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**TITLE**

Towards a multi-dimensional theory of post-unemployment scarring: recurrence, instability and downgrading

**Research paper**

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## Abstract

Many studies compare employed and unemployed workers to highlight the effect of unemployment. The majority of them neglect of the dynamic aspect of unemployment trajectories and measure unemployment scarring by wage. We seek to examine post-unemployment in terms of trajectories, which also include re-entries into the labor market and mobility between different occupational categories. Moreover, we seek to study scarring in multiple forms, such as employment instability or social downgrading.

We describe 512 careers touched by a period of unemployment relying on the data from the 1999-2011 waves of the Swiss Household Panel. This main sample is compared to a control sample without any period of unemployment. In both samples, we examine employment careers by a combination of sequence analysis and regression analysis. We seek to relate sex, age, nationality, education, social origin and socio-professional categories to risks and opportunities caused by a period of unemployment.

Our findings show that different groups are exposed to different forms of unemployment scarring, depending on their resources and opportunity structures. We identified three type of scarring: recurrent unemployment, downgrading (i.e. the reintegration in a less prestigious job position) and instability (i.e. frequent changes in the job position). Not one single group is touched by all forms of unemployment scarring and, inversely, specific groups are hit by specific forms of scarring. Not only groups traditionally "vulnerable" (e.g. foreign or elderly workers) are sensitive to scarring due to unemployment. Highly educated workers are also affected by the consequences of a period of unemployment.

This leads us to a broader reflection about the possible relationship across different forms of scarring: individuals may be obliged to choose between different forms of scarring. However, this is not only a question of choice, as specific resources and opportunity structures determine which forms of scarring are available for particular groups. These insights can be used to create group-oriented as well as individual social policies, when considering each worker as a member of different groups at the same time.

## Keywords

Post-unemployment trajectories | Labor market | Downgrading | Instability

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## **1. Introduction**

Despite the transformations of contemporary labor markets, employment is still the key to social reputation, identity or standard of living in most of European societies (Knabe et al. 2010; Krause 2010). As the other side of the coin, unemployment is a life course hazard that casts a shadow over most of these core aspects of modern life (Arulampalam 2000; Cappellari and Jenkins 2008; Djurdjevic 2003). In the aftermath of the economic crisis of 2008 unemployment became once again a mass phenomenon hitting the very heart of social cohesion, especially of southern European societies. Unemployment is damaging for our societies as a whole: high rates of unemployment easily lead to political dissatisfaction and undermine welfare state regimes, which are heavily based on employment related funding. Individually, unemployment leads to poverty (Vandecasteele 2010), erodes identities, generates anxieties and depression (Oesch and Lipps 2012) and causes health (McKee-Ryan et al. 2005) and family problems (Engelhardt 2010). These risks are not limited to the period of unemployment but leave long-term scars (Arulampalam 2000; Gangl 2006). In this article, we propose a multi-dimensional theory of post-unemployment scarring which puts whole trajectories to the fore. We study three different forms of unemployment scarring: unemployment recurrence, career instability and downgrading. We study the relation between these scarring processes and examine the influence of socio-demographic factors on unemployment scarring. The remainder of the article is organized as follows: we first present recent theories of unemployment scarring, then propose a series of innovations and discuss how they can be applied to the Swiss case. Then, following our research hypothesis, we present the data and method and discuss our results in two sections: a descriptive part on post-unemployment trajectories and an explanatory part on the three forms of scarring. The article is rounded off with a conclusive discussion.

## **2. Theories of unemployment scarring**

The concept of unemployment scarring states that a period of unemployment creates negatives effects on the subsequent career, leaving a “scar”. The negative effect was initially observed in the economic studies of the nineties and early 2000, and operationalized as a wage penalty (Arulampalam, Gregg, and Gregory 2001; Arulampalam 2000; Narendranathan and Elias 1993; Stevens 1997). The measure of the scarring effect via wage penalties is still the most used, also outside the economic literature (Gangl 2006; Oesch and Baumann 2014). Nevertheless, the concept slowly enlarged its

