging to the workforce of a non-profitable plant does not seem to be completely random as a comparison of wages between displaced and non-displaced workers suggests (Hijzen et al. 2010: 254-5). Confronted with a choice, highly qualified workers are likely to avoid employment in a plant with economic difficulties.

Moreover, there may be selection out of the sample. Well-informed and entrepreneurial workers will try to quit the company before the actual shutdown (Eliason and Storrie 2009b: 1397). It has been suggested that those workers with the best labor market prospects have the highest probability of "leaving the sinking ship" early. A study based on Austrian administrative data provides evidence for this assumption: workers with higher incomes had a higher probability of leaving the company up to a year before it closed down (Schwerdt 2011: 99). Moreover, those who left the company one to two quarters before the closure had significantly better labor market outcomes than workers from non-closing plants *ceteris paribus* (Schwerdt 2011: 100).

For our study, we sampled those workers who were employed in one of the five plants at the moment of the announcement of the plant closure. The announcement took place between three and nine months before the actual displacement – except in Plant 2 (Biel), where there was no advance notice. In the light of the finding by Schwerdt (2011) that workers might "leave the sinking ship" up to one year before the plant closed down, we may be confronted with selection out of the sample.

2.2 Sampling

To constitute a sample of workers displaced by plant closure, we would ideally draw a random sample of all workers who experienced this situation within a specific period and geographical space. However, in Switzerland there is no systematic account of workers affected by plant closure. Although the Swiss Labour Force Survey records involuntary job loss, no distinction is made between displacement because of plant closure and dismissal for just cause. For this reason we conducted our own survey.[5]

[5] The project team consisted of five people. The principal investigator, Daniel Oesch, launched the project, was responsible for the acquisition of funding, supervised the project at all stages, conducted data analysis and published results. The author of this study, Isabel Baumann, was involved in all stages of the project, prepared and managed the survey, collected the data, conducted data analysis, and published results. The student assistants, Jessica Garcia and Lorenza Visetti, were responsible for the data entry and coding process and Jessica Garcia conducted telephone interviews with a particular group of survey participants. Katrina Riva was responsible for authoring a data documentation codebook that describes the content and structure of the dataset used for this study – which will be made

Our survey was conducted among the workforces of five recently closed plants. We defined three criteria for the selection of the companies and then proceeded with convenience sampling, i.e. chose the plants that agreed to participate in our survey. The selection criteria were the following: (1) The plants had to have closed down about one to two years before the survey was conducted. This strategy aimed at capturing long-term unemployment and the exhaustion of unemployment insurance benefits.[6] Using this strategy implies that our data is right-censored, i.e. that some of the workers have not experienced exit of unemployment at the moment when we conducted the survey. (2) We targeted medium-sized and large plants with more than 100 employees. The rationale behind this choice was to avoid reverse causality: in the case of small firms closure may be caused by the workers' performance which would blur our analysis of the cause effect of plant closure on workers' ensuing lives. (3) We focused on the manufacturing sector. In this sector plant closures are particularly frequent which points to its outstanding social relevance (Cha and Morgan 2010: 1141).

Based on these three criteria we made an inventory of closed plants through a screening of the national and regional online press and a short survey among the cantonal employment offices. We identified ten plants, contacted them by mail and telephone, and succeeded in persuading five plants to participate in the survey. For two plants, access to the workers' addresses was given by the plant's management. In two other plants, the access was provided by the cantonal employment offices that accompanied the closing process and in one plant by the works council.

Plant 1 was part of a multinational corporation with headquarters in Switzerland and was active in the sector of machine tool manufacturing. Between October 2009 and August 2010 it relocated its production site from an industrial area outside of Geneva to another part of Switzerland and abroad and subsequently displaced 169 workers. Fifteen production workers remained in the factory to provide the plant's machine repair service. A small number of workers helped to assemble the machines in the new production site in Switzerland but without being continuously employed there and five workers went abroad to work at the new production site. In addition, employees in the research and development department and the administration continued to operate on the site. The closure of the production department was announced about four months in advance.

Representatives of the employees or trade unions and the employer negotiated a redundancy plan. The plan included the set-up of an outplacement center with particular structures to promote the reemployment of workers with disabilities. Workers had the right to leave the company

publicly available on the platform DARIS. Certain tasks were outsourced such as the printing and the sending of the questionnaire. In addition, numerous colleagues helped us with some of the tasks.

[6] In Switzerland, workers are normally entitled to unemployment benefits of 18 months (that is, after having worked for at least 18 months (AVIG 2012, Art. 27, Ziff. 2).

immediately if they found a new job. They received a termination payment of at least CHF 10,000 and additional benefits depending on their tenure and age. Workers who had to move house or commute at least 40 km longer distances were entitled to an additional payment of CHF 3,500. An early retirement plan allowed female workers to retire at 61 and male workers at 62, three years before the regular retirement age, on condition that they signed up for unemployment benefits.[7] Swiss residents were guaranteed a replacement rate of 70% of their former wage. For French residents – who were numerous in this company – the early retirement plan covered up to 60% of their former wage. In addition, the plant continued to pay the contributions to the company's old-age pension fund until the regular retirement age in order to avoid a reduction in pension benefits.

Plant 2 was a Swiss company located in the agglomeration of Biel (Canton of Bern) and active in the printing sector. At the end of November 2009 the company announced that it was unable to pay the salaries. The cantonal employment office then informed the workforce that the plant would be closed down completely because of insolvency. The 262 employees – who had accepted wage cuts one year earlier in order to prevent a closure of the company – became unemployed almost overnight. Not only was there no redundancy plan, but the workers lost money since the plant was incapable of reimbursing overtime and the workers' shares of the retirement fund.

Plant 3 was part of a multinational corporation with headquarters outside Switzerland. Located outside of a small town in North-Western Switzerland, it produced various kinds of chemicals. Due to shift-work and weekend-work supplements, the pre-displacement wages paid by Plant 3 were high compared with other firms in the region. The closure was announced about four months in advance. In January 2009 its 430 workers were displaced. About 15 workers, who were responsible for tidying up and cleaning the plant, continued to be employed for another two years. The sector to which Plant 3 belonged had been experiencing turbulences for many years and high turnover was observed at the intermediate management level of Plant 3 during the years before the closure.

The plant offered a redundancy plan containing termination pay. For a 25-year old worker with 5 years of tenure the termination pay was CHF 8,250 and for a 45-year old worker with 20 years of tenure CHF 22,000. While workers had the opportunity to leave the company before the official end of their contract, those who remained until the end received a premium of CHF 70 for each day worked. The company mandated an outplacement center to provide workers with support for their job search and allowed workers to use its services during their working time. If workers had to move house for their new job and had to commute at least 30 km more than before, they received

[7] The Swiss unemployment insurance entitles workers who become unemployed at the age of 62 to receive unemployment benefits up to their regular retirement age.

financial support up to CHF 4,000. Older workers at two years from the official retirement age had the option of early retirement. They received pension benefits that corresponded to at least 70% of their former wage or at least CHF 55,000 per year.

Plant 4 was a Swiss company producing printing machines in the city of Bern. When it closed down, 324 workers lost their job in three phases between October 2009 and August 2010. The displacement was announced five to nine months in advance. Nearly a hundred of the workers affected were relocated to another plant together with the machines on which they were specialized. About fifty displaced workers were employed in a firm that started operating on the production site of Plant 4. However, this firm also closed down about two years later.

The plant agreed to a redundancy plan after negotiating with the trade union. For workers who earned less in their new job the company paid the difference for 6 to 24 months, a measure aimed at encouraging workers to accept lower paid jobs more readily. This measure was, however, little used. In contrast, almost all workers who were eligible for the early retirement benefits included in the redundancy plan accepted the offer. Workers were enabled to take to early retirement from the age of 56.5 years. Workers aged up to 57 were paid their full salary up to age 58 and then received a flat rate of CHF 4,000 per month until they retired regularly. Workers aged between 58 and 59 also received a flat rate of CHF 4,000 per month until their regular retirement. Workers who were 60 to 63 at the moment of displacement were paid 90% of their former salary and those over 63 were paid 100% of their salary up to the regular retirement age.

Plant 5 produced metal and plastic components and employed about 205 workers in an industrial zone in North-Western Switzerland. It had been sold to a multinational corporation with headquarters in Switzerland about two years before this corporation closed the plant. The displacement took place between September 2009 and March 2010 and was announced about six months in advance. There was some limited turnover before the closure was officially announced.

The plant offered a redundancy plan including termination pay depending on workers' tenure and age. A 25-year old worker with 5 years of tenure received CHF 11,000 and a 45-year old with 20 years of tenure CHF 33,000. The plan also included the set-up of an external outplacement center which employees were permitted to use within official working hours. The workers were given priority in the event of vacancies in other plants of the company, but this option was rarely taken up. Workers who found a new job could negotiate to leave the company before the official displacement date. If workers had to move house or commute longer distances to their new job they received financial support. Finally, the redundancy plan offered the option of early retirement for workers from age 58. Early retirement benefits were calculated based on workers' tenure and were disbursed in the form of payments to the company's old-age pension fund.

None of the five plants offered a training program funded by the companies. However, the workers who enrolled in the public employment offices were entitled, like any unemployed job seeker in Switzerland, to participate in active labor market measures such as training and internships.

In order to access the workers' postal addresses we had to receive their consent. By means of a letter we informed the workers about our study and asked if they refused to participate. 4% of the total population (n=53) refused to give access to their address.[8] In addition, about 10% of the addresses (n=133) turned out to be invalid because the workers had moved or – in a few cases – were deceased. From an original population of 1389 workers, this left us with a survey population of 1203 individuals, as presented in Table 2.1.[9]

Table 2.1: Information on the five manufacturing plants included in the survey

Plant	*Sector*	*Workers displaced*	*Refused address transmission*	*Inactive address*	*Active addresses*	*Official dis-placement dates*
Plant 1 (Geneva)	Metal products	169	0 (0%)	20 (11%)	149	01.10
Plant 2 (Biel)	Printing	262	3 (1%)	30 (11%)	229	12.09
Plant 3 (NWS 1)	Chemicals	430	6 (1%)	67 (16%)	357	01.09
Plant 4 (Bern)	Machinery	324	19 (6%)	17 (5%)	288	10.09 – 08.10
Plant 5 (NWS 2)	Metal & plastic	205	8 (4%)	17 (8%)	180	09.09 – 03.10
Total		1390	36 (3%)	151 (11%)	1203	

2.3 Survey bias

Biases typically associated with data collection are nonresponse bias and measurement error. Nonresponse bias occurs when survey participants are different from nonparticipants in a way that is relevant for the phenomenon under study (Dillman et al. 2009: 17). If the group of nonrespondents were to be composed completely at random, this would reduce the statistical power of the results but not induce systematic bias. Unfortunately, nonresponse is often non-random: individuals not participating in a survey are likely to be less interested in the topic, to have less time to participate or to have lower literacy in the language of the questionnaire (Groves and Couper

[8] The main reasons for refusal were (i) that workers did not feel concerned by our study, for instance because they were hired on a temporary basis, (ii) that they did not speak the language, or (iii) that they were frustrated with their situation. Note that refusals were very low where the process was managed by the works council (0%), but significantly higher where workers were contacted by the plant's former management (4% and 6% of refusals respectively).

[9] For these workers we signed an agreement with the data providers – firm managements, cantonal employment offices and workers' council – guaranteeing the workers' data protection.

1998; Stoop 2005). For Switzerland, earlier findings show that immigrant groups from non-EU countries are usually underrepresented in surveys (Laganà et al. 2011; Lipps et al. 2013).

It is thus important to understand the mechanism behind nonresponse and, if possible, to correct for it. Dillman et al. (2009: 16) introduced the tailored survey design method, an approach that strategically uses survey design to reduce potential bias. A first possibility to address nonresponse bias is to repeatedly contact the population that is surveyed. This measure alone, however, may not be sufficient to reach individuals belonging to subgroups with traditionally low participation rates such as particular immigrant groups. A possible strategy to win the participation of these groups is to alter the survey protocol, for instance by using a shorter questionnaire (Peytchev et al. 2009: 786).

A second technique is the use of a mixed-mode approach (Dillman et al. 2009). Taken on their own, different survey modes have their advantages and disadvantages. For instance, an Internet survey may be particularly suited for reaching younger cohorts while its coverage is limited, notably among older cohorts (Schärpler 2001: 13; Täube and Joye 2002: 77; Kempf and Remington 2007). Used in combination, these different modes may be a powerful method to increase the respondents' representativeness. A third strategy is the use of financial incentives that encourage respondents to reciprocate by completing the survey. By motivating particularly those respondents with a tendency not to answer survey questionnaires, incentives have proved to reduce nonresponse bias (Dillman et al. 2009: 249). Research in survey methodology indicates that unconditional incentives are more effective than incentives contingent on completing a survey (Harrison 2010: 519; Lipps 2010: 84). In addition, cash and vouchers appear to be more effective than noncash incentives (Harrison 2010).

Once the fieldwork is completed and the researchers have doubts about the representativeness of their sample, an ex-post method to deal with nonresponse bias is to build nonresponse adjustment weights. In order to use this procedure, it is imperative to know at least one characteristic of all individuals (respondents and nonrespondents) in the sample (Corbetta 2003: 227). The more characteristics there are available, the more sophisticated the weighting becomes.[10] Finally, if other data sources are available, they may provide helpful information about the nonrespondents. Particularly helpful seems to be administrative data since it tends to be comparatively reliable

[10] After the identification of the under- and overrepresented groups based on the known characteristics a weighing coefficient is calculated for each respondent (Little and Vartivarian 2005). This weighting coefficient is attributed to every individual while statistical operations are carried out.

(Corbetta 2003: 196). It is thus valuable for the study's quality to have at least some measures for the nonrespondents.

Another problem that impairs data quality and that typically occurs in data collection is measurement error (Antonakis et al. 2010: 1095). Measurement errors may have random or systematic causes (Phillips 1981: 400). They are random if they have no systematic pattern and if the data measured sometimes over- and sometimes underestimates the true value of a variable.

Social desirability may systematically bias respondents' answers (Bound et al. 2001: 3746, 3784). In this context, it has been shown that working hours are regularly overstated. This finding has been explained by the positive connotation of hard work. Similarly, retrospective questions are systematically error-prone. A study assessing the validity of retrospective data by comparing it to longitudinal data finds large differences. Subjective psychological states are remembered with particular inaccuracy, while other measures such as reading skills, height or weight are reported more correctly (Henry et al. 1994: 100). This is likely to be a result of most respondents' imperfect memory, the fact that they can only report what they were aware of at the time (Hardt and Rutter 2004: 260-1). However, while it is uncontested that longitudinal studies are the best way to examine changes over time, cross-sectional assessments of past events may be the second-best option (Hardt and Rutter 2004: 261).

A technique to evaluate and reduce potential measurement error is to use multiple indicators for the variables measured (Bound et al. 2001: 3740). Particularly appropriate for the validation of survey data is information stemming from registers, for instance from the public administration or from employers (Corbetta 2003: 196). Even this data may, however, not be completely free from error.

2.4 Data collection

The strategies that we used to handle survey bias are the combination of our own survey with administrative data. The main features of our survey design were multiple contact attempts, mixed modes, incentives and weighting. Our data collection instrument was a questionnaire with about sixty, mainly closed-ended questions. Many of the questions were adopted from established surveys such as the Swiss Household Panel or the Swiss Labor Force Survey.

The questionnaire was structured into seven parts: the first part contained questions on the workers' job in the plant from which they were displaced. The second part was about the job search and the third about the workers' new job if they had found one. The fourth part asked questions on workers' well-being and social life and the fifth part questions on their household. In a sixth part workers were asked to indicate their socio-demographic information. In the last part we asked for

their consent to access register data, further contacts and whether they wished to be informed about the results of the study. Since the target group consists of individuals living in both the German- and French-speaking regions of Switzerland, the questionnaire was drawn up in two languages. It was first cross-examined by survey experts. Then four workers of the survey population completed a test questionnaire. Their feedback on the intelligibility and other features of the questionnaire was incorporated in the questionnaire.

The survey was started at the end of September 2011 and completed in December 2011 (see Figure 2.1). We first sent out a pre-notice letter that presented the purpose of our study and announced the imminent questionnaire. A Web link given in the letter provided workers with access to the online version of the questionnaire and allowed them to start participating in the survey immediately. A recommendation letter issued by the Swiss State Secretariat of Economic Affairs (SECO) accompanied the pre-notice letter.[11] The purpose of this letter was to enhance the survey's legitimacy by showing governmental support. One week later, the workers received the paper and pencil version of the questionnaire. This mailing was accompanied by an unconditional financial incentive in the form of a voucher for 10 Swiss Francs (about 8 €) for Migros, Switzerland's biggest retail company. About one month later, at the beginning of November, those workers who had not yet participated received the paper and pencil questionnaire a second time. The control of response was possible since our survey was not anonymous. An individual identification number affixed on every questionnaire allowed us to track responses back to the participants.

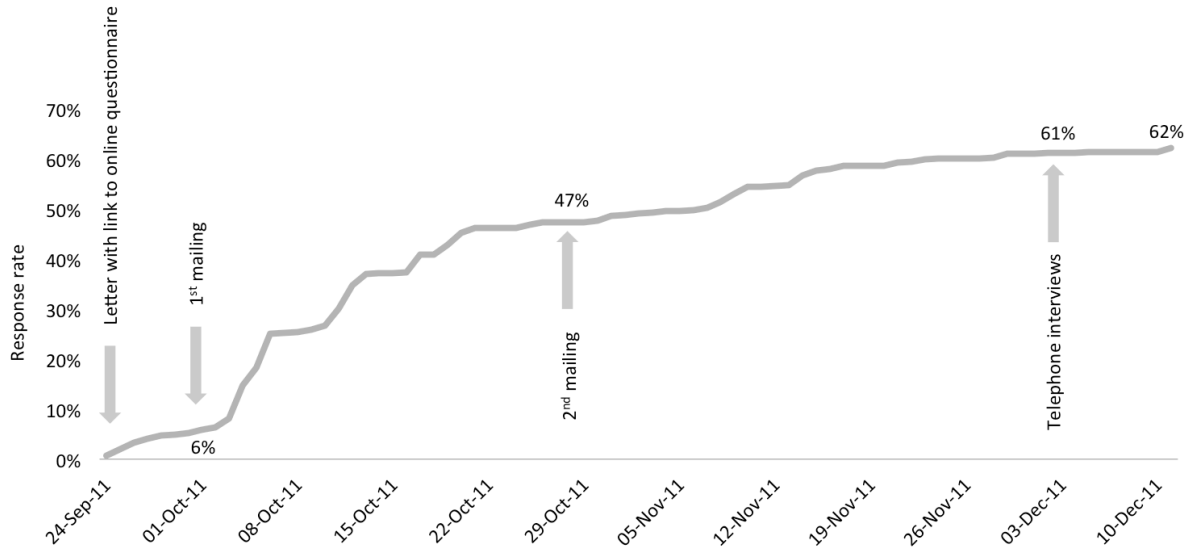
This strategy also allowed us to evaluate the respondents' representativeness while the survey was still running. Since previous research from Switzerland found an underrepresentation of particular immigrant groups, we analyzed nonresponse bias according to national origin. Information about the nationality of the whole survey population was not available in our data. We therefore created a proxy for national origin on the basis of workers' surnames. Thereby, we distinguished between four groups: (1) Switzerland, France and Germany, (2) Spain and Portugal, (3) Italy, and (4) other countries, notably ex-Yugoslavia and Turkey. When taking this proxy – an admittedly rough indicator for immigration background – and looking at the response rate of these four groups, we observed differences in nonresponse rates as predicted by previous research: Group 1 had a response rate of 66%, Group 2 56%, Group 3 55% and Group 4 40%. Accordingly, in order to increase the response rate of Group 4 we drew a sample of this group and succeeded in completing the survey questionnaire with fifteen individuals from non-EU member countries by

[11] This institution also partially funded our study.

telephone. This measure led to a final response rate of 52% for Group 4, similar to those of the other proxy immigrant groups.

Of all the respondents 76% used the paper and pencil questionnaire, 21% responded online and 3% by telephone.[12] It is not surprising that paper and pencil was the most frequently used mode since we had workers' postal addresses at our disposal, but not their e-mail addresses. The repeated contact attempts seem to have been worthwhile. The access to the online questionnaire at the start of the survey resulted in a response rate of 6%. After the first mailing of the paper and pencil questionnaire the response rate rose to 47%. The second mailing led to an increase in responses of another 14 percentage points and the telephone interviews contributed one more percent. Figure 2.1 shows the timeline of our survey. Whether the use of incentives helped improve the response rate cannot be tested since a control group without incentives would have been needed.

Figure 2.1: Timeline of the survey with response rate and contact attempts



The overall response rate of the survey was 62%, which is equal to 748 workers. Almost two out of three displaced workers thus responded to our questionnaire, a relatively high response rate as compared to an earlier plant closure study for Switzerland which had response rates between 20 and 31% depending on the company (see Weder and Wyss 2010: 9-13). Workers' motivation to participate in this study may be due to a number of factors such as multiple contacts, mixed modes of surveying, financial incentives and an official recommendation letter from the State Secretariat

[12] In addition to the non-EU immigrants, we conducted seven telephone interviews with workers who called because they did not want to participate in the survey. We were able to persuade them to give us some basic information about themselves. We therefore conducted a total of 22 telephone interviews.

for Economic Affairs. In addition, workers possibly felt strongly concerned by the topic of the survey and were interested in the goals of the study (Sweet and Moen 2011: 9). Comments that we received with the questionnaires let us assume that the workers were relieved to be able to inform us about their experiences after plant closure. After completing the survey, we adjusted for nonresponse by weighting the data provided by the respondents. We used a technique that is based on a "missing at random" assumption (see Baumann et al. 2015).[13]

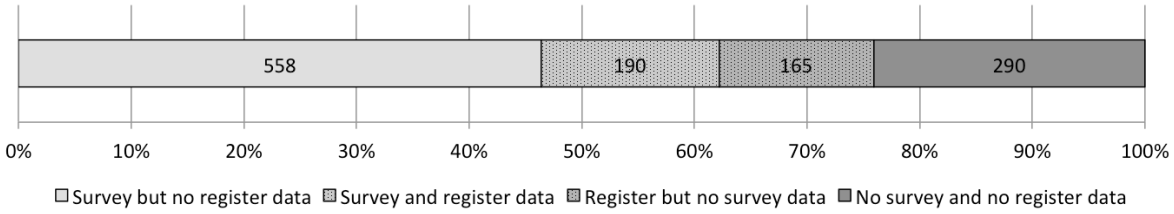
Very important for our study, we were able to link the survey data to register data from the public unemployment insurance. The unemployment register data contains numerous variables on the workers' unemployment history. However, it is only available for a limited number of workers since access to this information depends on several preconditions. First, a worker must have registered with the unemployment insurance, secondly access was possible only if there was no explicit refusal by the workers[14] and thirdly the workers had to be identifiable in the unemployment insurance database on the basis of ambiguous indicators, notably name and address. Workers who did not apply for unemployment benefits because they found a job right away, went into retirement or preferred to avoid the stigma of living on benefits are not covered by this data source.

In total, we gained access to the unemployment register data of 355 workers. 190 of these 355 workers also participated in the survey; for these 190 workers, we have information from two sources on certain measures such as pre-displacement income. The other 165 (of the 355) did not participate in the survey; the data available on these nonparticipants increased the number of workers for whom we have relevant information to 913 workers or 76% of the total survey population (Figure 2.2). For the post-displacement labor market status – one of our main outcome variables – we have information for 884 workers, which is equal to 74% of the total survey population.

[13] In this case, subgroups based on variables available for respondents and nonrespondents are created, assuming that non-participation happened at random within these subgroups. Accordingly, we created subgroups based on information that we received from the address providers for all displaced workers. Since the same information is not available for all plants in our sample, different variables are taken into account for each plant when constructing the individual-level weights. This type of nonresponse adjustment is most effective when the available variables used to construct the subgroups (e.g. sex, age, nationality, occupation) are correlated to the variable of interest in the study (e.g. reemployment prospects). The literature on job displacement suggests that this is the case: sex, occupation, age and nationality seem to affect reemployment chances (e.g. Farber 1997; Chan and Stevens 2001; Kletzer 2001; Jolkkonen et al. 2012). Our method to construct weights thus appears relevant.

[14] In order to receive the workers' agreement we included a question in our survey that was formulated in such a way that the respondents had to inform us if they did not wish us to access their data. 144 respondents – about 20% of the respondents – refused access.

Figure 2.2: Proportions of available survey and register data



Note: The numbers in the figure indicate the size (n) of each group of workers. Total N=1203.

Finally, our database also includes basic information such as birth date, occupation or nationality that we received from the workers' former employers. Plant register data is available for all displaced workers (N=1203), but the amount and type of information vary across firms: while we received important information such as occupation or age from some firms, we only obtained information on the displacement date from others.

In Table 2.2 we present the descriptive statistics of our study. We distinguish between plant, survey and register data. In addition, we created variables that contain the maximum available information by combining the three data sources.[15] The combined dataset reveals that about 16% of the workers in our sample are female and 84% male. 8% worked before the displacement as managers, 5% as professionals, 19% as technicians or associate professionals, 8% as clerks or sales workers, 26% as craft workers, 29% as machine operators or assemblers and 4% in elementary occupations. Regarding the age structure, 14% were aged under 30, 43% were between 30 and 50, and 43% over 50. With respect to education, 17% have less than upper secondary education, 69% have upper secondary education, 10% have a tertiary degree and about 4% refused to answer. Finally, the large majority of the workers are Swiss citizens (72%), 4% are German and 5% French citizens, 8% come from other European Union countries and 11% from non-EU countries. Overall, the median worker in our sample is a prime-aged male production worker.

[15] We prioritize register data before survey data and survey data before company data whenever more than one data source was available. For the construction of the wage variable, we prioritiez survey data for workers with monthly wages over CHF 10,500 because for administrative reasons wages above this amount are not assessed.

Table 2.2: Descriptive statistics for different types of data (in %)

		Plant data	Survey data	Register data	Combined data
Sex	Female	17.1	17.2	18.0	15.7
	Male	82.9	82.8	82.0	84.3
ISCO 1-digit occupation (before displacement)	Managers	10.9	4.9	2.8	8.1
	Professionals	5.5	9.9	6.7	5.2
	Technicians	21.7	17.9	13.7	19.4
	Clerks	5.0	11.5	10.9	8.3
	Craft workers	25.0	25.6	27.1	25.9
	Machine operators	29.9	24.3	32.4	29.6
	Elementary occupations	2.0	6.0	6.4	3.5
Age (at displacement)	< 25	14	7.1	5.1	8.2
	25-29	6.3	3.5	6.8	5.4
	30-34	6.8	6.3	8.5	6.7
	35-39	9.2	7.7	7.9	8.2
	40-44	13.4	11.7	11.6	11.9
	45-49	14.3	17.3	18.6	16.5
	50-54	13.4	14.7	17.5	15.0
	55-59	10.2	14.8	11.8	11.9
	> 59	12.3	17.0	12.1	16.3
Education	Does not know/refusal	-	4.0	5.1	4.5
	Mandatory education or less	-	9.5	18.3	13.3
	Pre-apprenticeship	-	3.6	3.7	3.4
	Upper secondary education	-	53.4	59.2	54.1
	Higher vocational education	-	17.3	7.1	14.7
	University of applied sciences or university	-	12.2	6.6	10.1
Nationality	Switzerland	76.4	74.4	69.4	71.6
	Germany	6.5	3.9	3.4	4.2[16]
	France	0.6	7.6	0.1	5.3
	Italy	5.4	4.6	5.3	8.0
	Portugal	1.0	1.3	1.1	
	Spain	2.2	1.3	3.1	
	Other EU countries	1.0	-	0.6	
	Kosovo and Albania	1.3	0.6	1.0	10.9[17]
	Ex-Yugoslavia	3.7	3.1	9.55	
	Turkey	1.4	2.6	4.5	
	Asia	0.6	-	1.7	
	N max	1203	748	355	1203

In addition to the survey and register data we collected some qualitative data. We interviewed the head of the human resource department of Plants 3 (NWS 1), 4 (Bern) and 5 (NWS 2), the chairperson of the works council of Plant 1 (Geneva) and the trade unionist who represented workers' interests in the insolvency process of Plant 2 (Biel). The conversations covered the closure procedure and the details of the redundancy plan (if one was negotiated). Over the period of our

[16] Germany and Austria

[17] Non-EU countries. Although Croatia has been a member of the European Union since 2013, it is included in this category.

study, we had regular exchange with some of the displaced workers about their experience when we tested the questionnaire and by telephone when they had questions about it. Moreover, in June 2013 we presented and discussed the results of the study to the survey participants in Bern and Geneva. These events did not only provide a useful reality check of the results but furthermore gave us another valuable opportunity to learn how workers lived through the displacement.

2.5 Identifying the presence of bias in our data

The crucial issue is whether our survey design and the use of register data helped us to avoid the main biases outlined above. Nonresponse bias is present when individual characteristics relevant for the outcome variables of our study – for example reemployment – also determine the likelihood of participating in the survey. A proper nonresponse analysis requires the availability of characteristics for all workers – participants and nonparticipants. Since our dataset only partially fulfills this requirement, we first analyze nonresponse with the available characteristics and then analyze the propensity to participate using variables that are available for all respondents plus the nonrespondents for whom we have register data.

Table 2.3 presents four logistic regression models predicting the likelihood of participating in the survey. For this analysis we use only data that is available for both survey participants and nonparticipants. As independent variables we use nationality, sex, age and occupation. The variable "nationality" is a proxy that we constructed on the basis of the workers' surnames. The other variables were provided by the plants. However, not all plants provided us with complete information: Only Plant 3 (NWS 1) provided us with the variables sex, age and occupation. For Plants 2 and 5 we have information about the workers' sex. Since the nationality proxy is based on workers' names, this information is available for workers from all plants. Accordingly, Table 2.3 where we analyze the workers' likelihood of participating in the survey by nationality, sex, age, and occupation is based solely on data from Plant 3 (NWS 1). Table A.1 in the Annex presents the likelihood of participating in the survey for Plants 2, 3 and 5 – for which we have information about nationality and sex – and Table A.2 for all plants – for which we have information about nationality.

Model 1 in Table 2.3 analyzes the workers' propensity to participate in the survey by a nationality proxy. Since logistic regression estimates cannot be interpreted as relative risks, we indicate the average marginal effects which specify the effect size (Mood 2010: 80). We find that workers with an immigrant background from "other countries", mostly from outside the European Union, were 21 percentage points less likely to return the questionnaire than Swiss workers. This finding from Plant 3 is confirmed by the analysis presented in Table A.1 in the Annex for Plants 2,

3 and 5 and Table A.2 for all plants. In Model 2, we observe that men are much less likely than women to answer the survey questionnaire – a finding that confirms earlier results on nonresponse in surveys in Switzerland (Joye and Bergman 2004: 79). Model 3 shows that workers aged 30 to 39 or over 55 are 16 to 24 percentage points more likely to participate in the survey than workers in their twenties. In Model 4, where we add workers' occupation to the analysis, we find that professionals and craft workers are 15 to 24 percentage points more likely to participate than managers.

Table 2.3: Average Marginal Effects (AME) for a binomial logistic regression for participation in the survey

	Model 1 AME	Model 2 AME	Model 3 AME	Model 4 AME
Nationality proxy (ref. Switzerland, France & Germany)				
Italy	-0.02 (0.13)	-0.01 (0.12)	-0.01 (0.12)	-0.01 (0.13)
Spain & Portugal	-0.02 (0.27)	0.003 (0.26)	0.02 (0.25)	0.08 (0.22)
Other countries	-0.21*** (0.07)	-0.21*** (0.08)	-0.17** (0.08)	-0.12 (0.08)
Sex (ref. women)				
Men		-0.23** (0.11)	-0.23** (0.11)	-0.23 (0.15)
Age (ref. < 30)				
30-39			0.11 (0.11)	0.12 (0.11)
40-49			0.01 (0.01)	-0.0001 (0.10)
50-54			0.05 (0.12)	0.05 (0.11)
55-59			0.19 (0.12)	0.17 (0.12)
> 59			0.17 (0.11)	0.18 (0.11)
Occupation (ref. managers)				
Professionals				0.14 (0.13)
Technicians				0.06 (0.11)
Clerks				-0.09 (0.15)
Craft workers				0.14 (0.10)
Machine operators				-0.09 (0.09)
Elementary occupations				-0.13 (0.22)
Pseudo R2	0.01	0.03	0.05	0.08
N	294	294	294	294

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. This Table shows results for Plant 3.

In order to evaluate the effect of our strategies to circumvent nonresponse bias – repeated contact attempts, mixed methods, weighting and using register data – we would ideally compute similar models as presented in Table 2.3 for different worker subgroups. But since these worker subgroups are small, an analysis by means of a logistic regression is difficult. For this reason, we proceed with a descriptive analysis, comparing the socio-demographic characteristics of different worker subgroups. The analysis of the nonrespondents relies on the register data available for 165 nonrespondents.

Accordingly, Figure 2.3 illustrates the characteristics – the proportion of low-educated, non-Swiss and male workers and the mean age – of the nonrespondents and subgroups of respondents

according to different survey modes, weighted data and the total (respondents and nonrespondents combined). Among the respondents 14% are low-educated, 35% are non-Swiss and 83% are male, and they have a mean age of 47.3 years. In contrast, among the nonrespondents there are more than twice as many low-educated workers (36%), and slightly more workers have a foreign nationality (38%) and are male (89%). In addition, nonrespondents have a significantly lower mean age (41.6) than respondents. Thus, there seem to be substantial differences between respondents and nonrespondents, regarding their age and their level of education.

Did the use of a mixed-mode approach and multiple contact attempts reduce the differences between respondents and nonrespondents? Participants who responded on the Internet were somewhat younger (45.5), less likely to be low-educated (8%), and more likely to be male (87%) as compared to participants who answered the questionnaire on paper. The workers who responded after the first or the second mailing by means of the paper and pencil questionnaire are similar: they have a mean age of 47.7 and 48.3, 15% and 13% respectively are low-educated, and 82% and 83% respectively are male. They differ only regarding the proportion of workers with foreign nationality, 31% and 42% respectively being non-Swiss. In contrast, differences are noteworthy with respect to respondents who answered the questionnaire by telephone: this specifically targeted group is younger (43.4), more likely to be low-educated (38%), much more likely to have a foreign nationality (73%) and much less likely to be male (68%).

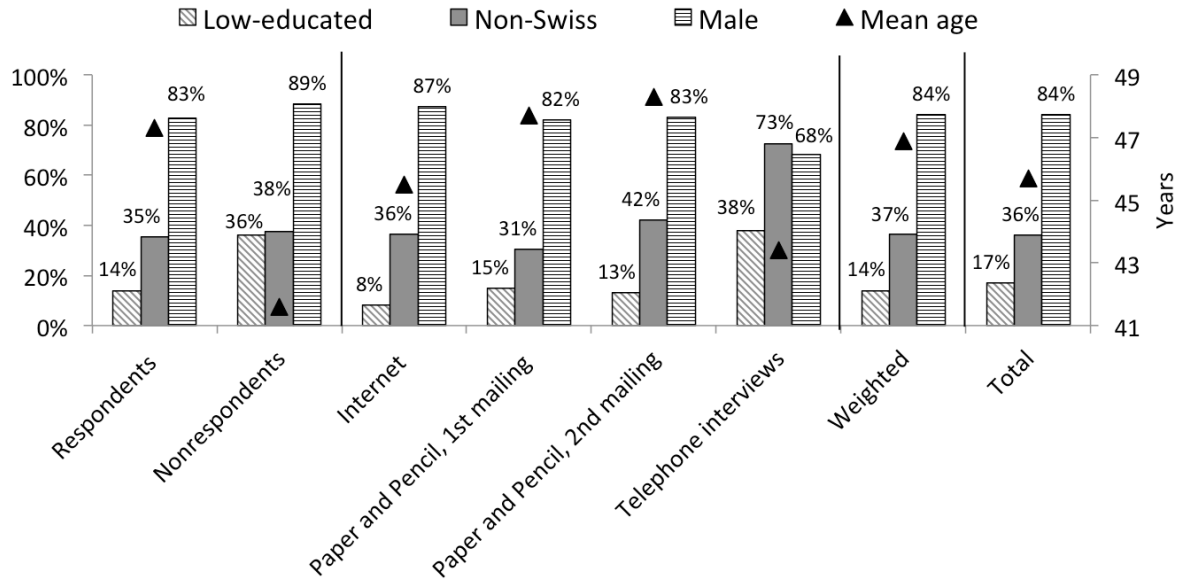
If we examine the weighted survey data we find that it is very similar to the unweighted survey data (respondents): the mean age is 46.9, 14% are low-educated, 37% are non-Swiss and 84% are male. Accordingly, the weighted sample strongly differs from the group of the nonrespondents, most of all in terms of age and education. This suggests that the nonrespondents' weights did not strongly adjust for nonresponse and thus failed in their purpose. The quality of the nonresponse weights depends on the available data (Groves and Peytcheva 2008). In our case, the socio-demographic variables most strongly affecting nonresponse such as age, education, nationality and sex were not available for all workers and therefore we could not appropriately correct for nonresponse. Finally, if we collapse the respondents and the nonrespondents into one group (total), the mean age is 45.7, 17% are low-educated, 36% have a foreign nationality and 84% are male.

Our results suggest that the use of telephone interviews and the register data provided the highest contribution to the nonresponse adjustment. In contrast, the other two survey modes of Internet and paper and pencil, as well as the weighting did not contribute, even though the former two helped to substantially increase the response rate.

We now turn to the evaluation of the measurement error by comparing the survey data with the register data. We use the register data as "true" values since they rely on official documents and

recordings. The difference between these two types of data and the survey data is thus considered as the measurement error. For all the analysis we only use those cases in our database for which both register and survey data are available. Following Bound et al. (1994), we report the mean pre-displacement wage[18] for both datasets and the difference between the survey and the register mean, which is defined as mean measurement error. However, since in the register data the workers' wage is top-censored at CHF 10,500 for policy reasons, we limit the analysis of the measurement error to wages up to this amount in both databases.

Figure 2.3: Respondents' characteristics by survey mode, weight and response



Note: The low-educated include individuals with less than upper secondary education.

N Respondents=748, N Nonrespondents=165, N Internet=157, N Paper and pencil 1st mailing=398, N Paper and pencil 2nd mailing=165, N Telephone interviews=22, N Weighted=748, N Total=1203.

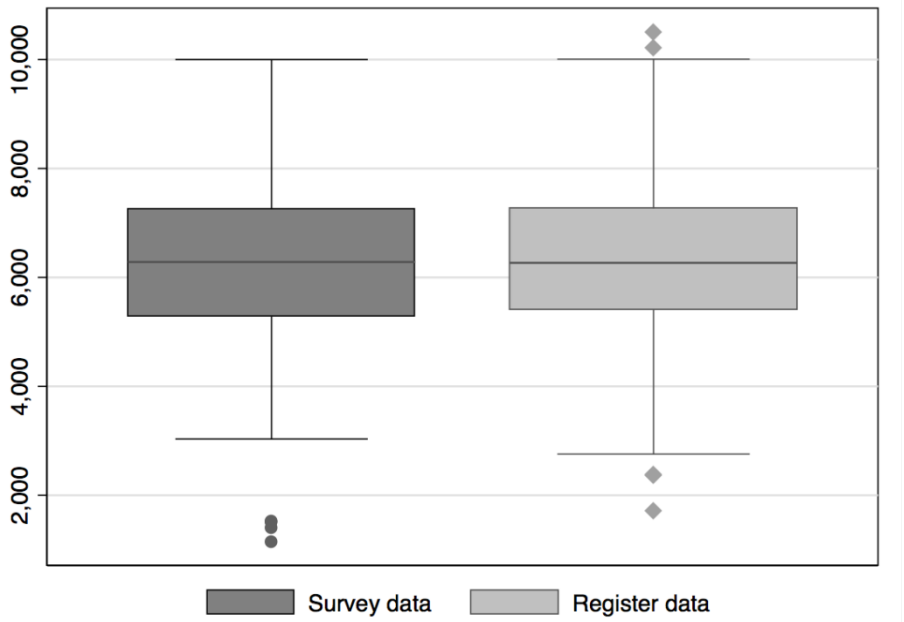
Z-tests reveal that respondents and nonrespondents are significantly different for the following characteristics: Male ($p<0.03$), Non-Swiss ($p<0.02$), Low-educated ($p<0.00$). A t-test reveals that respondents and nonrespondents are different according to age ($p<0.00$).

The mean wage of the survey data is CHF 6,283 with a standard deviation of CHF 1,580. For the register data we observe a mean wage of CHF 6,268 with a standard deviation of CHF 1,593. The box-and-whisker plot in Figure 2.4 complements these results by indicating the distribution of the data. The horizontal line in the middle of the gray box represents the median (50% percentile), the lower hinge of the box the 25th percentile and the higher hinge the 75th percentile. The two boxes are almost identical suggesting that the distribution of the wages is highly similar. The single

[18] We use a wage measure that includes a 13th monthly salary for both survey and register data.

exceptions are some outliers which are represented by the dots located outside of the whiskers[19] in Figure 2.4.

Figure 2.4: Box-and-whisker plot for pre-displacement wages according to survey and register data



N=150

The mean of the measurement error – the difference between the survey data wage mean and the register data wage mean – is CHF 103 with a standard deviation of CHF 1,054. Thus, on average the measurement error is less than 2%, which indicates that our survey measured the pre-displacement wage accurately. The distribution of the measurement error is presented graphically in Figure A.1 in the Annex. The illustration shows that most errors lie close to zero, but that we are confronted with a small amount of large errors. This finding is expressed by the large standard deviation of the measurement error.

These findings lead us to the question whether the error in measurement substantially influences the outcomes of our study. In order to test this question we run two OLS-regressions where we measure the effect of age, sex, nationality and education on workers' pre-displacement wage, first based on survey data and then based on register data. Again, we only use those cases in our database for which we have both survey and register data at hand. The results are presented in Table A.3 in the Annex. We find statistically significant effects for exactly the same characteristics, in particular an advanced age, sex and tertiary education. Regarding the effect size we find differences that are mostly small except for some characteristics such as tertiary education, where they are of

[19] The whiskers represent the short horizontal lines above and below the colored box.

the order of about 15% and thus noteworthy. Overall, Table A.3 however suggests that measurement error does not constitute a major problem of our survey.

It is worthwhile to improve the quality of the data within the bounds of possibility. One approach is to drop outliers, another to replace survey data with register data whenever both data sources are available (what we call "combined data"). Both approaches involve some problems. Dropping outliers relies on having a precise definition of when a value is an outlier. Moreover, dropping outliers reduces the sample size and thus the statistical power of the analysis. Likewise, by replacing survey data with register data, we assume that register data is more reliable than survey data, which may not always be true. In the case of our study, we have the additional problem that we have two data sources for a maximum of only 190 workers and thus cannot assess measurement error for all workers who responded to the survey.

2.6 Constructing a non-experimental control group

Scholars studying job displacement have pointed out that the causal effects of job loss can only be fully understood if displaced workers are compared with non-displaced workers (see e.g. Jacobson et al. 1993). The analysis of wage losses requires information about the counterfactual earning path since the workers' earnings probably had increased would they not have been displaced (Fallick 1996: 9). Likewise, the reemployment prospects of displaced workers must be compared with those of non-displaced workers among whom – about two years later – some may have lost their job or gone into early retirement. Inclusion of a control group in a job displacement study thus allows us not only to compare outcomes before and after displacement, but also to compare the outcomes of displaced workers with the hypothetical situation in which they had remained in their former job.

The study of causal effects ideally builds on data from randomized experiments.[20] Since randomized experiments often cannot be implemented in the social sciences, quasi-experimental techniques have been developed (Dehejia and Wahba 1999: 1053). One of these techniques is difference-in-difference, an approach that aims at comparing the evolution of outcomes between two groups, one of which has undergone a particular treatment while the other has not (Angrist and

[20] Random attribution to the treatment or the control group theoretically provides researchers with two identical groups regarding the individuals' observed and unobserved characteristics. This setting allows comparison between the outcome of the treated and the non-treated individuals. Thereby the outcome of the control group simulates the counterfactual – the outcomes that hypothetically would have been observed if the treated individuals had remained untreated. In the absence of the treatment it is assumed that the outcome would be the same for both groups.

Pischke 2010: 14). The idea behind this technique is that a potential difference in the outcomes can be attributed to the treatment – the so-called treatment effect (Caliendo and Kopeinig 2008: 32-4).[21]

The post-hoc construction of a control group proceeds by pairing the individuals in the sample – the treated individuals – with untreated individuals who are similar on observable characteristics (Brand 2006: 277). This procedure is called matching and simulates a random attribution of individuals to either the treatment or the control group. Accordingly, this technique is based on the assumption that the control group is different from the treated group only with respect to the treatment.

Since exact matches on relevant characteristics such as age, education or occupation are hard to find, Rosenbaum and Rubin (1985: 34) introduced the propensity score matching method. The propensity score is a function that describes the individuals' propensity to experience the treatment event given their characteristics (Rosenbaum and Rubin 1983: 43). Propensity score matching is used in particular when the matching is based on multiple covariates and when the sample is small. Since the estimation of the propensity score relies on *observable* covariates, this technique involves the strong assumption that the attribution to the treatment was based on observables (Deheja and Wahba 1999: 1053).[22]

For our study, we construct a control group of non-displaced workers. The control group provides us with counterfactual information and thus with more precise estimations of the change in wages and the employment rate which workers experience as a consequence of plant closure. We construct the control group on the basis of data from the Swiss Household Panel (SHP). This database contains information on almost 10,000 individuals from about 4,000 households and offers a large range of variables relevant for the study of the labor market. We use two waves of data from

[21] The parameter that is estimated is the average treatment effect on the treated (ATT). It is defined as the difference between expected outcome values with and without treatment for those who actually received a treatment. It is given by $\beta=E [Y(1) -Y(0) | Z=1]$, Y(0) standing for the outcome without, Y(1) for the outcome with treatment, and Z standing for the treatment.

[22] Formally, the matching estimator can be described as $Pr(Z=1 | X)$, rather than x as is the case in other matching techniques. X is the vector of covariates for a particular individual and Z indicates whether the individual was exposed (z=1) or unexposed (z=0) to the treatment. The treated and the controls are selected in such a way that they have the same distribution of x. The matching process relies on two further assumptions (Caliendo and Kopeinig 2008: 35). First, the covariates that are included in the model are chosen based on the conditional independence assumption (CIA). Second, the common support assumption affirms that the individuals' (pre-treatment) characteristics do not perfectly predict attribution to the treatment. This condition guarantees that individuals with the same characteristics can be in both the treatment and the control group.

2009 – the year when (most of) the workers in our sample were displaced – and 2011 – the year when the treated individuals were surveyed.

Using data from the SHP may raise methodological issues. First, the sampling is done at the level of the household and not the individuals. Second, attrition in the SHP does not occur randomly (Voorpostel 2010: 372). Individuals who remain longer in the sample, and thus are less prone to attrition, are more likely to be female, married, older and higher-educated individuals. Accordingly, we need to keep in mind that the SHP consists of a selected group of people.

We chose a binary model distinguishing between displacement by plant closure (treatment) and no displacement (no treatment). We defined two specifications of the control group. A first specification includes workers who were employed in 2009. A second specification includes workers (a) who were employed in 2009, (b) who worked in the manufacturing sector and (c) who worked in a company with 100 to 499 employees. Workers in Specification 2 thus are more similar to the displaced workers. However, the restrictions used for Specification 2 lead to a drastic reduction in the number of observation. While Specification 1 includes 4,601 individuals, Specification 2 includes 179 individuals.

The covariates we include in our selection model are age, sex, and education. Tables A.4a and b in the Annex present two-sample t-tests for the covariates in the model for the two specifications of the control group. In both specifications the two groups are alike with respect to age, but significantly different with respect to sex and education. This analysis thus gives only limited support for the conditional independence assumption (CIA). This result is confirmed by the selection equation presented in Table A.5.

The analyses presented in Tables A.4 and A.5 suggest that the second specification of the control group – where we restricted the analysis to individuals who worked in the same sector and in a firm of similar size as the workers in our sample – is a better approximation for the CIA. However, the differences between the control and the treatment groups remain statistically significant in Specification 2. Because of its much smaller number of observation – which further drops if we assess the treatment effect for other variables –, we use Specification 1 for our analyses.

In order to analyze the common support assumption, we graphically present the propensity score estimate for the treated and the untreated in Figures A.2a and b. If the common support condition were met, the histograms for the treated and the untreated would be perfectly symmetrical. Figures A.2a and b show that although the symmetry is not perfect, the overlap between the two groups is large. Accordingly, our estimates are likely to be robust (Dehejia and Wahba 1999: 1058).