meaning including all the negative effects following a period of unemployment, like the possibility to find a new job (Luijkx and Wolbers 2009), the emotional repercussions (Clark, Georgellis, and Sanfey 2001) or the stability of future perspectives (Knabe and Rätzel 2008). The scarring effect is proved to be persistent in time (Arulampalam 2000; Stevens 1997) being particularly penalizing in early careers (Luijkx and Wolbers 2009). While state dependency is almost unanimously accepted (see Narendranathan and Elias 1993 for an exception), the elements leading to long-term effects are debated. Some authors stress the importance of unemployment duration over unemployment frequency (Luijkx and Wolbers 2009) while others posit the opposite (Arulampalam 2000). The presence of scars is independent of both the institutional context and the personal characteristics. Even if social policies proved to be effective against it (Gangl 2006), the mere presence of a post-unemployment scarring effect seems to be independent of the institutional context as it is observed in different welfare regimes. Also workers' socio-demographic characteristics (Luijkx and Wolbers 2009) and education (Arulampalam 2000) was proved to have only a mitigation effect.

### *2.1 Narrow and non-sequential?*

Starting from this conceptual frame, research on the effects of unemployment spells has made great progress in the last years. This type of research mainly focuses on causal analyses between unemployment and the employment situation at a later moment. This road however has led to a certain narrowing down of the research question and also – paradoxically – to the neglect of the dynamic aspect of unemployment trajectories.

As a first consequence, especially in the economic tradition, the operationalization of unemployment scarring is most often measured by wage. Wage is a so-called objective variable which is available in many large surveys and which, because of its continuous character, has certain advantages for regression analysis. Wage is undoubtedly an important variable and a wage loss a reasonable proxy for scarring. However, it is not the only relevant indicator of scarring and should be completed by other measures. As Dieckhoff (2011) argues “non-monetary” aspects of job quality should get more attention in order to understand scarring more comprehensively. Under this perspective, a small number of studies have formulated alternative operationalizations of post-unemployment scarring such as the type of contract, job authority or even psychological measures (Brand 2006; Clark et al. 2001; Dieckhoff 2011; Knabe and Rätzel 2008; Luijkx and Wolbers 2009).

Second, most of the studies examine scars by just comparing two (or sometimes three) moments in time, instead of genuinely examining the employment trajectory. Typically, a moment  $T - 1$ , a year before the occurrence of unemployment, is compared with a later moment (Cappellari and Jenkins 2008; Russell and O’Connell 2001; Stewart 2007), for example subsequent to a standardized period of five years (Gangl 2006) or much later at a certain age (Brandt and Hank 2014). The implicit hypothesis with this kind of measurement is that post-unemployment periods are relatively stable and that the moment  $T + n$  representative for this phase. We know, however, that the phase of immediate post-unemployment is prone to the risk of instability and fluctuation. What is more, it is rather likely that an unemployment spell does not come alone, but rather as a series of different short spells of unemployment and re-employment (Cappellari and Jenkins 2008; Djurdjevic 2003; Manzoni, and Mooi-Reci 2011; Stewart 2007).

## *2.2 A Multi-dimensional and sequential theory of post-unemployment scarring*

Against an exclusive concentration on a simple and narrow theory of wage penalties, we see post-unemployment scarring as a dynamic and varied phenomenon. We seek to examine post-unemployment in terms of trajectories, which include re-entries into the labor market, returns to unemployment and mobility between different occupational categories. Moreover, we seek to study scarring in multiple forms, such as employment instability or social downgrading.

To cope with problems attached to a measurement of post-unemployment at a more or less random point in time, we seek to examine trajectories as a whole. For the post-unemployment spell, we use sequence analysis and build a typology of post-unemployment trajectories. These will not only include stable trajectories of re-employment, but also fluctuating and turbulent ones: trajectories characterized by frequent alternations between employment and unemployment or trajectories that change between inactivity and employment. Although rather new, a similar approach already proved to be fertile in the analysis of post-unemployment trajectories (Korber 2013).

Whereas some groups are not scarred after unemployment, others remain in long-term unemployment, facing instability or are subject to socio-occupational downgrading. Whether individuals follow one of these options depends on the one hand on their resources and, on the other hand, on the options structurally available to them. As different forms of scarring are not independent from each other, we have to consider their effects as depending on each other. We posit that certain forms of

scarring are more frequent in certain social groups because other forms of scarring are not available for them.