2.7 The institutional context of the Swiss labor market

Several institutions affect how displaced workers experience the occupational transition after job loss: the employment protection legislation shaping the procedure of dismissal, the unemployment insurance, the retirement regulations, the skill regime and the overall labor market situation. While Switzerland's employment legislation is among the most lenient in the OECD with respect to individual dismissals,[23] plant closures are regulated somewhat more strictly (OECD 2013a: 78, 85). Plant closures are a form of collective dismissal that is legally defined as a displacement of more than 10% of the workforce for reasons not related to individual workers.[24] Firms that undertake a collective dismissal are obliged to announce the layoff at least one month in advance to their personnel and to the cantonal employment office. At the same time, the company has to inform its workforce about the number of displaced workers, as well as the reason and the date of displacement. Furthermore, the company has to offer the workers the opportunity to negotiate a potential redundancy plan and a strategy to avoid displacements. As a result, mass displacements in Switzerland are often accompanied by bargaining over redundancy plans – plans that frequently include provisions on termination pay and early retirement. However, in 2009 and 2010 there was not yet a legal – although an informal – obligation for the companies to offer a redundancy plan.[25]

Employment protection in Switzerland is weak, but unemployment insurance works well as a buffer against income loss. All employed workers are compulsorily enrolled in the unemployment insurance. A contribution period of at least 12 months within the preceding 24 months entitles workers to a benefit period of 12 months and a contribution period of at least 18 months to a benefit period of 18 months. The replacement rate is 70% of the last wage, 80% for low-wage earners and job seekers with dependent children. For workers aged 55 or over, a contribution period of 24 months entitles them to unemployment benefits for 24 months. Workers who become unemployed four years or less before their regular pension age are entitled to a total benefit period of two and a half years. Workers under the age of 25 receive unemployment benefits for a maximum of 10 months. In parallel, unemployed workers benefit from active labor market measures such as job search counseling and training programs – and are strictly monitored.

The official retirement age in Switzerland is 64 for women and 65 for men. A full pension requires a contribution of at least 43 years for women and 44 for men (OECD 2011: 310-1). The

[23] The notice period of dismissal is one month in the first year of tenure, two months after one to nine years of tenure and three months after ten years of tenure. There is no severance pay and little procedural inconvenience.

[24] See Swiss Code of Obligations Art. 335d-k.

[25] This legislation changed in June 2013: Art. 335i in the Code of Obligation now requires that plants employing more than 250 and displacing more than 30 workers negotiate a redundancy plan.

pension system has a redistribution part, a savings part – both mandatory –, and a voluntary provision. Early retirement is possible two years before the official retirement age but implies a reduction of 7% of pension benefits for each year of early retirement. Thus the governmental pension system offers little incentive to retire early. However, if redundancy plans with early retirement schemes are available, this option may be convenient.

In 2011, 35% of the residents of Switzerland aged 25 to 64 held a tertiary degree, 50% an upper secondary or post-secondary non-tertiary degree, and 15% had less than upper secondary education (OECD 2014b). As compared to other countries, the share of individuals with tertiary education is higher than in Germany (28%) or Austria (19%) but lower than in the UK (39%) or the US (42%). The share of individuals with upper secondary education is higher in Germany (58%) and Austria (63%) and lower in the US (46%) and the UK (37%) than in Switzerland.

Among the young people finishing compulsory school, about two-thirds enroll in vocational education and training (VET) (SERI 2015: 4). Most VET programs consist in a dual vocational education combining workplace-based training with school-based general education; a minority of young people attend exclusively school-based VET programs (Fuentes 2011). After three or four years, students graduate from their VET program with a standardized certificate. Students who have additionally completed a Federal Vocational Baccalaureate may enroll in tertiary-level professional education and training (PET) which prepares them for specialized technical and managerial positions. The VET and PET training systems are strongly oriented towards the demand for skills in the labor market. Both systems are collectively organized by the state, the cantons and employers' organizations and trade unions; vocational schools and host companies monitor the quality of the training. Switzerland's educational system is also standardized with respect to tertiary education. About a quarter of all young people graduating from compulsory school enroll in such training (Helbling and Sacchi 2014: 2). A school-leaving exam (Matura – comparable to the Abitur in Germany) provides access to tertiary education institutions for all students.

Referring to the classification of educational systems developed by Allmendinger (1989), Switzerland's vocational training system is highly standardized on a national level. It comprises both training protocols that set the quality standards of the educational system and a procedure of skill certification in a similar way as in Germany (see Dieckhoff 2008: 94). Allmendinger (1989: 240) argued that standardized certificates serve employers as screening devices for workers' skills before they hire them, in contrast to non-standardized educational systems where workers have to be screened on-the-job. As a consequence, in less standardized educational systems newly hired workers are more likely to lose their job again. In Switzerland in contrast new job matches are likely to be relatively stable and occupational transitions comparatively smooth.

In terms of the skill production regime typology developed by Estevez-Abe et al. (2001), Switzerland corresponds approximately to the firm- and industry-specific type, characterized by a large proportion of workers with vocational training. The classification of Switzerland in the specific-skill regime contradicts Estevez-Abe et al. (2001: 8) insofar that those authors expect the workers to only invest in firm-specific skills if employment protection is high – which is not the case in Switzerland. Nevertheless, since low employment protection is cushioned by relatively generous unemployment benefits, a high proportion of workers in Switzerland seem to be willing to invest in specific skills. In line with the argument by those authors, high unemployment benefit replacement rates and long benefit entitlement durations may provide displaced workers with the conditions to find a new job that matches their skills.

2.8 Aggregate unemployment

The plant closures that we sampled took place in a context of comparatively low but rising unemployment. During the financial crisis, the Swiss unemployment rate rose from 3.4% in 2008 to 4.3% and 4.5% in 2009 and 2010 – before falling again to 4.0% in 2011.[26] Four out of the five plants were located in a German-speaking region with unemployment rates oscillating around the national average. One plant was set in the French-speaking region of Geneva where unemployment rates were consistently higher and reached 7% in 2010.

Regional differences in aggregate unemployment – which seem to be stable over time – are a much-debated issue among Swiss scholars (Flückiger et al. 2007: 57). First, it has been observed that unemployment levels are generally higher in French- or Italian-speaking cantons than in German-speaking cantons (Flückiger et al. 2007: 60; Brügger et al. 2007). This result is due to both higher inflows and lower outflows of unemployed workers in the Latin (French and Italian-speaking) regions. A possible explanation for this pattern may be cultural differences in attitudes toward work as residents of the Latin-speaking regions consider work less important and are more favorable in votes to restrict working time than those of German-speaking regions (Brügger et al. 2009). Second, the demographic structure of the active population varies by canton (de Coulon 1999). Third, cantonal tax policies and the presence of foreign workers seem to contribute to the differences (Feld and Savioz 2000).

These factors may explain one of the main findings of this thesis, notably that workers from Plant 1, located in French-speaking Geneva, were substantially less likely to return to employment than workers in Plants 2 to 5, located in German-speaking Switzerland. More precisely, due to its proximity to the French border – and thus the greater competition among job seekers – and the

[26] Rates according to the ILO definition of unemployment and based on the Swiss Labour Force Survey.

higher prevalence of older workers, workers from Plant 1 may have experienced much more difficulty in finding a new job than workers from other plants (Flückiger and Vasiliev 2002: 407).

It should also be noted also that the pace of deindustrialization was slow over the period of our study: manufacturing jobs decreased in relative terms from 19.3% of total employment in 2008 to 18.2% in 2012. In absolute terms the years after 2009 were marked by stability of manufacturing employment. Measured in full-time equivalents, manufacturing employment decreased from 661,000 in 2008 to 629,000 in 2009 and 626,000 in 2010, before recovering in 2011 and 2012, when the figure increased again to 633,000 and 636,000.[27]

Although Switzerland does not belong to the European Union, its economy and labor market do not constitute a case *sui generis* as is often assumed. In fact, the Swiss economy shares many common features with Austria and Southern Germany, notably a strong reliance on vocational education, a resilient manufacturing sector and low levels of unemployment. As an illustration, in 2011 the unemployment rates in the adjacent *Bundesländer* of Austria and Germany were lower than in Switzerland – with below 3.5% in Western Austria (comprising Oberösterreich, Salzburg and Tirol), 3.3% in Bavaria and 3.6% in Baden-Württemberg.[28] It may thus be expected that a survey on plant closure in Salzburg, Stuttgart or Munich would produce comparable results to the ones presented here.

2.9 Limits

Our sampling strategy is convenience sampling, an approach that has its limitations (Lohr 1999: 5). Convenience sampling implies that the data are not generated by a known probability mechanism such as random sampling – and hence does not allow inferences from the sample to the whole population (Western and Jackman 1994: 412; Berk 2004: 51). Focusing on the manufacturing sector, our results are probably not generalizable to other sectors. For instance, workers in this sector are on average somewhat more likely to have completed an apprenticeship than in other sectors.

However, within the manufacturing sector the composition of the workforce of the companies in our sample is similar to that of other firms. This suggests that our results can be generalized for manufacturing workers. Nevertheless, since we sampled only from closed plants in the manufacturing sector, inference on the entire manufacturing sector has to be made with caution and

[27] Data for third semester; source: Swiss Federal Office of Statistic, BESTA/STATEM statistics.

[28] Source: Eurostat (accessed on May 5, 2015): http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_r_lfu3rt&lang=en

accordingly the significance level should be read with reservations. A more conservative interpretation of our findings would be that they are the results of a case study. However, since no database was available from which we could have drawn a random sample, a procedure corresponding to the standards of the art would have been very costly, both in terms of time and money. In addition, our survey follows an established tradition of plant closure studies which analyze single firms (Kriechel and Pfann 2005; Trotzier 2005; Jolkkonen et al. 2012).

A problem that is linked to the sampling method and the incomplete randomness of experiencing a plant closure is treatment effect heterogeneity (Cha and Morgan 2010: 1141; Burda and Mertens 2001: 22-24). Treatment effect heterogeneity describes the problem that individuals differ not only in terms of socio-demographic characteristics and therefore in their propensity to experience a treatment (pre-treatment heterogeneity), but also in how they are affected by a particular treatment (Brand and Simon Thomas 2014). If treatment effect heterogeneity is at work, average treatment effects can vary widely depending on the socio-demographic composition of the treated and simple averages do not have a straightforward interpretation. Solutions to this problem require data on treated and non-treated individuals which can be linked by means of propensity score matching. However, since it is impossible in the large Swiss surveys to identify workers who have experienced plant closure, we were not able to assess potential treatment effect heterogeneity.

A third limit of this study is the absence of proper longitudinal data. Our use of retrospective measures to assess workers' occupational situation and life satisfaction before they lost their job is definitely valuable in order to examine within-individual changes. However, it is clearly only a second-best solution (Hardt and Rutter 2004). It is widely accepted in the literature that retrospective measures are biased. Some measures can be assessed more correctly than others by retrospective assessment. Unfortunately, accuracy seems to be comparatively low for psychosocial indicators such as subjective well-being – an important measure in our study (Henry et al. 1994). Accordingly, data reliability could be significantly enhanced if repeated survey waves and thus panel data on displaced workers in Switzerland were available.

In this chapter we have discussed how we collected our data and the extent to which we are confronted with survey bias. In a nutshell, our analysis led to two main findings: first, the use of a mixed-mode approach – and in particular the telephone interviews – helped to decrease nonresponse bias. Second, although our data does not seem immune to measurement error, the use of different sources, notably register data, improves the quality of the data. Overall, applying a tailor-made survey design substantially contributed to addressing survey bias.

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.

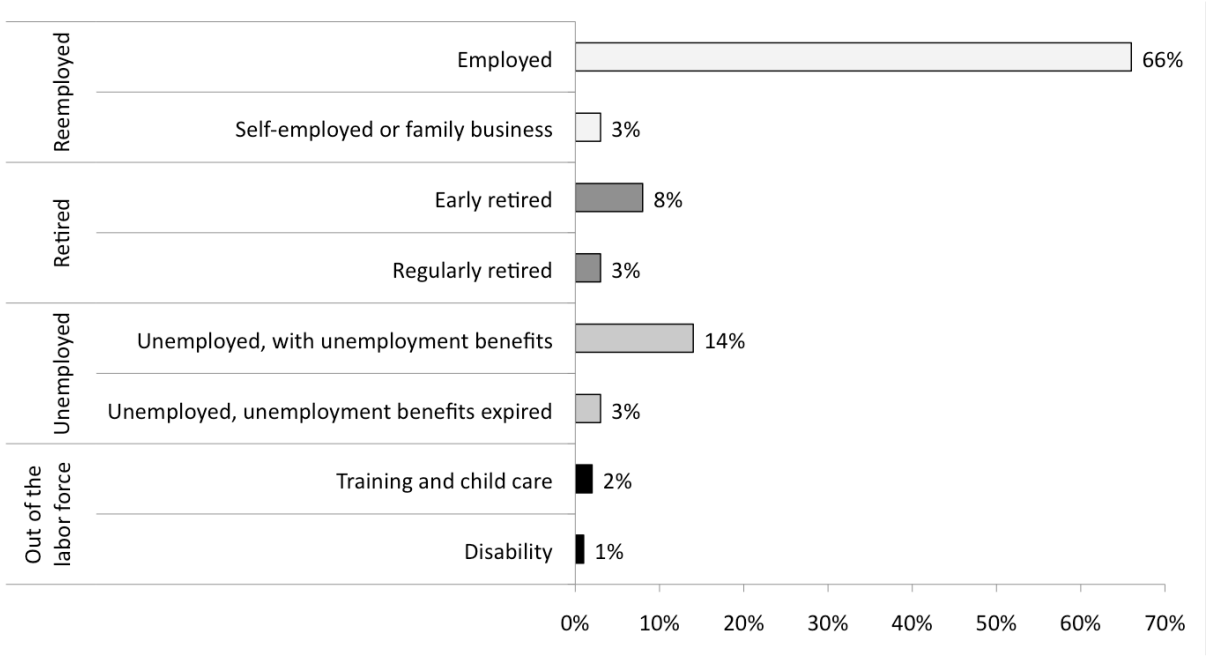
With respect to reemployment after job loss, studies also show that older workers experience much greater difficulties in returning to the active labor force than younger workers. This phenomenon may be due to older workers' longer firm tenure which goes along with a skills profile that contains a large 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.

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.

Figure 3.1: Displaced workers' labor market status about two years after job loss



N=887

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 – one to six 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 to 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 little surprising if we would have 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 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 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 ten months after displacement and workers' thus had less time to find a job than workers 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 to return 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 *five* years after while our analysis includes workers up to *two* 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 per definition tenure of at least three 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 to find 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.

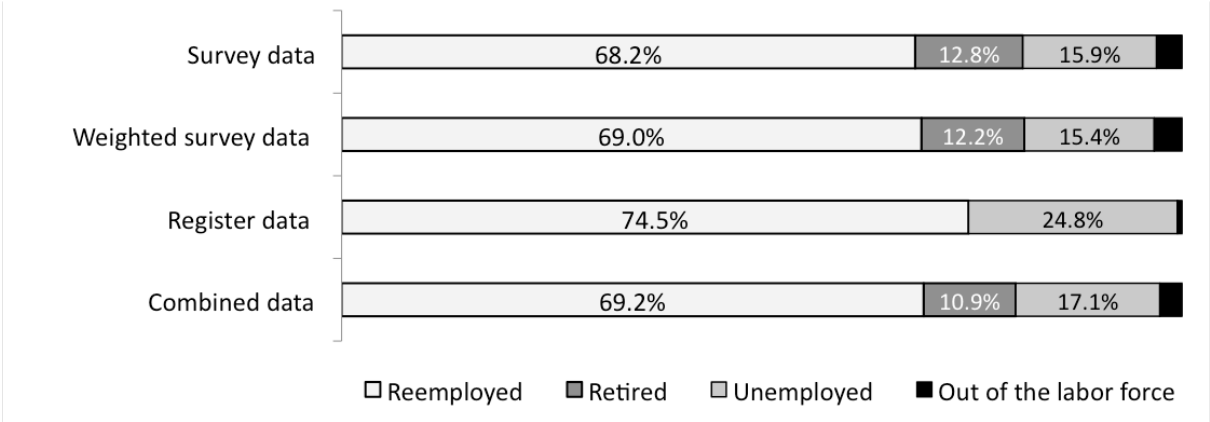
Three additional explanations probably account even better for our finding (see Oesch and Baumann 2015). In absolute terms, employment in Switzerland's manufacturing sector was

stagnating rather than decreasing over the period under study. This possibly led to the more robust reemployment prospects of workers displaced from a manufacturing company 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 Figure 3.1 by comparing the outcome for different data subsets. In Figure 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 Figure 3.2, that dataset (3) leads to substantially different results: reemployment and unemployment are more frequent here than in the other datasets. 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 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.

Figure 3.2: Labor market status two 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.

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 have experienced a plant closure in 2009 and those who have not lost their job in that year.

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*	*4,265*	

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).

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.

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 than workers with tertiary education (27% versus 13%).

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 to 73% for the other educational categories) and by far the most often unemployed (35% as compared to 11 to 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 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 to 50 over 82% were reemployed two years after the survey, this was the case for only 53% of those aged 55 to 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.

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	

N=887 (Total), 886 (sex), 853 (education), 872 (collar), 865 (age), 881 (nationality), 887 (plant)
Note: 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. The rows add up to 100%. Pearson chi^2 tests and Fisher's exact tests indicate a significant relationship between employment status on the one hand and sex, education, collar, age, nationality, company (all $p<0.01$) on the other.

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 unemployment (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.[29]

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 to 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

The descriptive analysis in Table 3.2 is possibly misleading, as women may be more likely to find work than men because they are younger, or younger cohorts may have less difficulty in becoming reemployed because they have higher levels of education. In order to address this issue, we estimate 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 employment status, where we distinguish between three outcomes: (i) reemployed, (ii) retired, and (iii) unemployed or out of the labor force.[30] 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 with finding a job. As independent variables we use education, age, tenure, nationality and district unemployment rate. We estimate five models where we stepwise introduce the independent variables, additionally controlling for duration since displacement, sex, civil status, collar, and plant.

[29] 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: www.droit-finances.net, Pole Emploi: www.pole-emploi.fr)

[30] 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 being (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 but where the binomial models provide other results than the multinomial models the differences are mentioned.

Since in non-linear 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 Williams 2013: 567). We correct for the fact that our data are nested at the firm level by using clustered standard errors.[31]

The effects in Table 3.3 indicate that education matters for job prospects even if we control for age, tenure, nationality, district unemployment rate, duration since displacement, sex, civil status, collar and plant. In all models, workers with upper secondary education have better reemployment prospects than workers without. The average marginal effects indicate that workers with upper secondary education were 4 to 8 percentage points more likely to find a job than those without upper secondary education. Tertiary education proves to be even more important: in four out of five models, workers with a higher vocational training or a university degree have significantly higher reemployment prospect than workers without upper secondary education, the advantage ranging from 8 to 11 percentage points. Our hypothesis that more highly educated workers have better chances on the labor market thus seems to be supported.[32]

However, age has an even stronger effect on the chance of being reemployed than education. In all five models workers aged over 55 have significantly lower prospects than those under 30. More precisely, workers aged 55 to 59 have a 28 to 38 percentage points lower and workers aged over 59 a 50 to 59 percentage points lower chance of finding a job. The importance of age also becomes evident if we consider the pseudo R^2: no other independent variable affects the model fit of our data more strongly than age. With respect to age the binomial analysis provided slightly different results than the multinomial analysis. First, the negative effects of an advanced age are smaller and second, we find a significant positive effect for the age group 30 to 39. Overall however, our finding that workers over 55 have much more difficulty in returning to employment is robust.[33]

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[31] Moulton (1990: 334) has pointed out that in OLS regression models random disturbances may be correlated within groups and that already small levels of correlations can lead to strongly downward biased standard errors. This problem can be addressed by clustering the standard errors (in our case at the firm level) (Donald and Lang 2007: 228).

[32] 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.

[33] 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 3.3) resulted in significantly lower reemployment prospects for workers over the age of 53 (significant at $p<0.1$), over

In a life-course perspective, a situation where young workers experience the most detrimental effects may be even worse than the opposite, 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 happen late in workers' so far continuous careers, they are not immune to calamity.

Our findings for tenure are not certain. Although in Model 3 workers with intermediate tenure (6-10 years) are slightly but significantly less likely to be reemployed than workers with a tenure of under two years, once we account for age and other control variables, this result is not consistent with the outcome of a binomial model with the same independent variables and does not correspond to the prediction based on labor market theory. We therefore cannot adequately interpret the results.

With respect to nationality, 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".[34] Indeed, this variable picks up the effect of French nationality, workers 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 that workers from non-EU countries have a significantly higher chance of being reemployed than Swiss workers of 10 to 12 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 to be unemployed.

Finally, 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.[35] For the other categories, the effect is not significant.

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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.

[34] The results are not shown in Table 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.

[35] We also entered the district unemployment in a quadratic form. However, the square term did not reveal a significant effect.

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 three months in the company. As the unemployment benefits are based on the last six 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 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 company 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 – amongst other aspects – the relevance of the geographical context. Our result shows that, depending on the 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.[36] The results are presented in Table A.6 in the Annex. Since the number of observations in these analyses is small, the standard errors are in some cases very large and the results thus little 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).

[36] The result for Plant 2 did not achieve convergence; the results thus cannot be shown.

Table 3.3: Average marginal effects (AME) for a multinomial logistic regression for being reemployed

	Model 1	Model 2	Model 3	Model 4	Model 5
	AME (SE)	AME (SE)	AME (SE)	AME (SE)	AME (SE)
Duration since displacement	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Sex (ref. women)					
Men	-0.06 (0.06)	0.03 (0.04)	0.04 (0.04)	0.04 (0.04)	0.04 (0.04)
Civil status (ref. married)					
Single	0.01 (0.01)	-0.06** (0.02)	-0.04* (0.02)	-0.05** (0.02)	-0.05** (0.03)
Collar (ref. white-collar)					
Blue-collar	-0.07* (0.04)	-0.06 (0.04)	-0.06 (0.04)	-0.06 (0.04)	-0.05 (0.04)
Plant (ref. Plant 1 (Geneva))					
Plant 2 (Biel)	0.29***(0.03)	0.21***(0.02)	0.22***(0.03)	0.18***(0.03)	0.25***(0.06)
Plant 3 (NWS 1)	0.33***(0.02)	0.21***(0.01)	0.20***(0.02)	0.16***(0.03)	0.25** (0.11)
Plant 4 (Bern)	0.20***(0.03)	0.15***(0.02)	0.15***(0.03)	0.12***(0.02)	0.25* (0.14)
Plant 5 (NWS 2)	0.44***(0.02)	0.27***(0.02)	0.26***(0.03)	0.23***(0.03)	0.29***(0.06)
Education (ref: less than upper secondary)					
Upper secondary	0.04*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.06* (.03)	0.06* (0.03)
Tertiary	0.09 (0.07)	0.11*** (0.01)	0.10*** (0.01)	0.08*** (.02)	0.08*** (0.02)
Age (ref: < 30)					
30-39s		0.05 (0.06)	0.08 (0.06)	0.07 (.05)	0.07 (0.04)
40-49s		0.01 (0.06)	0.06 (0.05)	0.05 (.04)	0.04 (0.05)
50-54		-0.02 (0.09)	0.03 (0.08)	0.02 (.07)	0.01 (0.07)
55-59s		-0.38*** (0.09)	-0.29*** (0.06)	-0.28***(0.07)	-0.28*** (0.07)
> 59		-0.59*** (0.07)	-0.51*** (0.05)	-0.50***(0.05)	-0.50*** (0.05)
Tenure (ref: < 2 years)					
2-5 years			-0.03 (0.06)	-0.01 (0.06)	0.00 (0.07)
6-10 years			-0.09* (0.05)	-0.05 (0.06)	-0.05 (0.07)
11-20 years			-0.15*** (0.03)	-0.13*** (0.05)	-0.11** (0.07)
> 20 years			-0.15* (0.06)	-0.13* (0.07)	-0.12 (0.07)
Nationality (ref: Switzerland)					
France				-0.06*** (.02)	-0.06*** (0.02)
Germany or Austria				0.13 (0.09)	0.13 (0.10)
Italy, Portugal and Spain				-0.00 (0.06)	-0.00 (0.06)
Non-EU countries (e.g. Turkey or Kosovo)				0.12*** (0.04)	0.10*** (0.04)
District unemployment rate					0.03 (0.04)
Pseudo R^2	0.14	0.48	0.50	0.51	0.51
N	664	664	664	664	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.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

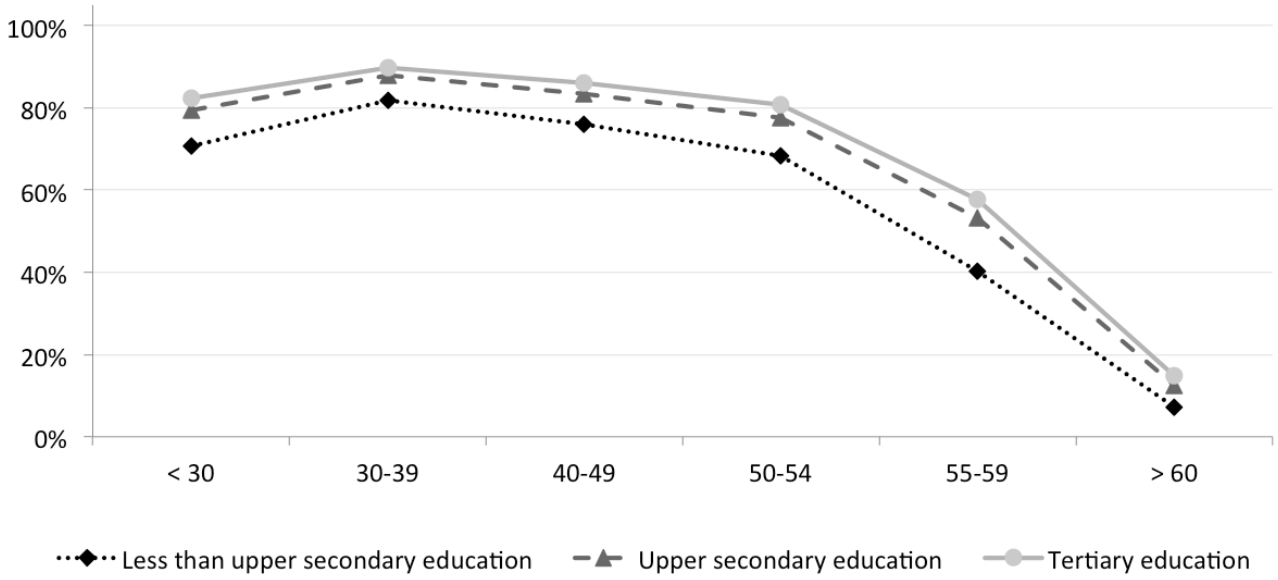
We also tested whether there is collinearity between education and occupation. The correlation between education and collar is -0.46 (and -0.51 between education and ISCO 1-digit occupational groups). However, although the correlation is rather high, the result for collar barely changes if we drop education from the regression analysis (for Model 5 -0.07 instead of -0.05).

With respect to civil status, the results show that workers who are single are 5 to 6 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).

Table 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 in Figure 3.3. We hold the variables collar, nationality and civil status constant and vary only education and age. Figure 3.3 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. The effect is, however, less strong than we expected and not the most consequential factor for their career prospects. One reason for this outcome may be that the education variable does not appropriately measure what we intended to assess: workers' skills. Information about work experience or attended continuous training would allow us to assess their skill profile more precisely. A broader, more encompassing measure of workers' skills may provide this factor to have more explanatory power in terms of reemployment prospects.

How can this result be explained? Is it possible that generous welfare provisions cause the age effect by making it attractive for older workers to remain unemployed and wait for retirement? This hypothesis seems unlikely for three reasons. First, unemployment benefits for workers over 55 are limited to two years and pensions incentives to retire early are weak in Switzerland (OECD 2011: 55). Without an employer-financed early retirement as contained in some redundancy plans, it is difficult to wait out the years until regular retirement without working. Second, our survey shows that unemployed workers aged 55 and older made great efforts to apply for jobs: 26% of them had applied for between 50 and 100 jobs and 46% for more than 100 jobs. As compared to younger unemployed workers, those over the age of 54 put the greatest effort into the job search (see Figure A.3 in the Annex). Third, the unemployed aged between 55 and 59 experience a stronger decrease in overall life satisfaction (-3.4 points on a scale from 0 to 10) as compared to the unemployed on average (-2.8 points). This finding suggests that the bulk of unemployment among older workers is involuntary.

Figure 3.3: 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 Model 5 from Table 3.3)



N=664

Age has been singled out as the most important factor determining whether workers are reemployed or unemployed two 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).

The scope of the age effect on workers' reemployment prospects may not have been fully assessed by all job displacement studies since some of them 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, older workers constitute a large proportion of our sample: 28% of the workers are aged over

54 at the moment of displacement. This situation obviously affects the overall reemployment rate. If older workers had been represented less strongly in our sample, the overall reemployment rate would have been higher and the unemployment rate substantially lower.

Our finding that older workers suffer most from plant closure contradicts 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.

Other studies from Switzerland have come to similar conclusions about older job seekers' vulnerability in the labor market. A recent report by the OECD (2014: 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). It thus seems that the age-bias in Switzerland rather disadvantages older workers but not the young.

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. However, 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. In other words, we would have to find a difference between blue- and white-collar workers in our data, which is not the case.

Comparing our study with earlier research, the results are similar with respect to the effect of education: 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 Figure 3.3). Overall it thus seems that in the US the workers' level of education plays a slightly more important role than in Switzerland.

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.

Conclusion

In sum, in this chapter we have shown that about two-thirds of the displaced workers were back in employment about two 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 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 predicted. However, education seems to make a less strong difference than age.

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 and may have the strongest need of assistance: older workers. Second, it seems that following firm closures in the Swiss manufacturing sector, most workers are able to find a job. Except for the two oldest age cohorts, we do not find much evidence for the gloomy expectation held by political economists that displaced industrial workers are condemned to persistent unemployment (Iversen and Cusack 2000: 326-7).

4. Early retirement

In the light of older workers' difficulties to return to employment after job displacement it is fundamental to analyze a third pathway older workers may take beside reemployment and unemployment: early retirement. The question here at stake is whether workers are involuntarily pushed out of the labor market and subsequently suffer from social exclusion or whether they experience this option as an alleviation of their critical situation. Some studies have shown that older job seekers choose this pathway primarily as a better alternative to long-term unemployment (Chan and Stevens 2001; Ichino et al. 2007). Other studies found that pull factors such as generous early retirement plans, being financially well off or having an economically inactive spouse may incite older workers to leave the labor force before the official retirement age (Knuth and Kalina 2002: 414).

Starting from the hypothesis that push factors better explain the mechanisms underlying older workers' transition into early retirement than pull factors, this chapter analyzes displaced workers' transition into early retirement, focusing on workers over 55 but excluding those workers who reached the official retirement age (that is, 64 for women and 65 for men). We first present the overall probability to retire early. We then describe the factors that may be linked to the workers' transition into early retirement. In a next step we analyze the effect of explanatory factors by means of a regression analysis. Finally, we discuss whether the early retirement plans, which were provided by the plants, may have affected workers in their decision to retire early. We use well-being measures to help us in our interpretation.

4.1 Transition into early retirement

Our data reveals that a considerable proportion of workers went into early retirement. Taking workers of all age cohorts together, 8% retired early, and among the workers aged over 55, the proportion of early retirees is 32% – almost a third – while only 31% of the workers in this age category were reemployed and 37% were unemployed.

In a next step we examine whether this pathway was chosen by the workers rather because of push or pull factors. In Table 4.1 we present the descriptive analysis of the proportions *of workers aged 56 to 64* in early retirement, reemployment and unemployment by the number of applications written, pre-displacement wage, presence of an economically active partner, plant and sex.

We find that older workers who retired early are more strongly represented among those who wrote *less* than 50 applications than among those who applied *more* than 50 times. For older

workers in unemployment the opposite is the case. This suggests that the early retirees did not search for a job as intensively as the older workers who returned to employment or who still were unemployed.

Table 4.1: Proportion of workers aged 56 to 64 in early retirement, reemployment and unemployment by different characteristics (in %)

	Early retired	Reemployed	Unemployed
Number of job applications			
< 11	27	27	13
11-50	45	33	17
51-100	18	22	26
> 100	9	18	44
Pre-displacement gross monthly wage			
CHF < 5,000	5	4	8
CHF 5,000-5,999	18	4	22
CHF 6,000-6,999	28	41	32
CHF 7,000-7,999	22	18	18
CHF > 7,999	27	33	33
Economically active partner			
Yes	49	85	58
No	51	15	42
Plant			
Plant 1 (Geneva)	4	0	40
Plant 2 (Biel)	3	28	30
Plant 3 (NWS 1)	15	35	16
Plant 4 (Bern)	76	17	5
Plant 5 (NWS 2)	1	20	9
Sex			
Women	3	12	6
Men	97	88	94
Total in %	32	31	37
Total N max	*67*	*65*	*77*

Note: For each category, every column sums up to 100%. Regularly retired workers are excluded from the analysis.

Regarding the workers' pre-displacement wage, workers who retired early have about the same probability to have an income over CHF 7,000 (49%) than reemployed and unemployed older workers (each 51%). In addition, we find that 23% of the workers who retired early had a pre-displacement income of under CHF 6,000 while this is true for only 8% of the reemployed. The pattern contradicts the possible expectation that workers with higher wages are more likely to retire early. With respect to the availability of an economically active partner, the early retired are much more likely to be *without* a working partner (51%) than the reemployed (14%) and slightly more likely than the unemployed (42%). Thus, having a spouse who is not working may be an incentive for older workers to step back from the active work life.

With respect to the plant we find that among the early retirees most of them were employed in Plant 4 (76%) before displacement. In contrast, workers from Plants 1, 2 and 5 make up together only 8% while workers from Plant 3 represent 15% of all early retirees. If we turn to reemployment it is striking that none of the older workers in Plant 1 in Geneva was reemployed. This finding may be explained by workers being residents of France where they have access to unemployment benefits for an unlimited duration beginning at age 57.5. Evidence for this assumption is provided by the fact that workers from Plant 1 constitute 40% of the unemployed workers. Workers from the other companies represent between 17 and 35% of the reemployed. Finally, women constitute only 3% of the early retirees while they make up 12% of the reemployed. This may indicate that women less often have the opportunity to retire early because of financial reasons.

4.2 Determinants of early retirement

In order to measure the net effect of the factors discussed above, we continue with a multinomial logistic regression analysis. Our dependent variable is "going into early retirement" as compared to being "reemployed" or "unemployed or out of the labor force". We run four models for which we indicate the average marginal effect (AME) for going into early retirement, relative to being reemployed. We first enter the variables age, sex and education (Model 1) before we stepwise add plant (Model 2) – as a proxy for the redundancy plan –, wage (Model 3) and economic activity of the partner (Model 4). It was not possible to include the number of workers' job applications in the model because this information is available for too small a number of early-retired workers to produce robust results. We restrict our analysis to workers aged 56 to 64 and exclude workers who retired regularly. In order to test the robustness of the results, we also estimated two types of binomial models where we compare first workers who retired early with workers who were reemployed and second workers who retired early with workers who were reemployed, unemployed or out of the labor force. The results – that are similar to the findings from the multinomial analysis.

Table 4.2 shows that in Model 1 only age provides us with a significant effect. The age effect is plausible since the closer the workers are to the regular retirement age, the lower is the reduction in pension benefits that goes along with early retirement. The effect for sex is not significant but large and therefore still noteworthy. The result suggests that – even if we take workers' age and education into account – men are much more likely to retire early than women. This finding is noteworthy from the point of view of the life-course paradigm. The result shows how different labor market patterns in early careers translate into advantages or disadvantages in later life stages.

In Model 2 where we add plant, we find that workers in Plant 4 (Bern) are 66 percentage points more likely to retire early than workers in Plant 2 (Biel).[37] These striking differences between the companies – and in particular Plant 4 – suggest that factors specific to the companies are linked to workers' likelihood of retiring early. A possible explanation is differences in the redundancy plans. Whether they are relevant will be discussed later. Age remains highly significant, suggesting that every year of age increases the likelihood of retiring by 6 percentage points. Again we find a large effect for sex, now highly significant. According to our estimates, men are 32 percentage points more likely than women to retire early relative to being reemployed, unemployed or out of the labor force. Our binomial analysis leads to the same finding – with respect to the size of the effect and the significance level.

In Model 3 we add the workers' wage in six categories. We find that workers with an income over CHF 5,000 are less likely to retire early as compared to those with an income below CHF 5,000. Workers in the highest wage category (CHF > 7,999) are the least likely to retire early relative to becoming reemployed. This result suggests that workers with higher wages have more enjoyable jobs and continue to work until the regular retirement age. In this model the effects of age and sex are again significant and remain in the same order of magnitude as in Models 1 and 2. With respect to education, Model 3 shows that workers with tertiary education were 14 percentage points more likely to retire early than workers without upper secondary education. Workers in Plants 3 (NWS 1) and 4 (Bern) were more likely to retire early than workers in Plant 1 (Geneva), with Plant 4 providing again an extremely strong effect.

Finally, Model 4 basically confirms the results from Model 3 with two exceptions. First, workers in Plants 1 (Geneva) and 5 (NWS 2) seem to be slightly less likely to retire early as compared to workers in Plant 2 (Biel) although Plants 1 and 5 provided early retirement provisions in their redundancy plan, while this was not the case in Plant 2. Second, we find that workers with an economically active partner are slightly less likely to retire early than workers with a non-active partner.

The introduction of the variable plant into the model strongly increases the models' goodness of fit from 0.14 to 0.56 (see pseudo R^2). This suggests that the differences between plants decisively contribute to the explanation of workers' entry into early retirement. Perhaps workers were incited to retire early by the redundancy plans negotiated between the employees' and employers' representatives, some redundancy plans indeed containing extensive early retirement provisions.

[37] We chose Plant 2 as reference category since this company was bankrupt and did not negotiate a redundancy plan.

Table 4.2: Average Marginal Effects (AME) for a multinomial logistic regression for going into early retirement for workers aged 56 to 64

	Model 1	Model 2	Model 3	Model 4
	AME (SE)	AME (SE)	AME (SE)	AME (SE)
Age	0.05*** (0.02)	0.06*** (0.01)	0.06*** (0.01)	0.06*** (0.01)
Sex (ref. women)				
Men	0.33 (0.22)	0.32*** (0.03)	0.32*** (0.00)	0.32*** (0.00)
Education (ref: less than upper secondary education)				
Upper secondary education	-0.11 (0.15)	-0.09 (0.08)	-0.05 (0.08)	-0.06 (0.04)
Tertiary education	0.04 (0.15)	-0.04 (0.09)	0.14** (0.11)	0.14** (0.07)
Plant (ref. Plant 2 (Biel))				
Plant 1 (Geneva)		-0.02 (0.01)	-0.01 (0.05)	-0.03* (0.02)
Plant 3 (NWS 1)		0.15 (0.01)	0.14*** (0.08)	0.12*** (0.03)
Plant 4 (Bern)		0.66*** (0.02)	0.62*** (0.30)	0.60*** (0.02)
Plant 5 (NWS 2)		-0.00 (0.01)	-0.00 (0.06)	-0.02*** (0.01)
Wage (ref. CHF < 5,000)				
CHF 5,000-5,999			-0.15*** (0.12)	-0.15*** (0.03)
CHF 6,000-6,999			-0.16** (0.12)	-0.15* (0.08)
CHF 7,000-7,999			-0.09 (0.13)	-0.08 (0.10)
CHF >7,999			-0.34*** (0.13)	-0.35*** (0.08)
Economically active partner (ref. no)				
Yes				-0.07* (0.04)
Pseudo R^2	0.14	0.56	0.64	0.67
N	141	141	141	141

Note: The dependent variable is multinomial and differentiates between three outcomes: (i) early retired, (ii) reemployed and (iii) unemployed or out of the labor force. Only workers aged 56 to 64 are included and the regular retirees are excluded. Standard errors are clustered at the firm level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01.

In Table 4.3, we present an overview of the redundancy plans and calculate the benefits for an exemplary worker aged 60 with 15 years of tenure and a pre-displacement wage of CHF 6,000. Plant 1 located in Geneva provides men over the age of 62 and women over the age of 61 with early retirement benefits that depend on their tenure. Workers with at least 25 years' tenure received a one-off payment of CHF 10,000 while workers with at least 36 years received CHF 20,000. Moreover, workers received a top-up of their unemployment benefits up to 60% of their former wage. This measure is of relevance only for workers who live in France and who are subject to the French unemployment benefit system. Workers living in Switzerland do not need this provision since they have a replacement rate of at least 70% of their former wage if they apply for unemployment benefits. The worker in the example in Table 3.6 does not receive early retirement provisions in Plant 1 since s/he is below the age limit.

Plant 2 close to Biel did not provide a redundancy plan. In Plant 3 in North-Western Switzerland male workers received early retirement benefits from the age of 60 and female workers from the age

of 59. The provisions amounted to 70% of the former wage inclusive of the 13th monthly wage. This leads for our exemplary worker to a monthly income of CHF 4,500. Workers in Plant 4 close to Bern could request early retirement provisions from the age of 56.5 years. Dependent on their age, they received 90 to 100% of the pension benefits that they would have received if they had gone into regular retirement. Since the amount of the regular retirement benefits depends on the requirements of the decentralized pension funds, we can only approximately estimate the amount of the benefits for early-retired workers in Plant 4, which is about CHF 2,500.[38] In Plant 5 in North-Western Switzerland received early retirement benefits from the age of 58. The benefits depended on the tenure. For our exemplary worker this scheme results in a monthly income of CHF 1,500.

To come back to the results of our regression analysis presented in Table 3.5, we contend that the early retirement provisions in the redundancy plan do not offer a clear-cut explanation of the much higher likelihood of retiring early of workers in Plant 4 (Bern) and the slightly higher likelihood of workers in Plant 1 (Geneva) as compared to workers in Plant 2 (Biel). Regarding Plant 4, the early retirement benefits are not as generous as in Plant 3 (NWS 1) but the age limit for receiving early retirement provisions is very low, i.e. 56.5 years. This condition probably led to the early retirement of a large proportion of workers. With respect to Plant 1 the higher propensity to retire early may stem from the fact that almost half of the workforce live in France where the transition into this gateway is facilitated by social security institutions. While in France workers over the age of 50 are entitled to 36 months of unemployment benefits, in Switzerland the maximum duration is 24 months (Schwab and Weber 2010: 40).

Finally, given the generous early retirement provisions, we would have expected workers from Plant 3 to be particularly likely to go into early retirement. This is, however, not the case and we therefore conclude that in addition to the redundancy plan other mechanisms seem to be at work. A possible factor behind the differences may have been how the provisions offered by the redundancy plan were communicated to the workers. For instance, it is conceivable that many older workers in Plant 3 (NWS 1) were not as well informed about their opportunities as workers in Plant 4 (Bern). Another possibility is that there was an effect of conformity motivating workers in Plant 4 to retire early together.[39]

[38] This amount has been estimated with the help of Plant 4's former head of human resources.

[39] This assumption relies on qualitative information about the retired workers in this company that they continued to meet regularly for common activities after job loss.

Table 4.3: Retirement-related features of the redundancy plans and percentage of early retired for each plant

Plant	Early retirement provisions in general	Example for a 60 year old man with 15 years' tenure and previous gross monthly wage of CHF 6,000
1 (Geneva)	*Age limit*: 62 (men), 61 (women) *Benefits*: One-off payment of CHF 20,000 for workers with 36+ years' tenure, 16,000 for 31+ tenure, 13,000 for 26+ tenure and 10,000 for 25+ tenure. 7,000 for workers with young children. For French residents: Top-up of unemployment benefits up to 60% of former wage (without 13th monthly wage). Contribution to old-age pension fund guaranteed.	-
2 (Biel)	- (no redundancy plan)	-
3 (NSW 1)	*Age limit*: 60 (men), 59 (women) *Benefits*: at least 70% of former wage (13th monthly wage incl.) or at least CHF 4,500/month	CHF 4,500/month
4 (Bern)	*Age limit*: 56.5 *Benefits*: 100% of regular pension for age 63+ , 90% of regular pension for age 60+, CHF 4,000/month until age 60, 90% of regular pension for age 56.5+	≈ CHF 2,500/month (90% of regular pension rate to which he is entitled at age 65, which depends on the years worked and the salary earned)
5 (NSW 2)	*Age limit*: 58 *Benefits*: 5/12 of annual salary for 30+ years' tenure, 4/12 for 20+ years', 3/12 for 10+ years, 2/12 for under 10 years	1,500 CHF/month (¼ of former wage)

Do our results rather point to the presence of pull or push mechanisms? On the one hand, the impact of age and wage suggest that push mechanisms are at work: as we have seen in the section on reemployment, older workers have much more difficulty in finding a job. Exiting the labor force into early retirement thus may be a smooth pathway after job displacement. The finding that workers with lower wages are more likely to retire early may suggest that high wages do not have a pull effect. Alternatively, it is possible that workers with lower wages had bleaker reemployment prospects than workers with higher wages – probably related to their occupational status – and therefore had to retire early.

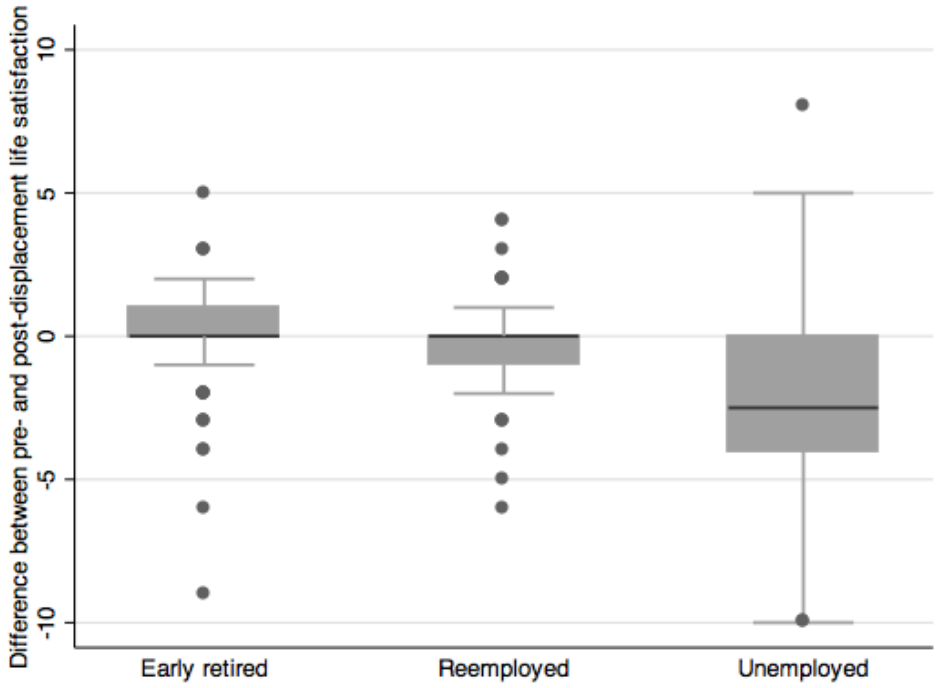
On the other hand, the result from the descriptive analysis regarding the number of job applications and the result from the regression analysis that belonging to Plants 1or 4 has a positive effect on retiring early suggest that pull mechanisms are at work. The fact that the early retirees were less likely to apply *more* than 50 times for a job than workers who were reemployed or unemployed indicates that many of them did not search highly intensively. Moreover, the higher likelihood of retiring for individuals working in a company with early retirement provisions suggests that, not surprisingly, these benefits had an inciting effect.

Overall, it is therefore difficult to tell whether pull factors are more important than push factors. As a last resort to find out whether one mechanism predominates over the other, we analyze the early retirees' change in subjective well-being between their pre- and post-displacement situation.

We compare the outcome for the early retirees with the one for the reemployed and unemployed workers aged 56 to 64. The results are presented in Figure 4.1.

We assessed workers' life satisfaction on a scale from 0 to 10 where 0 stands for not satisfied at all and 10 for very satisfied. We measure change in life satisfaction between the situation before displacement when workers were still employed and the moment of the survey. We calculate the difference between the two values by simply subtracting one value from the other. A negative value means that workers were more satisfied before displacement than after, and a positive value that they were more satisfied after displacement than before. A value of zero indicates that there was no change.

Figure 4.1: Change in life satisfaction before and after displacement (in points on an 11-point scale) for workers aged 56 to 64



N: Early retired=63, Reemployed= 54, Unemployed=66

We find that the early retirees experience an average decrease in life satisfaction by 0.1 points, the reemployed by 0.3 points and the unemployed by 2.6 points. With respect to the distribution of the change in well-being, Figure 4.1 suggests that for the early retirees the 25- and the 50-percentile levels are at zero change in life satisfaction and the 75-percentile level at 1 point increase. Accordingly, half of all early retirees lie within a very narrow range of almost no change in life satisfaction. At the same time, the dots outside of the whiskers indicate that the early retirees experience strong decreases or intermediate increases in life satisfaction. The pattern of the

reemployed older workers is similar: half of the workers experienced either no change in life satisfaction or a decrease in 1 point. In contrast, the unemployed clearly experienced the strongest drop in life satisfaction, the median being a 2.5 points decrease and the 25-percentile level a 4 points decrease. Taken together, these descriptive results show that among the workers over 55, the early retirees were the least negatively affected by plant closure. This suggests that they were rather pulled than pushed out of the active labor force.