A first form of unemployment scarring could be what we call career instability. In this case, the individual finds relatively quickly a new employment, but the first phase after the re-entry in the labor market is more turbulent and characterized by frequent changes in order to find a new suitable position. The post-unemployment phase is a period of reorientation and readjustment for many and therefore goes hand in hand with (temporarily) frequent changes between socio-occupational positions (Djurdjevic 2003; Manzoni, and Mooi-Reci 2011). Sometimes, reorientation is not possible, but one has to accept a downgrading. In this paper, we speak of downgrading when the individual must accept a re-entry in a lower socio-occupational category after a spell of unemployment. A third form of scarring is recurrent or long-term unemployment. Here a first spell of unemployment, might lead to the repeated fall into phases of unemployment or to longer periods of unemployment.

### *2.3 The Swiss Context*

Scarring effects vary according to the institutional regime and the unemployment rate of a country (Knabe and Rätzel 2008). There are good reasons to assume that these factors influence the dynamic of post-unemployment trajectories and the type of scarring (recurrence, instability or downgrading) which are prevalent in a country.

The present study is based on the Swiss case, a contexts with a relatively low unemployment rate and a high signaling effect of unemployment. Until the early 1990, unemployment in post-war Switzerland was not only low, but more or less inexistent. A large migrant workforce and women were used as labor market buffers in times of crisis, such as during the oil shock in the mid-1970s and the subsequent crisis in the early 1980s. It is only in the early 1990s that unemployment begins to rise, from 1.9% in 1991 to 4.2% in 1997. During the 2000s it fluctuates between 2.7% (2000) and 4.5% (2010) but never again falls back to levels known before 1990 (Feld and Savioz 2000; Flückiger et al. 2006; Gerfin and Lechner 2002).

As Germany, Austria or Denmark, Switzerland has also a dual education system which links tightly together vocational training (which is the option chosen by more than 60% of the young Swiss) and occupational placement in the labor market. Routes into the labor market seem to be relatively smooth for young people and young adults do not experience a higher risk of unemployment. In addition – and in contrast to Germany for example -, the Swiss employment protection legislation is frugal and allows

for an easy individual lay off with notice periods of dismissal of one month (during the first year of tenure), two months (during 1 to 9 years of tenure) and three months (after 10 years). Workers with long tenure are not significantly better protected than new arrivals in the firm and we can therefore speak of a relatively low hierarchy of protection among different groups of employees. The complementary unemployment insurance is relatively generous, even though it has been toughened and reoriented in an activation perspective in the last years. If they have contributed during at least 18 months to the insurance scheme, employees are entitled to at least 70% (for low-wage earners and parents 80%) of the last salary for 18 months.

#### 2.4 Hypotheses

We first make a general hypothesis concerning the structure of post-unemployment work trajectories. It contains two elements: first, we postulate that post-unemployment trajectories to be rather diverse in terms of unemployment recurrence, sequential instability and outcome. We expect the traditional risk groups – such as women, foreigners and older employees – to be affected by more severe forms of scarring. Second, based on the literature we assume that especially in Switzerland (and as opposed to other European countries) also highly educated workers are touched by post-unemployment scarring (Korber 2013; Li et al. 2000; Oesch and Baumann 2014; Weber 2006).

Second, we state three specific hypotheses linked to the three type of scarring we expect to observe.

- 1- We posit that particularly older workers run a high risk of *recurrent unemployment*. In the literature, it is assumed that a long experience and possibly long tenure lead to skills, which are strongly bound to a specific firm; and which in addition are hardly flexible and adaptable anymore. Older workers also fit poorly in existing career schemes and potentially block career ladders which are used to motivate younger, promising workers (Demazière 2006; Oesch and Baumann 2014; Rouault-Galdo 1991).
- 2- We expect the risk for occupational *downgrading* to be particularly high among “unprotected” groups such as low educated workers, women and foreigners (Djurdjevic 2003; Fluder, Fritschi, and Salzgeber 2011; Li et al. 2000; Weber 2006). The skills accumulated through tenure by those with only minimal education potentially loses in value when becoming unemployed. As their lack of general and transferable educational capital makes it difficult to shift firms, they only find a job when they are ready to accept a less prestigious job.
- 3- We posit that career *instability* due to reorientation is particularly virulent among individuals in lower socio-occupational positions, such as unskilled employees (Stewart 2007). These groups

experience a reinforcement of turbulence in already turbulent trajectories. In addition, for these groups at the bottom of the occupational structure, downgrading is no option and long-term unemployment is a particularly bleak prospect given the scarce financial benefits. The only remaining alternative, if they want to return to the labor market, is a kind of reorientation.

### **3. Data and Methods**

#### *3.1 Sample and Weights*

The present study uses the waves 1999-2011 of the Swiss Household Panel (SHP). This survey includes 11,453 individuals, either from the first SHP-sample beginning in 1999 or from the second one starting in 2004. In both SHP-samples, a retrospective monthly calendar questionnaire about the working status was filled in by totally 10,003 individuals at least 15 years old.

The article is based on the comparison between a “main sample” and a “control sample”. Both samples, consisting of 512 individuals each, have been chosen as sequential samples and thus include information on a period of 48 months. In the main sample, individuals have experienced at least one month of unemployment. In addition, their records have at least 90% of valid values for the following 48 months, which allowed us to create long and complete sequences. The control sample consists of a group who never became unemployed but is otherwise endowed with the same social characteristics as the main sample. We paired the sequences one by one selecting the most similar individuals according to age, sex, social origin, residence, education, last job and nationality. Having the same age, sex and two other features is the minimum condition to pair two individuals. If this minimum condition is not satisfied, we defined the sequence in the second sample as missing. We use propensity score weighting to adjust the sample and compensate for selection bias (Peikes, Moreno, and Orzol 2008; Rosenbaum and Rubin 1983; Thoemmes and Kim 2011).

We weighted the data to maintain the representativeness of the sample. The main challenge concerning longitudinal weights is the definition of the values to be used as reference. Often one of the waves is chosen to provide the weights used as a reference (Larsen et al. 2011; Statistics New Zealand 2011; Watson 2012). As opposed to this strategy, we set the longitudinal averages (1999-2011) as references. Similarly to the transversal weights of the SHP, the weights are calculated by keeping fix the proportions of the geographical area (Lake Geneva Region, Mittelland, Northwestern Switzerland, Zürich, Eastern Switzerland, Central Switzerland, Ticino), sex (male, female), cohort (<19, 20-24, 25-



29, 30-34, 35-39, 40-44 , 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, <74), nationality (Swiss, Foreign) and marital status (married, other situations). The proportions of all these variables are rather stable in the considered span of time. Therefore, the average value from years 1999-2011 can be used as a reference to calculate the weights with only small distortions. For the descriptive part, we wanted to avoid sequences with a weight inferior to one. Consequently, we standardized the weights by keeping the proportions. This increased the sample size to 1510 units for the main sample. The same procedure is applied to the second sample, even though not all the sequences with a period of unemployment have a corresponding sequence in the control sample. The final size for the control sample is 1601 units. Inflated samples bring distortions in regression analysis, as a consequence we standardized the weights keeping the proportions, but reducing the size of both samples to the original 512 cases.

### *3.2 Methodological strategy*

This paper uses sequence analysis to explore employment trajectories status and regression analysis to relate employment status to socio-demographic factors.

Sequence analysis (Abbott and Tsay 2000; Abbott 1990; Aisenbrey and Fasang 2010; Blanchard, Buhmann, and Gauthier 2012) is composed of two steps: matching and clustering. Matching consists of the creation of the pairwise distance matrix that describes how different each sequence is from the others. In this paper, we used the optimal matching method (Abbott 1990) with insertion/deletion cost of one and a constant substitution cost of two (Gabadinho et al. 2011). Following Studer (2013), trajectory types are generated through a double passage cluster analysis. A Ward weighted clustering is completed by a Partition Around Medoids (PAM) weighted clustering. To evaluate the most adequate number of cluster we used weighted average silhouette width analysis (Rousseeuw 1987; Studer 2013) and Hubert's C Index (Hubert and Levin 1976; Studer 2013). In the main sample, a number of sequences begin in the middle of a period of unemployment (18 out of 532). They were reassigned manually and, when necessary, excluded from the analysis.

In the second phase of analysis, we used different types of regression analysis to relate socio-demographic characteristics to the type of transition through unemployment. Weighted multinomial log-linear regression, converged via neural networks (Venables and Ripley 2002), were used to analyze recurrent unemployment and downgrading. A weighted generalized linear model describes the variations in the sequence instability. The significance of the beta values in all the regression are set using the analysis of the probability to accept the null analysis (p-values). To make clearer the

interpretation of the regressions models, marginal effects are introduced as well as Bayesian analysis of the significance. The beta values estimated in a multinomial logistic regression are translated in marginal effects that can be read on a percentage scale and give a direct measure of the magnitude of the effects. The information about the significance is expanded by the estimation of the probability of the beta values to be positive via a Bayesian a-posteriori distribution considering a non-informative a-priori distribution (Albert and Chib 1993; Girard and Parent 2001; Molina, Saei, and Lombardía 2007; Shifa and Rashid 2003). This information detects eventual threshold effects and helps in the analysis of independent variables with a high number of categories.