Conclusion

In this chapter we have shown that although older workers faced considerable barriers to returning to the labor force, evidence suggests that there were not only push but also pull mechanisms that led workers to choose to retire early. In fact, workers with a non-working partner and with early retirement provisions were more likely to retire early than those with an economically active partner and without provisions. Accordingly, our findings seem to contradict our hypothesis.

How do our findings compare with the literature about early retirement? Our outcomes do not completely confirm the results from most continental European countries that workers are involuntary pushed into early retirement. By contrast, they seem to conform to the observation by Dorn and Sousa-Poza (2010: 432) that the pathway into early retirement in Switzerland is often voluntary. Understanding the link between job displacement and retirement is crucial since it may lead to informed policy decisions about how to support older displaced workers and how to promote longer working lives (Tatsiramos 2010: 517). Teyssier and Vicens (2001: 25) contend that facilitating early retirement is a success in addressing old-age poverty, but does not enhance the social integration of workers towards the end of their careers. It thus seems that there is a trade-off between these two concerns. A potential solution would be that in the case of a plant closure early retirement provisions could not exclusively be accessed immediately after the closure but for several years after displacement. This would motivate older workers to first search for a job and only transit into early retirement if they were not able to find one. If – as is the case with most redundancy plans – workers have to decide directly after the plant closure whether to retire early, they are likely to choose the most secure option and accept the early retirement provisions instead of trying to return to the labor force.

5. Job search strategies and unemployment duration

About 90% of the reemployed and unemployed workers in our study indicated they had searched for a job. While finding a job after displacement is challenging for all workers, some manage to return quickly to the active labor force whereas others remain unemployed for over a year or even arrive at the end of eligibility for unemployment benefits.[40] These differences may translate into diverging career outcomes and quality of life. In particular, since in modern societies individuals' social status strongly depends on their participation in the economic production system, unemployment, especially if it is extended, may trigger a feeling of failure and a downgrading of workers' social status (Gallie and Paugam 2000: 1).

Earlier studies have suggested that activation of the social network improves job seekers' reemployment prospects, not only in terms of reemployment chances but also of job quality. This leads to our hypothesis that workers who found their new job through former colleagues, acquaintances, friends or family manage to return more quickly to jobs of better quality.

In this chapter we analyze the use of different job search strategies and their effect on workers' success to find a job. We then examine how long displaced workers spent on their job search and which factors are most strongly related to short spells of unemployment. Finally, we briefly discuss the transition out of the labor force to training, childcare and disability.

5.1 Job search strategies

Workers are not passive victims of job loss but can actively try to influence their labor market outcomes (Kalleberg 2009: 14). Activating one's social network, an intensive job search, or increasing the geographical job search radius are assumed to increase the likelihood of a successful job search – everything else being constant (Granovetter 1995 [1974]; Marsden and Gorman 2001: 470; Burgess and Low 1998: 242; Kaufman et al. 2004).

In order to maintain their financial security while they search for a job, workers can apply for unemployment benefits on condition that they paid into the mandatory unemployment insurance for at least one year within the preceding two years while they were employed. We find for our sample that the likelihood of applying for benefits depends on the workers' labor market status. Among the still or again *unemployed* workers 98% had applied, but only 66% of the *reemployed* and 73% of the *labor force dropouts*. The difference between the unemployed and the reemployed suggests that

[40] Eligibility for unemployment benefits expires in Switzerland for the median unemployed worker after 18 months.

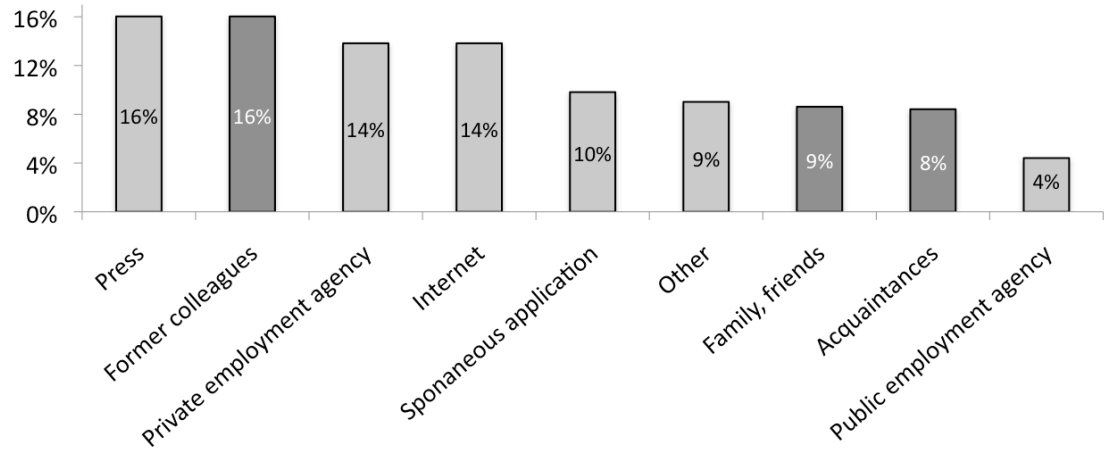
the reemployed either anticipated their rapid reemployment or that they found a job even before they became unemployed.

The application process

With respect to information channels we find that 16% of the workers found their new job through a job offer in the press and the same proportion through their former colleagues (see Figure 4.1). 14% managed to get back into the active labor force with the aid of a private employment agency and the same proportion found their new job through a job offer in the Internet. 10% of the workers found their job due to a spontaneous application. 9% of the workers found their job because of information provided by family or friends and 8% by acquaintances. The public employment agency directly helped 4% of the workers to find their new job.

A common distinction in the literature is between formal and informal job search methods (Granovetter 1973: 1372). Formal methods represent those where job seekers use formal intermediaries such as agencies or advertisements, while informal methods consist in job search through personal contacts. Among the workers in our sample who found a new job, 34% of the workers used informal methods such as former colleagues, family, friends or acquaintances (dark gray in Figure 5.1).

Figure 5.1: Information channel for finding new job



Note: N=499. Dark gray: informal search methods, light gray: formal search methods.

The result on the proportion of jobs found through personal contacts corresponds to the findings from other Swiss and European studies. A literature review shows that across Europe between 31% and 47% of job seekers in Europe find their employment through their social network (Marsden and Gorman 2001: 479). Yet these job seekers are not necessarily unemployed as is the case in our

study. However, a Swiss study that focuses on *unemployed* workers' use of their social ties in job search also reveals that about a third of the workers learned about their new job from their personal contacts (Bonoli et al. 2013: 67). Accordingly, this job search strategy seems to be one of the most important instruments to help workers return to the active labor force.

A descriptive analysis of the determinants of the use of different job search channels reveals that workers aged over 55 tend to find their job more frequently (42%) though their social network than workers aged under 30 (28%). The differences are statistically significant, but the relationship is not linear. In contrast, there are no significant differences in the use of personal contacts by nationality, gender or collar.

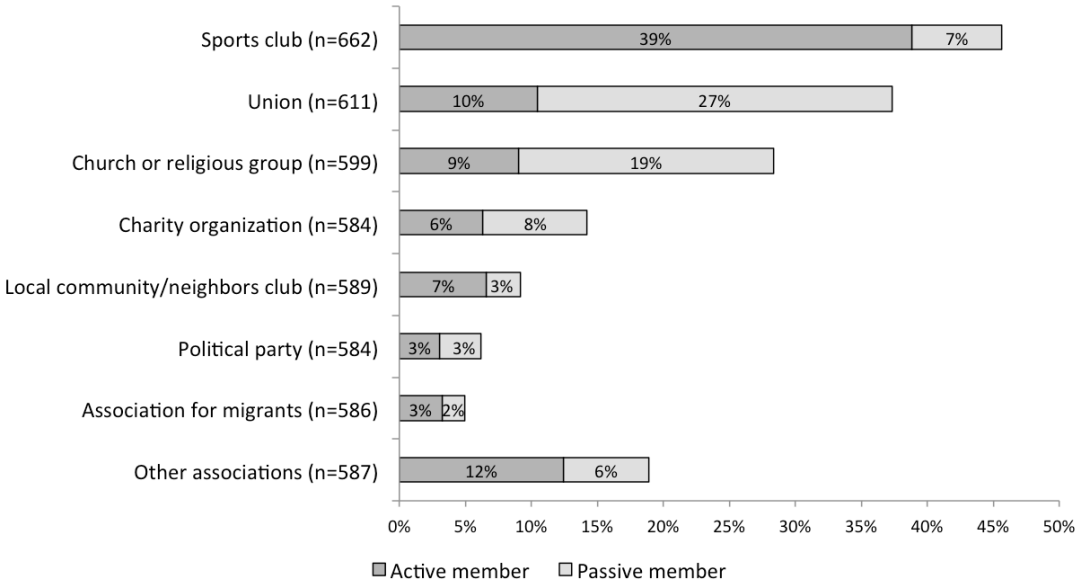
Granovetter (1995 [1974]: 13-14) – focusing on managers, professionals and technicians – argues that job search through social contacts leads to employment in jobs of better quality. For our data, we find that workers who found their new job through social networks experience a stronger wage loss than workers who found their job through other channels (-6% versus -2%). If we distinguish between jobs found through *colleagues* on the one hand and jobs found through *other contacts* on the other hand we find that workers who used the first method experienced wage losses of -5% and those who used the second method experienced a decline in wages of -6%. With respect to contract type, risk of job loss or skill mismatch in the new position, finding a job through personal contacts did not seem to have a positive effect on the quality of the new job. The result remains unchanged if we restrict the analysis to the managers, professionals and technicians in our sample (the group of occupations analyzed by Granovetter 1995 [1974]).

Moreover, we find no evidence for a link between job search through the social network and reduced unemployment duration either. Although a larger proportion of the workers who found their job through colleagues, friends or acquaintances were reemployed within less than one month (34%) as compared to the workers who found their job through other channels (28%), the opposite is the case if we consider the proportion of workers who found their job within four months: 57% of the workers who found their job through the personal network versus 65% of the workers who found their job through other channels.

It may be assumed that workers who are active in associations are more likely to find a job or to find a job within short notice, as they have access to a larger network of individuals. Among the workers in our sample, 77% are member of at least one association. Many are members of several associations (see Figure 5.2). In fact, 46% are members of a sports club, 37% of a trade union, 28% of a church, 14% of a charity organization, 10% of a neighbors' association, 6% of a political party, 5% of a migrant association and 18% of other types of associations.

A descriptive analysis of the workers' labor market status by membership in an association reveals that workers who are members of at least one association are not more likely to be reemployed than workers who are not members of any association. With respect to the unemployed, there is a small difference: among the individuals who did not belong to any association 19% were unemployed, while among the workers who were members only 15% were unemployed. The differences may stem from age differences as we find that among the non-members 10% retired but among the members 13% went into retirement. The difference is, however, not significant. Turning to the duration of job search, we find that the differences between the non-members and members in associations are even smaller. Accordingly, membership of an association does not seem to be linked to the success of job search.

Figures 5.2: Membership of associations

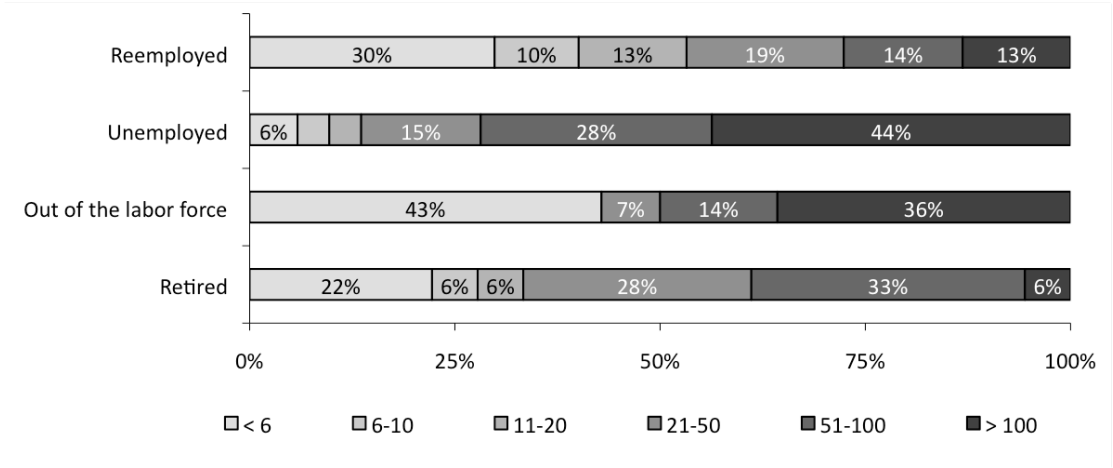


N=677

Figure 5.3 illustrates the number of job applications workers had written by their labor market status at the moment of the survey. In all labor market status categories we find workers who have written over 100 applications. While it is less surprising that 44% of the unemployed and 13% of the reemployed sent out over 100 applications, it is interesting that this was also the case for 36% of the labor force dropouts and 6% of the retired workers. This shows that some of the labor force dropouts and retirees tried hard to find a job but probably were not successful and therefore quit the labor market. At the same time, 43% of the labor force dropouts and 22% of the retirees applied less than six times and thus quit the labor market without making much effort to search for a job.

Unsurprisingly, we find from Figure 4.3 that the unemployed applied more frequently for jobs than the reemployed. One reason for this finding is that workers who applied for unemployment benefits are obliged to actively search for jobs. Moreover, it indicates that most of the unemployed workers were not voluntarily without employment.

Figure 5.3: Number of applications by labor market status



N=499. Reading example: 30% of the reemployed respondents indicated that they applied less than six times to a job before they were accepted. 10% of the reemployed indicated that they applied 6 to 10 times.

5.2 Other strategies of job search: commuting, training, temporary jobs

One strategy to increase the number of potential jobs available is geographical mobility, either in the form of moving house or commuting longer distances. With respect to the first strategy, our analysis shows that only 4% of the workers in our sample relocated. This result may, however, be biased since those who had moved house more than one year before we conducted the survey did not receive our questionnaire.[41] But since only about 10% of the addresses were invalid, relocation seems to have little importance as job search strategy.

By contrast, a large number of workers accepted a job in a more distant location than their pre-displacement job. Among the reemployed workers, 50% had a longer journey to their new workplace than before they lost their job. More precisely, 23% traveled more than 30 minutes longer per day and 27% traveled between 5 and 30 minutes longer. 22% commuted daily for about the same time as before displacement. Finally, 18% traveled between 5 and 30 minutes less per day and 9% traveled more than 30 minutes less. Data for the US suggests that commuting is one of the activities that individuals most strongly dislike (Kahneman et al. 2004: 432). Accordingly, many

[41] The Swiss post office forwards the mail of people who have relocated to their new address for one year.

workers seemed willing to accept the drawback of longer traveling distances in order to be able to return to a job.

The change in commuting time seems to be related to workers' education. 32% of the workers with a tertiary degree accepted a job further away from home than their former job, while this was the case for only 19% of the reemployed with upper secondary education or less. With respect to the question whether commuting longer distances pays off in terms of wage gains, a descriptive analysis reveals that workers who commute longer distances experience on average a wage loss of 4% while workers who commute about the same distance only experience a loss of 1%. Workers who commute shorter distances also earn on average 4% less in the new job as compared to the former job. An OLS regression does not reveal a significant correlation between change in commuting distance and change in wages. We thus do not find any evidence in our data that commuting is compensated for by wage gains.

Workers may enhance their labor market prospects if they complete a training course. Among the participants of our survey, 23% attended training while searching for a job and for 57% of them the training lasted longer than one month. In 41% of the cases the workers learned new skills, 38% attended a training course to update their skills and 18% did some vocational retraining. Our analysis reveals a link between longer unemployment durations and having completed a training course – possibly a consequence of active labor market policies implemented by the public job placement agencies (RAV/ORP). This suggests that workers experiencing longer phases of unemployment decide or are obliged to update their skills or learn another occupation in order to enhance their labor market prospects. Furthermore we find that workers who completed a training course did not have significantly better chances of being be reemployed than workers who did not (77% as compared to 75%). Workers who attended a training course also did not have higher earnings or a better job match in their new job than other workers. These findings may be the result of a selection effect: we do not know if the workers who attended a training course improved their labor market outcome as compared to a counterfactual situation.

The transition from the pre-displacement position to a stable job may not be direct; workers may be displaced again or accept temporary jobs. With respect to temporary employment there is a large debate as to whether it functions as a stepping stone into regular employment by serving as screening for employers and as a means to gain work experience for employees. While some studies found evidence for this mechanism for some countries (e.g. Booth et al. 2002 for the UK; Gebel 2013 for Germany and the UK), the results for other countries are more ambiguous (e.g. De Graaf-Zijl et al. 2011 for the Netherlands; Gebel 2013 for Switzerland).

Our analysis shows that – taking all workers together – 18% (n=106) indicated that they were employed in a temporary job. 69% (n=73) of them were reemployed and 31% (n=33) were either unemployed, retired or out of the labor force when we surveyed them. It would be interesting to examine whether having been employed in a temporary job is related to reemployment in a higher quality job. However, as Gebel (2013) has pointed out it is highly probable that there is a selection effect leading less employable workers into temporary jobs. Indeed, we find that workers who *have not* been in temporary employment are significantly better off than those who *have* been in temporary employment in terms of unemployment duration (controlling for age, sex and education). Nonetheless, we cannot exclude that for the workers who were employed in a temporary job this position may have improved their employability and subsequently may have served them as a means to leave unemployment.

Earlier studies have shown that it is not unusual that new employment relations are dissolved quickly – simply because many of them turn out to be bad matches (Farber 1998). Repeated job separations have proved to be painful if they are involuntary because they are accompanied by great uncertainty about the workers' career (Stevens 1997: 176). 66% of the reemployed workers in our sample did not lose their new job. In contrast, 4% were dismissed again from their new job, 12% quit their post-displacement job of their own will and – as we have seen earlier – the remaining 18% accepted a job with a temporary contract. Among the small number of workers (4% or n=26) who found a job but were dismissed again, two-thirds were reemployed at the moment of the survey. The other third, however, were still unemployed. For the workers who quit their post-displacement job of their own will, the pattern is different: only 10% of them were unemployed or out of the labor force at the moment of the survey; the other 90% were reemployed. This suggests that those quitting voluntarily left their first post-displacement job for a better job. If we look at the socio-demographic characteristics of workers with multiple job separations, we find that younger workers are substantially more likely to voluntarily quit their new job than older workers (17% for workers aged under 40 as compared to 3% for workers aged over 55). With respect to involuntary repeated job loss there are no differences between older and younger workers.

5.3 Unemployment duration

In Switzerland, about half of all the job seekers who receive unemployment benefits from the public unemployment insurance are reemployed within six months (OECD Statistics).[42] At the same time about 20% of the unemployed do not find a job within one year and are thus defined as long-term

[42] Over the period of our survey the figures were 52% (2009), 44% (2010) and 42% (2011).

unemployed (Babey 2011, 2012).[43] About 15% of the job seekers reach the end of the eligibility for unemployment benefits, which occurs for a typical worker after 18 months of receiving unemployment benefits (SECO 2010, 2011).[44]

The analysis of the duration of job search of the workers in our sample reveals similar results. The variable "unemployment duration" is a construct of survey and register data. In the survey, we asked workers how long they searched for a job. This question is somewhat ambiguous since workers may have started job search before they actually lost their job or only some weeks after. In the register data we may be confronted with similar ambiguities: workers may first have tried to find a job without signing up for unemployment benefits. Thus, this variable is not totally unambiguous. Our analysis only includes workers who either searched for a job or who described themselves as unemployed at the moment of the survey. In contrast, workers who directly transited into retirement or dropped out of the labor force are not considered.

Figure 5.4 shows that 36% of the workers were reemployed within two months and 47% within four months. Thus almost half of all the workers in our sample managed to return quickly to the labor force. At the same time 12% of the workers were unemployed for over 12 months and thus long-term unemployed. 20% of the workers were still unemployed when we surveyed them. From these still or again unemployed workers, 88% were unemployed for more than one year and 19% for more than two years. Most critical is probably the situation of 3% of the respondents (representing 21% of the unemployed workers) who arrived at the end of their eligibility for unemployment benefits (not shown in Figure 4.4).

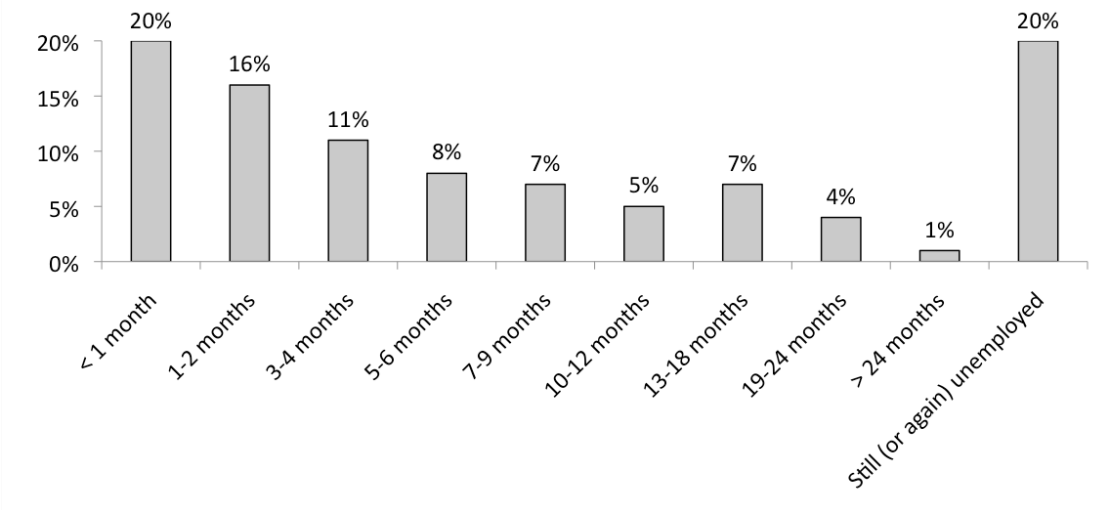
Regarding the workers' unemployment duration, a Finnish study on plant closure in manufacturing shows that 44% of the workers were reemployed after three months, and 57% after 11 months (Jolkkonen et al. 2012: 87). Another Swiss study of job loss in the manufacturing sector reports that 68% of the workforce was reemployed within three months but two years after displacement still 20% of the workers were searching for a job (Wyss 2009: 28, 40). In our sample 36% of the workers were reemployed after two months and 48% after four months, but after 12 months only 69% of the job seekers were back in a job. Common to all the results is the pattern of

[43] More precisely, 13% in 2009, 21% in 2010 and 20% in 2011.

[44] Over the period of our survey the figures were 15% (2009) and 18% (2010). For the year 2011 there is no information available because the revision of the unemployment insurance in this year led to a particularly high number of job seekers who reached the end of eligibility for unemployment insurance. Source: SECO (June 8, 2010). *Öffentliche Arbeitsvermittlung trotzt der Wirtschaftslage*. Media statement. SECO (June 8, 2011). *Besser aus der Krise dank Kurzarbeit*. Media statement.

rapid reemployment of large proportions of displaced workers within the first few months which gives then way to a slowing down rate of return to work.

Figure 5.4: Unemployment duration



N=755. The analysis only includes workers who were either reemployed or unemployed when we surveyed them.

In our survey we asked workers whether the duration of job search corresponded to their expectations. While 55% of the workers indicated that the job search took less time than they estimated, for 33% the duration was longer than anticipated. Only for 13% of the respondents did the duration correspond to their expectations. We tested whether the individual factors age, sex, education, occupation and locus of control[45] predicted the correspondence between unemployment duration and expectation, but found no evidence for an association.

Earlier studies have consistently shown that with increasing unemployment duration, workers' likelihood of exiting unemployment decreases (e.g. Steiner 2001: 103 and Gebel 2009: 677 for West Germany or van den Berg et and van Ours 1996 for the US). Regarding the explanation of this phenomenon there is, however, a debate in the literature (Machin and Manning 1999: 12): according to some studies, unobserved heterogeneity explains this outcome, whereby the most employable workers leave unemployment quickly while the least employable remain in the group of the unemployed. Other authors have argued that there is true duration dependence, meaning either that long spells of unemployment reduce reemployment prospects because the workers lose their knowhow, motivation and self-confidence or that employers perceive long unemployment spells as a negative signal of workers' abilities (Pissarides 1992; Flückiger 2002: 15; Eriksson and Rooth 2014: 1029; Kroft et al. 2013: 1128).

[45] The concept of locus of control describes people's belief about how much they can control events that affect them (Goldsmith et al. 1996: 337).

It is likely that the same factors that are associated with workers' reemployment prospects – as discussed in Chapter 3 – are relevant for rapid reemployment. A descriptive analysis (not shown) reveals that there are substantial differences in the duration of job search by age, district unemployment rate and plant. In a next step we therefore first analyze the workers' outflow of unemployment by age before we look into a larger range of factors associated with exit of unemployment. The workers' outflow from unemployment by age is demonstrated by means of a Kaplan-Meier survival analysis. The analysis is based on the same subsample as Figure 5.4 above. The result – which simply shows how the proportion of job seekers decreases over time – is illustrated in Figure 5.5. The different lines represent six different age groups.

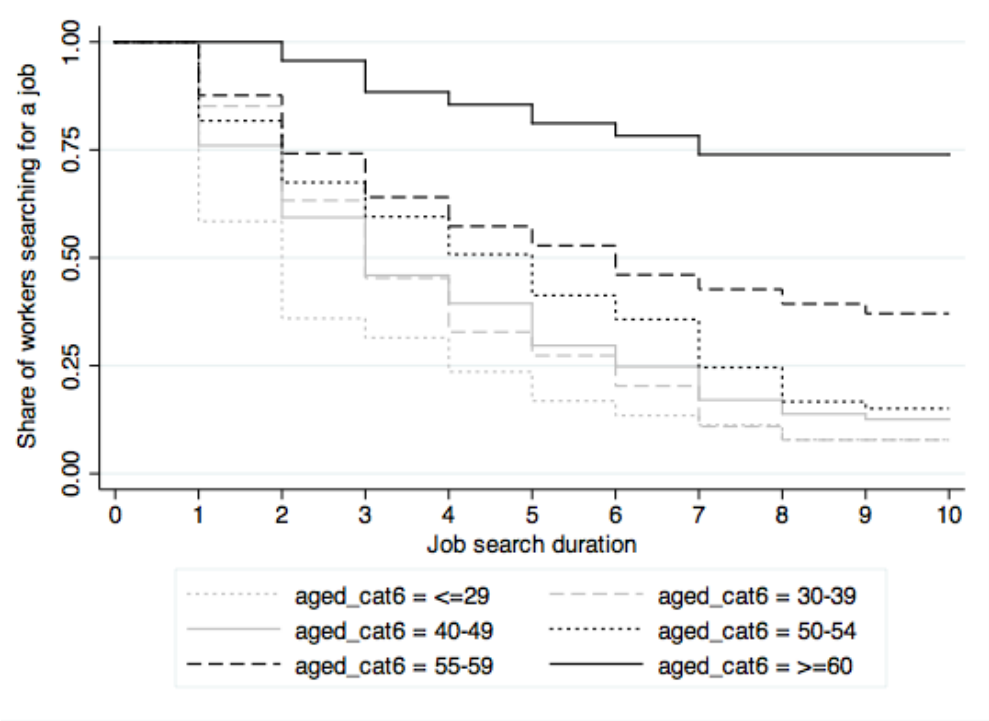
For the youngest age group of the under-30s the curve is steep: within less than one month, already 40% had left the group of the job seekers because they found a job or quit the labor market for other reasons. One to two months after job loss, another 30% of the youngest age group exited the group of the job seekers. About six months after displacement less than 25% of the youngest workers were still searching for a job. Then, the curve flattens and after more than 24 months only about 10% of the workers below the age of 30 remained unemployed. In strong contrast, the survival curve of the oldest worker cohort (aged 60 and over) is flat. 5-6 months after displacement only about 15% of those older workers who were searching for a job were successful, and at the moment of the survey still about 75% of them were searching for a job. This oldest age group clearly is an outlier, which is unsurprising given that the workers in this group have less than five years until they become retired and employers may therefore be reluctant to hire them. However, we also observe long unemployment durations for the second oldest age group of the 55 to 59 year olds. It takes 9-12 months of job search for 50% of them to have found new employment. The other age cohorts lie in between the two extremes of the youngest and the two oldest age groups. It is noteworthy that the curves are aligned in a strictly linear pattern with respect to age.

In a next step we examine the effect of a larger array of factors on unemployment duration. We again run logistic regression analyses for being reemployed within two and within 12 months, respectively, controlling for sex, civil status, country of residence, district unemployment rate, plant, education, occupation, and nationality.[46] The results are presented in Table 5.1.

[46] We tested other models where we included tenure, pre-displacement wage, job search channel for new job and locus of control. But since these variables did not provide significant effects we did not include them in the model presented. The finding that personality traits do not have a significant effect on the transition from unemployment to employment is in line with some of the results from a German longitudinal study on the transition from school to vocational training (Protsch and Dieckhoff 2011: 83-4).

We find strong differences across age groups for reemployment both within two and within 12 months. Workers aged over 30 are substantially less likely to be reemployed in a short time than younger workers. More precisely, workers aged 30-39 are 20 percentage points less likely to be reemployed within two months and 10 percentage points less likely to be reemployed within 12 months than workers below the age of 30. Workers aged 40-49 are 12 percentage points less likely to be reemployed within 12 months than the youngest age group. For workers over the age of 50 the reemployment prospects within two and 12 months are even lower. As an example, workers between 55 and 59 are 39 and 37 percentage points less likely to be reemployed within two and 12 months. The result that older workers are much more at risk of long unemployment durations confirms earlier findings for Switzerland (Wyss 2009: 40; 2010: 31) and the US (Kruse 1988: 411).

Figure 5.5: Survival curve for job seekers according to age (Kaplan-Meier survival estimate)



N=747

Note: 1 = less than 1 month, 2 = 1-2 months, 3 = 3-4 months, 4 = 5-6 months, 5 = 6-9 months, 6 = 10-12 months, 7 = 13-18 months, 8 = 18-24 months, 9 = more than 24 months, 10 = still unemployed.

The x-axis represents the unemployment duration, 1 standing for an unemployment duration of less than one month, 2 for an unemployment duration of 1-2 months and so forth. The y-axis represents the proportion of workers searching for a job, 1.00 meaning 100%, 0.75 for 75% and so forth.

The outcome for the effect of district unemployment rate on reemployment within 2 months is counterintuitive and difficult to interpret. Probably this effect comes about because of strong collinearity between plant and district unemployment rate: while the unemployment rate in the district of Plant 1 (Geneva) was never below 6%, the unemployment rate in the district of Plant 4

(Bern) was never above 4%. Our result for the likelihood of reemployment within 12 months is more plausible, being 7 percentage points lower for workers who were displaced in a macroeconomic context of over 6.6-7.2% of unemployment as compared to workers displaced in a context of 1.6-2.5% of unemployment.

We observe that rapid reemployment massively varies across plants. Workers from Plants 2, 3, 4 and 5 located in the canton of Bern and in North-Western Switzerland are significantly more likely to be reemployed within two or within 12 months than workers from Plant 1 located in Geneva. This suggests that unobservable factors specific to the plants trigger these differences.

Our analysis reveals a positive effect of education on reemployment within two months. Workers with tertiary education are 12 percentage points more likely to be reemployed within this time than workers with less than upper secondary education. A similar result has been found by Wyss (2009; 2010) for Switzerland and by Kruse (1988) for the US, who showed that low-qualified workers are more likely to experience long spells of unemployment than high-qualified workers.

With respect to occupation, we observe that machine operators and workers in elementary occupations are 19 and 20 percentage points less likely to be reemployed within two months respectively, and 21 and 29 percentage points less likely to be reemployed within 12 months as compared to clerks. This result is interesting in the light of our finding from Chapter 3, which only provides weak evidence for lower reemployment prospects for blue-collar workers as compared to white-collar workers. However, when it comes to unemployment duration, low-qualified blue-collar workers are confronted with considerable disadvantages. This finding corresponds to earlier results by Kruse (1988), who reports for the US that sales workers have shorter spells of unemployment than blue-collar workers. Our analysis also shows that professionals have a 19 percentage points lower likelihood of being reemployed within two months as compared to clerks, which possibly shows that the search and recruitment process for highly qualified jobs takes longer.

With respect to nationality, we find that workers with German or Austrian nationality have a 9 and 14 percentage points higher probability of being reemployed within two and 12 months respectively, as compared to Swiss workers. At the same time, workers with a citizenship from outside the European Union have a 16 or 21 percentage points lower likelihood of being reemployed within two and 12 months than those with Swiss citizenship.

Table 5.1: Average Marginal Effects (AME) for a binomial logistic regression for being reemployed within 2 and 12 months, respectively

	Reemployed within 2 months	Reemployed within 12 months
	AME (SE)	AME (SE)
Sex (ref. women)		
Men	0.06 (0.05)	0.12** (0.04)
Civil status (ref. married)		
Single	-0.03 (0.06)	-0.07 (0.03)
Country of residence (ref. Switzerland)		
France	-0.10 (0.11)	-0.05 (0.06)
Age (ref: < 30)		
30-39	-0.20*** (0.05)	-0.10*** (0.03)
40-49	-0.18 (0.11)	-0.12*** (0.04)
50-54	-0.24** (0.09)	-0.22*** (0.03)
55-59	-0.39*** (0.10)	-0.37*** (0.04)
> 59	-0.54*** (0.11)	-0.74*** (0.03)
District unemployment rate (ref. 1.6%-2.5%)		
2.6%-3.5%	0.09 (0.06)	0.11 (0.07)
3.6%-4.5%	-0.04 (0.04)	-0.02 (0.05)
4.6%-5.5%	0.03 (0.06)	-0.04 (0.06)
5.6%-6.5%	0.16***(0.06)	-0.04 (0.05)
6.6%-7.2%	0.14** (0.06)	-0.07* (0.04)
Plant (ref. Plant 1 (Geneva))		
Plant 2 (Biel)	0.25*** (0.03)	0.25***(0.06)
Plant 3 (NWS 1)	0.42*** (0.03)	0.24***(0.05)
Plant 4 (Bern)	0.20*** (0.04)	0.21***(0.06)
Plant 5 (NWS 2)	0.30*** (0.03)	0.36***(0.04)
Education (ref: less than upper secondary)		
Upper secondary	0.06 (0.04)	0.05 (0.03)
Tertiary	0.12** (0.05)	0.09 (0.09)
Occupation (ref. clerks)		
Managers	-0.10 (0.11)	0.03 (0.10)
Professionals	-0.19* (0.10)	0.01 (0.16)
Technicians	0.00 (0.08)	0.01 (0.09)
Craft workers	-0.00 (0.05)	-0.01 (0.06)
Machine operators	-0.20***(0.07)	-0.21** (0.09)
Elementary occupations	-0.19** (0.09)	-0.29* (0.15)
Nationality (ref: Switzerland)		
France	-0.02 (0.11)	0.01 (0.04)
Germany or Austria	0.09***(0.02)	0.14** (0.05)
Italy, Portugal and Spain	-0.10 (0.08)	-0.08 (0.04)
Non-EU countries (e.g. Turkey or ex-Yugoslavian countries)	-0.16***(0.03)	-0.21*** (0.06)
Pseudo R2	0.22	0.32
N	567	567

Note: The dependent variable for the model on the left is "reemployed within 2 months" and for the model on the right "reemployed within 12 months".

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

Finally, while civil status has no effect, men are 12 percentage points more likely to find a job within 12 months than women. This result may be due to the fact that among the married workers, men tend to be the main breadwinner and subsequently more often go back to employment within one year. Indeed, some earlier studies have found that married workers have shorter spells of unemployment because of higher financial responsibilities (Kruse 1988: 411; Teachman et al. 1994). Although the effect of being married in Table 5.1 goes in the expected direction, we do not find a significant result with respect to the workers' marital status.[47]

5.4 Exit from the labor force

A small proportion of workers (n=23) in our sample quit the labor force for training (n=9), childcare (n=2), disability (n=7) or other unspecified reasons (n=5). The theory suggests that there is an interaction effect between sex and civil status explaining labor force dropout, married women being most likely to quit the labor force. However, because of the small number of observation, we can only carry out a very rough analysis and the results are not in line with the theoretical predictions. In fact, among those in *training*, men and – not surprisingly – young workers are overrepresented. If we consider those who do *childcare*, both genders are represented. Among the *disabled,* the majority worked in typically manual occupations (craft workers, machine operators or elementary occupations) and were over 55 at the moment of displacement. In the category of *other situations* no particular socio-demographic pattern is identifiable.

With respect to these workers, it may be interesting to examine if we can find evidence for whether these workers were pushed out of the workforce (e.g. because they could not find a job) or whether they voluntarily quit the labor market. Because of small *n*, we cannot thoroughly analyze this question, but descriptive statistics can still give an idea of their potential motives. Among the labor force dropouts two-thirds searched for a job. This suggests that some of the labor force exits were a consequence of low reemployment prospects. Among the workers in "other" situations one searched for 7-9 months, one for 13-18 months and one for 19-24 months. One worker who does childcare searched for 5-6 months. In contrast, workers who have gone into training did not search longer than two months and among workers with disability no one indicated having searched for a job. If we look at the number of job applications that workers who quit the labor force have written, we find that among those who went into training, most of them wrote fewer than six application letters. The same is true for those with disability benefits. In contrast, the two workers in childcare and the workers in "other" situations wrote either 50-100 or more than 100 applications. This shows

[47] We additionally estimated an interaction effect between sex and civil status. This effect was however not significant.

that the workers in childcare or other situations tried intensively to find a job and exited the labor market only when they were not successful.

Finally, an interesting finding is that workers both with an economically active partner and with an inactive partner tended to leave the labor market. This indicates that not only workers who have a second income – and thus are financially secure – dropped out. Overall, it seems difficult to generalize on the situation of the labor force dropouts. From the small number of observations available we can only maintain that the workers in this group followed individualized strategies and probably had a variety of reasons to quit the labor force.

Conclusion

Our analysis shows that workers use a variety of job search strategies to find a new job. While commuting longer distances is an option that many workers accepted, only few relocated. Over a third of all new positions were found through social contacts, mainly through former colleagues. However, our hypothesis that jobs found through individuals' social network are better in terms of quality is not confirmed. Workers who found a job through their social network experienced higher wage cuts than workers who used other channels. Also with respect to other aspects of job quality such as contract type, risk of job loss or skill mismatch, using informal job search channels does not seem to be an advantage.

Most displaced workers either tended to return very quickly to the labor force or remained long-term unemployed. We found that a third of the workers were reemployed within two months and almost half of them within four months. At the same time 12% of the workers were unemployed for over a year and 20% were still unemployed when we surveyed them. Unemployment duration is principally driven by workers' age. From the age of 55, unemployment durations were substantially longer and from the age of 60 even longer as compared with younger workers. Moreover, blue-collars, workers from non-EU countries and workers in Plant 1 (Geneva) encountered particularly strong difficulties to return to employment within a short time.

The duration of unemployment is not only important because the job search phase is often difficult and accompanied by financial insecurity, but also because it seems to have an effect on the reemployment conditions. In this context it is important to link the duration of unemployment to the quality of the job in which workers are reemployed, a question which we pursue – among others – in the next chapters.

6. Sectors and occupations of the new jobs

In modern economies, deindustrialization shifts employment from manufacturing to the service sector. A prominent argument expects that the decline of job opportunities in manufacturing forces displaced industrial workers to switch to the service sector (Cha and Morgan 2010: 1137). Since the skill profiles of manufacturing workers are likely not to correspond to the skill requirements of similarly qualified and paid jobs in the services, displaced industrial workers may experience an occupational downgrading and in the worst cases be reemployed in low-end service jobs (Iversen and Cusack 2000: 326-7; Bonoli 2007: 498).

It has, however, been shown for OECD countries that most job allocation happens *within* and not *across* sectors (OECD 2009: 119-120). It is thus possible that the manufacturing sector is able to absorb workers displaced from this sector – and that the workers in our study may find new jobs in their pre-displacement sector. Such a scenario is particularly likely for Switzerland where the pace of deindustrialization over the period of our study was slow. In relative terms, manufacturing accounted for 19.3% of Swiss employment in 2008 – before the effects of the subprime crisis of the US were felt in Switzerland – and for 18.2% in 2012 – when the peak of the crisis was over.

The reemployment prospects in the same sector also seem good in Switzerland because the Swiss vocational education system is highly standardized within each sector. The skills acquired in vocational training are thus easily transferable to other firms within the same sector. Accordingly, we expect occupational transitions within the same sector to be smooth. If workers nevertheless change sector, we hypothesize that push rather than pull mechanism are at work. We expect sectoral changes to be triggered by the experience of long-term unemployment rather than by transferable skills.

Even if the workers displaced from the five plants that we examine managed to return to the manufacturing sector, they may have been compelled to adjust to the structural development by changing occupation – a scenario that is likely in a context of rapid automation and technological change in the manufacturing sector and a subsequently increasing demand for high-skilled and decreasing demand for low-skilled labor (Oesch 2013: 72). We examine this issue by first identifying the sectors and occupations in which workers were reemployed and then analyzing which factors potentially favor or hinder sectoral and occupational change.

6.1 Sectors

Workers' decision to apply for jobs in other sectors than their pre-displacement sector is subject to push and pull mechanisms. On the side of the push factors, difficulties in finding a job in the pre-displacement sector and a long spell of unemployment force workers to extend their job search to other sectors (Greenaway et al. 2000: 68; Gangl 2003: 206).

On the side of the pull factors, higher levels of education may make it easier to change into other sectors. In particular, general skills seem better portable to other sectors, and credentials act as a signal to future employers of the workers' ability to learn (Estevez-Abe 2005: 188; Fallick 1993: 317). In line with this idea, white-collar occupations – such as managers or clerks – may be more prone to sectoral change because the skills required in these occupations are transferable to other sectors (Gibbons et al. 2005: 704). Findings from a US study that compares wage losses of workers who switch or stay in their pre-displacement sector suggest that high tenure prohibits workers from switching (Neal 1995: 664). The explanation is that the returns on sector-specific skills are lower in other sectors than in the pre-displacement sector.

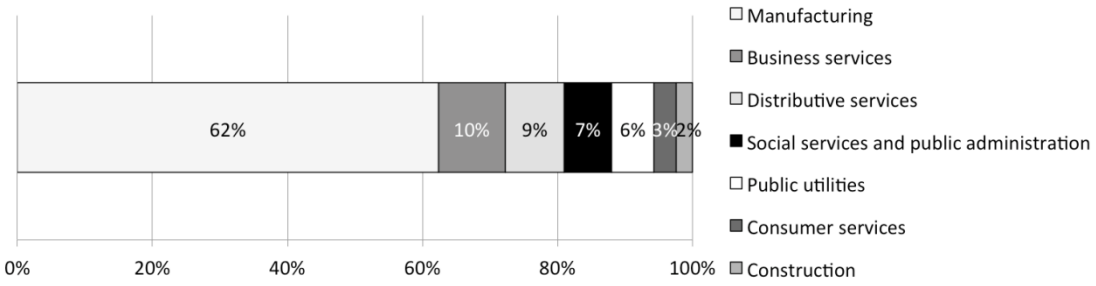
Women may be more likely to switch to the service sector than men for two reasons: First, there is an increasing demand in the service sector for social skills – skills which women tend to use at work more often than men – such as dealing with people or counseling and advising (Nickell 2001: 621). Second, jobs in the public sector tend to be more easily compatible with family life than jobs in the private sector, which often require geographical or time-related flexibility (Hakim 2006: 282). Overall we thus expect that women, highly educated, short-tenured and white-collar workers are more likely to be reemployed in the service sector. At the same time, workers who experienced a long spell of unemployment may switch to another sector than their pre-displacement sector.

Sectors in which workers were reemployed

We start with a descriptive analysis of the workers' reemployment sectors. We measure the sector of employment based on the Swiss General Classification of Economic Activities (NOGA) on a 2-digit level which leaves us with 67 different reemployment sectors. Before displacement, the workers were employed, by definition, in the five manufacturing sectors of their firms which were the production of (i) machines, (ii) metal, (iii) plastic parts, (iv) chemicals, and (v) printing. On reemployment, workers most frequently went into manufacturing of machinery and equipment – where 11% of the reemployed workers were hired –, printing and reproduction of recorded media (10%), manufacturing of watches, computers, electronic and optical products (8%), manufacturing of fabricated metal products (8%), and manufacturing of food products (5%).

In order to simplify the analysis, we aggregate these 67 sectors into seven groups, distinguishing between (i) manufacturing, (ii) construction, (iii) public utilities, (iv) distributive services, (v) business services, (vi) consumer services, and (vii) social services and public administration.[48] Figure 6.1 presents the proportion of workers in the respective sectors. The key result is that nearly two-thirds (62%) of the reemployed workers went back into manufacturing. 10% were reemployed in business services, 9% in distributive services, 7% in social services and public administration, 6% in public utilities, 3% in consumer services and 2% in construction. If we pool the three categories manufacturing, construction and public utilities, we find that 70% of the workers stayed in the secondary sector and 30% switched to the tertiary sector.

Figure 6.1: Economic sector (NOGA) of reemployed workers



N=549

The proportion of workers reemployed in the manufacturing sector in our study exactly corresponds to a recent study on displaced manufacturing workers in Finland (Jolkkonen et al. 2012: 88). But while our result has been produced in a context of economic crisis with stagnation of the Swiss manufacturing sector, the Finnish study was conducted in a context of economic growth.

Although not all workers managed to return to the manufacturing sector, 70% reemployment in the secondary sector seems to be a high proportion – especially if we consider that manufacturing accounts for less than a quarter of employment in Switzerland. This result thus indicates that job loss in the Swiss manufacturing sector does not necessarily force workers into low-qualified service jobs – so-called McJobs – but that they have robust prospects of returning to jobs in their pre-displacement sector.

[48] More precisely, these categories contain the following sectors: (i) Manufacturing, mining, agriculture; (ii) construction and civil engineering; (iii) energy, gas, water, sewerage, waste collection; (iv) retail trade, transport and postal services; (v) financial services, consultancy, legal and accounting activities; (vi) restaurants, hotels, recreational activities; (vii) social services and public administration.

Determinants of sectoral change

Do workers reemployed in manufacturing differ from those reemployed in services with respect to socio-demographic characteristics? We address this question by estimating a binomial probit model for being reemployed in services as compared to manufacturing. We run five models where we stepwise enter sex, education, tenure, occupation and duration of unemployment. We control for age and plant in all models.

Since not all displaced workers found a job, the reemployed workers are a selective group and the analysis of their reemployment sector may be tainted by selection bias. We check for this possibility by resorting to a bivariate probit model with selection correction presented in Table A.7 in the Annex.[49] The analysis suggests that selection into employment is not a major problem for our analysis of the reemployment sector (i.e. we obtain similar findings without the selection correction).

For this reason we present in Table 6.1 models without selection correction and indicate the average marginal effects. Model 1 shows that workers who worked in the plant in Geneva were between 24 and 38 percentage points more likely to be reemployed in the tertiary sector than workers in all other plants. A possible explanation for this finding may be that the plant in Geneva was located in a large urban labor market dominated by services – a labor market that is twice as large as that in Bern. Men are 14 percentage points less likely to be reemployed in the service sector then women. This finding, also confirmed by Models 2 to 5, seems to support our hypothesis that women possess more skills that are transferable to the service sector or have a preference for jobs that offer flexible working hours.

We introduce education in Model 2 and find no significantly higher probability of being reemployed in the service sector for workers with higher levels of education. This finding is consistent throughout all models. This contradicts the view that more highly educated workers are more likely to change sector because credentials help employers in other sectors to evaluate the candidates' skills. But then it is possible that the information we have about the workers' education does not provide us with a complete picture of the workers' credentials.

[49] The so-called Heckman correction using the Stata command heckprob. This implies that we jointly estimate a selection equation on returning to a job and a regression equation on the sector of employment – manufacturing versus services – conditional on reemployment. For this selection model to work, we need an instrumental variable which affects the selection equation (reemployment), but not the regression equation (the sector of employment). In our case, age is such an instrument: it is strongly correlated with reemployment prospects, but has no effect on the sector of employment. The analysis reveals that there is a correlation between the outcome equation and the selection equation (rho=0.26) and accordingly the Wald test is not significant.

We introduce tenure and type of collar in Models 3 and 4 and find that workers with an intermediate tenure of 6 to 10 years are more likely than short-tenured workers to be reemployed in the services. This worker subgroup is possibly more likely to be in higher hierarchical positions and thus can more easily switch to the service sector. Workers with very high tenures of over 20 years, by contrast, are substantially less likely to change sector if they are reemployed. Our hypothesis which stated that the longer the workers' tenure, the lower their probability of changing sector receives ambiguous support. Regarding workers' occupation we find no difference between white- and blue-collar workers. This contradicts the view that white-collar workers, who usually have more general skills, have better reemployment prospects in the service sector (White 2010: 1865; Iversen and Cusack 2000: 326).

Finally, if we enter unemployment duration into the model, we find a higher probability of changing sector for workers with longer spells of unemployment. In fact, workers who searched for a job for longer than one year are about 10 percentage points more likely to accept a job in services as compared to workers who found their new job within two months. This result corresponds to the expectation that long-term unemployed workers are pushed out of the manufacturing sector, perhaps into low-end service jobs.

We briefly compare the workers' change in wages between the pre- and post-displacement job by unemployment duration to test whether workers with long spells of unemployment ended up in low-paid jobs. Focusing on workers who were reemployed in the services, our descriptive analysis confirms the expectation. In fact, workers who were unemployed for over a year experienced an average drop in wages of 12 percentage points. Workers with spells of unemployment of 7 to 12 months had an average wage decrease of 4 percentage points and workers with a period of 3 to 6 months a decrease of 6 percentage points. Only the workers with the shortest unemployment durations of less than three months experienced a tiny wage increase of 0.3 percentage points. These results point to an association between long spells of unemployment and occupational downgrading in the case of reemployment in the service sector.

The analysis presented in Table 6.1 may not provide a good treatment of sectoral change since we consider services and manufacturing each as a unitary bloc. We therefore construct another measure for sectoral change where we define a sector on the 2-digit NOGA level. Workers who were reemployed in the same 2-digit NOGA sector are considered as "stayers" and those who were reemployed in another sector as "switchers". We run a probit regression with the same independent variables and the same specifications as in Model 5 in Table 6.1 and present the results for our variables of interest in Figure 6.2.

Table 6.1: Average Marginal Effects (AME) of a probit regression for being reemployed in the service sector as compared with the manufacturing sector

	Model 1 AME (SE)	Model 2 AME (SE)	Model 3 AME (SE)	Model 4 AME (SE)	Model 5 AME (SE)
Age	0.003*** (0.00)	0.003*** (0.00)	0.004** (0.00)	0.005***(0.00)	0.003**(0.00)
Plant (ref. plant Geneva)					
Plant Biel	-0.24*** (0.01)	-0.24*** (0.02)	-0.24*** (0.02)	-0.23*** (0.02)	-0.22*** (0.02)
Plant NWS 1	-0.33*** (0.01)	-0.33*** (0.01)	-0.34*** (0.01)	-0.34*** (0.01)	-0.31*** (0.02)
Plant Bern	-0.28*** (0.00)	-0.29*** (0.01)	-0.30*** (0.01)	-0.30*** (0.01)	-0.28*** (0.03)
Plant NWS 2	-0.38*** (0.01)	-0.38*** (0.06)	-0.41*** (0.03)	-0.40*** (0.03)	-0.38*** (0.04)
Sex (ref. women)					
Men	-0.14** (0.06)	-0.14*** (0.05)	-0.12** (0.05)	-0.11** (0.05)	-0.11** (0.05)
Education (ref. less than upper secondary education)					
Upper secondary education		-0.01 (0.07)	-0.01 (0.06)	-0.02 (0.06)	-0.01 (0.06)
Tertiary education		-0.00 (0.07)	-0.00 (0.07)	-0.03 (0.08)	-0.02 (0.07)
Tenure (ref. < 2 years)					
2-5 years			0.03 (0.03)	0.03 (0.03)	0.02 (0.03)
6-10 years			0.07** (0.03)	0.07** (0.03)	0.06* (0.03)
11-20 years			0.08 (0.09)	0.08 (0.09)	0.08 (0.09)
> 20 years			-0.07* (0.04)	-0.07* (0.03)	-0.07*** (0.04)
Collar (ref. white-collar)					
Blue-collar				-0.02 (0.02)	-0.02 (0.01)
Unemployment duration (ref. < 3 months)					
3-6 months					0.08 (0.07)
7-12 months					0.06 (0.05)
> 12 months					0.10* (0.06)
Pseudo R^2	0.05	0.05	0.06	0.06	0.06
N	452	452	452	452	452

Note: The dependent variable is binomial and differentiates between two outcomes: reemployed in (i) the service sector or (ii) manufacturing. Although we usually use logit regressions for discrete choice models, here we run a probit regression analysis in order to be able to compare the results with the Heckman selection correction analysis which is based on a probit model.

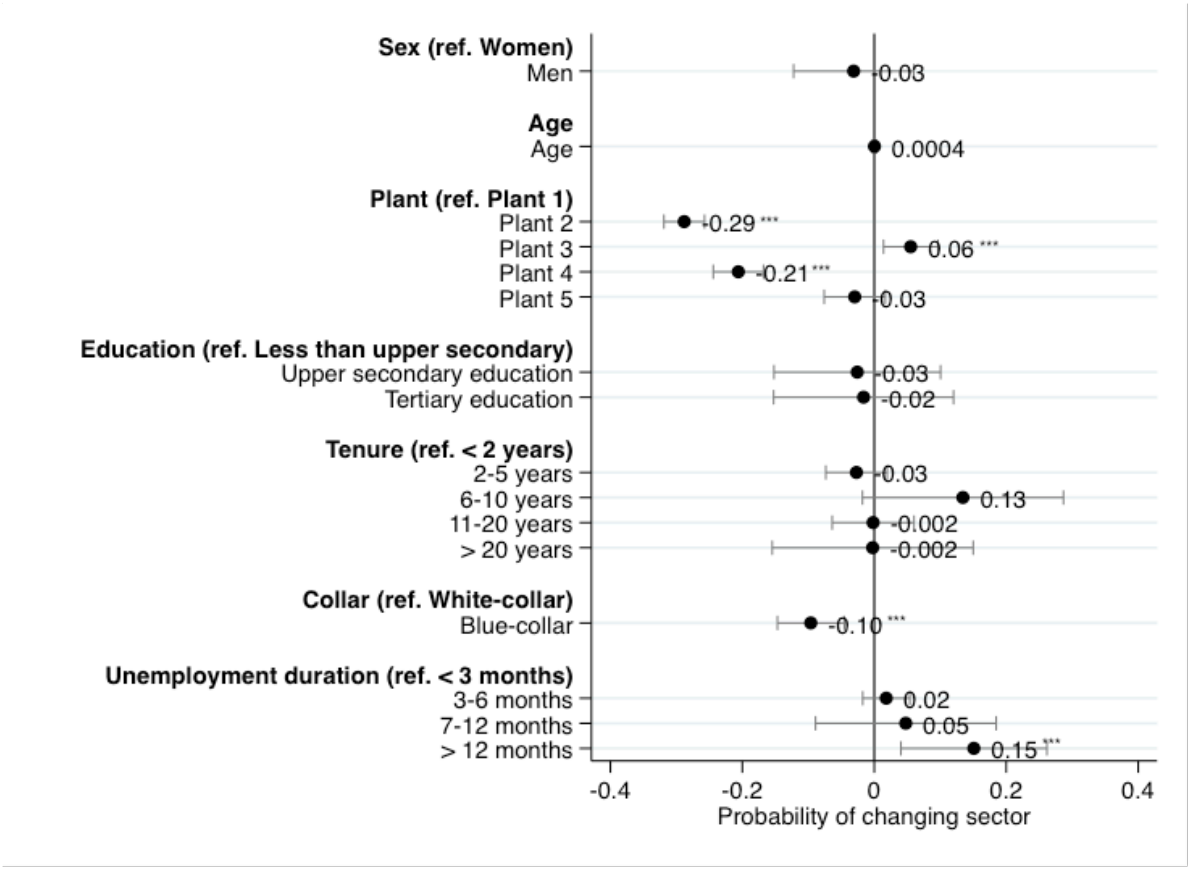
We also tested models where we controlled for the district-level unemployment rate and occupation in ISCO 1-digit categories, but the outcome was not substantially different from the results presented in Table 5.1. Moreover we tried to include age squared; however, this measure lead to a non-significant age (and age squared) effect.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

Interestingly, in Figure 6.2 we find a highly significant effect for the workers' collar. In fact, blue-collar workers are 10 percentage points less likely to change sector than white-collar workers. This suggests that managers, professionals, technicians and clerks (ISCO 1-digit groups 1, 2, 3 and 4) – which we define as white-collar workers – are more likely to be reemployed in another sector than blue-collar workers defined as craft workers, machine operators, and workers in elementary

occupations (ISCO 1-digit groups 7, 8 and 9).[50] Finally, with respect to unemployment duration we find similar results to those in Table 6.1 with a large positive effect for long-term unemployment as compared to very short spells of unemployment. The previous finding that long unemployment durations force workers to leave their pre-displacement sector thus also seems to be valid for 2-digit sector changes.

Figure 6.2: Average Marginal Effects (AME) of a probit regression for being reemployed in a different sector (NOGA 2-digit level) than the pre-displacement sector



N=452

Note: The dependent variable is binomial and differentiates between two outcomes: reemployed in (i) the pre-displacement sector or in (ii) a different sector (on the 2-digit NOGA level).

Standard errors are clustered at the firm level. Significance levels: ** p<0.05, *** p<0.01.

The finding that is consistent across both analyses (see Table 5.1 and Figure 5.2) is that longer unemployment durations more frequently lead to sectoral change. Gangl (2003: 205) found a similar link between sectoral mobility and unemployment duration for Germany and the US. Based

[50] We also tested a model where we entered the ISCO 1-digit group as a categorical variable but the coefficients were not significant. Only if we pool the occupational groups into the categories of blue- and white-collar occupations do we find a statistically significant effect.

on German longitudinal data he found the risk of changing sector to be twice as great for workers with an unemployment duration of over a year as for workers with a duration of one month. For the US the effect is smaller: workers with unemployment durations of more than one month are about 30% more likely to change sector than workers with a very short spell of unemployment. Greenaway et al. (2000: 69), who analyzed data from the UK and the US, found for both countries that workers who change sector experience on average slightly longer spells of unemployment than those who are reemployed in the pre-displacement sector.

Determinants of switching into different subsector in the services

Our analysis of a sector shift may be hampered by treating services as a unitary bloc, as the service sector encompasses very different industries in terms of average skill requirements and pay levels (OECD 2000: 95). We thus divide the service sector into three subsectors: (i) distributive and consumer services (e.g. transport, retail trade and restaurants), (ii) business services (e.g. finance, IT and real estate), and (iii) social and public services (e.g. health care, education and public administration). We then estimate a multinomial logistic model on the determinants of being reemployed in either one of these three subsectors as compared to manufacturing, using the same independent and control variables as in Table 5.1. However, for this analysis it proves fruitful to distinguish two types of tertiary education: tertiary vocational and tertiary general degrees.

The results of this regression are shown in Table 5.2. Our analysis suggests that being a man and having tenure of over 11 years decrease the likelihood of taking on employment in *distributive and consumer services* as compared to returning to manufacturing. At the same time, having searched for a job for more than three months increases the chances of switching to this sector.

With respect to the probability of going into *business services* as compared to remaining in the manufacturing sector we find a significant effect only for the duration of unemployment: workers who searched for a new job for between three and 12 months are more likely to switch to this sector than workers who found a job directly after their plant closed down.

Finally, we find that blue-collar workers are 10 percentage points less likely than white-collar employees to shift to *social and public services*. While the finding regarding the lower reemployment prospects of blue-collar workers in the *social and public services* sector seems plausible, the reasons for the effect of tenure are less evident and may well be spurious as a consequence of the small number of observations for each sector (e.g. n=72 for social and public services).

Table 6.2: Average Marginal Effects (AME) for a multinomial logistic regression on being reemployed in a service subsector relative to being reemployed in manufacturing

	Distributive and consumer services		Business services		Social and public services	
	AME	(SE)	AME	(SE)	AME	(SE)
Age	0.0004	(0.00)	0.001**	(0.00)	-0.0005	(0.00)
Plant (ref. Plant 1 (Geneva))						
Plant 2 (Biel)	-0.07	(0.05)	-0.03	(0.06)	-0.04	(0.03)
Plant 3 (NWS 1)	-0.09	(0.06)	-0.11	(0.08)	0.09*	(0.05)
Plant 4 (Bern)	-0.08	(0.09)	-0.11	(0.10)	0.06	(0.07)
Plant 5 (NWS 2)	-0.07	(0.04)	-0.18***	(0.06)	-0.02	(0.03)
Sex (ref. women)						
Men	-0.07**	(0.04)	-0.03	(0.04)	-0.02	(0.08)
Education (ref. less than upper secondary education)						
Upper secondary	-0.00	(0.05)	-0.02	(0.04)	-0.05	(0.06)
Vocational tertiary	-0.06	(0.06)	0.02	(0.05)	-0.03	(0.07)
General tertiary	-0.03	(0.06)	0.02	(0.05)	0.04	(0.05)
Tenure (ref. < 2 years)						
2-5 years	0.02	(0.06)	0.06	(0.04)	-0.09**	(0.04)
6-10 years	0.04	(0.04)	0.03	(0.04)	-0.01	(0.03)
11-20 years	-0.04**	(0.02)	0.02	(0.05)	0.04	(0.03)
Occupation (ref. white-collar)						
Blue-collar	0.02	(0.04)	0.00	(0.02)	-0.10***	(0.03)
Unemployment duration (ref. < 3 months)						
3-6 months	0.06*	(0.03)	0.05*	(0.03)	-0.03	(0.04)
7-12 months	0.04	(0.05)	0.02	(0.03)	0.01	(0.04)
> 12 months	0.05	(0.03)	-0.02	(0.07)	0.04	(0.10)
Pseudo R^2	0.08					
N	443					

Note: The model includes controls for the unemployment rate of the district in the month of displacement. The dependent variable is multinomial and distinguishes four outcomes: reemployment in (i) manufacturing (reference category), (ii) distributive and consumer services, (iii) business services, (iv) social and public services.

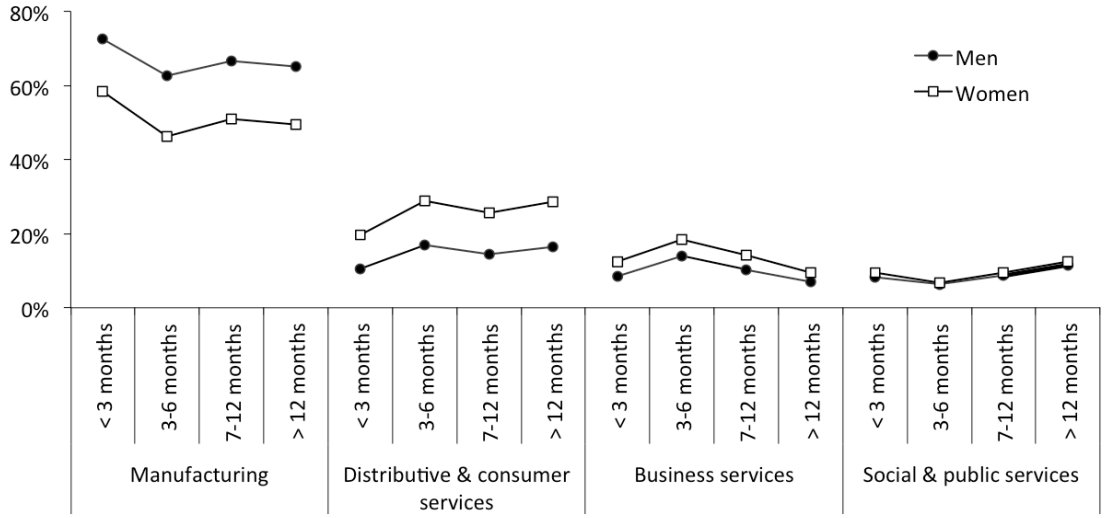
Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

In order to give a better idea of how the workers' sex and duration of unemployment affect the likelihood of a sectoral shift, we plot in Figure 6.3 the predicted probabilities of being reemployed in a given subsector for a white-collar worker with upper secondary education and 2 to 5 years of tenure (based on the model in Table 6.2).

The figure shows that among workers who are reemployed in the *manufacturing* or the *distributive and consumer service sector* there is a divergent pattern with respect to gender. In fact, men are more likely to return to *manufacturing* while women are overrepresented in *distributive and consumer services*. These differences are however less pronounced with respect to reemployment in *business services* or *social and public services*.

Unemployment duration of less than three months seems to enhance the likelihood of being reemployed in the manufacturing sector. In contrast, workers with an unemployment duration of three to six months switched to a service sector more frequently than workers with shorter or longer spells. The pattern confirms the idea that workers first tried to find a job in their pre-displacement sector. If they were not successful, they started to apply for jobs in other sectors after about two months of job search.

Figure 6.3: Predicted probabilities of being reemployed in a given sector by sex and unemployment duration



N=443

Note: Strictly speaking the dots in the figure should not be connected by lines as we use a categorical independent variable. However the lines are helpful to facilitate the interpretation of the results.

Finally, we give a short account of the type of employer with which the workers are reemployed: Three quarter of the workers (75%) have a private, 23% a public employer and 2% work for an association or an NGO. Among the workers reemployed by a *private* employer, 78% work in the secondary and 22% in the tertiary sector. Among workers who found a job with a *public* employer, 47% indicate working in the manufacturing sector and 53% in services.

6.2 Occupations

As for the reemployment sector, push and pull mechanisms may be at work behind potential changes of the workers' occupation upon reemployment after displacement. Previous research on horizontal occupational mobility suggests that an older age, being a women and having a higher income reduce the likelihood of occupational change (Longhi and Brynin [2010: 660] for the UK and Germany; Parrado et al. [2007: 446] for the US; Velling and Bender [1994: 224] for Germany).

Although these studies do not focus on displaced workers, they give us an idea of potential factors that are linked to occupational changes after plant closure.

Occupations in which workers were reemployed

We start our analysis of occupational change by comparing the proportion of workers employed in each category of the 1-digit groups of the International Standard Classification of Occupations (ISCO) before and after displacement. We include in the analysis only those workers who were reemployed at the moment of our survey and both information about pre- and post-displacement occupations are provided only for reemployed workers.[51]

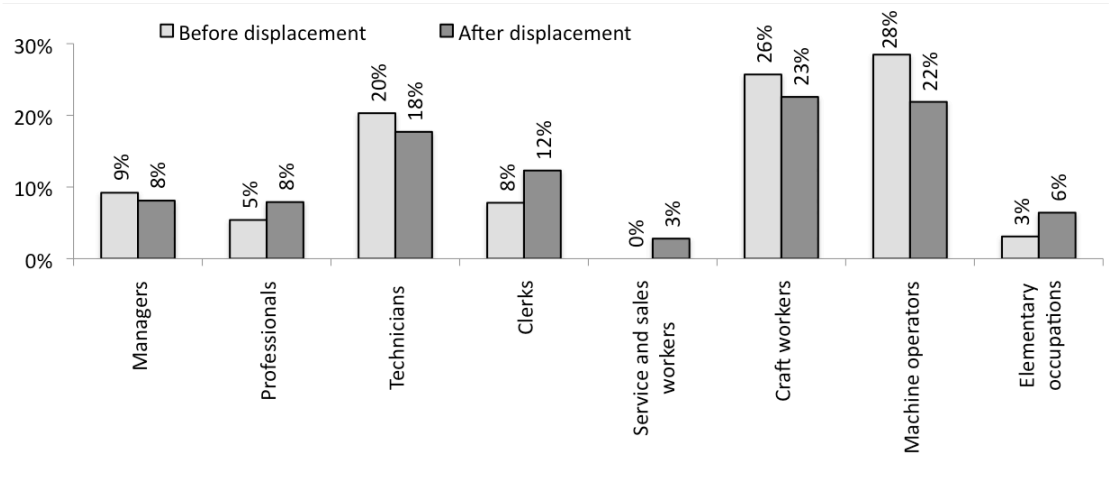
Figure 6.4 shows how workers were distributed across eight occupational categories before and after displacement. There has been a decline in typical production occupations: the proportion of technicians decreased from 20 to 18%, the proportion of craft workers from 26 to 23% and the proportion of machine operators from 28 to 22%. In contrast, white-collar occupations are more strongly represented: the proportion of professionals increased from 5 to 8%, the proportion of clerks from 8 to 12% and the proportion of sales workers from 0 to 3%. At the same time, upon reemployment more workers were reemployed in elementary occupations (increase from 3 to 7%) which points to the experience of an occupational downgrading for some workers. The proportion of managers remained roughly constant, decreasing slightly from 9 to 8%.

How can we interpret this result in the light of earlier findings? On the one hand, the decrease in the proportion of workers reemployed in typical production occupations such as craft workers and machine operators corresponds to the observation that these types of jobs are declining in Switzerland (Oesch and Rodriguez Menes 2011: 527). Thus, if fewer jobs in these occupations are available on the labor market, displaced workers are less likely to be reemployed in these occupations. Accordingly, plant closure in manufacturing seems to mediate the structural adjustment from an economy based on manufacturing to a service economy.

On the other hand, the proportion of workers reemployed in occupations typical of industrial production is still large. If we pool craft workers, machine operators and workers in elementary occupations, we find that 51% of the workers in our sample were still employed in typical production occupations. This suggests that manufacturing occupations are not vanishing, but that there is a sizable creation of new production jobs (OECD 2009: 124).

[51] This approach may induce biased results since reemployment is not random. As we have seen in the previous section, long-term unemployed workers tend to change sector in order to avoid labor market exit. Accordingly, since we do not know the reemployment occupation of the workers who were still unemployed when we surveyed them, we probably underestimate the scope of occupational change.

Figure 6.4: Distribution of reemployed workers across occupations before and after displacement (at the ISCO 1-digit level)



N=576

Figure 6.4 shows aggregate change in the occupational structure of the displaced workers, but does not account for individual change. In a next step we therefore investigate the occupational transitions on an individual level. A descriptive analysis reveals that on average 52% of the reemployed workers remain in the same ISCO 1-digit occupational category after reemployment.[52]

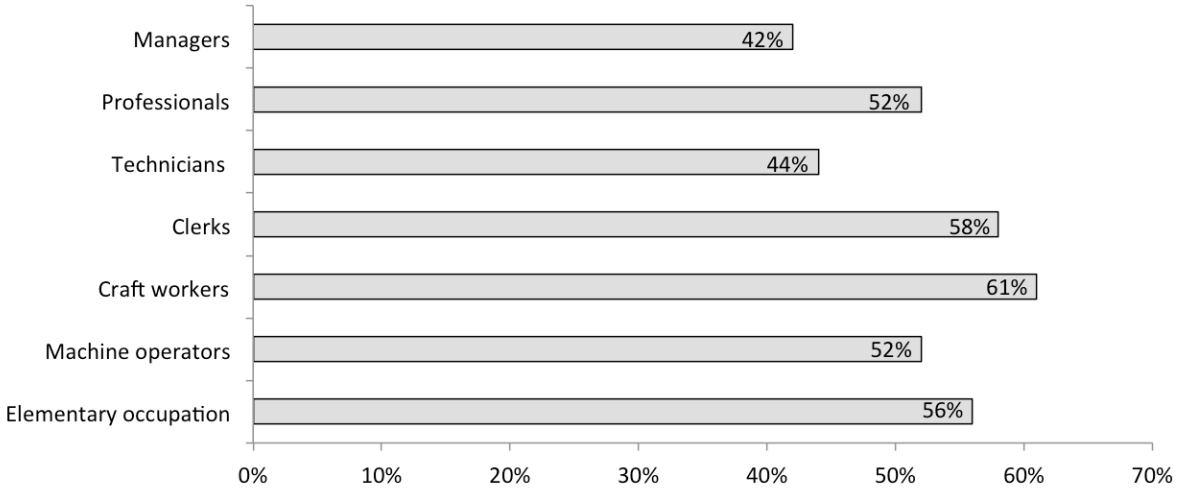
Figure 6.5 illustrates for each occupation the proportion of workers who have been reemployed in the same occupation. At one end of the spectrum, managers and technicians are the least likely to be reemployed in their pre-displacement occupation (42% and 44% respectively). They seem to be the most horizontally mobile. A possible explanation is their usually higher level of education and more general tasks which may allow them to switch occupation more easily than workers in other occupations. At the other end of the spectrum we find that craft workers and clerks are the most likely to be reemployed in the same occupation (61% and 58% respectively). This suggests that they have a large proportion of occupation-specific skills which are difficult to transfer to other occupations. An intermediate mobility is observed for professionals, machine operators and workers in elementary occupations (52%, 52% and 56% respectively).

We now turn to the 48% of reemployed workers who *changed* occupation and conduct a descriptive analysis of the occupational destinations for each pre-displacement ISCO 1-digit occupational group. Figure 6.6 shows that for workers who were active as *managers* before displacement, the most frequent destinations after manager were technicians (25%) and professionals (17%). Among *professionals*, 29% were reemployed as technicians and 13% as

[52] We do not indicate occupational changes on the 2-digit level since the data is subject to measurement error as the coding of the occupations was not always unambiguous.

managers. 15% of the *technicians* worked as clerks and 14% as professionals. 18% of the workers who were active as *clerks* before displacement were reemployed as technicians and 9% as machine operators. *Craft workers* most often became machine operators (16%) or technicians (7%). *Machine operators* were reemployed mainly as craft workers (13%) and in elementary occupations (10%). Finally, among the workers in *elementary occupations*, 22% were reemployed as machine operators and 11% as service workers.

Figure 6.5: Proportion of workers reemployed in their pre-displacement occupation by ISCO 1-digit occupational category



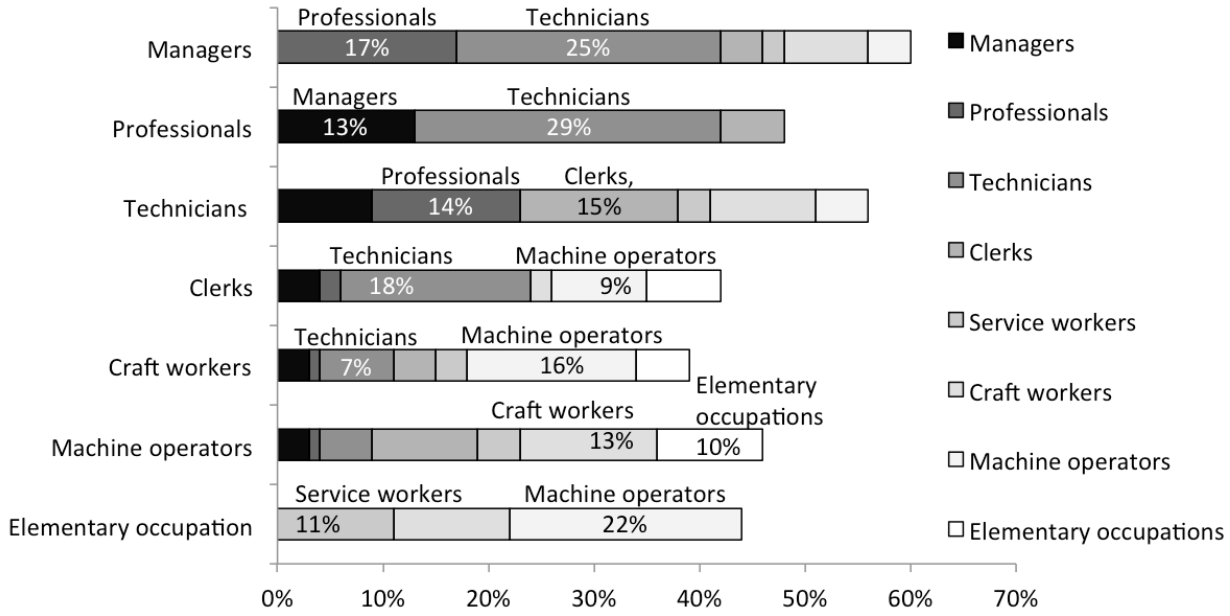
N=576

These results indicate three conclusions. First, some occupations seem to enable workers to switch into a large number of other occupations while others only lead to a small number of occupations. Workers employed before displacement as professionals or in elementary occupations ended up in three different occupations after displacement while workers in the other occupations were reemployed in twice as many different occupations. This finding may indicate on the one hand that unqualified workers in elementary occupations do not have many options in terms of occupational choice. On the other hand, because of their specialization, professionals may have relatively little flexibility – or, above all, incentives – to change occupation upon reemployment.

Second, the occupations of managers, professionals and technicians seem to be permeable, and switching between these three categories thus relatively easy. This may be due to the fact that these occupations often require a tertiary educational degree. Changing into these occupations without credentials is thus less likely. Third, the only occupational group where a considerable proportion of workers has changed into service jobs is elementary occupations. Workers in elementary

occupations – who usually are low-skilled – thus seem to be the ones at risk of ending up in McJobs, low-end jobs in restaurants or retail trade.

Figure 6.6: Occupational destinations of the workers who change occupation



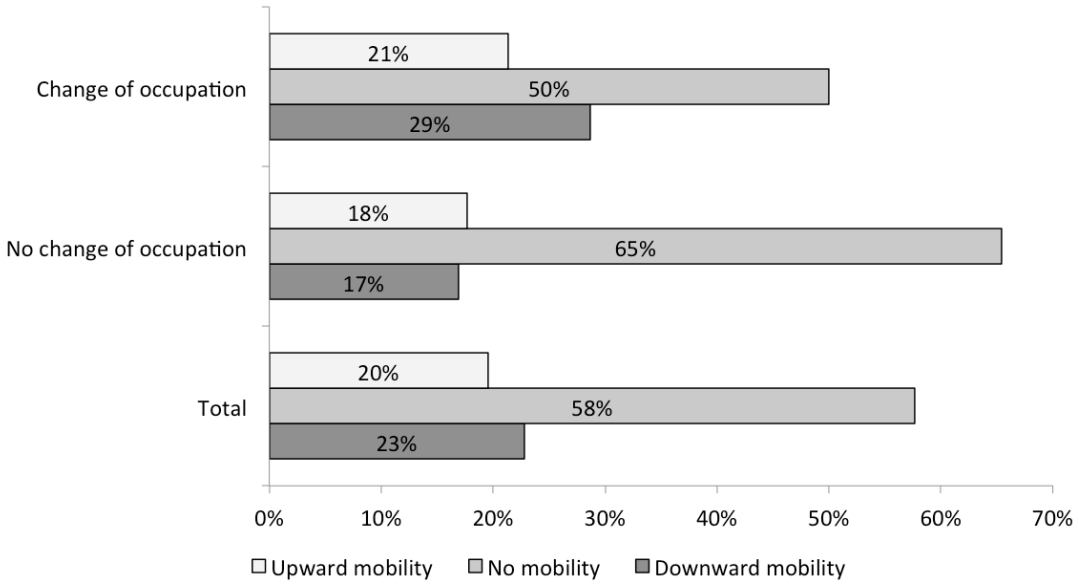
N=576

Note: The percentages indicated in the figure add up to 100% if we include workers who stayed in their occupational group.

A change of occupation may be accompanied by a change in the employment relationship and job quality and thus by occupational up- or downgrading. Changing occupation may allow workers to progress and pursue new challenges. But it may also mean that they are overqualified for their new position or that they have to acquire new skills and learn new tasks which may be strenuous.

One question in our questionnaire examined whether reemployed workers consider themselves, in their new job, to be in a higher, equal or lower social position than the position they had before their displacement. We find that 29% of the workers who *changed* occupation experienced downward mobility, 21% upward mobility and 50% no mobility (see Figure 6.7). Among workers who did *not* change their occupation, only 17% experience downward mobility, 18% upward mobility and 65% no mobility. On average (see total), 58% of the workers experience no mobility while 23% experienced downward and 20% upward mobility. This implies that, overall, a majority of the workers experienced no mobility, independent of whether they changed occupation. In addition, this finding suggests that changing occupational increases workers' risk of experiencing downward mobility.

Figure 6.7: Change in social status between the pre- and post-displacement job by occupational change on the ISCO 1-digit level



N=487

Note: Change in social status was assessed by asking workers "Compared to your job before displacement, does your new job represent: (i) upward mobility, (ii) a similar social position, or (iii) downward mobility?"

Determinants of occupational change

Finally, we scrutinize the factors that are associated with the workers' change of occupation. The literature suggests that a younger age, being a man and a low income are associated with a higher propensity to change occupation (Longhi and Brynin 2010; Parrado et al. 2007; Velling and Bender 1994). In order to identify the determinants of occupational change, we compute a logistic regression for the probability of changing occupation on the ISCO 1-digit level and indicate the average marginal effect (see Table 6.3). We run four models where we first enter plant, tenure, education and ISCO 1-digit level pre-displacement occupation and then add the independent variables of interest: sex, age and income.

We find large and significant differences in the propensity to change occupation according to plant, education and pre-displacement occupation. Workers from one of the plants in North-Western Switzerland (NWS 2) were 26 to 30 percentage points – depending on the model – less likely to change occupation than workers in the plant located in Geneva. In the analysis of the determinants of *sectoral* change in Table 5.1 above we found that workers from Plant NWS 2 had the lowest probability of all workers of switching sector. We therefore assume that workers in Plant NWS 2 were particularly often able to be reemployed in jobs that are similar to their pre-displacement jobs – with respect to both sector and occupation.

Table 6.3: Average marginal effects (AME) for a logistic regression for occupational change on an ISCO 1-digit level

	Model 1 AME (SE)		Model 2 AME (SE)		Model 3 AME (SE)		Model 4 AME (SE)	
Plant (ref. plant Geneva)								
Plant Biel	0.05	(0.04)	0.05	(0.04)	0.07*	(0.04)	0.07	(0.06)
Plant NWS 1	-0.08	(0.06)	-0.08	(0.06)	-0.07	(0.07)	-0.07	(0.08)
Plant Bern	-0.02	(0.02)	-0.02	(0.01)	-0.02	(0.02)	-0.03	(0.03)
Plant NWS 2	-0.27***	(0.06)	-0.27***	(0.07)	-0.26***	(0.07)	-0.27***	(0.07)
Tenure (ref. < 2 years)								
2-5 years	0.10	(0.14)	0.10	(0.15)	0.10	(0.15)	0.08	(0.17)
6-10 years	0.16	(0.17)	0.16	(0.16)	0.15	(0.16)	0.14	(0.16)
11-20 years	0.09	(0.17)	0.09	(0.18)	0.10	(0.17)	0.09	(0.17)
> 20 years	0.04	(0.17)	0.04	(0.19)	0.04	(0.19)	0.03	(0.19)
Education (ref. less than upper secondary education)								
Upper secondary education	-0.21**	(0.11)	-0.20**	(0.11)	-0.19**	(0.10)	-0.17**	(0.10)
Tertiary education	-0.28**	(0.14)	-0.28**	(0.14)	-0.25**	(0.12)	-0.22**	(0.12)
Pre-displacement occupation (ref. craft workers)								
Managers	0.29**	(0.13)	0.29**	(0.12)	0.30**	(0.13)	0.30**	(0.15)
Professionals	0.22**	(0.09)	0.22**	(0.06)	0.22***	(0.08)	0.20**	(0.08)
Technicians	0.20***	(0.06)	0.20***	(0.09)	0.20***	(0.07)	0.20**	(0.07)
Clerks	0.09	(0.10)	0.08	(0.09)	0.07	(0.09)	0.08	(0.08)
Machine operators	0.08	(0.09)	0.08	(0.09)	0.09	(0.10)	0.08	(0.09)
Elementary occupations	0.08	(0.15)	0.08	(0.15)	0.04	(0.10)	-0.02	(0.16)
Sex (ref. women)								
Men			-0.01	(0.14)	0.001	(0.13)	0.04	(0.16)
Age (ref. < 30)								
30-39					-0.10	(0.13)	-0.07	(0.13)
40-49					-0.04	(0.10)	-0.02	(0.11)
50-54					0.08	(0.08)	0.11	(0.08)
55-59					-0.19	(0.12)	-0.15	(0.12)
> 59					-0.20	(0.24)	-0.17	(0.21)
Pre-displacement wage (ref. < CHF 4,000)								
CHF 4,001-8,000							-0.23	(0.25)
> CHF 8,001							-0.24	(0.18)
Pseudo R^2	0.06		0.06		0.08		0.09	
N	366		366		366		366	

Note: The dependent variable is binomial and differentiates between two outcomes: reemployed in the (i) same occupation or in (ii) a different occupation, measured on the ISCO 1-digit level.

We also tested a model where we controlled for whether workers had enrolled in continuous training after displacement, but the results were not significant.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

Interestingly, workers with upper secondary or tertiary education were substantially less likely to be reemployed in another occupation than workers with less than upper secondary education. This suggests that higher levels of education offer better chances of being reemployed in the pre-displacement occupation while lower levels of education push workers out of their occupations. In

the analysis of the effect of the workers' pre-displacement occupation we use craft workers as reference category because the descriptive analysis in Table 6.5 above indicates that they are particularly unlikely to change occupation. The regression analysis provides us with the result that managers, professionals and technicians are strongly and significantly more likely to change occupation than craft workers.

Adding sex, age and pre-displacement wage in Models 2 to 4 neither provides us with significant results nor substantially changes the results for plant, tenure, education or occupation. The average marginal effect for sex remains very small and insignificant across all models. With respect to age, the coefficients are larger but they do not clearly correspond to our prediction that a younger age enhances the likelihood of changing occupation. Although workers over the age of 55 were much less likely to change occupation than the youngest cohort, workers between 40 and 54 were more likely to change occupation than the youngest age group.

Finally, with respect to income we find large effects that go in the predicted direction, but the standard errors are also large and the coefficients thus not significant. Our finding suggests that workers with a very low wage were more likely to change occupation, followed by those with intermediate and high wages. This result may point to a mechanism whereby low-skilled workers are pushed out of their occupation because they have no other opportunity: instead of staying unemployed, these workers may prefer to accept a job in another occupation.

Not surprisingly, it seems that change of sector usually goes along with change of occupation: workers who stayed in manufacturing were the most likely to be reemployed in their pre-displacement ISCO 1-digit occupational category. At the same time, those who change occupation are also more likely to change sector.

Conclusion

A central result of this chapter is that over two-thirds of the reemployed workers returned to a job in the manufacturing sector. This finding suggests that plant closure in manufacturing does not force the majority of displaced workers to accept low-end jobs in the service sector. However, our hypothesis that workers with vocational – or upper secondary – training are more likely to be reemployed within the same sector than workers with other types of education has not been confirmed. We find that women and workers with long unemployment durations are significantly more likely to be reemployed in the service sector than men and workers with short spells of unemployment. This is consistent with earlier findings that typical female skills pull women into the services. In addition, our hypothesis regarding long-term unemployment seems to be supported as we find that long unemployment durations push workers out of their pre-displacement sector into

low-paid service jobs in consumer and distributive services or the social services and public administration (see also Oesch and Baumann 2015: 115).

In addition, more than half of all reemployed workers found a new job in an occupation that is typical for manufacturing such as craft worker, machine operator or technician. The most important determinants for being reemployed in the pre-displacement occupation are higher levels of education and being a craft worker. Our analysis seems to suggest that workers with lower levels of education are pushed out of their former occupation and that managers, professionals and technicians have the opportunity to change occupation.

Displaced workers who did change to a job in the service sector most often went into business or distributive services. Not surprisingly, we thus observe a shift in the distribution of occupations upon reemployment towards occupations such as clerks, sales and service workers and professionals.

The discussion about workers' reemployment sectors and occupations is closely linked to the quality of the new jobs. Sectoral and occupational changes can be associated with occupational up- or downgrading and changes in wages. Workers who change sector or occupation – or both – may lose out in financial terms since they lose the returns on sector- or occupation-specific skills that they received before displacement. We therefore examine in the two next chapters the quality of workers' new employment. We begin with an analysis of wages and continue with job quality and job satisfaction.

7. Wages

The two preceding chapters suggest that displaced manufacturing workers in Switzerland have comparatively good reemployment chances – with the exception of the older workers. However, finding a job *per se* does not guarantee that displaced workers will experience a successful occupational transition after plant closure and that they can continue their careers without major ruptures. Indeed, workers may have accepted major wage losses.

The human capital theory introduced by Gary Becker (1962) suggests that wages represent returns on workers' productivity. According to this logic, wage change following job change is an expression of how the new employer values the workers' skills as compared with the former employer. Wage losses can be the consequence of low transferability of the workers' skills to a new employer. Accordingly, workers who have skills that are very specific to the former employer or sector[53] may experience larger wage losses upon reemployment than workers who mainly possess general skills that are transferable to any company or sector (Neal 1995: 656). The share of specific skills as compared with that of general skills is higher for workers who have completed on-the-job training or worked in the same company for many years. We therefore expect that the high-tenured, the low-qualified and workers who changed sector or occupation are most strongly affected by wage losses.

An alternative explanation has been provided by the signaling theory, which suggests that episodes of unemployment are signals of job candidates' low productivity to potential employers (Spence 1973). Accordingly, employers are likely to offer job seekers wages which are below their pre-displacement wage. Finally, wage losses can be a result of skill depreciation in a long phase of unemployment (Arulampalam 2001: F603; Flückiger 2002: 15). Based on these arguments, we also expect that workers who were unemployed for a long period experience substantial wage losses.

In this chapter we start by examining the wage distribution before and after displacement. We present our results of average wage changes for displaced workers and in comparison with the control group of non-displaced workers in the Swiss Household Panel. We then analyze the factors that are linked to wage losses.

[53] Such specific skills may be the knowledge required to use machines or software that are only used in a particular sector or contacts with the clients and markets of a particular firm. This knowledge may be important in the workers' pre-displacement firm, but if the worker changes job his or her skills and contacts may be of little use to the new employer.

7.1 Wage distribution before and after displacement

We start with the presentation of the distribution of workers' wages. In Table 6.1 we show the distribution before and after displacement. This analysis is mainly based on a question asked in the survey on workers' precise gross monthly pre- and post-displacement wage.[54]

Standardizing wages for 40 hours per week and 12 monthly salaries per year,[55] we find that wages under CHF 4,000 – which corresponds to 66% of the Swiss national median wage for all sectors and positions – were less frequent before displacement than after. Before the plants closed down, 6% of the workers earned CHF 4,000 or less for a full-time job of 40 hours per week. After the closure, 9% did – among the subgroup of workers who found a job. At the top end of the wage distribution there was no significant change: before displacement 2.4% of the workers earned CHF 10,000 or more, after displacement this was the case for 3% of the workers– which is not significantly different. In parallel, the median wage fell from CHF 6,000 to CHF 5,700.

Table 7.1: Distribution of gross monthly wages before and after displacement in CHF (standardized for 40 hours per week and 12 salaries per year)

	Before displacement	After displacement
5%	4,000	3,111
10%	4,409	3,702
25%	5,159	4,190
50% (median)	6,000	5,700
75%	6,950	6,857
90%	8,450	8,457
95%	10,850	11,429
Mean	6,220	6,039
N	*749*	*401*

Reading example: 5% of the workers earned CHF 4,000 or less before displacement.
Note: Before displacement the median wage was close to the Swiss median of CHF 5,979.

Compared to the situation before displacement, the wage distribution has become more unequal: the relation between the wage at the 95th and the 5th percentile (p95/p5) has increased from 2.71 to 3.67, at the 90th and the 10th percentile (p90/p10) from 1.92 to 2.02 and at the 75th and the 25th percentile (p75/p25) from 1.35 to 1.38. The plant closures thus seem to have increased the inequality in

[54] Information about wages is sensitive data and its assessment is often subject to measurement error. As discussed in Chapter 2, a strategy to address this issue was to use register data. An analysis of the measurement error in fact revealed that the data collected with the survey deviates by about 2% from the register data. However, register data is only available for 365 (30%) of the 1203 workers in our sample and the information presented in Table 6.1 is thus approximate.

[55] The 13th monthly wage was included in the calculation if workers declared having had one.

workers' wages. This finding may also reflect the fact that the wages of high income earners have generally risen whereas wages at the bottom end of the wage distribution have either stagnated or decreased.

Since only a proportion of the displaced workers have searched for a job and been reemployed, we have almost twice as many observations for the wages before displacement as after displacement. Accordingly, in Table 7.1 we compare two different subsamples and this gives us only limited information about changes in the individual workers' earning situation. We therefore continue with an individual-level analysis of the wage change, focusing on the reemployed workers.

7.2 Average wage change

We start with the analysis of the *average* wage change. In order to produce results that are comparable with earlier findings in the literature, we examine wage changes in four different ways. First, we compute the changes exclusively for the reemployed workers – measuring the difference between pre- and post-displacement wage and then calculating the average wage change as has been done for example in the study by Bender et al. (2002: 56). Second, we measure wage change for reemployed and unemployed workers together – replacing the unemployed workers' income with zero as has been done in several studies from the US (e.g. Jacobson et al. 1993) or by Balestra and Backes-Gellner (2013) for Switzerland.[56] Third, we analyze wage change only for workers in our sample with two and more or five and more years of tenure, respectively. This allows us to compare our results with American studies based on the Displaced Worker Survey (DWS).

Fourth, we compare our results with workers from the Swiss Household Panel who did not lose their job in 2009.[57] We assess their wage change over time by following them through 2011. This approach allows us to make a difference-in-difference analysis that considers how wages would have evolved if the workers had not been displaced. This control group provides us with a

[56] We carry out this analysis only for the purposes of comparison with other studies. The large majority of Swiss workers do not face an income of zero in the case of unemployment. Instead if they claim unemployment benefits they obtain between 70% and 80% of their former wage for workers with dependent children or a pre-displacement wage below about 60% of the median wage).

[57] The workers in our sample were matched to workers in the SHP by means of radius caliper propensity score matching with a radius of 0.001, is based on the socio-demographic characteristics sex, education, age and sector. Our calculation is based on workers who were employed in 2009 *and* 2011 – in order to assess their wage *differential* – whereby some of them may have changed job while others have remained in the same job. Only full-time workers who worked at least 35 hours a week were included in the analysis. Wages in both the treatment and the control group were standardized for 40 hours per week (see Chapter 2).

counterfactual and thus enables us to make a causal interpretation of our findings about workers' wage losses after redundancy.

As a fifth option, some authors use log post-displacement wages as the dependent variable in order to take account of the fact that the same absolute amount of wage loss is larger in relative terms for workers with low pre-displacement wages than for those with high pre-displacement wages (e.g. Zwick 2012: 15). We do not follow this approach since our dependent variable is wage *difference* between the pre- and post-displacement job rather than the post-displacement wage used by Zwick (2012). However, we use the percentage difference to take this issue into consideration.

The following analysis is based on a combination of survey and register data for the pre-displacement wage and on survey data only for the post-displacement wage since for the latter measure there was no register data available. Table 7.2 shows that the displaced workers who were reemployed at the moment of the survey experienced, on average, an inflation-adjusted wage loss of 4%. The result remains unchanged if we include only workers with pre-displacement tenure of more than 2 years into the analysis. If we calculate the wage difference between the job before and the job after displacement for reemployed workers who were tenured more than 5 years in their former firm, we find slightly larger wage losses of 5%. For the reemployed and unemployed workers together the average wage loss amounts to 29%.

Over the period of the study the wages of our control group of *non-displaced* workers in the Swiss Household Panel (SHP) increased by 2%. Consequently, if we compare the change in wages of the *displaced* workers with the *non-displaced*, we find that the reemployed displaced workers lost on average 6% of their wages by having been laid off – without counting wages foregone in possible phases of unemployment.[58]

Table 7.2: Difference in wages before and after displacement for different worker subgroups

	Difference before-after		Difference before-after for tenure of two years and more	Difference before-after for tenure of five years and more
(1) Reemployed	-4%	(n=377)	-4% (n=341)	-5% (n=253)
(2) Reemployed and unemployed	-29%	(n=468)		
(3) Non-displaced (SHP)	+2%	(n=1,444)		

Note: The wages are inflation-adjusted. Consumer prices in Switzerland rose by 0.7% between 2009 and 2010 and 0.2% between 2010 and 2011 (OECD Statistics).

[58] The findings from our survey regarding the wage differences for different tenure categories cannot be compared to the data from the Swiss Household Panel as in the Panel different tenure categories are used.

How do our results compare with earlier findings in the literature? We first look at studies that assess the wage changes for reemployed workers without comparing them with a control group. Abe et al. (2002: 236) examining wage losses of displaced workers in Japan, find that male workers who were displaced in 1995 experienced on average wage losses of 4%. Carrington (1993: 443), who analyzes data from the US Displaced Worker Survey, reports wage losses of 12%. The findings from Japan are close to our own results for Switzerland, while post-displacement wage losses in the US are much larger. A possible explanation for the high wage losses reported by Carrington may be that the Displaced Worker Survey, includes only workers with more than three years of tenure. However, even if we take workers' tenure into consideration, we find substantially lower wage losses than this US study.