### *3.3 Variables*

We use three sets of variables: sequential states for the sequence analysis, as well as a set of independent and dependent variables within the regression analysis.

*Sequential states:* One of the major innovations of this article consists in a refinement of an existing activities variable from the Swiss Household Panel. As the period after a spell of unemployment can be turbulent and fluctuating, it is delicate to examine post-unemployment scarring with only yearly granularity. Most of the major panel surveys do have monthly activity variables, but these rely often on a rather simple coding. In particular, we have no information about the socio-occupational category before and after the spell of unemployment. In order to remedy this weakness, we used a procedure that allows us to combine this monthly employment status information with information about the socio-occupational categories.

First, we defined the month of the interview for each individual and we attributed the year-based values for the socio-occupational categories directly to this monthly variable. Using the Swiss Socio-Occupational Categories (Joye and Schuler 1996), these variables can take the following categories: “top managerial jobs”, “liberal professions”, “self-employed”, “intellectual and managerial professions”, “intermediate professions”, “qualified non-manual occupations”, “qualified manual occupations”, “unqualified non-manual and manual occupations”. Starting from these points, we recoded the precedent/subsequent months with the same values until the beginning/end of the employment spell. The changing point of the spell is defined by monthly variables and consists of a declared job change or the passage from activity to unemployment or inactivity. If monthly variables indicates no employment changes: (a) if the yearly values referring to two subsequent interviews are identical, the recoding stops at the month of the following interview; (b) if the yearly values referring to

two subsequent interviews are different, we took the median month between the two interviews as the stopping point. The results of this operation is a set of sequences of monthly values indicating if the individual is unemployed, inactive or works in one of the aforementioned socio-occupational categories. The category “undefined job” is used when the yearly value is missing or the considered month falls behind two stopping points (isolated spells).

*Dependent variables:* Three dependent variables are used in the models to analyze the three scarring processes. Recurrent unemployed is defined by the membership in the corresponding cluster found by sequence analysis. Downgrading is measured by the comparison between the socio-occupational categories before unemployment with the socio-occupational trajectory during the 48 months subsequent to the unemployment spell. If the social-occupational category is lower after the spell of unemployment than before, we consider this change as a social downgrading. Instability due to reorientation is defined applying the “complexity index” (C) developed by Gabadinho et al (2011;2010). C index combines the number of transitions in the sequence with the longitudinal entropy (time spent in each state). The complexity index is a normalized measure that can take values between 0 and 1. The value of 0 stands for a sequence with a single state while it is 1 if, and only if, the sequence (a) contains each of the states in the alphabet, (b) the same time each state has the same length, and (c) the number of transitions is equal to the sequence length minus one.

*Independent variables:* In all the models, we use sex (man/woman), age group (15-24 years, 25-50 years, 50+years), nationality (Swiss/foreign), social origin (high/medium/low), education (high/medium/low/no education) and the starting work situation as independent variables. Social origin was constructed according to the both parent’s job position grouped in three categories: high (top management and liberal professions, academic professions and senior management), medium (intermediate professions, other self-employed, qualified manual and non-manual professions) and low (unqualified non-manual and manual workers) are recoded as low. When at least one of the parent’s job position was high and the other at least medium, individuals’ social origin was coded as “high”; if both parents’ job position were medium or one was high and the other was low, individuals’ social origin was coded as “medium”; in all other cases, individuals’ social origin was coded as “low”. Education level is coded in four categories: “low” (incomplete compulsory school; compulsory school, elementary vocational training; domestic science course; 1 year school of commerce), “medium” (general training school; apprenticeship; full-time vocational school; bachelor/maturity; vocational high school with

master certificate, federal certificate), “high” (university, other tertiary education institutions). The employment situation is coded according to the Swiss Socio-Occupational Categories (Joye and Schuler 1996): “top managerial jobs and liberal professions”, “self-employed”, “intellectual and managerial professions”, “intermediate professions”, “qualified non-manual occupations”, “qualified manual occupations”, “unqualified non-manual and manual occupations”.