Carneiro and Portugal (2006: 15-6) measure wages losses of displaced workers in Portugal who manage to get back into the labor force and compare them with a non-displaced control group. The authors find that the workers' wages decreased by 4% between the year before and the year after displacement. A German study that follows the same approach reports wage losses of a similar extent: Burda and Mertens (2001: 30) find losses of 3%. These results are similar to our own finding of 6%. In contrast, a study that uses this approach based on US data again reveals much larger losses of 12% (Farber 1997: 112).

Finally, some studies assess displaced workers' wage losses by considering reemployed and unemployed workers, setting the unemployed workers' post-displacement wage at zero and comparing the outcome to non-displaced workers. Based on this approach, Jacobson et al. (1993: 697) report 25% wage losses for high-tenured workers in Pennsylvania six years after displacement. A study that follows the same analytical procedure but uses data from Connecticut finds losses of 32% (Couch and Placzek 2010: 585). A Swiss study focusing on involuntary job losses in general – which is a much broader category than displaced workers – finds losses of 21% one year after job loss and of 20% four years after job loss (Balestra and Backes-Gellner 2013: 19). The losses are thus comparable to our own survey.

Overall, the wage losses are substantially larger in the US context. What might explain these different outcomes in terms of wage losses in the United States compared to Europe? A first reason is probably that the US Bureau of Labor Statistics has defined displaced workers as high-tenured adults who, after holding a job for three years or more, lost that job (Fallick 1996: 6). This definition has been integrated into the major US surveys such as the Current Population Survey and the Displaced Worker Survey (Devens 1986: 40). Some authors have used less or more restrictive definitions: Fallick (1993: 319) focused on displaced workers whose job tenure was at least one year and Jacobson et al. (1993: 689) on workers with more than five years of tenure. Such

restrictions are not made in most European (or Japanese) studies. Displaced workers analyzed in US studies are thus a more selective group who are much more attached to their firms – because of higher tenure – and therefore may find it more difficult to find as good a job match as they did in their old job. However, as our own analysis suggests, this factor alone does probably not explain the consistently larger wage losses in US than in European (or Japanese) studies.

Another potential explanation for the differences between US and European studies lies in institutional factors such as unemployment benefits. Low replacement rates and short benefit durations – as is the case in the United States – may compel displaced workers to find a job quickly, and force them to reduce their reservation wage more strongly (Gangl 2004: 174; Lentz 2009: 50; Feather 1997).[59] In addition, it has been argued that in the US unionized firms provide workers with rents which are lost upon job loss (Jacobson et al. 1993). Finally, differences in wage losses may also be due to differences in the business cycle. Appleqvist (2007: 26-7) found for Finland earning losses of 9% in a period of recession but zero losses in a situation of economic growth. Similarly, Farber (1997: 101) or Kletzer (2001) find that losses are larger in economic downturns than in boom phases.

A problem that likely arises in our way of calculating wage losses is the fact that we assess the workers' pre-displacement wage directly before displacement. As scholars have pointed out, this way of calculating probably underestimates the workers' wage losses as many companies reduced their workers' wages when they started having economic difficulties (Jacobson et al. 1993: 691; Arulampalam 2001: F587; Carneiro and Portugal 2006: 13).

Indeed, for the plant in our sample located in Biel we know that this happened: workers accepted wage cuts one year before the closure in order to enhance the company's chances to remain operating. If we compare the median pre-displacement wage of the (matched) workers in our sample with the workers in the Swiss Household Panel we find a lower value for workers in our sample (CHF 6,239) than for workers in the SHP (CHF 6,667). This supports the argument that displaced workers experienced wage cuts – or periods of wage stagnation – before the plant closure happens.

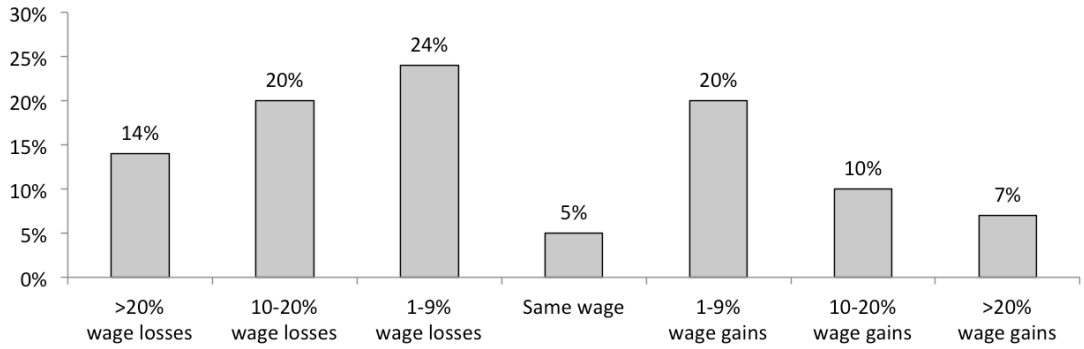
[59] The OECD has developed measures to compare unemployment benefit entitlements across countries. We consider the net replacement rate in 2012 for an unemployed person having earned before job loss a wage at the national average, being the main breadwinner and having two children. The net replacement rate for the United States was 43%, for Finland 65%, Germany 70% and Switzerland 86%.

7.3 Distribution of wage change

So far, we have analyzed the reemployed workers' average wage change. We now turn to the examination of how the wage changes are distributed among the reemployed workers. We start out with the computation of the wage changes in percentages, based on the precise assessment of workers pre- and post-displacement wage. We then collapse the individuals into seven categories as presented in Figure 7.1. On the side of the workers who experienced wage losses, we find that 14% of the workers experienced large wages losses of over 20%. 20% of the workers experienced intermediate wage losses of between 10 and 20%. 24% experienced small wage losses of between 1 and 9%. 5% of the workers experienced almost no change in wages, earning 1% more or less in their new job as compared to their old job. On the side of the workers who experienced wage gains, 20% experienced small wage gains of between 1 and 9%. 10% experienced intermediate wage gains of between 10 and 20%. 7% experienced large wage gains of over 20%.

In a nutshell, the proportion of the reemployed workers who experienced wage losses is clearly larger (58%) than the proportion of those who experienced wage gains (37%). If we focus on the substantial wage changes of 10% and more, we find that twice as many workers experienced strong wage losses (34%) as strong wage gains (17%). At the same time, for about a seventh (14%) of all reemployed workers the losses were larger than 20% and thus very substantial.

Figure 7.1: Distribution of wage difference (based on numerical assessment of workers' wages) of the reemployed workers



N=387

Reading example: 14% of the reemployed had wage losses of 20% or more in their new job relative to their pre-displacement job.

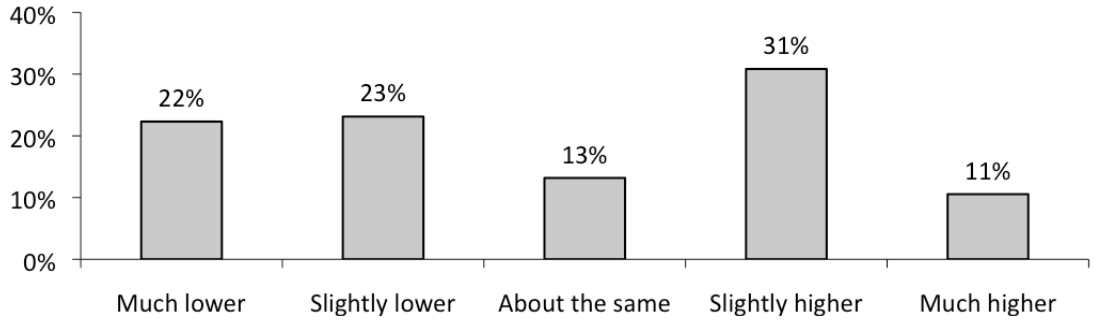
Workers who were (still or again) unemployed when we surveyed them are not included in this analysis. It is likely that, if these workers managed to find a job after our survey, they experienced, on average, wage losses – as long unemployment durations may act as a signal of low productivity for employers and the workers' skills may depreciate during a long spell of unemployment.

Accordingly, we consider the unemployed workers together with those who experienced strong wage losses to be the most negatively affected workers after a plant closure.

In a next step we analyze the question asked to the survey respondents of whether their current wage was much lower, slightly lower, about the same, slightly higher or much higher than their pre-displacement wage. The advantage of this measure is that a larger number of workers were willing to answer this question as compared with the question about their wage in a numerical format (n=495 as compared to n=387).

Figure 7.2 shows that 22% of the reemployed indicated their post-displacement wage as being much lower and 23% as slightly lower than their pre-displacement wage. 13% of them earned – according to their own assessment, which we expect to be accurate – about the same, 31% slightly more and 11% much more than before their plant closed down. If we compare the proportion of workers who experienced wage losses with the proportion of workers who experienced wage increases, 45% earned less than before displacement and 41% earned more. Accordingly, the losses and gains are balanced although the proportion of workers who indicated a strong wage decrease (22%) is clearly larger than the proportion who indicated a strong increase (11%).

Figure 7.2: Distribution of perceived wage change of the reemployed workers



N=495

Note: This figure represents the answer to the survey question: "As compared to your pre-displacement job, your current wage is …"

The surveys conducted by Weder and Wyss (2010: 38) in Switzerland and by Jolkkonen et al. (2012: 91-92) in Finland find that about a third of the reemployed workers experience a wage increase and about a third a decrease. Thus the comparison shows that workers in our survey experienced larger losses than workers examined in these other studies. While these surveys were conducted in a context of economic growth, ours was carried out in a phase of economic downturn.

The higher proportions of workers experiencing wage losses in our study may thus stem from a more adverse labor market situation.[60]

7.4 Determinants of wage change

Earlier research has shown that different worker subgroups are affected unequally from wage changes. If we analyze wage change in categories by different socio-demographic characteristics, we find the largest differences according to age. Figure 7.3 shows that the large majority of the youngest cohort earn more after displacement: 39% of them answered that, as compared with their pre-displacement job, their post-displacement wage was much higher and 37% of them that it was slightly higher. In contrast, the majority of the two oldest age cohorts earned less after reemployment than before: 36% of the workers aged between 55 and 59 earned much less and 34% earned slightly less than before displacement. With respect to the workers aged over 60, 61% earned much less and 28% slightly less. For the age cohorts in between, the wage change was gradually linked to age: the older the cohort, the larger was the proportion of workers who experience wage losses and the smaller the proportion of workers who experience wage gains. If we use instead the other wage difference variable where we constructed the difference by subtracting the current wage from the former wage, we obtain slightly different results, but the pattern that wage losses increased with age remains the same (see Figure A.4 in the Annex).

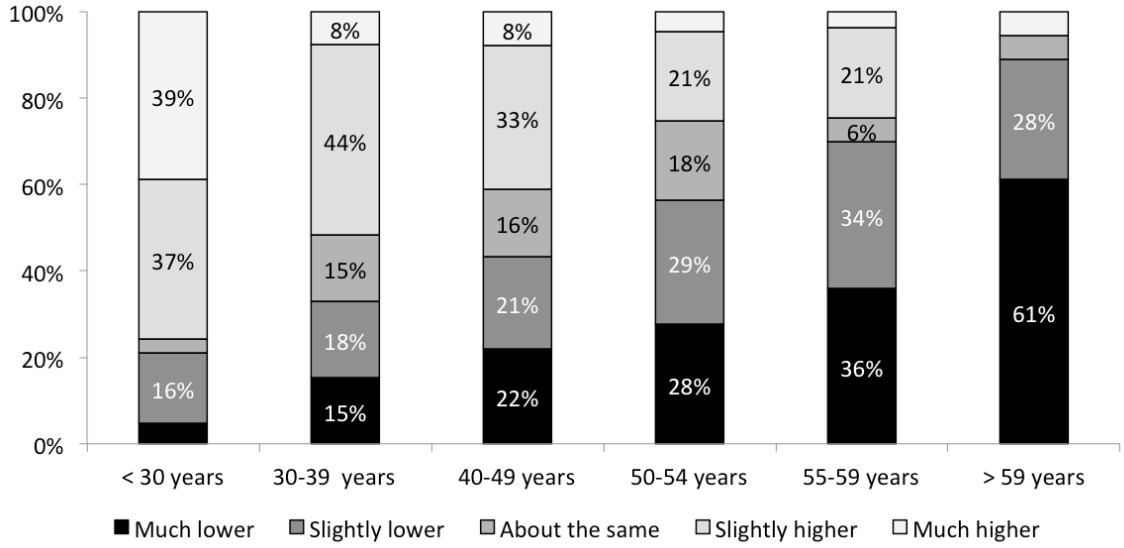
However, this age difference may possibly be explained by the workers' tenure. In fact, the theory suggests that, with longer tenure, workers accumulate more firm-specific skills that do not generate financial returns in a new company (Cha and Morgan 2010: 1145). Moreover, it has been argued that firms reward seniority by paying wages for workers with higher tenure that are higher than their productivity, while younger workers are paid below their productivity (Daniel and Heywood 2007: 49). In the case of a job separation, the seniority and consequently the seniority bonus are lost and the workers thus experience wage losses.

We argued that the change in workers' wages may be linked to their level of education, their pre-displacement tenure, the duration of a potential spell of unemployment and whether they changed occupation. We test these hypotheses by running an OLS regression on inflation-adjusted

[60] Interestingly, however, our results do not greatly differ from the studies by Weder and Wyss (2010) and Jolkkonen et al. (2012) in terms of the post-displacement reemployment rate.

percentage wage change where we stepwise introduce the relevant variables.[61] In all models, we additionally control for age, sex, collar, nationality,[62] district unemployment rate and plant.

Figure 7.3: Distribution of perceived wage difference of the reemployed workers by age



N=489

Note: This figure represents the answer to the survey question: "As compared to your pre-displacement job, your current wage is …" Shares of less than 5% were not labeled in the figure.

Reading example: 61% of the reemployed over 59 years had in their new job a wage that was much lower than in their pre-displacement job.

Since not all displaced workers found a job, the reemployed workers are a selective group and the analysis of the wage change may again be affected by selection bias. We check for this possibility by resorting to a bivariate probit model with selection correction presented in Table A.8 in the Annex.[63] The analysis suggests that selection into employment is not a major problem for our analysis of wage change (i.e. we obtain similar findings without the selection correction).

[61] In contrast to the last section, we now use the wage difference measure that indicates the percentage wage change for each individual. We use this measure in order to have a linear instead of an ordinal dependent variable.

[62] We use here a proxy based on workers' surnames

[63] The so-called Heckman correction using the Stata command heckprob. This implies that we jointly estimate a selection equation on returning to a job and a regression equation on wage change conditional on reemployment. For this selection model to work, we need an instrumental variable which affects the selection equation (reemployment), but not the regression equation (wage change). In our case, education is such an instrument: as our results show, it is strongly correlated with re-employment prospects, but has no effect on wage changes. The analysis reveals that there is a correlation between the outcome equation and the selection equation (rho=0.78) and accordingly the Wald test is not significant.

The results presented in Table 7.3 confirm the descriptive finding from above that age has a negative effect on wage change. The age effect is consistent across all models, even after introducing the workers' tenure into the analysis. Compared to women, men's wage reduction was about 5 percentage points larger. The difference between blue-collar and white-collar workers is of similar extent, the blue-collars experiencing larger losses than white-collars – although the effects are statistically significant only in Models 4 and 5. With respect to the nationality proxy, our result indicates that workers with surnames from non-EU countries experienced a wage drop that is about 4 percentage points greater than for workers with local surnames.

We now turn to the independent variables of interest. As expected, long unemployment durations are associated with negative wage changes. Workers with intermediate unemployment duration of 3 to 12 months experienced a wage loss of 4 percentage points relative to workers who found their new job within two months. Workers who were unemployed for more than 12 months lost about 10 percentage points in wages as compared to workers who found their job within two months. This finding may be due to the negative effect of long unemployment durations on workers' post-displacement wages – because of skill depreciation in long spells of unemployment or a negative signaling effect of such spells. Alternatively, it may also be due to a selection effect: the most dynamic and productive job seekers leave unemployment first, the least dynamic and productive workers last (Machin and Manning 1999: 18).

In Model 3 we enter the variables for change of sector and change of occupation. Changing sector means that workers were reemployed in the services, while changing occupation means that workers were reemployed in a different ISCO 1-digit occupation category than the one in which they worked before displacement. With respect to change of sector we only distinguish between service and manufacturing sector since the literature suggests that this distinction matters most with respect to wage (Jacobson et al. 1993). While we do not find an effect for these variables in Models 3 and 4, in Model 5 – where we control for education and tenure – changing occupation is statistically significant although the effect remains small. The result suggests that workers who are reemployed in a different occupational group experienced a 3 percentage points decrease in wages as compared to those reemployed in their pre-displacement occupation. This result is in line with the literature on skill regimes which suggests that, in highly standardized vocational training systems such as the Swiss system, workers transit smoothly between jobs within the same sector. This outcome results from workers acquiring sector-specific skills rather than solely firm-specific skills during vocational education.

With respect to education our findings do not confirm our expectations. The effects are small and statistically non-significant. This suggests that while low levels of education reduce the chances of

reemployment, they do not increase the risk of wage loss relative to intermediate or high levels of education.

Finally, tenure reveals significant effects but they run in the opposite direction to our prediction and the link is not linear. In order to test the robustness of this effect, we run Model 5 without the age variable. The result is similar with small positive but significant effect for 2-5 years of tenure and 6-10 years of tenure. Consequently, our hypotheses with respect to education and tenure cannot be supported by these findings.

Overall, we find less support for the human capital theory which explains workers' wage losses after job separations as a consequence of lower returns on their skills. With respect to the finding that long spells of unemployment considerably affect workers wage changes, it is not clear whether this result is due to a skill depreciation effect, a signaling effect or a selection effect. But since the other findings – in particular with regard to education and type of collar – provide little evidence for human capital mechanisms being at work, signaling theory is perhaps a better explanation. The fact that we find a negative wage effect for workers with surnames originating from non-EU countries may also point to this mechanism. With respect to nationality and ethnic background, it has indeed been shown for Switzerland that simply changing the name (and thus implicitly the nationality or migration background) on a job application negatively affects the job seekers' chances of being invited to an interview (Fibbi et al. 2003).

If we compare our results with earlier findings, Carneiro and Portugal (2006: 18) also find that the duration of joblessness has an important effect on earning losses. They report that this factor explains about a third of the losses. But in contrast to our analysis they find that job tenure even explains a larger proportion of the wage losses, notably about 50%. Other authors have pointed out that changes from the manufacturing sector to the service sector are particularly costly. Cha and Morgan (2010: 1144) reveal wage losses of 35% for workers who changed from the secondary to the tertiary sector. These findings are not confirmed by our analysis for Switzerland. An additional descriptive analysis that simply compares the average wage changes for workers reemployed in manufacturing and the services reveals almost no difference between "stayers" and "switchers".

Table 7.3: Coefficients for an OLS regression for wage change (in %) between the job before and after displacement

	Model 1 Coef. (SE)	Model 2 Coef. (SE)	Model 3 Coef. (SE)	Model 4 Coef. (SE)	Model 5 Coef. (SE)
Age	-0.01*** (0.00)	-0.005***(0.00)	-0.005***(0.00)	-0.005***(0.00)	-0.01*** (0.00)
Sex (ref. women)					
Men	-0.07*** (0.01)	-0.07*** (0.01)	-0.07*** (0.01)	-0.07*** (0.01)	-0.07*** (0.01)
Collar (ref. white-collar)					
Blue-collar	-0.04 (0.02)	-0.04 (0.02)	-0.04 (0.02)	-0.04* (0.02)	-0.04* (0.02)
Nationality proxy (ref. Switzerland, France, Germany)					
Italy	-0.10 (0.05)	-0.08 (0.05)	-0.08 (0.05)	-0.09 (0.05)	-0.09 (0.06)
Spain, Portugal	0.04 (0.05)	0.04 (0.05)	0.04 (0.04)	0.03 (0.04)	0.04 (0.04)
Non-EU countries	-0.04* (0.01)	-0.03** (0.01)	-0.03* (0.01)	-0.03** (0.01)	-0.04** (0.01)
District unemployment rate	0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Plant (ref. Plant 1)					
Plant 2	0.02 (0.02)	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	0.02 (0.02)
Plant 3	0.09** (0.03)	0.08** (0.03)	0.08** (0.02)	0.08** (0.02)	0.08** (0.02)
Plant 4	0.10* (0.04)	0.09** (0.03)	0.10** (0.02)	0.09** (0.03)	0.08* (0.03)
Plant 5	0.03 (0.02)	0.01 (0.02)	0.02 (0.01)	0.01 (0.01)	0.02 (0.02)
Unemployment duration (ref. < 3 months)					
3-12 months		-0.04*** (0.01)	-0.04*** (0.01)	-0.04*** (0.01)	-0.05** (0.01)
> 12 months		-0.10** (0.03)	-0.10** (0.03)	-0.11** (0.02)	-0.11** (0.02)
Change of sector (ref. no change)					
Change			0.02 (0.02)	-0.02 (0.02)	0.02 (0.03)
Change of ISCO 1-digit occupation (ref. no change)					
Change of occupation			-0.02 (0.02)	-0.03 (0.01)	-0.03* (0.01)
Education (ref. less than upper secondary education)					
Upper secondary education				-0.03 (0.02)	-0.02 (0.03)
Tertiary education				-0.02 (0.02)	-0.01 (0.02)
Tenure (ref. < 2 years)					
2-5 years					0.03** (0.01)
6-10 years					0.07** (0.02)
11-20 years					0.03** (0.01)
> 20 years					0.07 (0.03)
Constant	0.30 (0.11)	0.31 (0.10)	0.31 (0.09)	0.35 (0.10)	0.34 (0.10)
R^2	0.18	0.21	0.21	0.21	0.23
N	341	341	341	341	341

Note: We also ran models where we entered plant as a control variable. The results were not affected by this variable. Standard errors are clustered at the plant level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

Only our result that change of occupation is a more important determinant than change of sector seems to correspond to earlier findings. Haynes et al. (2002: 250) report that individuals with a

sector tenure of 10 years lost around 1% of their wages when switching sector while workers with an occupation tenure of 15 years lost 15% of their wages when changing occupation. While we also find that change of occupation is more relevant than change of sector, the effects for the workers in our sample are much smaller.

Conclusion

The analysis of the reemployed workers' wages has revealed the costs of job loss that workers experience even if they are reemployed. On average, they are confronted with moderate wage losses if we compare their pre- and post-displacement wages. However, the full amount of wage losses can only be assessed if we compare these losses with the counterfactual outcome – the outcome of workers who did not lose their jobs. Comparing the wage losses of the displaced workers with the wage development of non-displaced workers from the Swiss Household Panel, we find that the full losses of displaced workers amount on average to 6%.

Our expectations that high-tenured workers, low-qualified workers and workers who were reemployed in another sector or occupation experience the highest wage losses cannot be corroborated. But we find that long unemployment durations are linked to wages losses, which is in line with our hypothesis.

However, wage changes are most strongly affected by age. Reemployed workers of the oldest cohort, the over 60s, are much more likely to experience wage losses than the other age groups – even after controlling for other socio-demographic factors. On average, young workers substantially increased their hourly wages (+8% for those under 30), whereas reemployed older workers had to accept a significant wage cut (-14% for those aged 55-59, -17% for those aged 60-65). Older workers thus do not only have bleaker reemployment chances after a plant closure, but they also have to accept substantial wage losses. In contrast, the great majority of younger workers experience successful occupational transitions after plant closure which tend to be accompanied by increased wages.

8. Job quality

Wages are only one dimension of the quality of workers' new jobs. Other aspects also matter for the workers' life and career opportunities. It has been argued that work is intimately related to other social, economic and political issues (Kalleberg 2009: 8). For instance, job insecurity not only increases workers' levels of stress (De Witte 1999), but may also make them risk averse. Parents with unstable jobs thus may invest less in their children's education, which affects the children's long-term opportunities and quality of life (Esping-Andersen 2008: 75).

Previous research suggests that workers who had experienced a spell of unemployment were at risk of being reemployed in jobs of lower quality (Brand 2006: 290; Dieckhoff 2011: 242). One explanation comes from the human capital theory, suggesting that displaced workers' skills may be less useful in their new job than in their former job and workers thus have to accept offers for jobs for which they are overqualified (Becker 1962). Alternatively, reemployment in jobs of lower quality may also come about as a consequence of long spells of unemployment, which lead to skill depreciation, or loss of self-esteem and motivation (Pissarides 1992; Arulampalam 2001).

Our hypothesis with respect to job quality highlights the effects of long-term unemployment, expecting workers with long spells of unemployment to be most vulnerable to being reemployed in jobs of lower quality. Previous studies further indicate that workers with tertiary education and white-collar workers are particularly vulnerable to a decrease in job quality upon reemployment. Our models therefore include education and collar. In addition, we control for age, sex, tenure, district unemployment rate and plant.

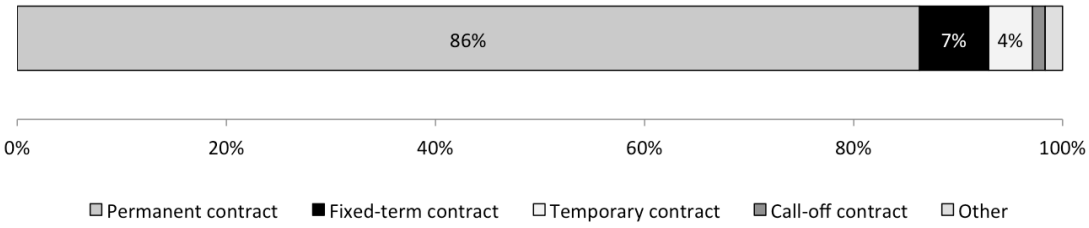
This chapter focuses on four dimensions of the quality of the new jobs. We examine the type of contract, job security, skill match, and job authority. Wherever possible, our focus lies on the comparison between the workers' pre- and post-displacement situation. In each section we start with a descriptive analysis and then proceed with an analysis of potential determinants of job quality. Finally, we examine workers' job satisfaction and discuss the factors that are most strongly linked to job satisfaction.

8.1 Contract type

Figure 8.1 presents the contract type in which workers were reemployed. Upon reemployment, 86% of the workers had a permanent contract, 7% a fixed-term contract, 4% a temporary contract, 1% a call-off contract and 2% other types of contract. This result suggests that the great majority have

found a comparatively stable job. However, this finding has to be interpreted in the context of the Swiss labor market, which is characterized by weak employment protection (OECD 2004: 72). Accordingly, a permanent contract guarantees less job security than in most other continental European countries. At the same time, non-permanent contracts may be a better alternative to unemployment. Although fixed-term and temporary jobs usually imply fewer fringe benefits and less opportunity for career development (Green 2008: 151), they can sometimes be a stepping stone towards permanent jobs and protect workers from long-term unemployment (Gerfin et al. 2005: 820).

Figure 8.1: Contract type of the new job



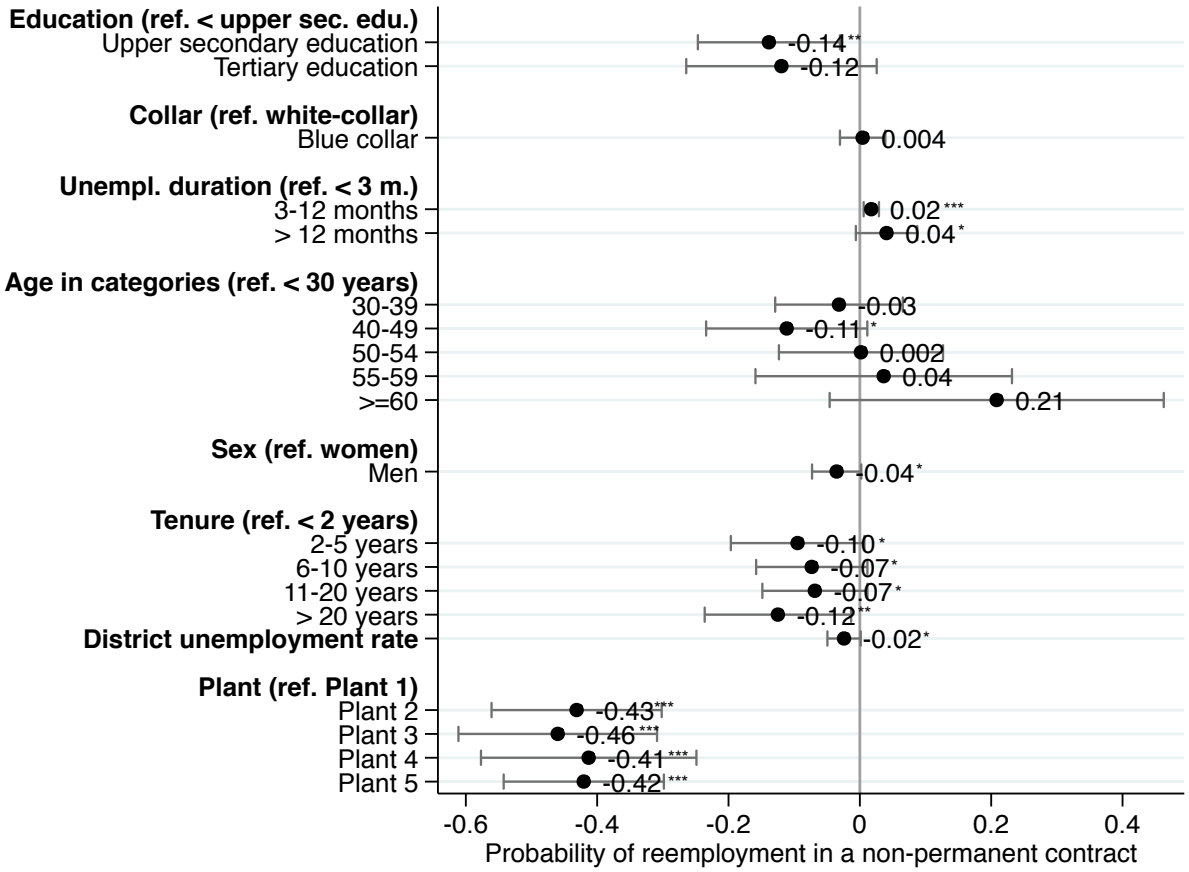
N=481

If we examine the contract type after reemployment by age (not shown), we find that workers aged over 60 had a significantly lower chance of being reemployed in a permanent contract (64% as compared to 82 to 94% for the younger cohorts). 14% of the oldest age group was reemployed in a fixed-term and 21% in a call-off contract, much more than in the younger age groups. Among the age groups between 16 and 55 the proportion of workers reemployed in the different types of contracts does not vary greatly. This suggests that workers aged over 55 and, above all, 60, who are rapidly approaching the legal retirement age have a particular – and weak – position in the labor market. Once they lose their job, they not only face high barriers to return to the labor force, but also have to put up with large wage losses and jobs on probation.

This age-related finding is confirmed by a multivariate analysis (see Figure 8.2). In addition, the regressions show that workers with higher levels of education are less likely to be reemployed in non-permanent contracts than workers with less than upper secondary education. The longer workers were unemployed, the more likely they were to be reemployed in a non-permanent contract. Workers who were unemployed between 3 and 12 months were 2 percentage points more likely to be reemployed in non-permanent contracts than workers who found their new job within 3 months. Workers who were unemployed for over 12 months had a 4 percentage points higher likelihood. Men and workers with longer tenure were less likely to be reemployed in a non-

permanent contract than women and workers with tenure less than 2 years. Finally, workers from Plants 2 to 5 were much less likely to be reemployed in non-permanent jobs than workers from Plant 1.

Figure 8.2: Predicted probabilities of being reemployed in a non-permanent contract



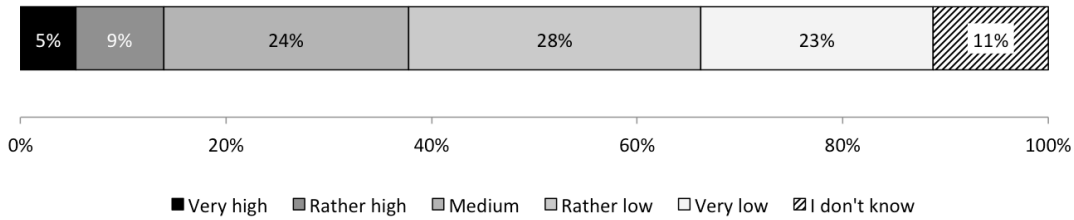
N=445

Note: The dependent variable is binomial and differentiates between two outcomes: (i) reemployed in a permanent job and (ii) reemployed in a fixed-term, temporary, call-off or other contract.
Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

8.2 Job security

An additional approach to examine the workers' job security was made by asking reemployed workers how they estimate the risk of job loss in their new job. Figure 8.2 reveals that 5% of the workers indicated a very high and 9% a rather high subjective risk of job loss. 14% of the reemployed workers thus experienced strong job insecurity in their new job. However, the great majority – altogether 75% of the workers – reported a medium, rather low or very low risk of job loss. Three out of four reemployed workers thus felt quite safe in their new position. 11% were not able to assess the risk of job loss.

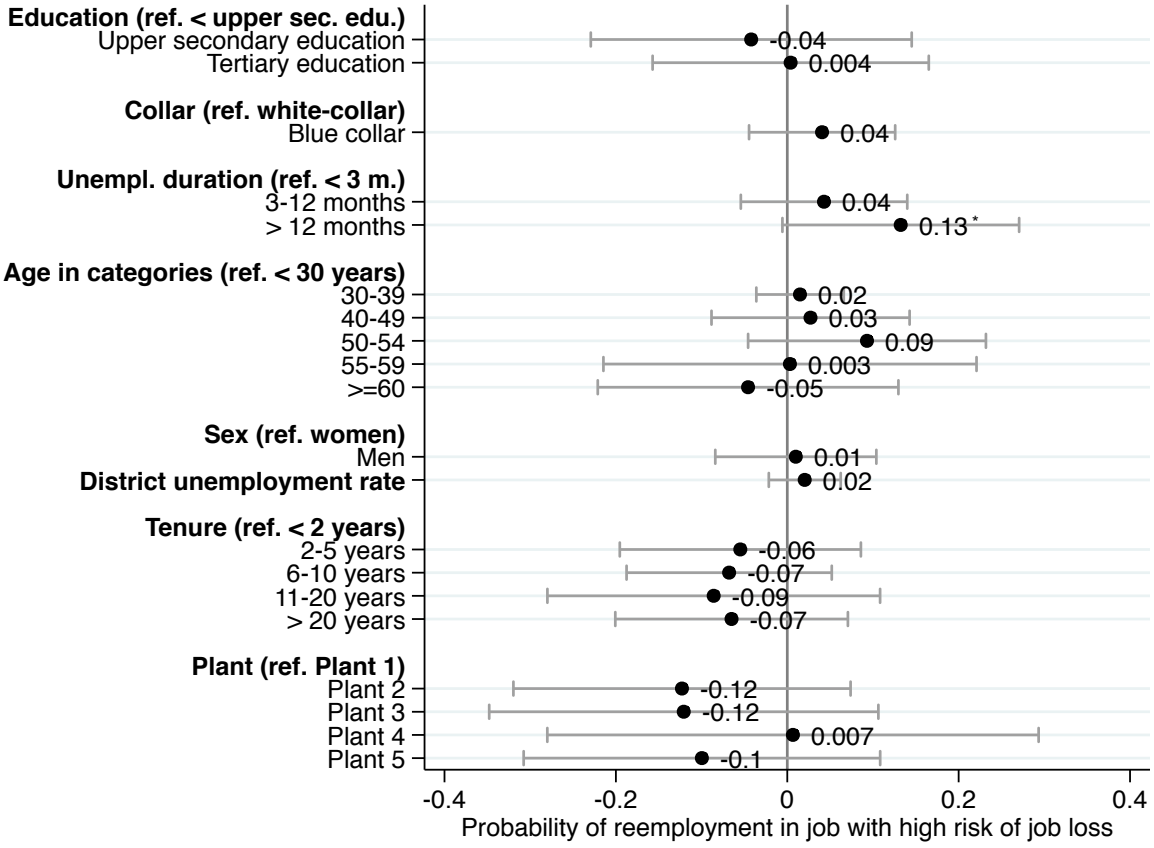
Figure 8.3: Subjective risk of job loss in the new job



N=482

With respect to the risk of job loss, a descriptive analysis reveals a similar pattern for all age groups from 30 to over 60. Here only the youngest cohort differs from the others. Among the under-30s none of the workers experienced a very high risk of job loss, while in all other age cohorts 5-7% of the workers evaluate their risk of losing their job as very high.

Figure 8.4: Predicted probabilities of being reemployed in a job with higher risk of job loss



N=397

Note: The dependent variable is multinomial and differentiates between three outcomes: reemployed in a job where the worker is (i) overqualified, (ii) adequately qualified and (iii) underqualified.
Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

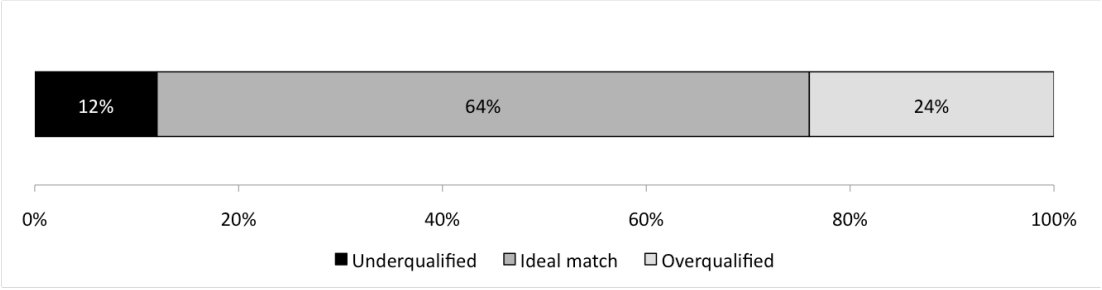
A multinomial logistic regression analysis shows that only our hypothesis regarding unemployment duration is supported. Workers with unemployment durations of over one year are 13 percentage points more likely to be reemployed in a job of very or rather high risk of job loss. Thus, even after controlling for socio-demographic factors, unemployment duration seems to be strongly associated with being reemployed in more insecure jobs.

8.3 Skill match

Skill match refers to the correspondence between workers' skills and the requirements of their jobs. In our survey we asked the workers in a straightforward way whether they thought that the skill requirements of their new job corresponded to their skills. Possible answers were that (i) the skill match is adequate, (ii) that the worker is underqualified, i.e. the skills available are below the requirements, or (iii) that the worker is overqualified, i.e. the skills available are over the requirements.

Overall, two out of three reemployed workers (64%) declared they had found a job with an adequate skill match, 12% indicated that they were underqualified and 24% that they were overqualified in their new job. Thus, a majority of the workers found a job that corresponded to their skill level. However, twice as many workers were overqualified as are underqualified and thus more workers encountered a situation where the skill requirements of their new job were below the skill profile they possess. It is possible that workers' self-reported skill match is biased because they rather overestimate than underestimate their skills. Moreover, workers may also have been overqualified in their former job. Still, this result suggests that workers who found a job in which they cannot tap the full potential of their skills were more frequent than those in the opposite situation. Overqualification may hinder workers' career advancement and usually goes hand in hand, over things being equal, with lower returns on their skills than for workers in a job with an adequate skill match.

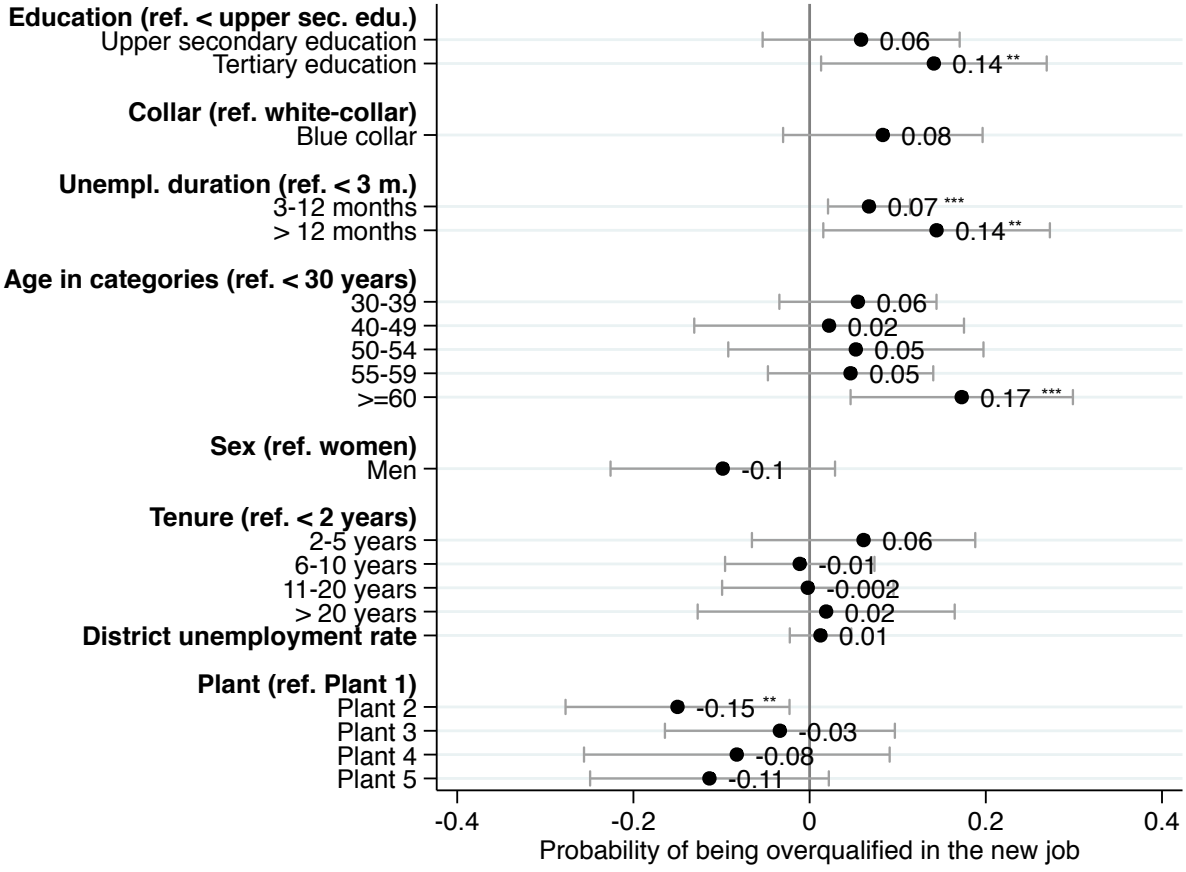
Figure 8.5: Skill match in the new job



N=474

Were older workers more often confronted with overqualification in the new job than younger workers? A descriptive analysis suggests that this is the case for the oldest category of workers: 36% of the over 59 year olds indicated that they were overqualified as compared to 27% for the 50-59 year olds, 22% for the 40-49 year olds, 29% for the 30-39 year olds and 20% for the under 30s. Compared to the extent of the disadvantage that older workers experienced in terms of reemployment chances and wages, their disadvantage in terms of skill match is small.

Figure 8.6: Predicted probabilities of being overqualified in the new job



N=440

Note: The dependent variable is multinomial and differentiates between three outcomes: reemployed in a job where the worker is (i) overqualified, (ii) adequately qualified and (iii) underqualified.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

In a next step we test our hypotheses by running a multinomial regression analysis on being overqualified in the new job as compared to being adequately qualified or underqualified. We enter education, collar, unemployment duration, age, district unemployment rate, sex and tenure into the model. Figure 7.3 presents the average marginal effects. We find that workers with tertiary education were 16 percentage points more likely to be overqualified in their new job than workers

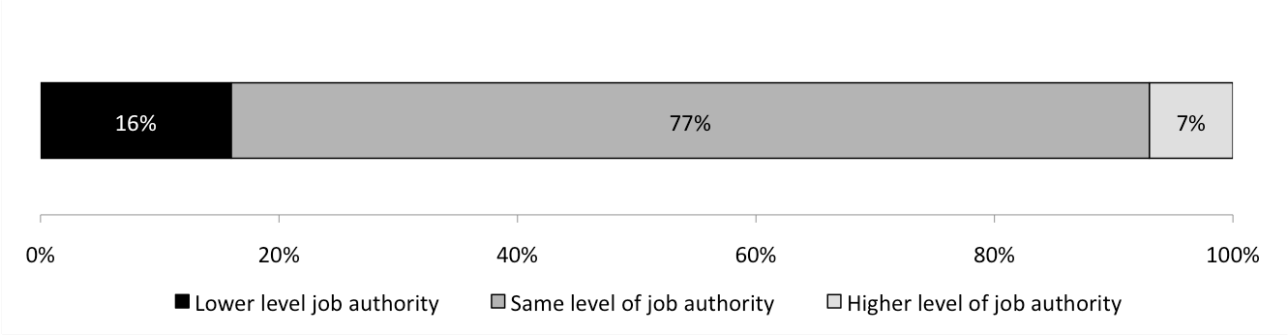
with the lowest level of education. Workers with upper secondary education were about 7 percentage points more likely to be overqualified than workers with less education, although the effect does not reach statistical significance. This result is not surprising, since low-educated workers are generally unlikely to be overqualified.

Being unemployed for 3-12 months is linked to a 7 percentage points higher risk and being unemployed for more than a year to a 14 percentage points higher risk of being overqualified in the new job as compared to workers who return to a job within three months. We find this effect although we control for other socio-demographic characteristics. Accordingly, the duration *per se* seems to have a negative effect on skill match in the new job. This finding may be due to a selection effect, unobservables driving both long-term unemployment and a decrease in job quality, or the fact that long unemployment durations are a negative signal to employers. Workers with long spells of unemployment thus seem to receive the low-end jobs in terms of job quality. With respect to age we find that the oldest cohort has a probability of being overqualified in the new job that is 17 percentage points above the probability for workers under 30, much higher than for all other age cohorts.

8.4 Job authority

Pre- and post-displacement job authority was measured by asking workers which hierarchical function they had in their former and their new job. We define change in job authority as a situation where workers were in a position of supervision or management before displacement but without such a position after displacement or the other way around. 77% of the reemployed respondents indicated having the same level of job authority in the new job as in the old job. 16% experienced a downgrading and 7% an upgrading. Although the majority of the workers indicated that they are reemployed in a job with the same level of job authority and some workers experienced an increase in job authority, still a considerable proportion of workers experienced a downgrading (16% on average). This finding confirms earlier research showing that workers who experienced a spell of unemployment were more likely to experience a loss of job authority than workers who had not been unemployed (Dieckhoff 2011: 242).

Figure 8.7: Change in job authority in the new job

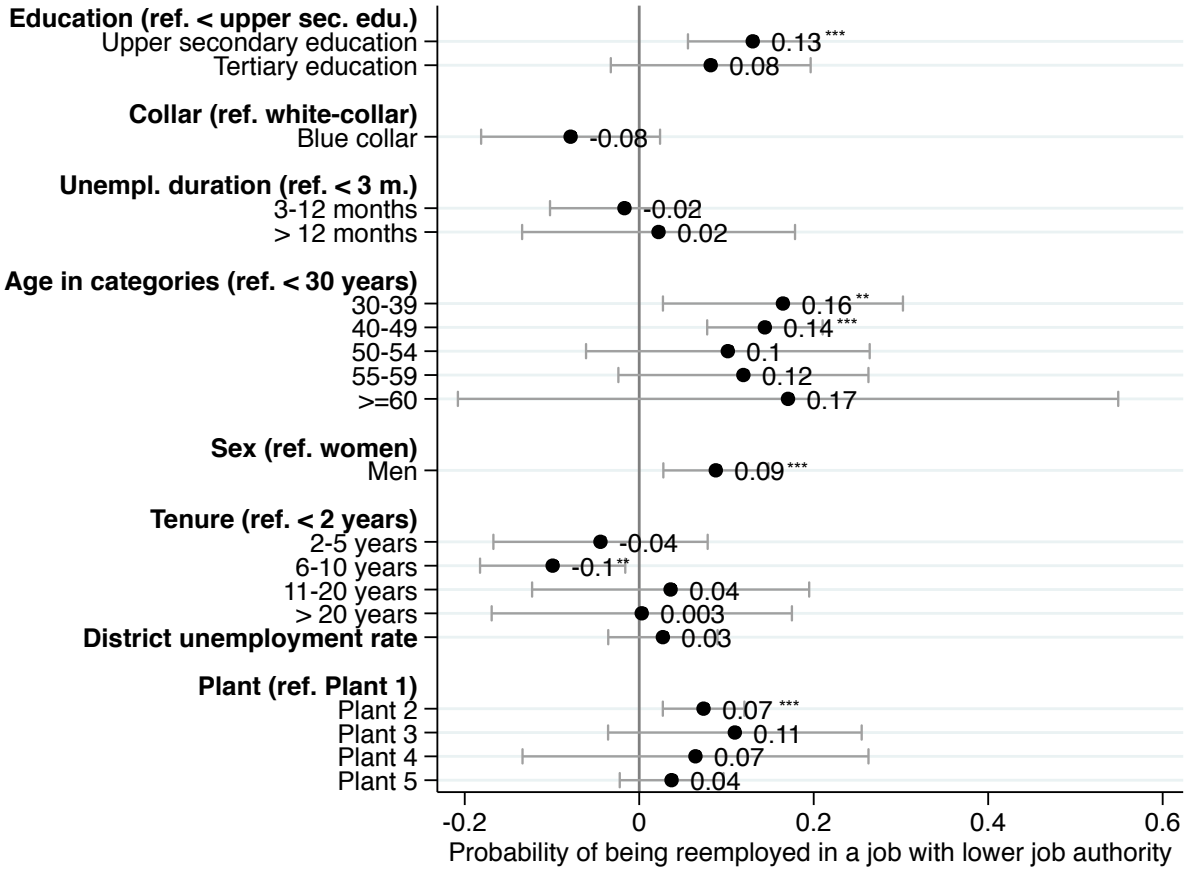


N=456

A descriptive analysis of the change in job authority by age reveals that the youngest cohort of the under 30 old workers had by far the largest proportion (16%) of workers who experienced an increase in job authority.