#### **4. A typology of post-unemployment trajectories**

In a first analytical step, we focus on the hypothesis referring to the general structure of post-unemployment work trajectories. We examine the unfolding of trajectories touched by unemployment in descriptive terms. The main questions of this section are: how long do unemployed workers remain within unemployment? To which type of socio-occupational category do they move? To what extent do they shift between different socio-occupational categories subsequent to a period of unemployment?

##### *4.1 Trajectories subsequent to a period of unemployment*

In most of the 11 types resulting from the sequence analysis, workers remain unemployed for a relatively short period (ranging from 3.3 months to 7.1 months in average). Then they find a job and move to a specific socio-occupational category and evolve in a stable way within this category for the rest of the four-year period. However, the length of the period of unemployment before people find a job can vary considerably. Expectably, unemployment is rather short for higher occupational categories: top managerial jobs and liberal professions (S12, mean unemployment= 3.3 months) and intellectual and managerial jobs (S7, mean unemployment=3.7 months). However, short unemployment spells are no exclusive privilege of high-end workers: qualified manual occupations (S9, mean unemployment=3.3 months) and certain qualified non-manual (S10, mean unemployment=3.3 months) have just as short unemployment trajectories. As opposed to this, intermediate professionals (S11, unemployment=5.6) or, above all, unqualified jobs (S6, unemployment=6.8 months) and simple self-employed workers (S8, unemployment=7.1) remain longer without job. Nevertheless, also these potentially more problematic categories find a re-employment in a rather reasonable time after becoming unemployed.

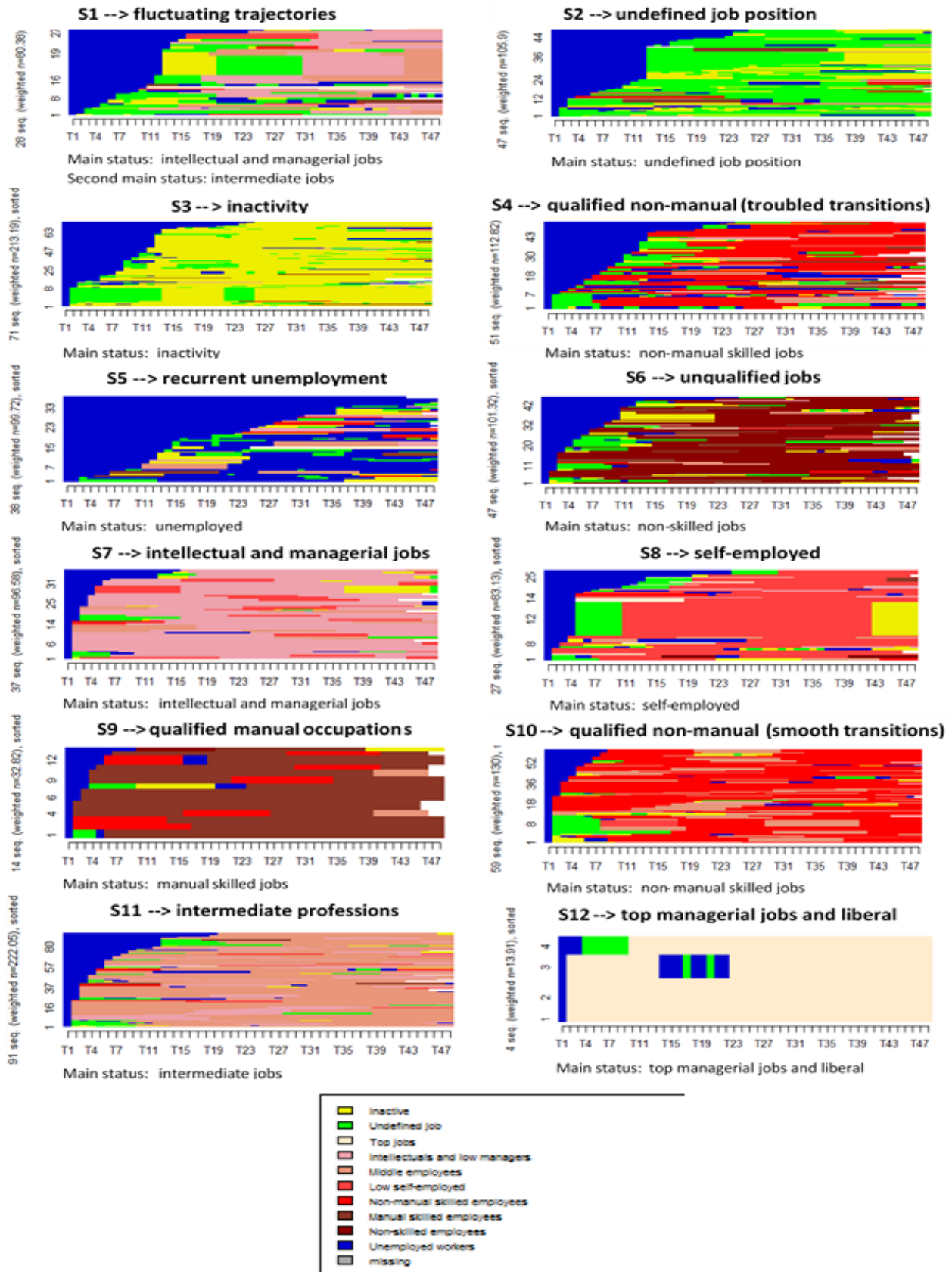


Figure 1: Types of trajectories subsequent to a period of unemployment

Three types of trajectories are characterized by longer periods of unemployment. In fact, not all skilled service employees do as rapidly get back to the labor market. Besides type S10 characterized by a rather smooth transition back to work, our analysis identifies an almost equally large type S4 where this transition takes 12.6 months in average, ranging from 1 to 24 months. Another group, we dubbed “fluctuating trajectories”, consisting of a mix of intermediate and managerial professionals, struggles with a comparatively long period of unemployment. Type S1 has a mean duration of 12.8 months of unemployment and is then characterized by frequent changes between different socio-occupational categories. This is an indication, that in Switzerland long and difficult returns to employment are not exclusively reserved to low-skilled or manual occupations, but concern to a certain degree also intermediate or even high-skilled professions. Finally, we find a rather large group of (S5, n=319) of workers who either remain within unemployment or go through longer and recurrent phases of unemployment subsequent to their initial spell of unemployment. In average, this group remains 33.6 months in unemployment over the period of 48 months<sup>1</sup>.

#### *4.2 Socio-demographic composition of post-unemployment trajectories*

In table 1, we show the socio-demographic composition of the 11 clusters, focusing on social categories, which in the literature on unemployment scarring have been considered as particularly risky: women, younger and older employees, foreigners and low educated workers. In addition, we look also at the *complexity index*, a measure of instability, within each of the clusters. The four clusters which we have above identified as having difficulties re-entering the labor market are highlighted in grey.

*Table 1 : Composition of post-employment trajectory types*

	Sex	Age		Nationality	Educational level	Instability index	N
	woman	15-24	50+	non-CH	low		
<b>Fluctuating trajectories</b>	67.5	8.8	43.8	21.1	7.1	0.23	80
<b>Undefined jobs</b>	70.8	18.9	34.9	8.0	21.6	0.17	106
<b>Inactivity</b>	51.2	23.9	54.3	10.7	33.3	0.16	213
<b>Qualified non-manual (troubled)</b>	60.2	27.7	19.6	9.1	11.1	0.21	113
<b>Recurrent unemployment</b>	21.7	6.3	73.3	36.2	21.6	0.14	319
<b>Unqualified jobs</b>	61.4	46.9	16.7	38.6	90.9	0.18	101
<b>Intellectuals and managers</b>	30.2	0.0	22.7	14.1	0.0	0.14	97
<b>Self employed</b>	25.3	8.4	50.6	3.9	6.5	0.17	83
<b>Qualified manual jobs</b>	34.4	27.3	0.0	22.2	3.7	0.12	33
<b>Qualified non-manual (smooth)</b>	61.5	15.4	13.8	21.7	6.6	0.17	130
<b>Intermediate jobs</b>	37.4	9.9	21.2	12.4	1.5	0.15	222
<b>Top management and liberal jobs</b>	50.0	0.0	28.6	60.0	0.0	0.09	14
<b>TOTAL</b>	44.3	15.3	39.1	17.4	19.3	0.16	1511

Traditional risk categories, such as women, older workers or foreigners are sometimes over-represented in those clusters with difficulties. For instance, there are clearly more women in the mixed situation cluster and there are more older and foreign workers in the cluster of recurrent unemployment. However, what we already saw above is confirmed here: these categories do not necessarily cumulate different forms of risks and also other categories are sometimes strongly present in trajectories having difficulties re-entering the labor market. Men and Swiss citizens are for instance over-represented in the cluster non-manual skilled employment with troubled re-entry trajectories. When we examine the instability index, we see that some of the trajectory-types with longer phases of unemployment have also more turbulent re-entry paths. However, not all of them are more turbulent (recurrent

unemployment) and other clusters, such as the non-skilled trajectory, are also turbulent (but with only medium length of unemployment).