This result is confirmed by a multinomial logistic regression analysis with the usual controls. This finding is little surprising since 94% of the workers in the youngest cohort did not have a position of supervision before displacement. With respect to education, we find that workers with upper secondary and tertiary education were more likely to experience a decrease in job authority than workers with less than upper secondary education. Again this finding is due to the fact that 90% of the workers with the lowest level of education did not have a supervision function before displacement, as compared to 70% of the workers with upper secondary education and 46% for workers with tertiary education.

Figure 8.8: Predicted probabilities of being reemployed in a job of lower job authority



N=424

Note: The dependent variable is multinomial and differentiates between three outcomes: reemployed in a job where the worker is (i) overqualified, (ii) adequately qualified and (iii) underqualified.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

8.5 Job satisfaction

The experience of the occupational transition after plant closure also depends on whether workers are satisfied with their new job, or more precisely, how job satisfaction changes as a consequence of displacement. Information about workers' job satisfaction provides us with a subjective evaluation of more objective dimensions of job quality. In fact two recent studies suggest that job satisfaction is closely linked to workers' job quality. Dieckhoff (2011: 243) shows for Austria and Spain that decreases in the availability of permanent contracts lead to decreases in satisfaction with job security. Based on the British Workplace Employee Relation Survey, Gazioglu and Tansel (2006: 1167) report a strong association between job security and job satisfaction as well as between income and job satisfaction. Moreover, they find that women are more satisfied with their jobs than men, low-educated workers more than highly educated ones, workers who are single more than the married ones and that age has an U-shaped relation to job satisfaction.

We first describe workers' pre- and post-displacement job satisfaction, before we try to identify the factors associated with change in workers' job satisfaction. Our analysis takes only reemployed workers into account. Before displacement workers' job satisfaction was on average 7.7 points while after displacement it was significantly lower at 6.9 points. Figures 8.9a and b present the distribution of job satisfaction before and after displacement on a scale from 0 to 10 points where 0 represents "Not at all satisfied" and 10 represents "Completely satisfied with the job". Figure 8.9a shows that 31% of the workers indicated a job satisfaction of 8 points and 84% between 7 and 10. After displacement, 24% of the workers reported a job satisfaction of 8 points and 64% indicated a level of satisfaction between 7 and 10. At the same time, 20% of the workers reported a job satisfaction of 5 or 6 – a substantially larger proportion than before displacement (8%). The displacement has thus flattened the distribution of job satisfaction and shifted it to the left.

Figure 8.9a: Distribution of job satisfaction before displacement

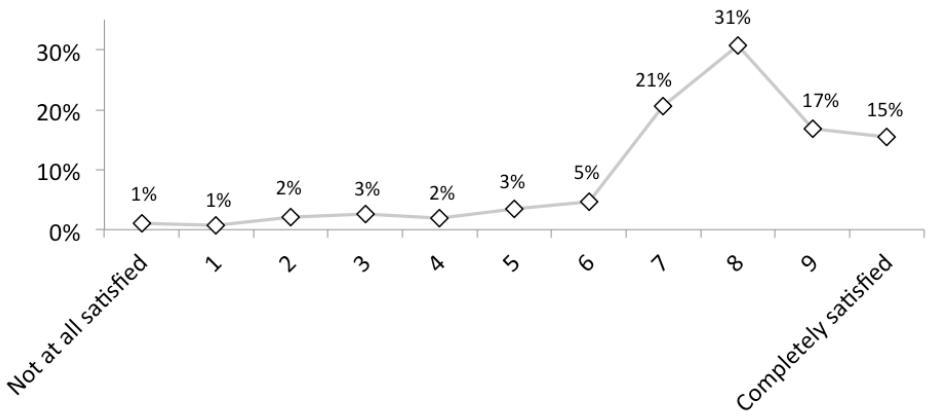
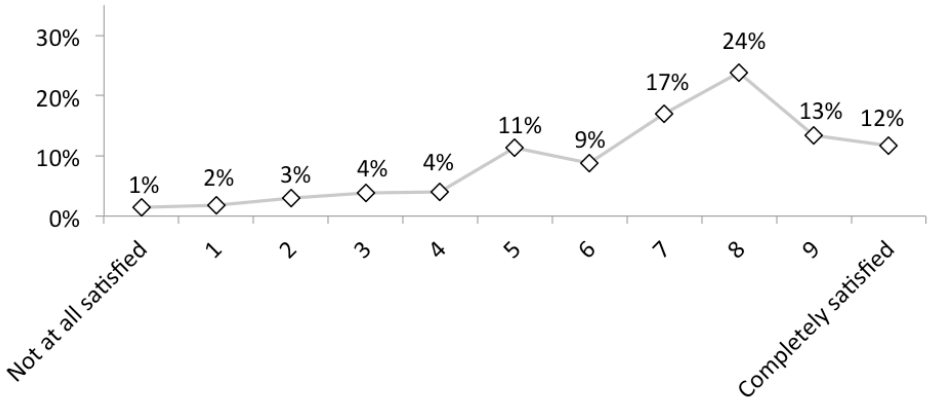


Figure 8.9b: Distribution of job satisfaction after displacement



N=474

To determine which factors are linked to workers' changes in job satisfaction, we run an OLS regression (see Table 8.1). We use within-individual *change* rather than *level* of job satisfaction as a dependent variable since satisfaction measures are typically subject to selection bias. It has been argued that most individuals have a baseline level of satisfaction that remains relatively stable across the life course, although major life events may lead to oscillations around this baseline level (Clark et al. 2008). We run four models where we first enter sex, education, age, civil status and plant. We then add measures which assess the change between before and after displacement in terms of wages, weekly working hours and job authority.

Table 8.1: Coefficients for an OLS regression analysis for change in job satisfaction for the reemployed

	Model 1	Model 2	Model 3	Model 4
	Coef. (SE)	Coef. (SE)	Coef. (SE)	Coef. (SE)
Sex (ref. women)				
Men	-0.44 (0.54)	-0.15 (0.45)	-0.11 (0.47)	-0.11 (0.47)
Education (ref. less than upper secondary education				
Upper secondary education	0.94 (0.66)	0.90 (0.67)	0.93 (0.52)	0.93 (0.52)
Tertiary education	1.14* (0.50)	0.97 (0.50)	1.02* (0.46)	1.02* (0.49)
Age	-0.02** (0.01)	0.002 (0.01)	0.01 (0.01)	0.01 (0.01)
Civil status (ref. married)				
Single	0.49 (0.28)	0.57 (0.27)	0.58* (0.24)	0.58* (0.24)
Plant (ref. Plant 1)				
Plant 2	1.60***(0.08)	1.63***(0.08)	1.67***(0.09)	1.65***(0.08)
Plant 3	0.66***(0.04)	0.44* (0.09)	0.44***(0.09)	0.38** (0.09)
Plant 4	0.28** (0.07)	0.06 (0.12)	0.18 (0.14)	0.16 (0.14)
Plant 5	0.60***(0.10)	0.61***(0.10)	0.66***(0.12)	0.69***(0.13)
10% change in wage		0.35* (0.13)	0.34* (0.13)	0.33** (0.12)
10% change in weekly working hours			-0.63 (0.30)	-0.67* (0.35)
Change in job authority (ref. same level)				
Lower level				-0.28 (0.35)
Higher level				0.83 (0.62)
Constant	-1.45 (0.71)	-2.25 (0.60)	-2.28 (0.63)	-2.48 (0.84)
R^2	0.05	0.09	0.11	0.11
N	332	332	332	332

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level.

Model 1 shows statistically significant differences according to education, age and plant. Workers with tertiary levels of education experienced a much less negative impact of job change on job satisfaction than workers with less than upper secondary education. Workers in Plant 2 experienced

a much more positive development of job satisfaction than the workers in other plants. This may be due to the fact that they had known for some time that the company was in a difficult economic situation – so difficult that they even accepted wage cuts the year before the plant closed – and thus suffered from job insecurity.

In Models 2 to 4 the strong positive effect of tertiary education remains statistically significant. In addition, workers who were single experienced a more positive change in job satisfaction than workers who were married. With respect to our variables of interest, a 10% increase in wages was associated with an increase in job satisfaction of 0.3 points. In Model 4 longer working hours have a negative effect on job satisfaction: an increase of 10% in working hours was associated with a decrease in job satisfaction of about 0.7 points. Adding changes in job authority in Model 4 does not provide significant effects. In sum, this analysis shows that tertiary education and, curiously, being single cushioned workers against a decrease in job satisfaction. Changes in wages also mattered for workers' job satisfaction, but less than changes in working hours.

Conclusion

The analysis of the quality of the workers' new jobs has provided us with a more in-depth picture about the adjustment process that workers undergo after plant closure. However, we do not find as bleak a picture as it may have been expected. Interestingly, 86% of the workers were reemployed in a permanent contract. However, because of the weak employment protection in Switzerland a permanent contract does not automatically imply high job security – yet higher security than temporary or fixed-term jobs. An analysis of the subjective risk of job loss suggests that while half of the workers think they have a low risk of losing their job, about 40% of the workers indicate a high or a medium risk.

We are not able to identify one single factor that best explains the decreases in all dimensions of job quality. Long unemployment duration is associated with reemployment in non-permanent contracts, a high risk of job loss and overqualification – but is not correlated with changes in job authority. More precisely, our analysis has shown that an unemployment duration of over one year goes along with a substantially higher risk of experiencing a decrease in job quality. While higher levels of education are linked to two dimensions of low job quality, overqualification and lower job authority, an older age seems to be the driver of overqualification, lower job authority and a lower social status.

In a nutshell, unemployment duration thus seems to be particularly relevant with respect to the quality of displaced workers' new jobs. This finding corroborates our hypothesis. However, it needs

to be recalled that unemployment duration is not exogenous and is thus likely to be determined by unobservable variables.

9. Linked lives and well-being

Glen Elder (1994: 6) pointed out that individuals' lives are highly interdependent – or in other words *linked* – and that social regulation and support come about through these relationships. Consequently, the analysis of economic and social processes needs to account for the social relationships in which individuals are embedded. In this light, we argue that plant closure usually does not affects only the displaced workers but also their spouses, families, friends and perhaps even the larger community in which they live. The mechanisms behind this phenomenon are on the one hand that the job loss of a relevant breadwinner affects the financial situation of a household. On the other hand, reduced well-being is likely to harm the quality of social relationships within and outside the household. Moreover, how the displaced workers cope with job loss critically depends on how their significant others respond to this critical event.

Job displacement is known to affect workers' well-being. The previous literature has also shown that job loss is likely to lead to persistent tensions in social relationships and in particular between spouses. We therefore expect that changes in workers' marital relationships crucially determine changes in their well-being, more strongly than changes in their financial situation.

In this chapter we examine how plant closure affects the relationship between the displaced workers and their significant others. We first focus on coping strategies developed on a household level and second analyze how the quality of their relationships has changed. Third, we describe the impact of plant closure on workers' subjective well-being and discuss how changes in well-being are linked to changes in workers' social and occupational situation.

9.1 Coping strategies

If job loss is followed by an episode of unemployment, it usually results in financial insecurity. Although in Switzerland most workers are entitled to unemployment insurance benefits, the replacement rate is only 70 to 80% of the pre-displacement earnings. Moreover, the uncertainty about the duration of job search and about the chance of finding a job may lead workers to deal more cautiously with their expenditures. As we have seen in Chapter 6, even if the workers find a job, they may experience income losses and subsequently an impairment of their quality of life. However, Kalleberg (2009: 14) highlights that workers are not passive victims of their situation but active agents who can develop strategies to cope with their hardship.

The analysis of our data reveals that a substantial proportion of workers adapted their spending and saving behavior. To begin with, 61% of the workers indicated that in the aftermath of their

displacement they had become more cautious in their handling of expenditures. When we asked workers about the domains where they cut their spending, it turned out that vacations were the budget item where the largest proportion of workers (77%) reduced their expenditure as compared to transportation (51%), food and drinks (49%) or housing (21%). With respect to the workers' post-displacement labor market status there are pronounced differences between the unemployed and reemployed workers in being more cautious in their handling of expenditures (84% versus 56%).

A key factor that influences which strategies workers use is whether they experience a substantial change in their wage. Our data suggests that workers' wage change is linearly associated with measures taken to save money. Not surprisingly, 80% of the workers who experience a *strong wage loss* of over 20% were more cautious with their expenditures (e.g. spending less on holidays) while among workers who experienced a *wage increase* of over 20% only 33% were more cautious with their expenditures. Interestingly, with respect to gender we do not find strong differences between men and women. Women seem to save less on food and housing but more on transportation than men. Moreover, the women in our sample borrowed significantly more often money than the men.

An alternative strategy on the household level for workers with a spouse may be that the spouse increases her/his employment activity. This strategy seems to be salient since a large share of our sample is male and since in Switzerland the majority of the women work part-time.[64] Spouses – in most cases wives – thus potentially enter the labor force or increase their activity level in order to improve the household income (Engen and Gruber 2001: 571).

It has been pointed out that the household type is an important determinant of the risk of entering poverty (Vandecasteele 2011: 253). Although the household type is evidently not a strategy, it affects the way in which they can cope with a particular situation. Accordingly, whether workers live with a spouse or alone – or more precisely whether they have a partner who has a job – probably affects how they cope with a drop in income. In our sample, 77% of the workers live with a spouse and, as Figure 8.1a shows, 57% of all workers indicated that their spouse was economically active. For 17% of all workers the partner was not active, for 2% there is no information available and 23% had no spouse in the same household. At a more detailed level (see Figure 8.1b), 42% of the workers had an economically active spouse who did not change their level

[64] In 2011, the year when our survey was conducted, 58% of the women employed in Switzerland worked part-time. Part-time work is defined on the basis of the respondents' perception of their main job (OECD Statistics).

of activity subsequent to the worker's job loss. In contrast, the spouses of 5% of the workers started a new job and the spouses of 6% increased their level of economic activity.

Figure 9.1a: Economic activity of the spouse living in the same household

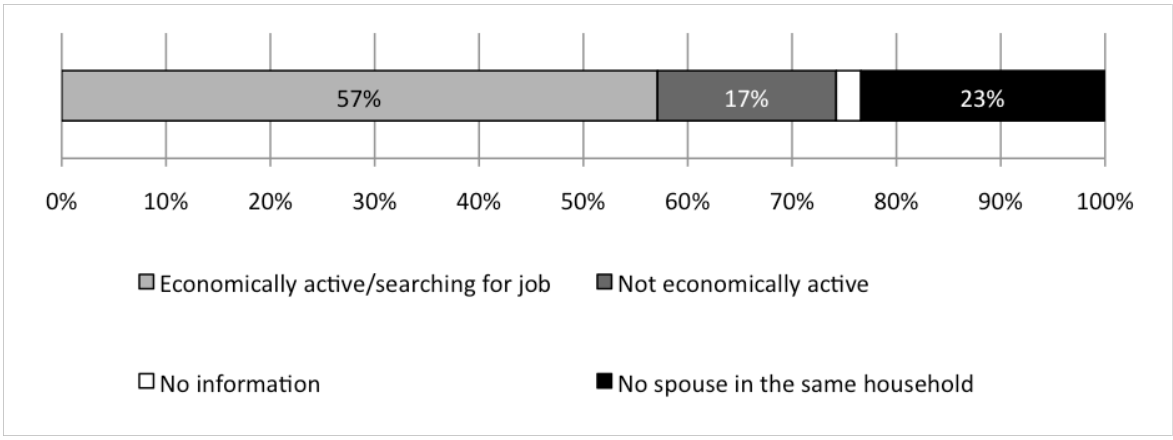
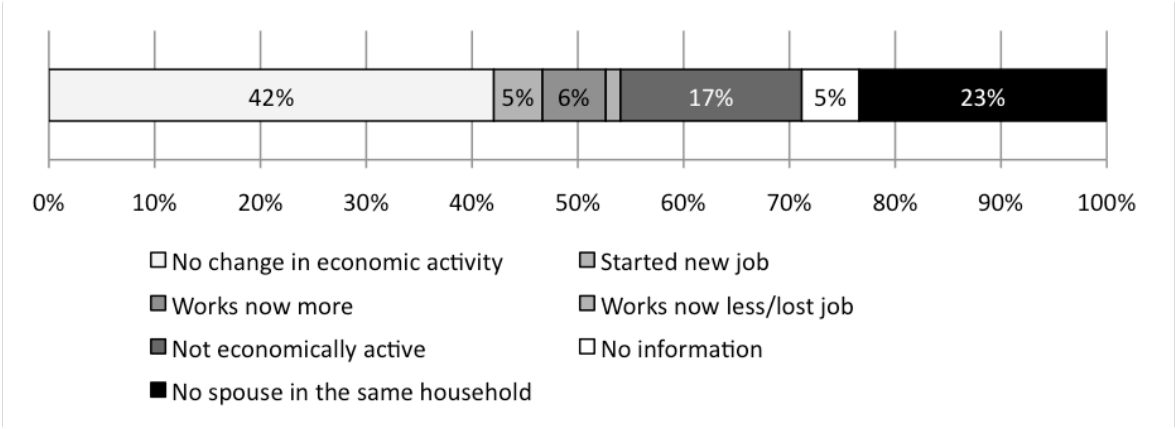


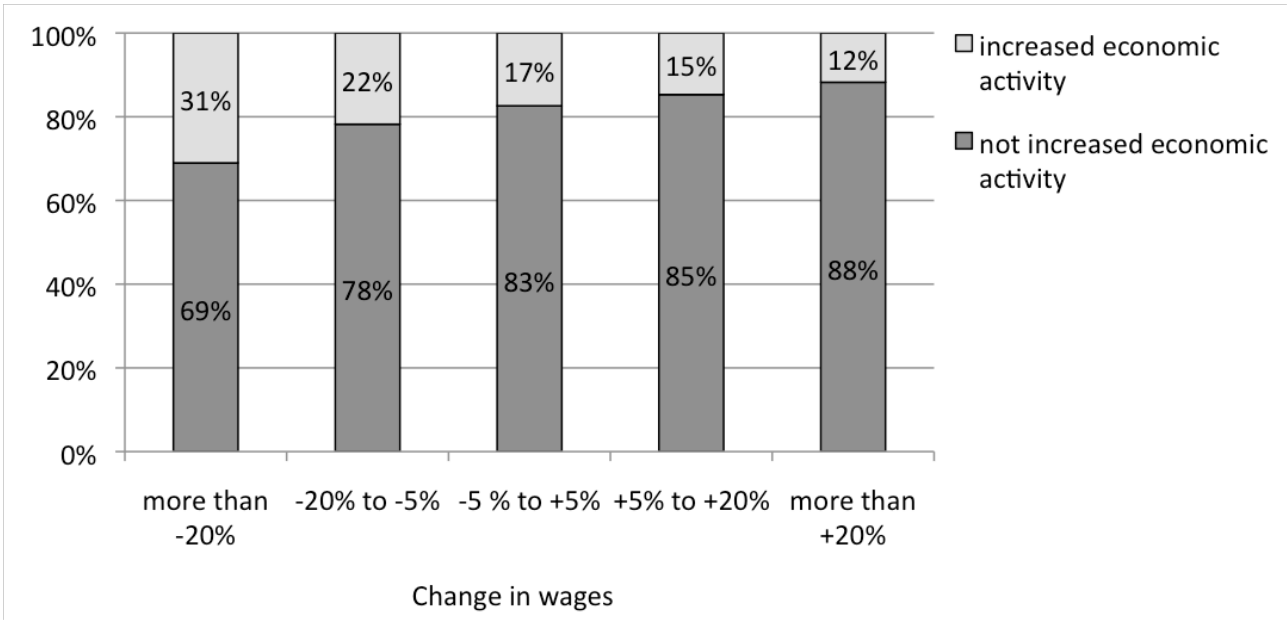
Figure 9.1b: Changes in economic activity of the spouse living in the same household



N=718

Which factors favor workers' spouses adapting to the job loss by starting a new job or increasing their working hours? In a descriptive analysis we find that among the reemployed workers there is a link between the magnitude of changes in wages and the likelihood of the partner adapting their hours of employment. Figure 9.2 shows that the spouses of reemployed workers who experienced wage losses are more likely to increase their economic activity relative to the spouses of the workers who experienced wage increases. If we test this association in a bivariate logistic regression analysis, using a continuous variable of wage difference as independent variable but no other control variables, we find a significant effect. However, if we then add unemployment duration and gender of the spouse to the model, we find that neither of these variables is associated with an increased economic activity.

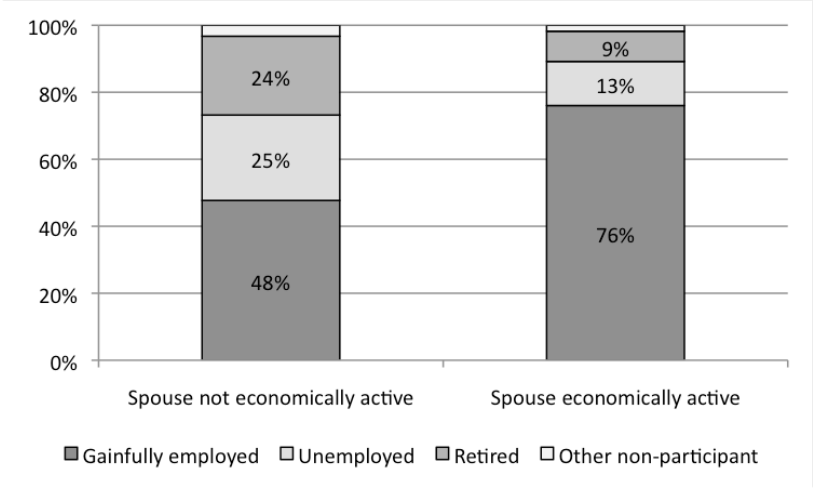
Figure 9.2: Reemployed workers' change in wage and increased economic activity by the spouse



N=227

If we take into account all workers – not only the reemployed – there seems to be an association between the labor market statuses of the displaced worker and the labor market status of their spouse. Figure 8.3 highlights that the workers who have an economically active spouse were much more likely to be reemployed at the moment of our survey (76%) as compared to the workers who have an economically inactive spouse (48%). This difference may be due to the fact that the workers with an economically inactive spouse were more likely to go into retirement (24%) than the workers with a working partner (9%). However, the difference was also substantial with respect to unemployment. In fact, 25% of the workers with non-working spouses were unemployed when we surveyed them versus 13% of the workers with working spouses. This result goes in the same direction as findings from earlier studies that point to a polarization between dual-earner and no-earner couples (Gallie et al. 2001: 46). Two studies from Sweden and the UK even show that wives decreased their employment level as their husbands became involuntarily unemployed (Eliason 2011: 609; Davies et al. 1994).

Figure 9.3: Labor market status of the displaced workers by economic activity of spouse



N=541 (N spouse not economically active=153, N spouse economically active=388)

9.2 Sociability

Workers losing their job may experience substantial changes in their sociability. One strand of the literature highlights that workers witnessing a critical event may receive emotional and practical support from spouses, family or friends (Sweet and Moen 2011: 181; Gallie et al. 2001: 47). Another strand of the literature contends that unemployed workers may experience tensions within their couple or become socially isolated as they lose contact with their former co-workers (Atkinson et al. 1986: 320; Larsen 2008: 11).

Empirical evidence suggests that there is no general positive or negative effect of job loss on sociability but instead that the outcome depends on the workers' social roles. It has been shown for Sweden and Norway that the effect of job loss on social relations is often more detrimental for male workers (Eliason 2012: 1392; Rege et al. 2007: 18). Men may experience tensions in their social relationships since job loss disentitles them from fulfilling their traditional main-breadwinner role. Having children also seems to trigger more pressure on displaced workers to find a new job (Leana and Feldman 1995: 1383).

We start with a descriptive analysis of how workers experienced the change in their relationships with their spouse, family and friends for all workers together and then proceed with a regression to identify potential determinants. Figures 8.4a-c show that 3% of the workers suffered a very negative effect of the displacement on their relationship with their *spouse* and 12% a rather negative effect. 56% of the workers experienced no or a neutral impact. 19% indicate that the job loss had a rather positive impact and 10% a very positive impact on their relationship with their *spouse*. The outcomes are very similar with respect to the workers' relationships with their *family* and their

friends. This result suggests that rather more than half of the workers were not affected in their sociability by the plant closure. Among the 45% of workers witnessing changes in their social relationships, those who experience positive changes are twice as numerous as those who experience negative changes. Our results thus suggest that plant closure leads to the consolidation of social ties.[65]

The similarity of the patterns of Figures 9.3a-c is striking. This outcome may be biased: the survey respondents were possibly primed by the answer they gave to the question about the impact of plant closure on their marital relationship and then checked the same answers for the subsequent questions on family and friends. This would imply that workers accurately answered the first question about the impact of displacement on the relationship with their spouse but inaccurately gave the same answer to the following questions. However, an analysis of the correlation in the three answers reveals that only the answers on relationship with the spouse and relationship with the family are highly correlated (0.81). The correlations between the relationship with spouse and friends (0.51) as well as that with family and friends (0.55) are intermediate. These correlations seem plausible as the strong link between relationship with spouse and family is not surprising, given that the spouse is a central part of the family.

The literature suggests that displaced workers who assume the main-breadwinner role are more likely to experience hardship in their social relationships with their spouses (Eliason 2012; Rege et al. 2007). As men still tend to be the main breadwinner in Switzerland, we tested this argument by examining whether the workers' sex determines how their marital relationship is affected (Joye and Bergman 2004: 88; Bernardi et al. 2013). The literature also highlights that the presence of dependent children may exert pressure on the displaced worker to find a new job and therefore indirectly have a negative impact on the spousal and family relationship (Leana and Feldman 1995). Another factor that may be related to changes in workers' sociability is their labor market status at the moment of the survey. A study based on the European Community Household Panel has shown that unemployed workers tend to see their friends more often than employed workers (Gallie et al. 2003).

We compute three models – on for each type of sociability – using the independent variables sex and labor market status, and additionally control for age, education and plant. The results are presented in Table 9.1. We observe strongly negative effects on social relationships for the age

[65] However, it is possible that our results are biased as a consequence of non-response in the survey. Workers who were more negatively affected in their relationships may have been less likely to respond to our survey and thus be underrepresented among the respondents.

group of the 50-54 year olds. The effects are significant for relationships with the family and relationships with friends. With respect to education, our results show that higher levels of education are associated with positive changes in workers' social relationships even though the effects are not statistically significant with the exception of relationship with the family. Contrary to our expectation, we find that men are not significantly more likely than women to experience negative changes in any type of social relationship.

Figure 9.4a: Impact of displacement on relationship with the spouse

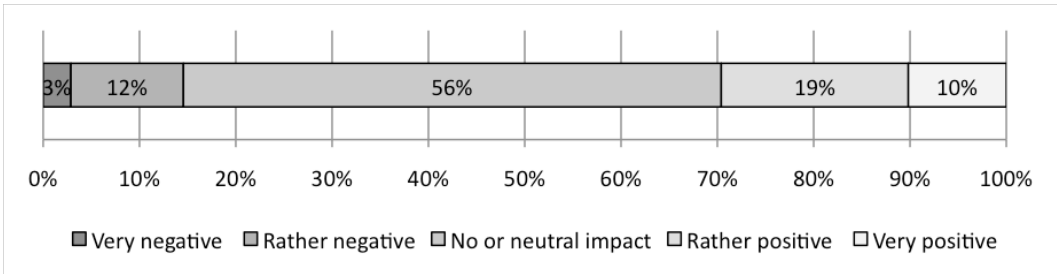


Figure 9.4b: Impact of displacement on relationship with the family

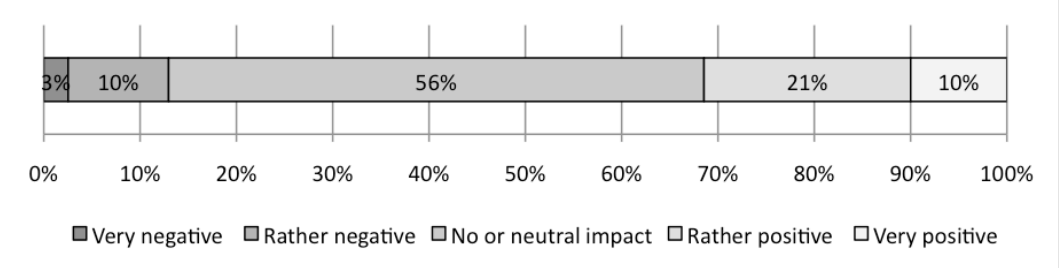
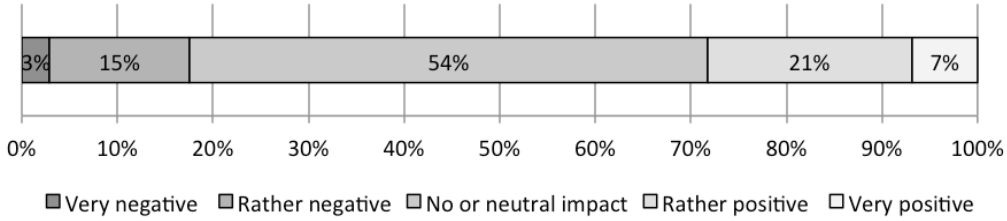


Figure 9.4c: Impact of displacement on relationship with friends



N: spouse=659, family=671, friends=683

Note: the sample size of the workers who responded to the question about the relationship with the spouse is larger than the number of workers who indicated that they have a partner living in the same household (as presented in Figures 8.1a and 8.1b) since partners living outside the household are also considered.

The workers' labor market status turns out to be highly relevant with respect to changes in their social relationships. In fact, being unemployed is associated with substantially higher chances of experiencing deterioration in the *marital* relationship as compared to being reemployed. This may indicate that unemployed workers are particularly prone to tensions within the *couple*. In contrast to

earlier findings in the literature we also find that unemployed workers are more likely to suffer negatives changes in their friendships than the reemployed, possibly because long-term unemployment acts as a stigma.

Finally, being retired seems to positively influence changes in *family* relationships. This result is possibly due to the time additional that the retirees have for social activities, in particular with their family. Indeed, retirees are more likely to enjoy their leisure time than the unemployed workers since they do not suffer from the stigma that goes with being out of work, do not have to search for jobs and possibly also because the value of time available depends on whether significant others have a similar schedule of available time (Young and Lim 2014).

Table 9.1: Coefficients for an OLS regression for changes in social relationships

	Changes in relationship with *spouse* Coef. (SE)	Changes in relationship with *family* Coef. (SE)	Changes in relationship with *friends* Coef. (SE)
Age (ref. < 30)			
30-39	-0.05 (0.14)	-0.06 (0.14)	-0.15 (0.14)
40-49	-0.14 (0.13)	-0.13 (0.12)	-0.17 (0.12)
50-54	-0.19 (0.14)	-0.28** (0.14)	-0.36*** (0.13)
55-59	0.04 (0.15)	0.03 (0.14)	-0.19 (0.14)
> 59	0.14 (0.17)	-0.02 (0.17)	-0.13 (0.16)
Education (ref. less than upper secondary)			
Upper secondary	0.12 (0.11)	0.16 (0.11)	0.05 (0.10)
Tertiary	0.17 (0.12)	0.20* (0.12)	0.02 (0.11)
Plant (ref. Plant 1)			
Plant 2	0.19 (0.13)	0.23* (0.13)	0.04 (0.12)
Plant 3	0.05 (0.12)	0.03 (0.12)	0.07 (0.12)
Plant 4	-0.001 (0.13)	-0.0004 (0.12)	-0.03 (0.12)
Plant 5	0.07 (0.14)	0.15 (0.14)	0.02 (0.14)
Sex (ref. women)			
Men	-0.005 (0.10)	0.04 (0.09)	0.04 (0.09)
Labor market status (ref. reemployed)			
Unemployed	-0.23** (0.11)	-0.09 (0.11)	-0.25** (0.11)
Retired	0.14 (0.16)	0.42*** (0.16)	0.15 (0.15)
Out of the labor force	-0.19 (0.22)	-0.05 (0.21)	-0.03 (0.21)
Constant	3.11 (0.20)	3.05 (0.19)	3.25 (0.19)
R^2	0.04	0.06	0.04
N	645	658	668

Note: The dependent variables are the impacts of displacement on relationship with (a) spouse, (b) family and (c) friends with the outcome options (i) very negative, (ii) rather negative, (iii) no or neutral impact, (iv) rather positive, (v) very positive.

Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

9.3 Subjective well-being

Studies based on longitudinal data show that those workers who become unemployed experience a short-term decrease in their subjective well-being (Winkelmann and Winkelmann 1998: 13; Oesch and Lipps 2013: 963). A Swedish study comparing the different labor market outcomes after job loss, shows that the workers' long-term life satisfaction depends on how they overcome this critical situation (Strandh 2000). Workers who remain unemployed are more likely to suffer lasting harm. Conversely, those who return to the active labor force are expected to regain their pre-displacement level of subjective well-being.

However, recent evidence contradicts the view that reemployment alone allows unemployed workers to regain their former level of life satisfaction. In fact, a study on unemployed workers who find a job shows that on average they have a lower level of well-being after reemployment than before they lost their job (Young 2012a: 14). This leads to the question whether characteristics of the new job or lasting depressions triggered by the job loss explain the decline in well-being (Brand 2006: 287; Burgard et al. 2009: 376).

Another explanation may be that job displacement affects other domains of workers' lives besides their occupational situation and leaves long-lasting scars (Dolan et al. 2011: 7; Atkinson et al. 1986: 320-7). Based on earlier findings, we expect that social factors – such as changes in the workers' social relationships – affect changes in workers' well-being more strongly than financial or other economic factors (Judge et al. 2010: 162). We expect that in particular changes in marital relationships following job loss are important predictors for changes in workers' well-being (see Baumann 2015).

The concept of subjective well-being as a dimension of individuals' lives has, however, some disadvantages such as the possibility that survey respondents adjust their reported well-being, either because in the context of the study an event is mentally particularly present – a bias that is called substitution – or in order to appear consistent (Lucas 2007: 76; Kahneman and Frederick 2002). Substitution is likely to be an issue in our survey since the question about overall life satisfaction was placed *after* the questions about the characteristics of the reemployed workers' new job. Accordingly, substitution probably leads to an overestimation of the correlation between workers' well-being and their new position. In contrast, the association between the workers' life satisfaction on the one hand and their social relationships or dealing with expenditures on the other hand are likely to be correctly assessed since the life satisfaction question was asked *before* the questions about changes in social relationships or dealing with expenditures.

Despite its flaws, we consider the concept of life satisfaction to be a meaningful indicator that complements objective measures such as wage or contract type. The combined assessment of

subjective and objective measures seems crucial in order to shed light on the individuals' experience of critical life-course events (Dieckhoff 2011: 237).

Figure 9.5 presents a descriptive analysis of the workers' life satisfaction by labor market status before and after displacement. Since our data is cross-sectional, we rely on retrospective information about workers' pre-displacement well-being. Even though longitudinal studies are always to be preferred, cross-sectional studies using retrospective recall constitute a second-best as this method allows for measurement of within-individual changes (Hardt and Rutter 2004: 261). In addition, the use of data from plant closures addresses the problem of reverse causality that is often present in studies on well-being (Eliason and Storrie 2006: 1402; Brand 2015: 15). Consequently, if we find that job loss goes along with a decrease in workers' well-being, it is legitimate to assume that plant closure caused the drop in well-being and not the other way round (i.e. that the decrease in well-being caused the job loss).

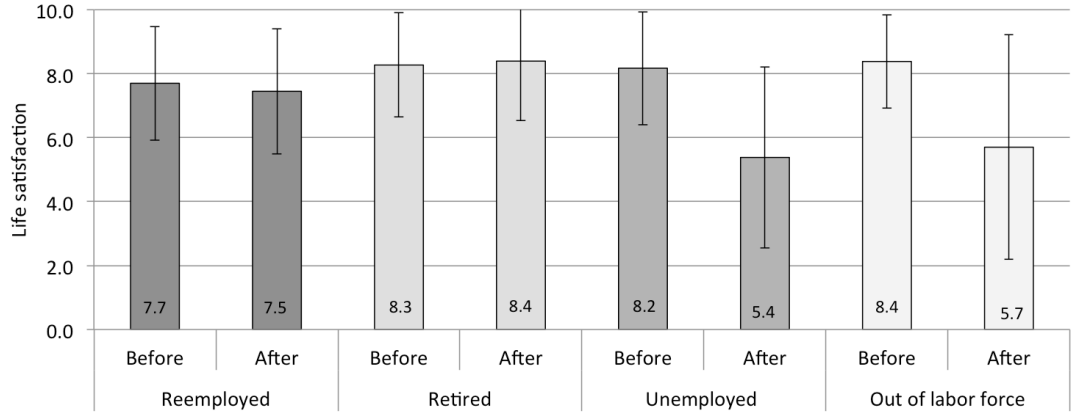
Our descriptive analysis shows that displaced workers who were *reemployed* at the moment of our survey indicate an average life satisfaction of 7.7 points before displacement and 7.5 after displacement. Accordingly, this worker subgroup experienced a slight but statistically significant decrease in well-being. With respect to the *retired* workers we find that they experienced a slight but not significant increase in well-being from 8.3 points to 8.4.[66] For displaced workers who were *unemployed* in 2011 we find an average life satisfaction of 8.2 before displacement and 5.4 after displacement. These workers thus experienced a strong and highly significant decrease in life satisfaction. The labor force dropouts exhibit a similar pattern to the unemployed, expressing a significant decrease in life satisfaction from 8.4 to 5.7 points. However, the confidence intervals are very large for the labor force dropouts and the unemployed and the results thus need to be interpreted with caution.

Within each worker subgroup there is substantial variance in change in life satisfaction. Figures A5.a-d in the Annex present the distribution of the change in well-being for the reemployed, retired, unemployed and labor force dropouts separately. While the pattern of the reemployed and retired workers takes a form that is close to a normal distribution, the pattern for the unemployed and labor force dropouts has a different shape. Among the reemployed, 60% of the workers experienced either no change at all or of a change of no more than one point. The remaining 40% of the workers

[66] If we further distinguish between workers who retired regularly and those who retired early (not shown in the figure), we find that the regularly retired experienced a strong increase in well-being from 7.8 to 8.6 points and the early retired a slight decrease from 8.4 to 8.3 points. Whereas the strong increase in well-being for the regularly retired supports earlier findings (Calvo et al. 2007), the stability in well-being of the early retirees reflects an apparently voluntary rather than forced exit from the labor force (as discussed in Chapter 3).

are about equally distributed between increase and decrease in life satisfaction (see Figure A.5a). For the unemployed the distribution is strongly skewed to the negative values with about 7% of them having experienced the maximum decrease of -9 or -10 points (see Figure A.5c). A minority of 10% experienced an increase between 2 and 7 points, which may reflect the fact that some workers were relieved to lose their former job, which was marked by instability (Sweet und Moen 2011: 24-5).

Figure 9.5: Average life satisfaction by labor market status before and after displacement



N reemployed=480, retired=89, unemployed=115, out of labor force=20

Note: The error bars indicate the standard deviations. A Student's t-test was run to assess the significance of the change in life satisfaction in the Displaced Worker Survey between before and after displacement. The difference is significant for the reemployed ($p < 0.05$), the unemployed ($p < 0.001$) and the labor force dropouts ($p < 0.01$).

Intriguingly, the unemployed displaced workers indicate a pre-displacement life satisfaction that is higher than that of the average Swiss employed worker in the Swiss Household Panel (which was 8.0 in 2009). This finding probably points to an overestimation of the life satisfaction before displacement if the workers' post-displacement situation is difficult. Since the pre-displacement life satisfaction is a retrospective measure, it is likely to be subject to recall bias. In order to rule out a possible recall bias, we proceed with multivariate analyses that are run separately for the reemployed and the unemployed workers.[67]

As with wages, a problem that is likely to arise in our data is that we assess the workers' pre-displacement well-being directly before their displacement. As scholars have pointed out with respect to workers' pre-displacement wages, this way of calculating probably underestimates the workers' wage losses as many companies reduced their workers' wages when they first encountered having economic difficulties (Jacobson et al. 1993: 691; Arulampalam 2001: F587; Carneiro and

[67] Our analyses were not run for the retirees and the labor force dropouts, the sample sizes being too small.

Portugal 2006: 13). Likewise, we can assume that workers' subjective well-being was already starting to decrease in the months before they lost their job. Accordingly, if the pre-displacement level of well-being is lower than the workers' baseline level, we are likely to underestimate the drop in well-being that they experienced as a consequence of job loss.

Reemployed workers' change in life satisfaction

We try to explain displaced workers' changes in well-being by resorting to a multivariate analysis. Our dependent variable is change in life satisfaction, which we obtain by subtracting the value of the workers' life satisfaction before displacement from the value after displacement.

We start with the estimation of the impact of economic and social factors on well-being for the *reemployed* workers (see Table 9.2). We run six OLS regression models where we first enter controls for sex, education, civil status, age, survey language, duration since displacement and plant (Model 1). In order to test our hypothesis that changes in social life are better predictors for changes in workers' well-being than change in economic circumstances, we enter and then remove change in wages and dealing with money in Model 2, enter and then remove change in weekly working hours in Model 3, then enter and remove change in hierarchical position in Model 4, and enter and remove change in three different types of social relationships in Model 5. Finally, we run a Model 6 that includes all variables. In Models 2 to 6 the socio-demographic variables used in Model 1 function as control variables. The standard errors are clustered at the level of the plants and all models are computed for the same group of reemployed workers.

In Model 1 we find that of all control variables only education and plant have a significant effect on changes in well-being. Workers with upper secondary education experience an increase of 0.9 points in life satisfaction and workers with tertiary education an increase of 1.1 points as compared to workers with less than upper secondary education. The effects remain large and significant in Models 2 to 4. This result suggests that higher levels of education protect against a decrease in well-being in the aftermath of plant closure. With respect to plant, we find that workers in Plant 2 were likely to have experienced a substantial increase in life satisfaction as compared to workers in Plant 1. As discussed in the section on job satisfaction which provided us with similar results, this finding may be due to the fact that workers in Plant 2 were particularly dissatisfied with their jobs and lives before they lost their job since the economic difficulties of their company were all too evident. Moreover, workers from Plants 4 and 5 also experienced more positive changes in life satisfaction than workers in Plant 1.

Model 2 suggests that workers who filled in the questionnaire in German experienced positive changes in well-being as compared to French-speaking workers. Workers who have to deal more

carefully with their expenditures experience a significant and strong decrease in well-being. Wage change in contrast does not have a significant effect on the workers' change in life satisfaction. This result may suggest that a change in workers' financial situation is not enough to substantially affect their well-being but that they are sensitive to changes that restrict their daily expenditures. It is, however, also possible that the effect of wage change is not significant as a consequence of small N and consequently large standard errors. Model 3 indicates that changes in weekly working hours do not significantly affect workers' well-being.

In Model 4 we focus on changes in workers' job authority at the workplace. Although the effects are not statistically significant, they are of non-negligible size and go in the expected direction. Indeed, for workers who declared they had experienced a decrease in job authority we observe a reduction in life satisfaction of about 0.3 points. Workers who indicated an increase in job authority experienced an increase of about 0.5 points in life satisfaction.

Model 5 highlights changes in workers' relationships with their spouse, family and friends. The effects for changes in marriage and family relationships go in the expected direction with the exception of very positive changes in marital relationships. The effects for marital relationships are intermediate but those for family relationships are large. However, the standard errors are large too and the coefficients therefore not significant.[68]

With respect to relationships with friends, we find large and statistically significant effects. A possible interpretation of this finding is that workers take for granted the support and solidarity provided by the family but not the assistance of friends and thus were particularly grateful when it was offered. Another explanation may be that our measure of changes in relationships with friends assesses workers' relationships with their former co-workers. If this is the case, positive changes in these relationships may have positive effects on workers' well-being as a consequence of solidarity and mutual support among former colleagues. The negative effect of a deterioration in friendship relationships on workers' well-being may be an expression of disappointment in the case of loss of appreciated former co-workers.

Finally, in Model 6 we enter all the variables. This full model confirms the paramount importance of plants, changes in dealing with expenditures, and changes in friendships. In this model we find significant differences with respect to sex. Men seem to have experienced a decrease

[68] An explanation for why we do not find significant results for marital and family relationships may be the fact that our analysis includes workers both with and without a spouse. In order to test this assumption, we calculated the same models only for workers with a spouse (see Table A.9 in the Annex). However, the outcomes are very similar to those in Table 8.2 and the coefficients for marital and family relationships are again not significant.

of 0.5 points in life satisfaction as compared to women. As in Model 5, in Model 6 changes in family relationships produce large effects, but they are not statistically significant.

Overall, a look at the explained variance (R^2) provides further evidence for the assumption that changes in workers' social relationships are particularly strongly associated with their well-being. In fact, the explained variance strongly increases as we introduce changes in social relationships into the model: while Models 1 to 4 have an R^2 of about 0.10, the goodness of fit increases to 0.32 in Model 4 and 0.38 in Model 5.

It is possible that we are confronted with reverse causality. In other words, the effects between the changes in social relationships and in workers' well-being may run both ways. In this sense, people who experience a low general life satisfaction may experience a deterioration of their social relationships through the mechanism of avoiding contacts with their friends. Although this interpretation is plausible, theoretically it seems more likely that the correlation that we found expresses an effect of changes in social relationships on changes in workers' well-being, particularly since the wording of our question is causal ("How did plant closure affect your relationship with your spouse/family/friends?"). In addition, we find stronger effects for positive changes, which contradicts this view.

How do these results compare with earlier studies? It is difficult to find studies that are directly comparable with our results since we specifically measure the effect of *changes* of different factors on *changes* in life satisfaction. We therefore draw on research that simply analyzes the link between the factors that we study and life satisfaction. A study based on two datasets from Canada and the US, finds that relationships with friends have an effect on workers' well-being that is more than twice as large as relationships with the family (Helliwell and Putnam 2004: 1439). A similar result has been found in a meta-analysis on this topic (Pinquart and Sörensen 2000: 194). The importance of changes in friendship relations in our analysis may thus stem from the fact that friendship relationships are in general a better determinant of individuals' well-being than their family relationships.

Our finding that changes in the workers' relationships with their spouse matter little for workers' changes in well-being contradicts the earlier research. A recent literature review has shown that deteriorations in marital relationships affect individuals' well-being particularly negatively (Dolan et al. 2008). It is thus surprising that the effects in our analysis are comparatively small and not significant.

Table 9.2: Coefficients for an OLS regression analysis for change in life satisfaction for reemployed workers

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Men (ref. women)	-0.32	(0.34)	-0.34	(0.20)	-0.32	(0.33)	-0.27	(0.31)	-0.60	(0.29)	-0.52**	(0.18)
Education (ref. less than upper secondary education												
Upper secondary education	0.94*	(0.38)	0.77**	(0.28)	0.93*	(0.36)	0.98*	(0.38)	0.62	(0.53)	0.51	(0.52)
Tertiary education	1.11**	(0.37)	0.73**	(0.25)	1.11**	(0.38)	1.13**	(0.34)	0.95	(0.49)	0.60	(0.44)
Single (ref. married or with partner)	0.18	(0.10)	0.16	(0.08)	0.17	(0.10)	0.18	(0.09)	0.42	(0.23)	0.46	(0.22)
Age	-0.02	(0.01)	-0.01	(0.01)	-0.02	(0.02)	-0.02	(0.02)	-0.01	(0.01)	0.001	(0.01)
German-speaking (ref. French-speaking)	0.42	(0.08)	0.24**	(0.06)	0.42***	(0.08)	0.46***	(0.06)	-0.03	(0.09)	-0.13	(0.09)
Duration since displacement	0.03	(0.03)	0.03	(0.03)	0.03	(0.03)	0.03	(0.04)	0.02	(0.03)	0.02	(0.03)
Plant (ref. Plant 1)												
Plant 2	1.37***	(0.08)	1.58***	(0.06)	1.38***	(0.08)	1.33***	(0.11)	1.24***	(0.09)	1.36***	(0.17)
Plant 3	0.29	(0.27)	0.25	(0.19)	0.28	(0.27)	0.25	(0.17)	0.55**	(0.18)	0.37*	(0.16)
Plant 4	0.78**	(0.25)	0.76**	(0.26)	0.81**	(0.27)	0.70	(0.35)	0.84**	(0.27)	0.66	(0.34)
Plant 5	0.50***	(0.09)	0.55***	(0.05)	0.51***	(0.10)	0.47***	(0.09)	0.41***	(0.08)	0.45***	(0.09)
Change in wage			0.10	(0.11)							0.17	(0.08)
Change in dealing with expenditures (ref. no change)												
More cautious			-0.94***	(0.12)							-0.84**	(0.24)
Less cautious			-0.15	(0.50)							0.33*	(0.13)
Change in weekly working hours					-0.17	(0.23)					-0.05	(0.24)
Change in job authority (ref. same level)												
Lower level							-0.27	(0.21)			0.11	(0.41)
Higher level							0.48	(0.73)			0.52	(0.42)
Change in marital relationship (ref. no or neutral impact)												
Very positive									-0.01	(0.37)	-0.10	(0.53)
Rather positive									0.28	(0.29)	0.28	(0.23)
Rather negative									-0.48	(0.79)	-0.41	(0.78)
Very negative									-0.70	(2.21)	-0.68	(2.09)
Change in family relationship (ref. no or neutral impact)												
Very positive									0.21	(0.61)	0.52	(0.51)
Rather positive									0.21	(0.39)	0.23	(0.25)
Rather negative									-1.05	(1.02)	-1.12	(0.80)
Very negative									-1.51	(2.23)	-1.34	(2.29)
Change in friendship (ref. no or neutral impact)												
Very positive									2.22**	(0.58)	2.28**	(0.58)
Rather positive									0.76**	(0.22)	0.92**	(0.24)
Rather negative									-1.24***	(0.12)	-1.19***	(0.14)
Very negative									-1.11	(0.59)	-0.80	(0.63)
Constant	-1.69	(1.58)	-1.37	(1.04)	-1.70	(1.61)	-1.73	(1.56)	-0.92	(0.98)	-0.95	(0.47)
R^2	0.07		0.11		0.07		0.07		0.32		0.38	
N	309		309		309		309		309		309	

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level. The unit of measurement we used for wage change as well as change in weekly working hours is 10% change.
We also conducted an ordered logit regression on the same variables. The results were basically the same but with a few more coefficients being significant. We chose to present the OLS regression coefficients because they constitute a more conservative result and are easier to interpret.

Regarding changes in social status, a British study based on a large sample of managers finds that downward mobility has even more detrimental effects on their life satisfaction than unemployment (West et al. 1990: 132). The authors explain this finding by arguing that the expected direction of mobility of managers is upward and a failure affects their well-being particularly strongly. This argument can be extended to workers in general, at least for those who are not close to the end of their career.

Unemployed workers' changes in life satisfaction

In a next step we analyze the determinants of unemployed workers' changes in subjective well-being (see Table 9.3). Since these workers are not employed and changes in the characteristics of the job are not assessed, we only use the variables changes in dealing with money and in social relationships. As for the reemployed, we first run a Model 1 with only socio-demographic and contextual characteristics, then in Model 2 add and then remove changes in dealing with expenditures and in Model 3 changes in social relationships. Model 4 is a full model where all variables are included. In Models 2 to 4 we control for sex, education, civil status, age, language, duration since displacement and plant.[69]

We find that the experience of financial restrictions has a very strong negative impact on workers' well-being. Accordingly, for the unemployed workers the effect of changes in expenditures is much larger than for the reemployed. We also find a strong negative effect for being less cautious with spending which is counterintuitive. However this effect is not statistically significant.

[69] We also tested whether receiving unemployment benefits or not affected the outcomes. However, since this was not the case and the inclusion of this variable considerably reduced the size of our sample, we dropped it.

Table 9.3: Coefficients for an OLS regression analysis for the change in life satisfaction for the unemployed workers

	Model 1		Model 2		Model 3		Model 4	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Men (ref. women)	0.08	(0.89)	-0.56	(1.00)	0.48	(1.49)	-0.12	(1.65)
Education (ref. less than upper secondary education								
Upper secondary education	0.75	(0.59)	0.46	(0.71)	0.79*	(0.29)	0.52	(0.40)
Tertiary education	2.69**	(0.71)	2.23*	(0.95)	2.16**	(0.64)	1.77	(0.85)
Single (ref. married or with partner)	-0.68	(1.03)	-0.77	(1.03)	-0.67	(1.74)	-0.67	(1.74)
Age	0.07	(0.06)	0.09	(0.07)	0.05	(0.08)	0.07	(0.08)
German-speaking (ref. French-speaking)	-0.65*	(0.28)	-0.84**	(0.28)	-0.33	(0.46)	-0.64	(0.40)
Duration since displacement	0.08	(0.04)	0.07	(0.05)	0.05	(0.11)	0.04	(0.10)
Plant (ref. Plant 1)								
Plant 2	0.64**	(0.14)	0.95***	(0.18)	0.60**	(0.18)	0.92**	(0.25)
Plant 3	0.82**	(0.24)	0.69*	(0.25)	1.06**	(0.30)	0.89	(0.44)
Plant 4	2.02***	(0.29)	2.08**	(0.57)	1.28**	(0.33)	1.47**	(0.49)
Plant 5	0.45	(0.49)	0.59	(0.61)	0.11	(0.41)	0.37	(0.55)
Change in dealing with expenditures (ref. no change)								
More cautious			-2.52*	(0.93)			-2.45	(1.16)
Less cautious			-2.31	(2.67)			-2.28	(2.75)
Change in marital relationship (ref. no or neutral impact)								
Very positive					0.40	(3.52)	0.17	(3.27)
Rather positive					0.39	(1.70)	0.27	(1.47)
Rather negative					-1.56	(2.26)	-1.54	(2.21)
Very negative					-0.95	(1.10)	-1.33	(0.99)
Change in family relationship (ref. no or neutral impact)								
Very positive					0.93	(0.86)	1.20	(0.67)
Rather positive					-0.35	(1.23)	-0.21	(0.95)
Rather negative					-0.33	(1.27)	-0.29	(0.96)
Very negative					-0.54	(2.55)	-0.02	(2.13)
Change in friendship (ref. no or neutral impact)								
Very positive					1.37	(0.83)	1.58	(0.86)
Rather positive					0.21	(0.76)	0.44	(0.94)
Rather negative					-0.57	(0.95)	-0.04	(0.79)
Very negative					-1.01	(0.58)	-0.42	(0.76)
Constant	-9.83	(2.29)	-7.49	(3.67)	-7.65	(1.66)	-5.76	(3.31)
R^2	0.14		0.20		0.24		0.29	
N	100		100		100		100	

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level.

Regarding changes in workers' social relationships we find that only relationships with *friends* affect workers' subjective well-being in an intuitive way, notably very positive changes lead to the

most positive effect, while very negative changes lead to the most negative effect.[70] Interestingly, workers seem to be particularly sensitive to positive changes. This finding may indicate that workers who received ample empathy and support from their friends were spared the negative effect that unemployment usually has on workers' well-being. In Models 1 to 3, subjective well-being evolved much more favorably among workers with tertiary education relative to those with less than upper secondary education. Education clearly seems to have a cushioning effect on workers' well-being.

Changes in workers' health

A substantial body of evidence from the US suggests that job displacement goes along with decreased health conditions, even after controlling for selection effects. Burgard et al. (2007: 379) show, based on longitudinal data, that workers losing their job are more likely to be affected by depression. In line with these findings are the results of Gallo et al. (2006: S225), who report for older workers who experience involuntary job loss that they have an increased likelihood of exhibiting depressive symptoms. However, these effects were usually present in the mid-term after job loss only and disappeared in the long term. Sullivan and von Wachter (2009: 1278-9) find that displaced workers have a substantially higher risk of mortality than non-displaced workers.

Although in our study we did not assess extensive health indicators, we surveyed the self-reported impact of job displacement on workers' physical and psychological health. As we can see from Figures 8.6a and b, half of all workers indicated that job loss had no effect on their *physical* health. However, 23% of the workers indicated that they experienced negative effects and 28% report positive effects.

With respect to *psychological* health, only about a third indicated that there was no or a neutral effect. Slightly less than a third experienced a negative impact and slightly more than a third a positive impact. Overall, the two figures point to a stronger impact of plant closure on workers' mental health than on their physical health and, surprisingly, workers reporting a positive health impact outnumber those indicating a negative impact. This finding probably needs to be interpreted in the context of having worked in plants troubled by instability and tensions – hence a particularly stressful context – which ultimately lead to plant closure.

[70] If we test the same model only on workers who have a spouse, the effects for marital and family relationships are not significant (see Table A.10 in the Annex). In contrast, Table A.10 suggests that for workers with a spouse, changes in relationships with *friends* are even more important than for all workers together.

Figure 9.6a: Impact of displacement on physical health

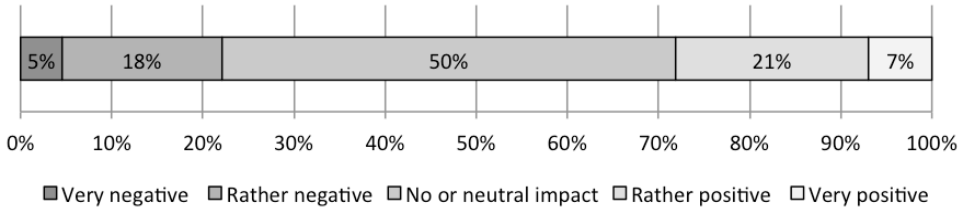
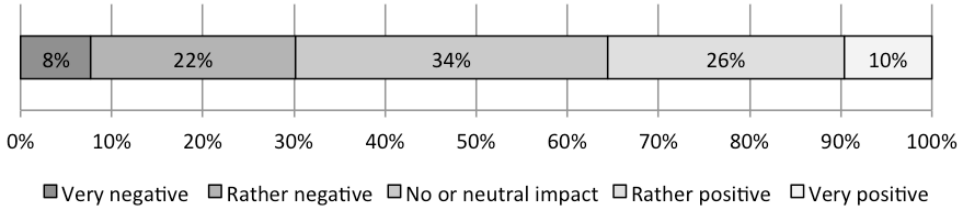


Figure 9.6b: Impact of displacement on psychological health



N physical health=687, psychological health=686

Conclusion

Although workers implemented several coping strategies such as reducing expenditures, the strategy that we had assumed to be largely used did not prove to be particularly important, namely the spouses increasing their economic activity. Indeed, a substantial proportion of workers' spouses were not employed and did not change their occupational situation in order to cope with the job loss of their partner. Moreover, workers who were unemployed at the moment of our survey were more likely than the reemployed workers to have spouses who were not working. This points to a pattern of polarization between dual-earner and no-earner families.

With respect to sociability we find the interesting result that plant closure rather strengthens than weakens the workers' social relationships. This suggests that a critical event that disrupts workers' careers need not similarly disrupt their social lives. However, a small proportion of workers still witnessed very negative effects on their relationships and thus have experienced hardship not only in their occupational, but also their private life.

The workers' general life satisfaction strongly depends on their labor market status, reemployed and retired workers having much higher levels of life satisfaction than unemployed workers and labor force dropouts, who experienced strong decreases in well-being. With respect to the determinants of the change in well-being, financial issues seem for the unemployed workers to be more consequential for their well-being than their social relations. This finding may be explained by the unemployed workers' financial vulnerability. Although Switzerland's unemployment benefits

system offers comparatively high financial security with a benefit replacement rate of 70 to 80% for 18 months, workers are likely to be impaired in their life style and may experience uncertainty about whether they will find a job.

Our hypothesis that changes in social relationships following job loss decisively predict changes in workers' well-being does seem to hold for the reemployed workers but not for the unemployed. In contrast to earlier findings in the literature we do not find clear evidence for the link between change in *marital* relationships and well-being. But we observe that changes in relationships with *friends* are strongly linked to changes in well-being. This finding has been corroborated for both, reemployed and unemployed workers. For unemployed workers, a possible explanation for this finding may be that workers have had more time for their friends while they were unemployed and accordingly were happier in this period. An explanation for this result for reemployed workers may be that relationships with friends actually represent workers' relationships with their co-workers. Positive changes in these relationships may either be a sign that they appreciated solidarity and mutual support among former colleagues or that they are happy with their new colleagues. The negative effect of a deterioration in friendship relationships on workers' well-being may be an expression of disappointment in the case of loss of appreciated former co-workers.

In sum, our analysis provides the insight that finding a job after displacement does not guarantee that workers will overcome the shock of the displacement and regain their pre-displacement level of life satisfaction. Social relationships are in many cases affected – often positively – which in turn seems to have important consequences for workers' subjective well-being.

Conclusion

This study draws on a unique dataset on workers who experienced a firm closure. The dataset includes 1203 manufacturing workers who lost their job in 2009 or 2010 and who were surveyed about two years later, in 2011. The survey data was complemented with register data from the public unemployment insurance and the plants, a strategy that allows us to control for a number of issues typically occurring in surveys such as nonresponse bias and measurement error. A control group of non-displaced workers, based on data from the Swiss Household Panel, provides us with a counterfactual outcome. This approach enables us to carry out a difference-in-difference analysis, comparing the labor market experiences of displaced workers with those of non-displaced workers. These features of our rich dataset provide us with the opportunity to understand potential causal mechanisms behind labor reallocation after plant closure.

Robust job prospects in manufacturing

Two years after plant closure, more than two-thirds of the workers had returned to a job. Among them, more than two-thirds were reemployed in manufacturing. In addition, more than half of the machine operators and craft workers were able to find a new job in the same occupation as before displacement. Accordingly, the service sector does not serve as a collecting vessel of redundant industrial workers. This finding is probably due to the slow pace of deindustrialization in Switzerland: Although the crisis of 2008 was accompanied by labor churning in the secondary sector, employment recovered soon afterwards.

However, in contrast to what is often assumed, Switzerland's economy and labor market do not constitute a case *sui generis*. The Swiss economy shares many common features with Austria and Southern Germany, notably a strong reliance on vocational education, a resilient manufacturing sector, and low levels of unemployment. In fact, in 2011 the unemployment rates in the adjacent *Länder* of Austria and Germany were lower than in Switzerland. It is thus legitimate to expect that a survey on plant closure in Salzburg, Stuttgart or Munich would produce comparable results to those presented here. Although we cannot assess whether our sample is representative for all displaced workers in Switzerland, it seems to be representative for workers in the manufacturing sector.

In a nutshell, a large share of workers returned to jobs that were similar, in terms of occupation and sector, to their pre-displacement employment. This outcome has the positive implication that workers were able to continue using the skills and knowledge they had acquired through education,

on-the-job training and work experience. In addition, a close skill match in the new job is likely to be valorizing for the workers since they were able to retain their social status and identity.

Polarization in labor market experiences

Although a large share of the workers experienced a smooth transition after plant closure, job loss had harmful effects on a small group of workers. The labor market experiences of the workers in our study thus are strongly divergent. Referring to a concept from life-course sociology, plant closure constitutes a "transition" for the majority of the workers – describing an adjustment to their new occupational situation without major frictions. Within this group are the more than two-thirds of workers who returned to employment. Among them, almost half found their new job very quickly. More than four-fifths of them were reemployed on permanent contracts and about a third experienced an increase in their wages. In their relationships with their spouse, family and friends they experienced more frequently positive than negative changes.

The worker subgroups for whom plant closure constitutes a "transition" within their life course, are characterized by a young age – or, if they are older, having retired early –, high levels of education and having been employed in Plant 5. More precisely, workers under 30 found new jobs most quickly and workers in their 30s had the highest reemployment rates. With respect to wage changes they were the most likely to see their wages increase. Highly qualified workers returned more quickly to a job and were more likely to be reemployed. In addition, high levels of education provided workers with a much higher chance of being reemployed in their pre-displacement occupation. Workers from Plant 5 (NSW 2) had the highest reemployment rate and were the most likely to continue working in the manufacturing sector. With respect to workers' life satisfaction, the reemployed and retired workers experienced stability and thus were cushioned from negative effects on their well-being.

However, a small proportion of workers suffered substantial hardship in the aftermath of job loss. For these workers, plant closure constitutes a "turning point", an event that crucially affects their ensuing lives by shifting their occupational and life trajectory in direction. They were often long-term unemployed and subsequently reemployed in jobs of lower quality. More specifically, they were hired in insecure jobs and jobs which match only little with their skills. Others were unable to return to a job and were still, or again, searching for a job when we surveyed them. Unemployed workers and workers who dropped out of the labor force were particularly prone to find their subjective well-being decreasing. Moreover, they were likely to experience a negative impact of job loss on their social relationships. Overall, plant closure had a clearly detrimental effect for their careers and lives.

This group mainly consists of low-qualified workers, workers who were employed in Plant 1 (Geneva) and older workers. Workers with only compulsory education took longer to find a new job, had lower reemployment rates and were the most likely to be pushed out of their pre-displacement occupations. Workers from Plant 1 had labor market experiences which are in many ways different from workers in other plants, which is possibly due to the particular labor market context of Geneva and the high proportion who live in France. Workers from Plant 1 took by far the most time to find a new job and had the lowest reemployment rate. If they found a job, they were by far the most likely to be reemployed in non-permanent jobs and saw their wages decrease the most strongly. They were also the most likely to be reemployed in the service sector, in particular in often low-paid distributive consumer services.

Our most noteworthy finding is that whether workers experienced job displacement more strongly as a "transition" or as a "turning point" was most strongly determined by their age. Being aged over 55 led to disadvantages in almost every respect. More precisely, older workers not only took longer to find a job but were in the end also less likely to return to employment. If they managed to find a job, they experienced the severest cuts in wages and job quality of all age cohorts.

Tackling the problem of an advanced age as main disadvantage

This finding is in line with a recent report by the OECD (2014a: 118) about the employment situation of older workers in Switzerland. The report shows that although Switzerland is among the five countries with the highest employment rates of workers between 55 and 64, older job seekers face high hurdles in the hiring process. This result is striking in the context of the current demographic development. With the baby boomer generation being in this age group during the next fifteen years, this phenomenon may concern large shares of displaced workers in the years to come.

In Switzerland, workers over 55 are less likely to have undertaken continuous training during their working life than younger age cohorts (Bundesamt für Statistik 2007: 14). Accordingly, one way to address this problem in the long run is the promotion of lifelong learning. Encouraging workers to engage in continuous training throughout their entire work life enhances older workers' reemployment prospects (Dieckhoff 2007: 302; Gallie 2003: 69). Particularly in sectors where automation is advancing rapidly, consecutive training on new machines and devices seems to be necessary to enable workers to keep up with technological change. To enhance older workers' reemployment prospects in the event of job loss, human capital theory suggests that the focus of continuous education should be placed on transferable skills that are valuable in other companies.

In the short-run, employers' awareness of the weak relationship between workers' productivity and their age may be raised. Employers may be sensitized to the importance of the integration of older job seekers into the labor market from the perspective of society as a whole. A study conducted by the European Foundation for the Improvement of Living and Working Conditions recommends initiatives to enhance awareness of the effects of exclusion of older job seekers in the light of current demographic change (Eurofound 2013: 13). The OECD (2014a: 124) recommends that employers be better informed about the possibilities of the management of aging and the advantage of mixed-age teams within companies.

Investments in age-based workplaces have been shown to be an effective means to keep older workers in the labor force. The adoption of certain features of the workplace – such as the provision of equipment that reduces hearing or vision problems – help to maintain older workers' productivity (Göbel and Zwick 2013: 87). The authors of an experimental study find that cooperation is highest in mixed-age teams and that such teams are consequently more productive as they capitalize synergies between younger and older workers (Charness and Villeval 2007: 21).

Finally, a policy framework that enables a transition into early retirement in the event of job loss is a helpful means to attenuate the negative effects of job displacement for older workers. This may be implemented within the legislation on mass displacements or the unemployment insurance. While such a measure would clearly provide workers with financial security, their social integration may be impaired by early withdrawal from the labor market. A possible policy would therefore ideally provide older workers with financial security in the event of continuous unemployment and simultaneously foster their efforts to search for a job.

In sum, our study provides insights into how plant closure affects workers' careers, social lives and well-being. By considering a large array of outcomes, it contributes to a more comprehensive understanding of the impact of this critical event on the workers concerned. We shed light on the question of which worker subgroups are particularly vulnerable in the face of plant closure by taking into account how their socio-demographic characteristics, the coping strategies and the labor market situation mediate their labor market experiences after job loss.

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Annex

Tables

Table A.1: Average Marginal Effects (AME) for a binomial logistic regression for participation in the survey

	Model 1 AME		Model 2 AME	
Nationality proxy (ref. Switzerland, France & Germany)				
Italy	-0.11	(0.07)	-0.10	(0.07)
Spain & Portugal	-0.10	(0.14)	-0.08	(0.13)
Other countries	-0.17***	(0.05)	-0.18***	(0.05)
Sex (ref. women)				
Men			-0.12***	(0.04)
Plant (ref. Plant 2)				
Plant 3	-0.02	(0.04)	-0.01	(0.04)
Plant 5	-0.06	(0.04)	-0.06	(0.05)
Pseudo R2	0.02		0.03	
N	760		760	

Note: * p < 0.1, ** p < 0.05, *** p < 0.01.

Table A.2: Average Marginal Effects (AME) for a binomial logistic regression for participation in the survey

	Model 1 AME	
Nationality proxy (ref. Switzerland, France & Germany)		
Italy	-0.10**	(0.05)
Spain & Portugal	-0.12	(0.09)
Other countries	-0.12***	(0.04)
Plant (ref. Plant 1)		
Plant 2	0.03	(0.05)
Plant 3	0.02	(0.05)
Plant 4	0.06	(0.05)
Plant 5	-0.03	(0.06)
Pseudo R2	0.02	
N	1202	

Note: * p < 0.1, ** p < 0.05, *** p < 0.01.

Table A.3: OLS-regression analysis of the determinants of the pre-displacement wages on the basis of the survey and register data

Dependent variable: pre-displacement wage (in CHF)		
	Survey data	Register data
Age (ref. < 30)		
30-34	1,119 (898)	1,108 (639)*
35-39	1,180 (929)	1,141 (662)*
40-44	1,395 (824)*	1,563 (587)***
45-49	2,121 (739)***	1,957 (526)***
50-54	1,578 (734)**	1,475 (523)***
55-59	1,857 (746)**	2,180 (531)***
> 59	1,956 (754)**	1,751 (537)***
Sex (ref. women)		
Men	1,562 (376)***	1,645 (268)***
Nationality (ref. Swiss)		
France, Germany, Italy and Austria	697 (715)	734 (509)
Spain and Portugal	-560 (727)	-64 (517)
Non-EU countries	-683 (716)	-445 (509)
Education (ref. less than upper secondary education)		
Upper secondary education	450 (622)	428 (442)
Tertiary education	2,532 (675)***	2,073 (480)***
Constant	1,301 (1081)	1,145 (770)
Adjusted R2	0.26	0.38
N	157	157

Note: * p < 0.1, ** p < 0.05, *** p < 0.01.

Table A.4a Two-sample t-tests for the covariates in the propensity score for Specification 1

		Mean	SE	SD	P (|T| > |t|)	N
Age						
	Treated	45.7	0.2	12.6	0.84	1,008
	Untreated	45.6	0.4	11.5		4,610
Sex						
	Treated	1.84	0.01	0.36	0.00	1,022
	Untreated	1.53	0.01	0.50		4,613
Education						
	Treated	3.08	0.02	0.65	0.00	872
	Untreated	2.32	0.01	0.64		4,602

Note: Specification 1 uses a control group (untreated) that includes all workers in the Swiss Household Panel who were employed in 2009.

Table A.4b Two-sample t-tests for the covariates in the propensity score for Specification 2

		Mean	SE	SD	P (|T| > |t|)	N
Age						
	Treated	45.7	0.2	12.6	0.18	1,008
	Untreated	44.4	0.4	11.5		179
Sex						
	Treated	1.84	0.01	0.36	0.00	1,022
	Untreated	1.74	0.01	0.50		179
Education						
	Treated	2.08	0.02	0.65	0.00	872
	Untreated	2.35	0.01	0.64		179

Note: Specification 2 uses a control group that includes workers who were (a) employed in 2009, (b) who worked in the manufacturing sector and (c) who worked in a company with 100 to 499 employees.

Table A.5 Selection equation with all variables

	Specification 1 Coef. (SE)	Specification 2 Coef. (SE)
Age	0.002 (0.002)	0.008 (0.004)
Sex (ref. women)		
Men	0.88*** (0.05)	0.42*** (0.09)
Education (ref: less than upper secondary)		
Upper secondary	-0.32*** (0.07)	-0.13 (0.15)
Tertiary	-0.76*** (0.07)	-0.67*** (0.15)
Constant	-2.15	0.14
Pseudo R^2	0.09	0.05
N untreated (on support)	4601	179
N treated (on support)	843	611

Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

Note: Specification 1 uses a control group (untreated) that includes all workers in the Swiss Household Panel who were employed in 2009. Specification 2 uses a control group that includes workers who were (a) employed in 2009, (b) who worked in the manufacturing sector and (c) who worked in a company with 100 to 499 employees.

Table A.6: Average marginal effects (AME) for a multinomial logistic regression for being reemployed – Model 5 (full model) from Table 3.3 for Plants 1, 3, 4 and 5 separately

	Plant 1		Plant 3		Plant 4		Plant 5	
	AME	(SE)	AME	(SE)	AME	(SE)	AME	(SE)
Duration since displacement	0.09	(4.98)	0.002	(0.003)	0.01	(0.01)	0.001	(0.10)
Sex (ref. women)								
Men	-0.70	(53)	0.11**	(0.05)	-0.06	(89)	0.08	(0.89)
Civil status (ref. married)								
Single	-0.09	(5.60)	-0.02	(0.05)	-0.08	(0.06)	0.02	(1.57)
Collar (ref. white-collar)								
Blue-collar	-0.21	(12)	-0.18	(0.06)	-0.06	(0.07)	-0.06	(0.67)
Education (ref: less than upper secondary)								
Upper secondary	0.30	(54.72)	-0.001	(0.06)	0.09	(0.08)	2.10	(1.68)
Tertiary	0.62	(62.45)	-0.03	(9.37)	0.09	(0.10)	0.29	(2.11)
Age (ref: < 30)								
30-39s	0.29	(1902)	0.18	(36)	0.02	(159)	2.22	(2.52)
40-49s	0.45	(1902)	0.001	(154)	0.06	(171)	2.02	(1.90)
50-54	0.54	(1903)	0.08	(45)	0.06	(188)	20.18	(7223)
55-59s	0.21	(1902)	-0.05	(28)	-0.40	(164)	1.58	(2.09)
> 59	-1.50	(1926)	-0.41	(27)	0.34	(529)	-1.69	(1.87)
Tenure (ref: < 2 years)								
2-5 years	1.35	(549)	0.10	(158)	1.22	(290)	1.48	(1.44)
6-10 years	0.26	(53)	0.21	(158)	0.08	(237)	2.39	(1.86)
11-20 years	-0.09	(4.90)	0.08	(158)	0.40	(274)	1.12	(1.41)
> 20 years		-	0.11	(158)	0.01	(280)	1.48	(1.94)
Nationality (ref: Switzerland)								
France	-0.06	(5.95)	0.86	(2151)	-1.46	(1959)		-
Germany or Austria		-	1.22	(1034)	0.80	(779)	0.06	(1.88)
Italy, Portugal and Spain	0.96	(166)	0.97	(753)	0.06	(0.07)	1.57	(2323)
Non-EU countries (e.g. Turkey or Kosovo)		-	-0.03	(162)	0.36	(201)	0.03	(1.52)
District unemployment rate	-0.09	(13)	-0.03	(0.03)	0.03	(0.20)	0.03	(0.55)
Pseudo R^2	0.66		0.59		0.67		0.47	
N	82		189		172		91	

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.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

The analysis for Plant 2 did not achieve convergence; the results can thus not be shown.

Table A.7: Coefficients for a bivariate probit model with Heckman selection correction on the probability of being employed in the service sector as compared to manufacturing, conditional on being reemployed

	Outcome equation on being reemployed in services (as compared to being reemployed in manufacturing)		Selection equation on being reemployed (as compared to being unemployed or out of the labor force)	
	Coef.	(SE)	Coef.	(SE)
Sex (ref. woman)	-0.37**	(0.17)		
Men				
Education (ref. less than upper secondary)				
Upper secondary	0.09	(0.15)	0.59***	(0.14)
Tertiary	0.07	(0.20)	0.85***	(0.16)
Tenure (ref. < 2 years)				
2-5 years	0.10	(0.12)	0.66***	(0.22)
6-10 years	0.16	(0.13)	0.32***	(0.12)
11-20 years	0.28	(0.27)	0.08	(0.23)
> 20 years	-0.16	(0.15)	-0.06	(0.28)
Occupation (ref. white-collar)				
Blue-collar	-0.04	(0.08)		
Unemployment duration (ref. < 3 months)				
3-6 months	0.26	(0.20)		
7-12 months	0.22	(0.16)		
13-24 months	0.31**	(0.14)		
Age in years (ref. < 30)				
30-39			0.32	(0.22)
40-49			0.25	(0.20)
50-54			0.01	(0.41)
55-59			-0.86***	(0.27)
> 59			-2.26***	(0.23)
Plant (ref. Plant 1 (Geneva))				
Plant 2 (Biel)	-0.58***	(0.31)	1.12***	(0.07)
Plant 3 (NWS 1)	-0.89***	(0.44)	1.00***	(0.11)
Plant 4 (Bern)	-0.83***	(0.59)	0.62***	(0.04)
Plant 5 (NWS 2)	-1.12***	(0.31)	1.26***	(0.11)
Civil status (ref. married)				
Single			-0.24**	(0.09)
District unemployment rate	-0.03			
Constant	-0.06	(0.14)	-0.54	(0.41)
Rho			0.26	(0.16)

Note: The outcome equation contains the same variables as Model 5 in Table 5.1.

N observations: 658; censored observations: 220.

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

The Wald test is not significant (p=0.12).

Table A.8: Coefficients for a Heckman selection correction model for wage change (in %) between the job before and after displacement

	Outcome equation: percentage change in wages		Selection equation: likelihood of being reemployment	
	Coef.	(SE)	Coef.	(SE)
Age	-0.03	(0.02)	-0.06***	(0.01)
Sex (ref. women)				
Men	-0.19	(0.64)	0.38***	(0.15)
Plant (ref. Plant 1 (Geneva))				
Plant 2 (Biel)	0.46***	(0.10)	0.67***	(0.05)
Plant 3 (NWS 1)	0.62***	(0.16)	0.88***	(0.05)
Plant 4 (Bern)	0.27***	(0.06)	0.45***	(0.01)
Plant 5 (NWS 2)	0.43*	(0.26)	0.95***	(0.08)
Education (ref. less than upper secondary)				
Upper secondary			0.45**	(0.18)
Tertiary			0.76***	(0.14)
Constant	2.08	(0.96)	1.28	(0.80)
Rho			0.78	(0.27)

Note: N observations: 627; censored observations: 256. The model is simpler than the models presented in Table 6.3 because it was not possible to run larger models (endless iterations).

Standard errors are clustered at the firm level. Significance levels: * p<0.1, ** p<0.05, *** p<0.01. Wald test is not significant (p=2.34).

Table A.9: Coefficients for an OLS regression analysis for change in life satisfaction for reemployed workers with a spouse

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Coef. (SE)	Coef. (SE)	Coef. (SE)	Coef. (SE)	Coef. (SE)	Coef. (SE)
Men (ref. women)	-0.47 (0.42)	-0.63 (0.32)	-0.49 (0.57)	-0.40 (0.39)	-0.49 (0.54)	-0.69 (0.47)
Education (ref. less than upper secondary education						
Upper secondary education	0.72 (0.50)	0.44 (0.47)	0.72 (0.40)	0.56 (0.45)	0.47 (0.61)	0.12 (0.49)
Tertiary education	0.94 (0.48)	0.06 (0.43)	1.01 (0.49)	0.69 (0.55)	0.85 (0.70)	-0.12 (0.58)
Age	-0.02 (0.01)	-0.02 (0.02)	-0.02 (0.01)	-0.00 (0.02)	-0.01 (0.01)	-0.00 (0.01)
German-speaking (ref. French-speaking)	0.59 (0.53)	0.41 (0.45)	0.61 (0.58)	0.71 (0.30)	0.31 (0.47)	0.35 (0.27)
Duration since displacement	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	0.00 (0.02)	-0.00 (0.02)
Pre-displacement wage (in CHF 1000)		0.22 (0.12)				0.27 (0.10)*
Change in wage (in CHF 1,000)		0.19 (0.17)				0.16 (0.09)
Change in dealing with expenditures (ref. no change)						
More cautious		-0.72 (0.37)				-0.29 (0.27)
Less cautious		-0.42 (0.41)				0.64 (0.19)**
Change in weekly working hours (ref. +/- 2 hours more or less)						
More than 2 hours less			0.17 (1.17)			0.22 (1.07)
More than 2 hours more			0.32 (0.13)*			0.43 (0.25)
Change in commuting distance (ref. about the same)						
Much longer			-0.65 (0.65)			-0.11 (0.51)
Slightly longer			-0.18 (0.56)			-0.46 (0.22)
Slightly shorter			0.03 (0.30)			-0.02 (0.25)
Much shorter			-0.56 (0.46)			-0.86 (0.33)*
Change in hierarchical position (ref. same position)						
Lower position				0.44 (0.46)		0.39 (0.45)
Higher position				1.06 (0.29)**		1.33 (0.48)*
Change in social status (ref. about the same)						
Lower position				-2.04 (0.38)***		-1.50 (0.55)*
Higher position				1.19 (0.59)		0.76 (0.55)
Change in marital relationship (ref. no or neutral impact)						
Very positive					0.62 (0.74)	0.26 (1.18)
Rather positive					0.54 (0.27)	0.38 (0.19)
Rather negative					-0.71 (0.87)	-0.51 (0.75)
Very negative					-1.26 (2.92)	0.14 (2.50)
Change in family relationship (ref. no or neutral impact)						
Very positive					-0.36 (0.48)	0.41 (0.66)
Rather positive					-0.17 (0.44)	-0.29 (0.09)
Rather negative					-1.16 (1.26)	-1.24 (0.96)
Very negative					-1.10 (2.66)	-2.36 (2.81)
Change in friendship (ref. no or neutral						

impact)						
Very positive					2.15 (0.70)**	1.66 (0.61)*
Rather positive					0.77 (0.19)**	0.62 (0.27)*
Rather negative					-1.15 (0.32)**	-1.02 (0.20)***
Very negative					-1.15 (0.32)	0.24 (1.01)
Constant	-0.60 (1.58)	-0.90 (1.23)	-0.50 (1.56)	-1.17 (1.56)	-0.28 (0.87)	-1.05 (0.71)
R^2	0.03	0.07	0.05	0.23	0.27	0.42
N	247	247	247	247	247	247

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level.

We also conducted an ordered logit regression on the same variables. The results were basically the same but with some more coefficients being significant. We chose to present the OLS regression coefficients because they constitute a more conservative result and are easier to interpret.

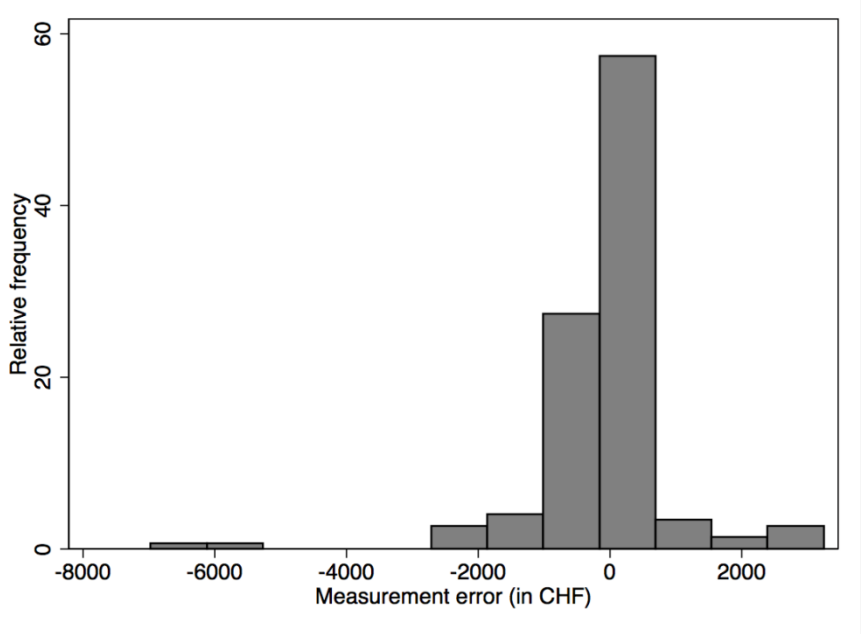
Table A.10: OLS regression analysis for the change in life satisfaction for the unemployed workers with a spouse

	Model 1	Model 2	Model 3	Model 4
	Coef. (SE)	Coef. (SE)	Coef. (SE)	Coef. (SE)
Men (ref. women)	0.41 (0.86)	0.05 (0.93)	1.00 (1.45)	0.60 (1.62)
Education (ref. less than upper secondary education				
Upper secondary education	1.06 (0.27)**	0.67 (0.37)	1.24 (0.61)	0.78 (0.46)
Tertiary education	2.39 (0.83)**	2.06 (0.89)*	1.97 (1.01)	1.59 (1.04)
Age	0.05 (0.05)	0.07 (0.06)	0.02 (0.07)	0.04 (0.07)
German-speaking (ref. French-speaking)	0.40 (0.23)	0.30 (0.27)	0.66 (0.31)	0.50 (0.07)
Duration since displacement	0.04 (0.04)	0.02 (0.06)	0.04 (0.11)	0.02 (0.12)
Change in dealing with expenditures (ref. no change)				
More cautious		-1.86 (1.19)		-1.80 (1.02)
Less cautious		-3.11 (1.36)*		-3.48 (1.03)**
Change in marital relationship (ref. no or neutral impact)				
Very positive			-0.61 (4.28)	-0.63 (3.94)
Rather positive			0.63 (1.70)	0.58 (1.38)
Rather negative			-0.37 (2.51)	-0.24 (2.55)
Very negative			-1.93 (1.26)	-2.28 (1.31)
Change in family relationship (ref. no or neutral impact)				
Very positive			1.26 (1.20)	1.52 (0.98)
Rather positive			-0.61 (1.00)	-0.51 (0.65)
Rather negative			-1.76 (1.61)	-1.88 (1.39)
Very negative			-0.02 (1.50)	-0.16 (1.38)
Change in friendship (ref. no or neutral impact)				
Very positive			1.58 (0.57)**	1.51 (0.52)**
Rather positive			1.52 (1.50)	1.35 (1.29)
Rather negative			-0.59 (0.82)	-0.24 (0.72)
Very negative			-0.98 (0.80)*	-0.52 (0.82)
Constant	-8.13 (2.46)	-7.29 (3.21)	-7.12 (1.80)	-5.33 (2.78)
R^2	0.10	0.13	0.25	0.28
N	86	86	86	86

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level.

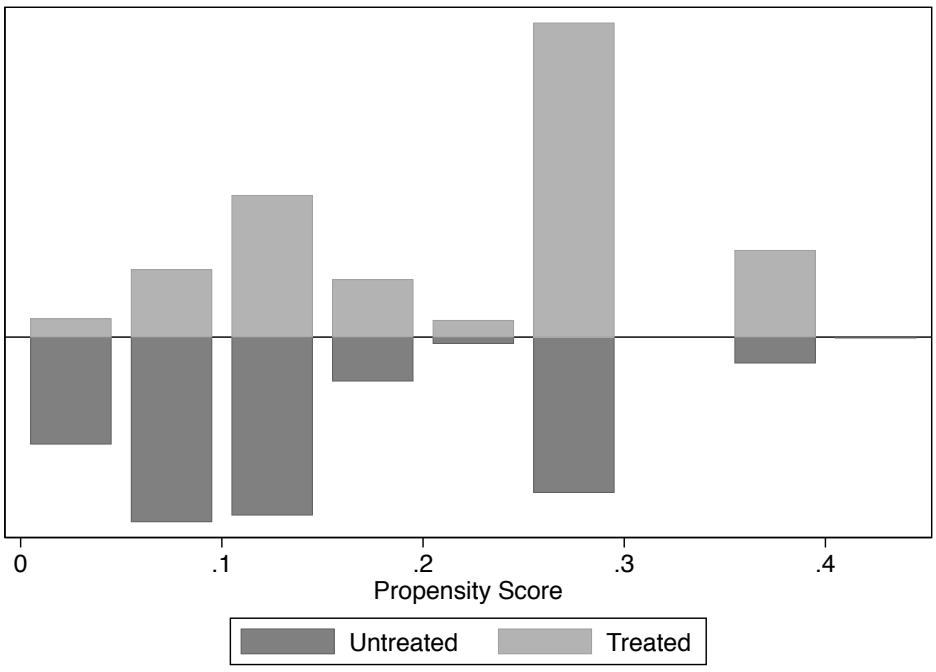
Figures

Figure A.1: Relative frequency of the measurement error for pre-displacement wages



N=150

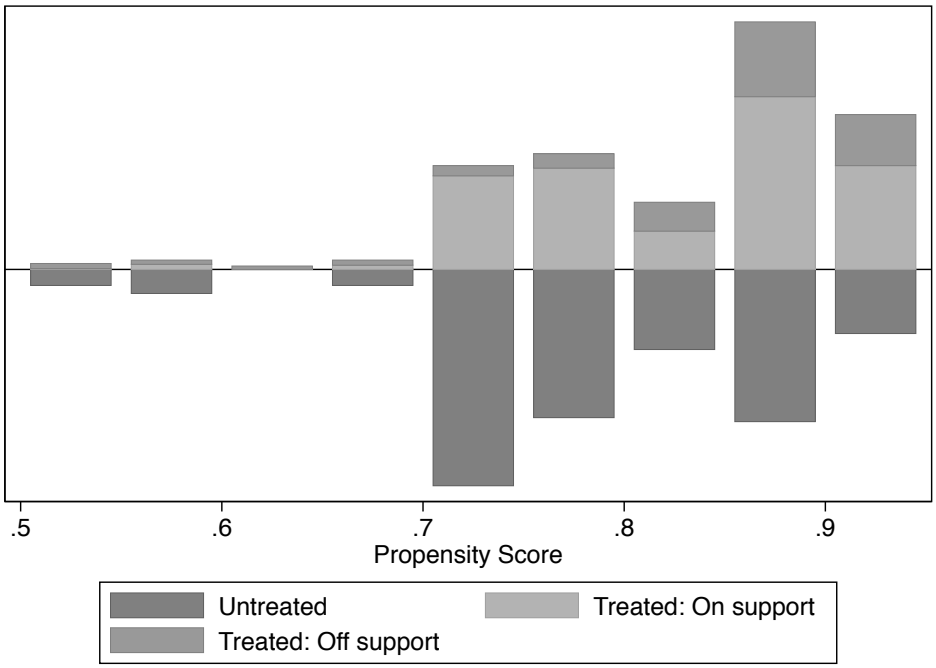
Figure A.2a: Histogram of propensity scores: Specification 1



N=5,444

Note: Specification 1 uses a control group (untreated) that includes all workers in the Swiss Household Panel who were employed in 2009.

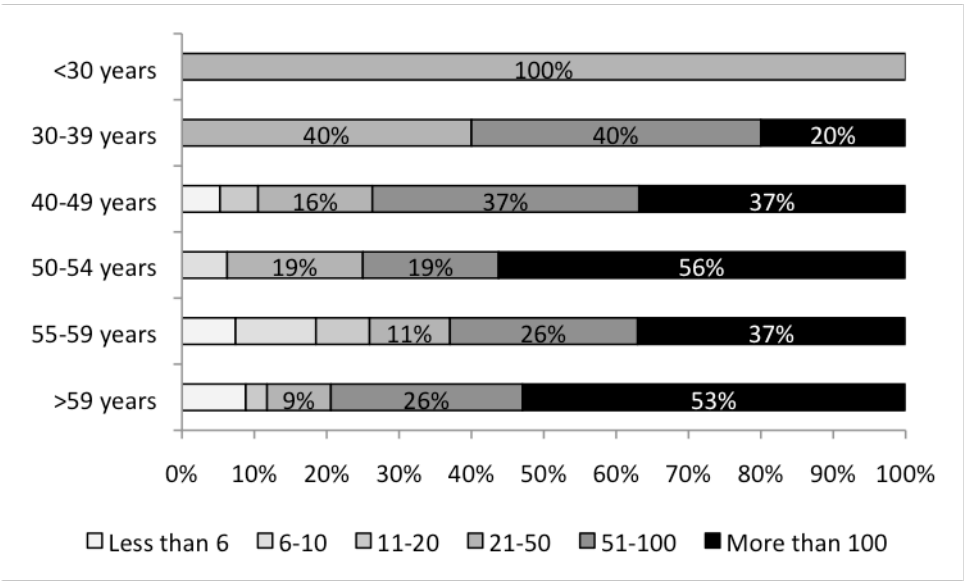
Figure A.2a: Histogram of propensity scores: Specification 2



N=1,022

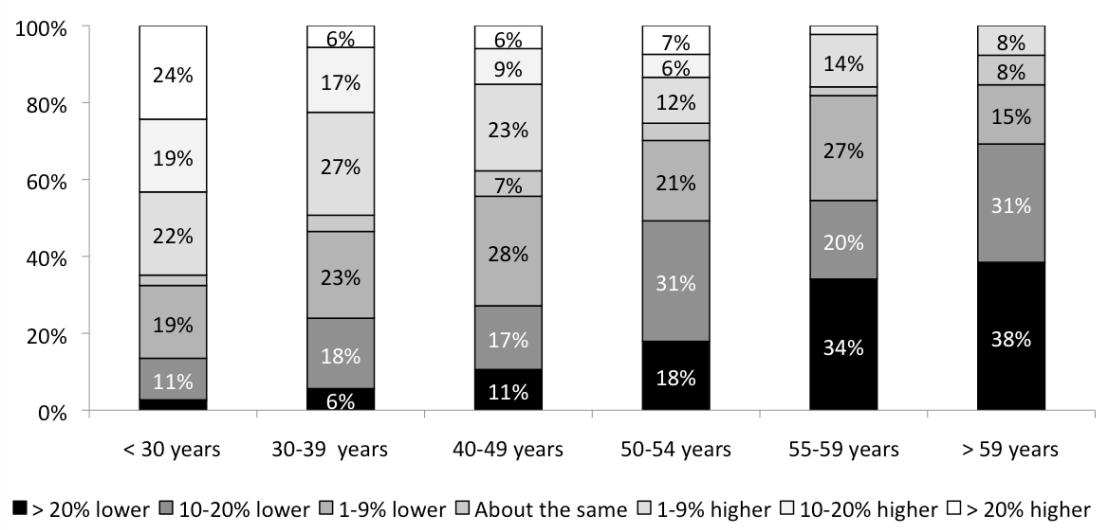
Note: Specification 2 uses a control group that includes workers who were (a) employed in 2009, (b) who worked in the manufacturing sector and (c) who worked in a company with 100 to 499 employees.

Figure A.3: Number of job applications for the still or again unemployed workers by age category



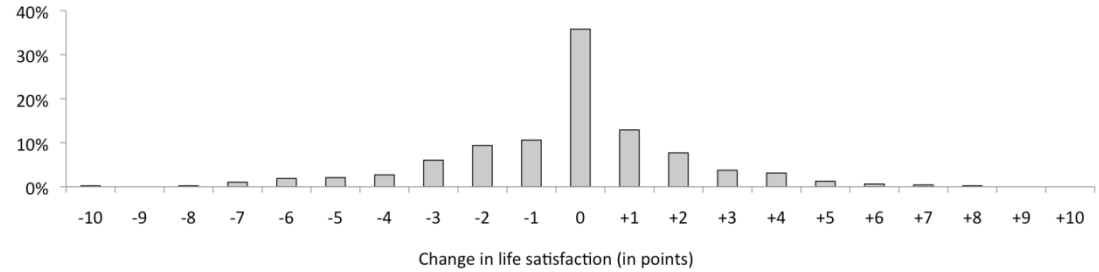
N=102

Figure A.4: Distribution of wage difference of the reemployed workers by age



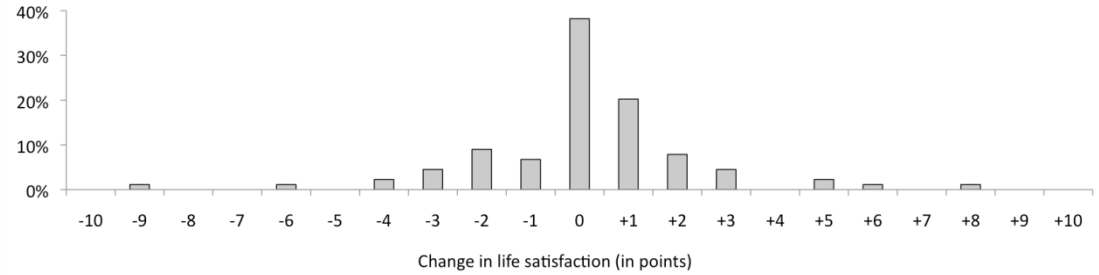
N=383

Figure A.5a: Distribution of change in life satisfaction of the reemployed



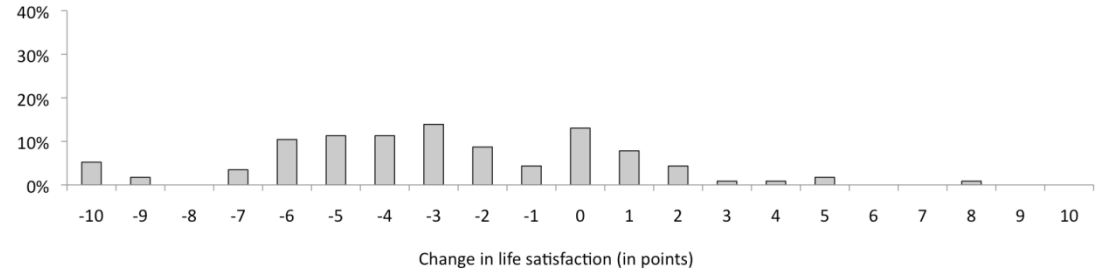
N=480

Figure A.5b: Distribution of change in life satisfaction of the retired



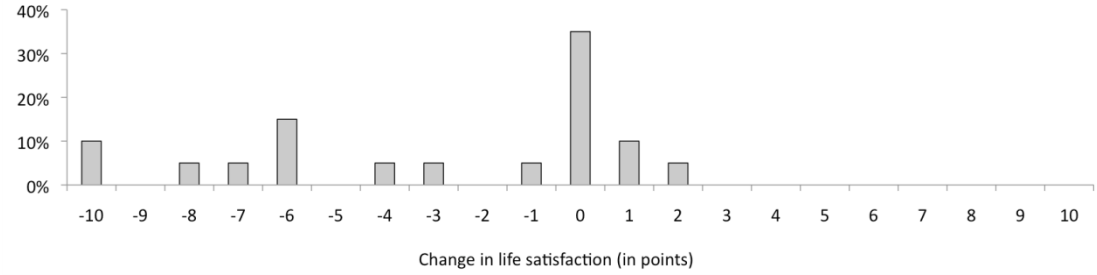
N=89

Figure A.5c: Distribution of change in life satisfaction of the unemployed



N=115

Figure A.5d: Distribution of change in life satisfaction of the labor force dropouts



N=20

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LES CONSÉQUENCES DES LICENCIEMENTS COLLECTIFS

Faculté des sciences sociales et politiques
Institut des sciences sociales

Vous pouvez également remplir ce questionnaire en ligne. Pour ce faire, veuillez vous rendre sur le site www.socialsurvey.ch et entrer le numéro ID indiqué sur votre questionnaire (p.ex. 1002).

Si vous préférez répondre à ce questionnaire par téléphone, veuillez indiquer votre numéro de téléphone (et renvoyez-nous le questionnaire non rempli). Nous vous contacterons d'ici deux à trois semaines.

Votre numéro de téléphone : _____

Instructions importantes pour répondre au questionnaire :

•Veuillez si possible répondre à toutes les questions. Si vous ne voulez ou ne pouvez pas répondre à l'une d'entre elles, veuillez passer directement à la question suivante.

•Veuillez utiliser un crayon foncé et remplir la réponse sélectionnée avec une croix bien lisible (☒). Vos réponses seront scannées.

•Si vous voulez changer de réponse, veuillez colorier la case initialement cochée (■) et faire une croix dans la case correspondant à la nouvelle réponse choisie.

•Aux endroits où vous trouvez une flèche, nous vous prions de passer directement à la question indiquée (p.ex. Aller à C9).

•Aux endroits où vous êtes prié d'entrer des chiffres ou mots dans des cases, veuillez mettre seulement un chiffre ou une lettre par case.

•Il est possible de sélectionner plusieurs réponses pour certaines questions. Il est alors mentionné « réponses multiples possibles ». Dans tous les autres cas veuillez ne sélectionner que la réponse qui correspond le mieux.

Nous vous remercions d'avance pour votre précieuse collaboration !

Daniel Oesch et Isabel Baumann

Section A - Votre situation professionnelle avant votre licenciement

A1. Quelle profession avez-vous exercée dans l'entreprise qui vous a licencié·e ?

Veuillez indiquer le plus précisément possible votre métier (p.ex. employé·e technique qualifié·e, et pas seulement employé·e).

A2. Quel était votre domaine d'activité principal dans l'entreprise qui vous a licencié·e ?

- ☐ Fabrication et transformation
- ☐ Maintenance de machines et d'infrastructures
- ☐ Logistique et transport
- ☐ Conseils, achats et ventes
- ☐ Comptabilité, secrétariat et commerce
- ☐ Recherche, planification et information technology (IT)
- ☐ Stratégie
- ☐ Sécurité et hygiène
- ☐ Autre

A3. Quelle était votre fonction hiérarchique ?

- ☐ Fonction dirigeante (faire partie de la direction)
- ☐ Fonction d'encadrement ou de supervision du travail d'autres personnes (sans compter les apprenti·e·s)
- ☐ Sans fonction d'encadrement ou de supervision

A4. Depuis combien d'années étiez-vous employé·e dans l'entreprise qui vous a licencié·e ?

- ☐ Moins de 2 ans
- ☐ 2-5 ans
- ☐ 6-10 ans
- ☐ 11-20 ans
- ☐ Plus de 20 ans

A5. Au total, combien d'années d'expérience aviez-vous dans votre métier au moment de votre licenciement ?

- ☐ Moins de 2 ans
- ☐ 2-5 ans
- ☐ 6-10 ans
- ☐ 11-20 ans
- ☐ Plus de 20 ans

A6. Quel était le montant de votre salaire mensuel avant le licenciement ?

Veuillez indiquer votre salaire mensuel brut avant le licenciement (salaire avant déductions sociales ou impôt à la source). Si vous ne connaissez pas le montant exact, nous vous prions de l'estimer le plus précisément possible.

☐☐☐☐☐

A7. Receviez-vous un 13ème salaire ?

- ☐ Oui
- ☐ Non

A8. Combien d'heures de travail par semaine étaient définies dans votre contrat de travail – sans heures supplémentaires ?

☐☐

A9. Dans quelle mesure étiez-vous satisfait·e de votre emploi avant le licenciement ?

0 = pas du tout satisfait·e — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 = tout à fait satisfait·e

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

A10. Jusqu'à quand avez-vous travaillé dans l'entreprise qui vous a licencié·e ?

Veuillez indiquer la date de votre dernier jour de travail (p.ex. pour indiquer la date 31 janvier 2009, veuillez entrer 31012009).

☐☐☐☐☐☐☐☐

A11. Depuis que vous avez été licencié·e, avez-vous cherché du travail?

- ☐ Oui
- ☐ Non → **Aller à B8**

Section B - Votre recherche d'emploi après votre licenciement

B1. Durant votre période de recherche d'emploi, étiez-vous inscrit·e comme chômeur·euse dans un Office Régional de Placement (ORP) ou auprès d'un Pôle emploi ?

- ☐ Oui
- ☐ Non

B2. Avez-vous suivi un cours de formation continue ou une reconversion professionnelle depuis votre licenciement ?

- ☐ Oui
- ☐ Non → **Aller à B5**

B3. Combien de temps a duré cette formation continue/reconversion professionnelle ?

- ☐ Elle a duré moins d'un mois ou exactement un mois
- ☐ Elle a duré plus d'un mois

B4. Quel était le but principal de votre formation continue/ reconversion professionnelle ?

- ☐ Une reconversion professionnelle
- ☐ Un approfondissement de vos compétences existantes
- ☐ L'acquisition de nouvelles compétences (langue, informatique, etc.)

B5. Combien de fois avez-vous postulé à un emploi (offres spontanées, réponses à des annonces, etc.) depuis votre licenciement ?

Si vous avez retrouvé un emploi, veuillez indiquer combien de fois vous avez postulé pour trouver votre emploi actuel.

- ☐ Moins de 6
- ☐ 6 à 10
- ☐ 11 à 20
- ☐ 21 à 50
- ☐ 51 à 100
- ☐ Plus de 100

B6. Combien de fois avez-vous été invité·e à des entretiens d'embauche depuis votre licenciement ?

Si vous avez retrouvé un emploi, veuillez indiquer à combien d'entretiens d'embauche vous avez été invité·e avant d'être engagé·e pour votre emploi actuel.

- ☐ Jamais
- ☐ 1 à 2 fois
- ☐ 3 à 5 fois
- ☐ 6 à 10 fois
- ☐ Plus de 10 fois

B7. Après votre licenciement, avez-vous trouvé un premier emploi qui s'est déjà terminé (en dehors des programmes d'occupation et gains intermédiaires de l'ORP) ?

- ☐ Oui, j'étais en intérim/travail temporaire/à durée déterminée
- ☐ Oui, j'ai démissionné
- ☐ Oui, j'ai été licencié·e
- ☐ Non

B8. Quelle est votre situation professionnelle actuelle?

- ☐ Salarié·e
- ☐ Indépendant·e
- ☐ Travaille dans une entreprise/exploitation familiale
- ☐ Au chômage, à l'assurance chômage **Aller à D1**
- ☐ Au chômage, en fin de droits **Aller à D1**
- ☐ En dispense de recherche d'emploi **Aller à D1**
- ☐ En retraite anticipée **Aller à D1**
- ☐ En retraite AVS **Aller à D1**
- ☐ En formation (continue) **Aller à D1**
- ☐ Touche une rente maladie ou invalidité **Aller à D1**
- ☐ Au foyer (tâches domestiques, enfants) **Aller à D1**
- ☐ Autre (congé non payé, etc.) **Aller à D1**

B9. Combien de temps vous a-t-il fallu pour trouver votre emploi actuel ?

Si vous avez eu un autre emploi entre votre licenciement et votre emploi actuel, veuillez indiquer combien de mois au total vous êtes resté·e au chômage entre votre licenciement et maintenant.

- ☐ Moins d'un mois
- ☐ 1 à 2 mois
- ☐ 3 à 4 mois
- ☐ 5 à 6 mois
- ☐ 7 à 9 mois
- ☐ 10 à 12 mois
- ☐ 13 à 18 mois
- ☐ 19 à 24 mois
- ☐ Plus de 24 mois

B10. Si vous repensez au temps que cela vous a nécessité pour retrouver un travail, avez-vous trouvé cette période de temps… ?

- ☐ …beaucoup plus courte qu'attendu
- ☐ …un peu plus courte qu'attendu
- ☐ …correspondante aux attentes
- ☐ …un peu moins longue qu'attendu
- ☐ …beaucoup plus longue qu'attendu

B11. Par quel moyen avez-vous trouvé votre emploi actuel ? Par l'intermédiaire de :

- ☐ L'Office Régional de Placement (ORP)/Pôle emploi
- ☐ Une agence privée de placement
- ☐ Une annonce dans la presse
- ☐ Une candidature spontanée
- ☐ Recherches sur internet/une newsletter en ligne
- ☐ Un·e ancien·ne collègue de travail
- ☐ Votre réseau social proche (famille, amis)
- ☐ Votre réseau social éloigné (connaissances, voisins, autres)
- ☐ Autre

B12. Avez-vous déménagé pour votre nouvel emploi (ou louez-vous une chambre proche de votre nouveau lieu de travail) ?

Oui ☐

Non ☐

Section C - Votre situation professionnelle actuelle

C1. Quelle profession exercez-vous actuellement ?

Veuillez indiquer le plus précisément possible votre métier (p.ex. employé·e technique qualifié·e et pas seulement employé·e)

C2. Dans quelle catégorie classeriez-vous votre activité professionnelle actuelle ?

Ouvrier·ère et employé·e non qualifié·e ☐

Conducteur·trice d'installation et de machines et ouvrier·ère d'assemblage ☐

Artisan·e et ouvrier·ère de métier artisanal (maçon·ne, menusier·ère, etc.) ☐

Agriculteur·trice et ouvrier·ère qualifié·e de l'agriculture ☐

Personnel de service et vendeur·euse de magasin et de marché ☐

Employé·e de type administratif ☐

Profession intermédiaire (technicien·ne ou professions de santé et de formation) ☐

Profession académique (enseignement, recherche, conseil) ☐

Cadre (gestion) ☐

Autre ☐

C3. Êtes-vous employé·e par... ?

Pour les personnes exerçant une profession indépendante, veuillez passer à la prochaine question (C4).

...une entreprise privée ☐

...une entreprise publique ☐

...une ONG/association/organisation caritative ☐

C4. Dans quelle branche économique êtes-vous actif/active?

Veuillez indiquer le plus précisément possible la branche économique dans laquelle vous êtes actif/active (p.ex. horlogerie et non pas seulement industrie).

C5. Quel est le code postal de la commune où se trouve votre entreprise ou organisation?

C6. Quelle est votre fonction hiérarchique ?

- ☐ Fonction dirigeante (faire partie de la direction)
- ☐ Fonction d'encadrement ou de supervision du travail d'autres personnes (sans compter les apprenti·e·s)
- ☐ Sans fonction d'encadrement ou de supervision

C7. Selon votre contrat, combien d'heures de travail devez-vous effectuer par semaine – sans heures supplémentaires ?

Si vous êtes indépendant·e, combien d'heures travaillez-vous habituellement par semaine ?

C8. Avez-vous plusieurs emplois (en même temps)?

- ☐ Oui
- ☐ Non

C9. Quel est le montant de votre salaire mensuel actuel ?

Veuillez indiquer votre salaire mensuel brut actuel (salaire avant déductions sociales ou impôt à la source). Si vous ne connaissez pas le montant exact, nous vous prions de l'estimer le plus précisément possible.

C10. Le montant indiqué est-il… ?

- ☐ …en francs suisse
- ☐ …en euros

C11. Touchez-vous un 13ème salaire ?

- ☐ Oui
- ☐ Non

C12. En comparaison avec votre emploi avant le licenciement, le montant de votre salaire actuel est-il… ?

- …beaucoup plus élevé ☐
- …un peu plus élevé ☐
- …pareil ☐
- …un peu plus bas ☐
- …beaucoup plus bas ☐

C13. Si vous n'avez pas voulu indiquer votre salaire mensuel brut, pourriez-vous indiquer la différence en pourcentage entre votre ancien et votre nouveau salaire?

☐☐

C14. Quel type de contrat de travail avez-vous actuellement ?

- Contrat de durée indéterminée (CDI) ☐
- Contrat de durée déterminée (CDD) (sans contrat de travail intérimaire) ☐
- Contrat de travail intérimaire ☐
- Contrat de travail sur appel ☐
- Autre ☐

C15. Selon vous, quel est le risque que vous perdiez votre emploi actuel ?

- Très élevé ☐
- Assez élevé ☐
- Moyen ☐
- Assez faible ☐
- Très faible ☐
- Je ne le sais pas ☐

C16. Si vous comparez le temps de trajet pour vous rendre sur votre lieu de travail actuel au temps que cela vous prenait pour vous rendre à l'entreprise qui vous a licencié·e, le temps de trajet actuel est-il… ?

- …beaucoup plus long (supérieur à 30 minutes) ☐
- …un peu plus long (de 5 à 30 minutes) ☐
- …égal (+/- 5 minutes) ☐
- …un peu moins long (de 5 à 30 minutes) ☐
- …beaucoup moins long (supérieur à 30 minutes) ☐

C17. En comparaison avec l'emploi que vous aviez avant votre licenciement, votre nouvelle activité signifie-t-elle plutôt...?

- …une meilleure position sociale ☐
- …une position sociale similaire ☐
- ...une moins bonne position sociale ☐

C18. Dans quelle mesure êtes-vous satisfait·e de votre emploi aujourd'hui?

0 = pas du tout satisfait·e	1	2	3	4	5	6	7	8	9	10 = tout à fait satisfait·e
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

C19. Comment jugez-vous l'adéquation de votre formation par rapport à votre emploi actuel ?

- Mon emploi actuel nécessite en règle générale une formation plus élevée que la mienne ☐
- Mon emploi actuel nécessite une formation correspondante à la mienne ☐
- Mon emploi actuel nécessite en règle générale une formation moins élevée que la mienne ☐

Section D - Votre bien-être et vie sociale

D1. D'une manière générale, dans quelle mesure êtes-vous satisfait·e de votre vie aujourd'hui?

0 = pas du tout satisfait·e	1	2	3	4	5	6	7	8	9	10 = tout à fait satisfait·e
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D2. Et dans quelle mesure étiez-vous satisfait·e de votre vie avant le licenciement ?

0 = pas du tout satisfait·e	1	2	3	4	5	6	7	8	9	10 = tout à fait satisfait·e
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D3. Si vous comparez votre situation actuelle avec celle d'avant le licenciement, percevez-vous des changements dans les sphères de vie suivantes et si oui, comment les évaluez-vous ?

	Très positifs	Plutôt positifs	Neutres	Plutôt négatifs	Très négatifs	Pas de changement
Santé physique	☐	☐	☐	☐	☐	☐
Bien-être psychologique	☐	☐	☐	☐	☐	☐
Vie de couple	☐	☐	☐	☐	☐	☐
Vie de famille	☐	☐	☐	☐	☐	☐
Ami·e·s, collègues, connaissances	☐	☐	☐	☐	☐	☐

D4. Considérez-vous qu'il soit plus important de travailler dur et de s'investir ou, au contraire, d'avoir de la chance et des connexions pour réussir ?

0 = travailler et s'investir	1	2	3	4	5	6	7	8	9	10 = avoir de la chance et des contacts
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D5. Diriez vous que c'est vous qui contrôlez ce qui se passe dans votre vie ou plutôt que vous n'avez aucun contrôle sur votre vie ?

0 = je contrôle	1	2	3	4	5	6	7	8	9	10 = je n'ai aucun contrôle
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D6. Veuillez indiquer si vous êtes membre des groupes suivants et si vous avez participé à leurs activités pendant les 12 derniers mois (p.ex. entrainement, séance, messe).

	Je ne suis pas membre	Je suis membre, mais je n'ai pas participé aux activités	Je suis membre et j'ai participé aux activités
Un club sportif ou un club de loisirs	☐	☐	☐
Un groupe de voisin·e·s	☐	☐	☐
Une association d'immigrant·e·s	☐	☐	☐
Une organisation religieuse	☐	☐	☐
Une association ou un groupe caritatif	☐	☐	☐
Un syndicat ou une association professionnelle	☐	☐	☐
Un parti ou une association politique	☐	☐	☐
Une autre association	☐	☐	☐

Section E - Votre ménage

E1. Avez-vous un·e conjoint·e (épouse/époux ou autre partenaire) qui habite dans le même ménage ?

- ☐ Oui
- ☐ Non → **Aller à E4**

E2. Est-elle/il active/actif professionnellement ?

- ☐ Oui
- ☐ Non, elle/il est en recherche de travail ou au chômage → **Aller à E4**
- ☐ Non, elle/il est ni en recherche de travail ni au chômage → **Aller à E4**

E3. Votre conjoint·e a-t-elle/il changé sa situation professionnelle à la suite de votre licenciement ?

Réponses multiples possibles

- ☐ Oui, elle/il a commencé un nouvel emploi
- ☐ Oui, elle/il a augmenté ses heures de travail
- ☐ Oui, elle/il a réduit ses heures de travail
- ☐ Oui, elle/il a perdu son ancien emploi
- ☐ Oui, elle/il a arrêté de travailler
- ☐ Non

E4. Avez-vous changé votre manière de gérer vos revenus et fortunes à la suite de votre licenciement ?

- ☐ Oui, j'ai fait plus attention à mes dépenses
- ☐ Oui, j'ai fait moins attention à mes dépenses
- ☐ Non → **Aller à F1**

E5. Avez-vous fait des restrictions financières en ce qui concerne les aspects suivants ?

	Oui	Non
Vacances	☐	☐
Logement	☐	☐
Manger et boire	☐	☐
Transport	☐	☐
Autre	☐	☐

E6. Avez-vous pris d'autres mesures pour gérer vos revenus et fortunes ?

	Oui	Non
J'ai cherché du travail complémentaire	☐	☐
J'ai utilisé mes économies	☐	☐
J'ai épargné moins ou j'ai complètement arrêté d'épargner	☐	☐
J'ai emprunté de l'argent à des parents, ami·e·s ou connaissances	☐	☐
J'ai contracté un emprunt auprès d'une banque	☐	☐
J'ai vendu des biens de consommation ou des objets de valeur	☐	☐
Autre	☐	☐

Section F - Données personnelles

F1. Êtes vous…?

☐ …un homme

☐ …une femme

F2. Quelle est votre date de naissance ?

Pour indiquer la date 1 mai 1955, veuillez entrer 01051955.

☐☐☐☐☐☐☐☐

F3. De quel·s pays avez-vous la nationalité ?

Réponses multiples possibles

☐ Suisse

☐ Allemagne

☐ France

☐ Portugal

☐ Italie

☐ Espagne

☐ Kosovo ou Albanie

☐ Ex-Yougoslavie (Bosnie-Herzégovine, Croatie, Macédoine, Monténégro, Serbie, Slovénie)

☐ Turquie

☐ Autre

F4. Si vous n'êtes pas suisse mais vivez ou travaillez en Suisse, quel type de permis de séjour avez-vous ?

- ☐ Permis d'établissement C
- ☐ Permis B
- ☐ Permis G (frontalier)
- ☐ Autre

F5. Quelle est la formation la plus élevée que vous avez achevée avec l'obtention d'un certificat ou d'un diplôme ?

- ☐ Scolarité obligatoire/sans diplôme
- ☐ Préapprentissage/stage ménager/une année d'école commerciale courte/brevet des collèges
- ☐ Apprentissage/CAP/BEP
- ☐ Maturité/BAC
- ☐ Formation professionnelle supérieure/maîtrise/diplômes paramédicaux et sociaux/DUT/DEUST/BTS
- ☐ Haute Ecole Spécialisé
- ☐ Université (bachelor, licence, maîtrise, master, DEUG)

F6. Si le français n'est pas la langue que vous maitrisez le mieux, comment estimez-vous votre niveau de français ?

- ☐ Faibles connaissances
- ☐ Connaissances moyennes
- ☐ Bonnes connaissances
- ☐ Ne s'applique pas (le français est ma première langue)

Section G - Données additionnelles

G1. Dans le but de bien comprendre votre trajectoire professionnelle, nous souhaiterions accéder à la base de données de l'assurance chômage (PLASTA) du Secrétariat d'Etat à l'Economie (SECO). L'inclusion de ces données améliorerait de manière substantielle la qualité de notre étude. Ces données sont très factuelles, indiquant notamment le nombre de mois de chômage, la situation géographique et d'autres informations de ce type. Tout comme les données du questionnaire, celles-ci seront utilisées uniquement à des fins scientifiques et seront traitées de manière strictement confidentielle. Nos analyses ne permettront aucune conclusion individuelle. Si vous n'êtes pas d'accord que nous accédions à la base de données du SECO, nous vous prions de cocher la case suivante et de nous renvoyer le questionnaire.

Si vous ne vous êtes pas inscrit·e à l'ORP (p.ex. parce que vous avez trouvé du travail directement après le licenciement ou parce que vous vous êtes inscrit·e à un Pôle d'emploi en France), vous n'êtes pas concerné·e par cette question. Veuillez passer à la prochaine question (G2).

Je ne suis pas d'accord que vous accédiez à la base de données de la caisse de chômage du SECO. ☐

G2. Dans le cas où nous souhaiterons vous poser des questions complémentaires au cours de notre projet, accepteriez-vous que nous vous recontactions ?

Oui ☐

Non ☐

G3. Souhaitez-vous ajouter des commentaires ?

G4. Souhaitez-vous être informé·e des résultats de notre étude ?

Oui ☐

Non ☐

G5. Si oui, veuillez indiquer une adresse email à laquelle nous pourrons vous envoyer un résumé du rapport final :

Nous vous remercions de nous retourner le questionnaire à l'aide de l'enveloppe affranchie ci-joint et ceci d'ici au 16 octobre 2011 au plus tard.
Nous vous remercions chaleureusement pour votre participation !

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DIE AUSWIRKUNGEN VON MASSENENTLASSUNGEN

Faculté des sciences sociales et politiques
Institut des sciences sociales

Sie können diesen Fragebogen auch online ausfüllen. Gehen Sie dazu bitte auf www.socialsurvey.ch und geben Sie die ID-Nummer ein, welche oben auf Ihrem Fragebogen aufgedruckt ist (z.B. 1002). Falls Sie den Fragebogen lieber telefonisch ausfüllen möchten, geben Sie bitte Ihre Telefonnummer an (und senden Sie uns den Fragebogen unbeantwortet zurück). Wir werden Sie dann innerhalb der nächsten zwei bis drei Wochen anrufen.

Ihre Telefonnummer: _____

WICHTIGE HINWEISE ZUM AUSFÜLLEN DES FRAGEBOGENS:

•Wir bitten Sie, möglichst alle Fragen zu beantworten. Falls Sie eine Frage nicht beantworten können oder möchten, können Sie diese Frage überspringen.

•Bitte verwenden Sie einen dunklen Stift und kreuzen die Kästchen gut lesbar an (☒). Ihre Antworten werden eingescannt.

•Falls Sie Ihre Antwort korrigieren möchten, füllen Sie bitte das ganze Kästchen aus (■) und kreuzen dann die passende Antwort an.

•An denjenigen Stellen im Fragebogen, wo Sie einen Pfeil vorfinden, gehen Sie bitte zur angegebenen Frage weiter (z.B. Weiter zu C9).

•An denjenigen Stellen im Fragebogen, wo Sie gebeten werden, Zahlen oder Wörter anzugeben, geben Sie bitte nur eine Zahl oder einen Buchstaben pro Kästchen an.

•Bei einigen Fragen können Sie mehr als eine Antwort ankreuzen. Diese Fragen sind mit der Bemerkung „Mehrfachantworten möglich“ gekennzeichnet. In allen anderen Fällen bitten wir Sie, die am besten zutreffende Antwort auszuwählen.

Herzlichen Dank im Voraus für Ihre wertvolle Unterstützung!

Daniel Oesch und Isabel Baumann

Section A - Ihre berufliche Situation vor der Entlassung

A1. In welchem Beruf waren Sie in dem Unternehmen, von welchem Sie entlassen wurden, tätig?

A2. Welches war Ihre zentrale Tätigkeit in dem Unternehmen, von welchem Sie entlassen wurden?

- ☐ Herstellung und Bearbeitung
- ☐ Unterhalt von Maschinen und Anlagen
- ☐ Logistik, Transport
- ☐ Beratung, Einkauf, Verkauf
- ☐ Buchhaltung, Sekretariat, Kaufmännische Tätigkeiten
- ☐ Forschung, Planung und Information Technology (IT)
- ☐ Strategie
- ☐ Sicherheit und Reinigung
- ☐ Anderes

A3. Welche hierarchische Funktion haben Sie ausgeübt?

- ☐ Direktionsfunktion (Mitglied der Direktion oder Geschäftsleitung)
- ☐ Kaderfunktion oder Aufsicht von Mitarbeitenden (ohne Auszubildende/Lehrlinge)
- ☐ Ohne Kaderfunktion oder Aufsicht von Mitarbeitenden

A4. Wie lange waren Sie in dem Unternehmen, von welchem Sie entlassen wurden, angestellt?

- ☐ Weniger als 2 Jahre
- ☐ 2-5 Jahre
- ☐ 6-10 Jahre
- ☐ 11-20 Jahre
- ☐ Mehr als 20 Jahre

A5. Wie viele Jahre Erfahrung hatten Sie zum Zeitpunkt der Entlassung insgesamt in Ihrem Beruf?

- ☐ Weniger als 2 Jahre
- ☐ 2-5 Jahre
- ☐ 6-10 Jahre
- ☐ 11-20 Jahre
- ☐ Mehr als 20 Jahre

A6. Wie hoch war Ihr Monatslohn vor der Entlassung?

Bitte geben Sie Ihren monatlichen Bruttolohn (Lohn vor Abzug der Sozialbeiträge oder der Quellensteuer) an. Falls Sie den genauen Betrag nicht wissen, geben Sie bitte eine möglichst genaue Schätzung an.

☐☐☐☐☐

A7. Haben Sie einen 13. Monatslohn erhalten?

- ☐ Ja
- ☐ Nein

A8. Wie viele Wochenarbeitsstunden mussten Sie laut Ihrem Arbeitsvertrag leisten – ohne Überstunden?

☐☐

A9. Wie zufrieden waren Sie vor der Entlassung mit Ihrer Stelle?

0 = überhaupt nicht zufrieden	1	2	3	4	5	6	7	8	9	10 = voll und ganz zufrieden
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

A10. An welchem Datum hatten Sie in dem Unternehmen, von welchem Sie entlassen wurden, Ihren letzten Arbeitstag?

Bitte geben Sie das Datum an (um z.B. das Datum 31. Januar 2009 anzugeben, schreiben Sie bitte 31012009).

☐☐☐☐☐☐☐☐

A11. Haben Sie seit der Entlassung eine Stelle gesucht?

- ☐ Ja
- ☐ Nein → **Weiter zu B8**

Section B - Ihre Stellensuche nach der Entlassung

B1. Haben Sie sich während Ihrer Arbeitssuche bei der Arbeitslosenversicherung als arbeitslos angemeldet?

- ☐ Ja
- ☐ Nein

B2. Haben Sie seit der Entlassung bei Ihrem ehemaligen Unternehmen eine Weiterbildung oder eine Umschulung besucht?

- ☐ Ja
- ☐ Nein → **Weiter zu B5**

B3. Wie lange hat diese Weiterbildung/Umschulung gedauert?

- ☐ Diese hat weniger als oder genau einen Monat gedauert
- ☐ Diese hat mehr als einen Monat gedauert

B4. Welches war das zentrale Ziel Ihrer Weiterbildung/Umschulung?

- ☐ Eine Umschulung
- ☐ Eine Vertiefung Ihrer bestehenden Kenntnisse
- ☐ Der Erwerb neuer Kenntnisse (Sprache, Informatik, etc.)

B5. Wie oft haben Sie sich seit der Entlassung auf eine Stelle beworben (Blindbewerbungen, Bewerbungen auf Stellenangebote, etc.)?

Falls Sie bereits eine Stelle gefunden haben, geben Sie bitte an, wie viele Bewerbungen Sie geschrieben haben, bis sie Ihre derzeitige Stelle gefunden haben.

- ☐ Weniger als 6
- ☐ 6-10
- ☐ 11-20
- ☐ 21-50
- ☐ 51-100
- ☐ Über 100

B6. Wie viele Male sind Sie seit der Entlassung zu Bewerbungsgesprächen eingeladen worden?

Falls Sie bereits eine Stelle gefunden haben, geben Sie bitte an, zu wie vielen Bewerbungsgesprächen Sie eingeladen worden sind, bis Sie Ihre derzeitige Stelle gefunden haben.

- ☐ Nie
- ☐ 1-2 Mal
- ☐ 3-5 Mal
- ☐ 6-10 Mal
- ☐ Über 10 Mal

B7. Haben Sie nach der Entlassung eine Stelle angenommen (ausserhalb von Beschäftigungsprogrammen und Zwischenverdiensten der Arbeitslosenversicherung), die Sie inzwischen wieder verlassen haben?

- ☐ Ja, ich hatte eine Temporärstelle
- ☐ Ja, ich habe gekündigt
- ☐ Ja, ich wurde entlassen
- ☐ Nein

B8. Welches ist Ihre derzeitige berufliche Situation?

- ☐ Arbeitnehmer/-in
- ☐ Selbständig
- ☐ Mitarbeit in Familienbetrieb
- ☐ Arbeitslos, bei der Arbeitslosenkasse angemeldet → **Weiter zu D1**
- ☐ Arbeitslos, ausgesteuert → **Weiter zu D1**
- ☐ Frühpensioniert → **Weiter zu D1**
- ☐ Regulär pensioniert → **Weiter zu D1**
- ☐ In Aus- oder Weiterbildung → **Weiter zu D1**
- ☐ Bezug einer Invalidenrente → **Weiter zu D1**
- ☐ Zu Hause (Hausarbeiten, Kinder) → **Weiter zu D1**
- ☐ Andere Tätigkeit (unbezahlter Urlaub, etc.) → **Weiter zu D1**

B9. Wie viel Zeit haben Sie benötigt, um Ihre derzeitige Stelle zu finden?

Falls Sie zwischen der Entlassung und Ihrer derzeitigen Stelle eine Arbeit angenommen haben, die Sie inzwischen wieder verlassen haben, geben Sie bitte an wie viele Monate Sie insgesamt arbeitslos waren.

- ☐ Weniger als einen Monat
- ☐ 1 bis 2 Monate
- ☐ 3 bis 4 Monate
- ☐ 5 bis 6 Monate
- ☐ 7 bis 9 Monate
- ☐ 10 bis 12 Monate
- ☐ 13 bis 18 Monate
- ☐ 19 bis 24 Monate
- ☐ Mehr als 24 Monate

B10. Wenn Sie an die Dauer denken, die Sie benötigt haben, um wieder eine Stelle zu finden, war diese Dauer...?

- ☐ ...viel länger als Sie erwartet haben
- ☐ ...etwas länger als Sie erwartet haben
- ☐ ...genau so lange wie Sie erwartet haben
- ☐ ...etwas kürzer als Sie erwartet haben
- ☐ ...viel kürzer als Sie erwartet haben

B11. Bitte geben Sie an, wie Sie von Ihrer derzeitigen Stelle erfahren haben? Durch:

- ☐ das Regionale Arbeitsvermittlungszentrum (RAV)
- ☐ ein privates Stellenvermittlungsbüro
- ☐ ein Stellenangebot in der Presse
- ☐ eine Blindbewerbung bei einem Arbeitgeber
- ☐ Internet-Suche/einen Online-Newsletter
- ☐ frühere Arbeitskolleg/-innen
- ☐ jemanden aus meinem engen Bekanntenkreis (Familie, Freunde)
- ☐ jemanden aus meinem weiten Bekanntenkreis (Bekannte, Nachbarn, Sonstige)
- ☐ andere Methoden

B12. Sind Sie für Ihre derzeitige Beschäftigung umgezogen (respektive mieten Sie ein Zimmer an Ihrem derzeitigen Arbeitsort)?

Ja ☐

Nein ☐

Section C - Ihre derzeitige berufliche Situation

C1. In welchem Beruf sind Sie im Moment tätig?

Bitte geben Sie Ihren Beruf möglichst genau an (z.B. Technischer Sachbearbeiter und nicht nur Sachbearbeiter).

C2. Welcher der folgenden Berufsgruppen würden Sie Ihre derzeitige berufliche Tätigkeit am ehesten zuordnen?

Hilfsarbeitskraft ☐

Anlagen- und Maschinenbediener/-in, Monteur/-in ☐

Handwerks- und verwandter Beruf (Maurer/-in, Schreiner/-in, etc.) ☐

Fachkraft in der Landwirtschaft ☐

Dienstleistungsberuf, Verkäufer/-in in Geschäften und auf Märkten ☐

Bürokraft, kaufmännische/-r Angestellte/-r ☐

Technischer Beruf und nicht akademischer Gesundheits- und Lehrberuf ☐

Akademischer Beruf (Lehre, Forschung, Beratung) ☐

Führungskraft ☐

Anderes ☐

C3. Ist Ihr Arbeitgeber...

Selbständig Erwerbende: bitte weiter zur nächsten Frage (C4).

...eine private Firma? ☐

...ein öffentlicher Arbeitgeber? ☐

...ein NGO/Verband/wohltätige Organisation? ☐

C4. In welcher Wirtschaftsbranche sind Sie tätig?

Bitte geben Sie die Wirtschaftsbranche, in welcher Sie tätig sind, möglichst genau an (z.B. Uhrenindustrie und nicht nur Industrie).

C5. Welches ist die Postleitzahl Ihres Arbeitsortes?

C6. Welche hierarchische Funktion üben Sie aus?

- ☐ Direktionsfunktion (Mitglied der Direktion oder Geschäftsleitung)
- ☐ Kaderfunktion oder Aufsicht von Mitarbeitenden (ohne Auszubildende/Lehrlinge)
- ☐ Ohne Kaderfunktion oder Aufsicht von Mitarbeitenden

C7. Wie viele Wochenarbeitsstunden müssen Sie laut Ihrem Arbeitsvertrag leisten – ohne Überstunden?

Falls Sie selbständig erwerbend sind, wie viele Arbeitsstunden arbeiten Sie in der Regel pro Woche?

C8. Haben Sie mehrere Stellen (gleichzeitig)?

- ☐ Ja
- ☐ Nein

C9. Wie hoch ist Ihr derzeitiger Monatslohn?

Bitte geben Sie Ihren derzeitigen monatlichen Bruttolohn (Lohn vor Abzug der Sozialbeiträge oder der Quellensteuer) an. Falls Sie den genauen Betrag nicht wissen, geben Sie bitte eine möglichst genaue Schätzung an.

C10. In welcher Währung haben Sie Ihren Monatslohn angegeben?

- ☐ In Schweizer Franken
- ☐ In Euro

C11. Erhalten Sie einen 13. Monatslohn?

- ☐ Ja
- ☐ Nein

C12. Im Vergleich mit Ihrer Stelle vor der Entlassung, ist Ihr derzeitiger Lohn...?

- ☐ ...viel höher
- ☐ ...etwas höher
- ☐ ...gleich hoch
- ☐ ...etwas tiefer
- ☐ ...viel tiefer

C13. Falls Sie nicht bereit sind, Ihren Bruttomonatslohn anzugeben, können Sie den Unterschied zwischen Ihrem ehemaligen und Ihrem derzeitigen Lohn in Prozenten angeben?

☐☐

C14. Welchen Typ von Arbeitsvertrag haben Sie derzeit?

- ☐ Unbefristeter Vertrag
- ☐ Befristeter Vertrag (ohne Temporärarbeitsvertrag)
- ☐ Temporärarbeitsvertrag
- ☐ Arbeit auf Abruf
- ☐ Anderes

C15. Wie hoch schätzen Sie das Risiko ein, dass Sie Ihren derzeitigen Arbeitsplatz verlieren?

- ☐ Sehr hoch
- ☐ Eher hoch
- ☐ Mittel
- ☐ Eher gering
- ☐ Sehr gering
- ☐ Ich weiss es nicht

C16. Wenn Sie den Arbeitsweg zu Ihrem derzeitigen Arbeitsplatz mit demjenigen vergleichen, den Sie vor Ihrer Entlassung hatten, ist Ihr derzeitiger Arbeitsweg...?

...viel länger (mehr als 30 Minuten) ☐

...etwas länger (5 bis 30 Minuten) ☐

...gleich lang ☐

...etwas kürzer (5 bis 30 Minuten) ☐

...viel kürzer (mehr als 30 Minuten) ☐

C17. Verglichen mit Ihrer Stelle vor der Entlassung, bedeutet Ihre derzeitige Beschäftigung...?

...einen sozialen Aufstieg ☐

...eine ähnliche soziale Position ☐

...einen sozialen Abstieg ☐

C18. Wie zufrieden sind Sie mit Ihrer derzeitigen Stelle im Vergleich zu Ihrer Stelle vor der Entlassung?

0 = überhaupt nicht zufrieden	1	2	3	4	5	6	7	8	9	10 = voll und ganz zufrieden
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

C19. Inwiefern entspricht Ihre Ausbildung den Anforderungen Ihrer derzeitigen Stelle?

Für meine derzeitige Stelle benötigt man in der Regel eine höhere Ausbildung als diejenige, die ich habe ☐

Meine derzeitige Stelle entspricht meiner Ausbildung ☐

Für meine derzeitige Stelle benötigt man in der Regel eine weniger hohe Ausbildung als diejenige, die ich habe ☐

Section D - Ihre Zufriedenheit und Ihr Sozialleben

D1. Wie zufrieden sind Sie heute ganz allgemein mit Ihrem Leben?

0 = überhaupt nicht zufrieden	1	2	3	4	5	6	7	8	9	10 = voll und ganz zufrieden
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D2. Wie zufrieden waren Sie vor der Entlassung ganz allgemein mit Ihrem Leben?

0 = überhaupt nicht zufrieden	1	2	3	4	5	6	7	8	9	10 = voll und ganz zufrieden
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D3. Wenn Sie Ihre derzeitige Situation mit Ihrer Situation vor der Entlassung vergleichen, hat sich in den folgenden Lebensbereichen etwas verändert und falls ja, wie bewerten Sie die Veränderungen?

	Sehr positiv	Eher positiv	Weder positiv noch negativ	Eher negativ	Sehr negativ	Keine Veränderung
Körperliche Gesundheit	☐	☐	☐	☐	☐	☐
Psychisches Wohlbefinden	☐	☐	☐	☐	☐	☐
Partnerschaft	☐	☐	☐	☐	☐	☐
Familie	☐	☐	☐	☐	☐	☐
Freunde, Arbeitskollegen, Bekannte	☐	☐	☐	☐	☐	☐

D4. Denken Sie, dass man eher durch hartes Arbeiten und Engagement oder eher durch Glück und Kontakte zu beruflichem Erfolg gelangt?

0 = durch hartes Arbeiten und Engagement	1	2	3	4	5	6	7	8	9	10 = durch Glück und Kontakte
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D5. Denken Sie, dass man sein Schicksal eher selber bestimmen kann oder dass man es eher nicht selber bestimmen kann?

0 = selber bestimmen	1	2	3	4	5	6	7	8	9	10 = nicht selber bestimmen
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

D6. Bitte geben Sie an, ob Sie Mitglied der folgenden Gruppen sind und ob Sie in den letzten 12 Monaten an ihren Aktivitäten (z.B. Sporttraining, Sitzung, Gottesdienst) teilgenommen haben.

	Ich bin nicht Mitglied	Ich bin Mitglied, habe aber nicht an ihren/seinen Aktivitäten teilgenommen	Ich bin Mitglied und habe an ihren/seinen Aktivitäten teilgenommen
Ein Sport-, Hobby- oder Freizeitclub	☐	☐	☐
Eine Nachbarvereinigung	☐	☐	☐
Ein Ausländerverein oder ein Kulturzentrum für Migranten	☐	☐	☐
Eine Kirche oder eine religiöse Gruppierung	☐	☐	☐
Eine wohltätige Organisation	☐	☐	☐
Eine Gewerkschaft oder ein Berufsverband	☐	☐	☐
Eine politische Partei, Club oder Vereinigung	☐	☐	☐
Andere Vereinigungen oder Gruppen	☐	☐	☐

Section E - Ihr Haushalt

E1. Haben Sie eine Parterin/einen Partner (Ehefrau/Ehemann oder anderer Partner), die/der im gleichen Haushalt lebt?

- ☐ Ja
- ☐ Nein → **Weiter zu E4**

E2. Ist sie/er erwerbstätig?

- ☐ Ja
- ☐ Nein, sie/er ist auf Arbeitssuche oder arbeitslos → **Weiter zu E4**
- ☐ Nein, sie/er ist weder auf Arbeitssuche noch arbeitslos → **Weiter zu E4**

E3. Hat Ihre Partnerin/Ihr Partner als Folge Ihrer Entlassung ihre/ seine Erwerbssituation verändert?

Mehrfachantworten möglich

- ☐ Ja, sie/er hat eine neue Stelle angetreten
- ☐ Ja, sie/er hat ihre/seine Arbeitsstunden erhöht
- ☐ Ja, sie/er hat ihre/seine Arbeitsstunden gesenkt
- ☐ Ja, sie/er hat ihre/seine Stelle verloren
- ☐ Ja, sie/er hat ihre/seine Stelle aufgegeben
- ☐ Nein

E4. Haben Sie aufgrund der Entlassung Ihren Umgang mit Einkommen und Vermögen verändert?

- ☐ Ja, ich war vorsichtiger mit meinen Ausgaben
- ☐ Ja, ich war weniger vorsichtig mit meinen Ausgaben
- ☐ Nein → **Weiter zu F1**

E5. Haben Sie bei folgenden Posten finanzielle Einschränkungen vorgenommen?

	Ja	Nein
Ferien	☐	☐
Wohnen	☐	☐
Essen und Trinken	☐	☐
Transport	☐	☐
Anderes	☐	☐

E6. Haben Sie weitere Massnahmen im Umgang mit Einkommen und Vermögen ergriffen?

	Ja	Nein
Ich habe einen Nebenverdienst gesucht	☐	☐
Ich habe von meinem Gesparten Gebrauch gemacht	☐	☐
Ich habe weniger gespart oder ganz aufgehört zu sparen	☐	☐
Ich habe bei jemandem aus der Familie, Verwandtschaft oder aus dem Freundeskreis Geld ausgeliehen	☐	☐
Ich habe bei einer Bank einen Kredit aufgenommen	☐	☐
Ich habe Güter oder Wertsachen verkauft	☐	☐
Anderes	☐	☐

Section F - Angaben zu Ihrer Person

F1. Geschlecht

☐ Weiblich

☐ Männlich

F2. Geburtsdatum

Um z.B. das Datum 1. Mai 1955 anzugeben, schreiben Sie bitte 01051955.

☐☐☐☐☐☐☐☐

F3. Nationalität

Mehrfachantworten möglich

☐ Schweiz

☐ Deutschland

☐ Frankreich

☐ Portugal

☐ Italien

☐ Spanien

☐ Kosovo oder Albanien

☐ Ex-Jugoslawien (Bosnien-Herzegowina, Kroatien, Mazedonien, Montenegro, Serbien, Slowenien)

☐ Türkei

☐ Andere

F4. Falls Sie nicht Schweizerin oder Schweizer sind, jedoch in der Schweiz leben oder arbeiten, welche Aufenthaltsbewilligung besitzen Sie?

- ☐ Aufenthaltsbewilligung C
- ☐ Aufenthaltsbewilligung B
- ☐ Aufenthaltsbewilligung G (Grenzgänger/-in)
- ☐ Andere

F5. Welches ist die höchste Ausbildung, die Sie mit einem Zeugnis oder einem Diplom abgeschlossen haben?

- ☐ Obligatorische Schule
- ☐ Vorlehre/Anlehre/Haushaltsjahr
- ☐ Lehre/Berufsschule
- ☐ Matura
- ☐ Höhere Berufsausbildung/Meisterprüfung
- ☐ Fachhochschule
- ☐ Universität

F6. Falls Deutsch nicht die Sprache ist, die Sie am besten beherrschen, wie schätzen Sie ihre Deutsch-Kenntnisse ein?

- ☐ Wenige Kenntnisse
- ☐ Mittlere Kenntnisse
- ☐ Gute Kenntnisse
- ☐ Betrifft mich nicht (Deutsch ist die Sprache, die ich am Besten beherrsche)

Section G - Weitere Angaben

G1. Um ein besseres Verständnis Ihrer beruflichen Laufbahn zu erhalten, möchten wir gerne auf die Datenbank der Arbeitslosenversicherung (AVAM) des Staatssekretariats für Wirtschaft (SECO) zurückgreifen. Der Einbezug dieser Angaben verbessert die Qualität unserer Studie massgeblich. Es handelt sich dabei um Informationen über die Dauer der Arbeitslosigkeit, über die geographische Region und ähnliche Angaben. Genau wie die Angaben, die Sie in diesem Fragebogen machen, werden diese Daten ausschliesslich zu wissenschaftlichen Zwecken verwendet und streng vertraulich behandelt. Unsere Auswertungen werden keinerlei Rückschlüsse auf Ihre Person ermöglichen. Falls Sie nicht damit einverstanden sind, dass wir auf die Datenbank des SECO zugreifen, bitten wir Sie, das folgende Kästchen anzukreuzen und uns den Fragebogen zurück zu senden.

Falls Sie sich nicht beim RAV eingeschrieben haben (z.B. weil Sie direkt nach der Entlassung eine Arbeit gefunden haben), betrifft Sie diese Frage nicht (bitte weiter zu G2).

Ich bin nicht damit einverstanden, dass Sie auf die Angaben in der Datenbank der Arbeitslosenversicherung des SECO zugreifen. ☐

G2. Falls im Rahmen des Forschungsprojektes weitere Fragen auftauchen würden, dürfen wir Sie nochmals kontaktieren?

Ja ☐

Nein ☐

G3. Möchten Sie Bemerkungen oder Kommentare anbringen?

G4. Möchten Sie über die Resultate der Studie informiert werden?

Ja ☐

Nein ☐

G5. Wenn ja, geben Sie bitte eine Email-Adresse an, an welche wir eine Zusammenfassung des Schlussberichts senden können:

Bitte senden Sie den Fragebogen mit dem beiliegenden Antwortcouvert bis spätestens am 16. Oktober 2011 an uns zurück.
Wir danken Ihnen ganz herzlich für Ihre Teilnahme!