This descriptive analysis of post-unemployment trajectories shows three things: first, we observe a large group (around the 21% of the sample) experiencing recurrent phases of unemployment after a first spell of unemployment. Recurrent unemployment and thus a kind of permanent exclusion<sup>2</sup> seems to be an important form of unemployment scarring which has to be taken into account. Second, there are different lengths of unemployment according to social categories. In tendency, higher socio-occupational categories experience shorter spells of unemployment, whereas lower socio-occupational groups suffer from longer ones. However, the picture is not only black and white: there is clear evidence that also certain medium-high socio-occupational categories go through longer periods of unemployment and struggle with frequent changes once they have found a job again. Third, we have therefore good reasons to assume that there seem to be independent forms of post-unemployment scarring (recurrent unemployment, instability and, probably, downgrading) and these forms are not necessarily congruent or cumulative. We can therefore also make the hypothesis that they are generated by different mechanisms. As a result, it seems that different scarring mechanisms are prevalent for different social groups.

## **5. Recurrent unemployment, downgrading and instability**

In this second part of our analysis, we focus on our three specific hypotheses. We examine the three forms of potential post-unemployment scarring with respect to two sets of independent variables: a series of socio-demographic factors and the socio-occupational position before the spell of unemployment.

### *5.1 The risk of recurrent unemployment*

In this first section, we examine the likelihood to move to a situation of recurrent unemployment after an initial spell of unemployment. We use the membership in the cluster “recurrent unemployment” as dependent variable<sup>3</sup>.



Table 2 Risk of becoming recurrently unemployed

		<b>Beta</b>	
		<b>Value</b>	<b>p &gt; REF</b>
<b>Intercept</b>		-3.345 ***	
<b>Sex</b>	<b>Man</b>	REF	
	<b>Woman</b>	0.073	59.9%
<b>Age</b>	<b>14-24 years</b>	-0.506	37.8%
	<b>25-50 years</b>	REF	
	<b>50+ years</b>	1.365 ***	99.8%
<b>Nationality</b>	<b>Swiss citizens</b>	REF	
	<b>Foreign citizens</b>	1.104 *	>97.5%
<b>Social origin</b>	<b>High</b>	-0.760	12.5%
	<b>Medium</b>	REF	
	<b>Low</b>	-0.548	20.0%
<b>Education</b>	<b>High</b>	0.803	90.3%
	<b>Medium</b>	REF	
	<b>Low</b>	0.203	58.1%
<b>Former job</b>	<b>Top managerial jobs and liberal professions</b>	1.312	82.0%
	<b>Intellectuals and managerial jobs</b>	0.605	77.2%
	<b>Intermediate professions</b>	REF	
	<b>Self-employed</b>	-0.704	29.1%
	<b>Qualified non-manual professions</b>	0.572	68.8%
	<b>Qualified manual professions</b>	0.911	88.1%
	<b>Unqualified professions</b>	0.059	51.9%
	<b>Inactivity</b>	-0.611	28.6%
	<b>Undefined jobs</b>	0.771	87.0%

Signif. codes: 0 '\*\*\*' 0.01 '\*\*' 0.05 '\*' 0.1 '.' 1

The risk of becoming recurrently unemployed after an initial spell of unemployment follows an interesting, because contrasted pattern. On the one hand, it affects classic risk categories such as workers over 50 years and foreign workers. Manual workers have not a significant beta value but the probability of this value to be positive is very high (88.1%). The non-significance is probably given by a threshold effect while the real risk is high. On the other hand, we can confirm the fragility of workers with a higher education (Korber 2013; Li et al. 2000; Oesch and Baumann 2014; Weber 2006) even if

the substantial significance is visible only using Bayesian techniques. We can suppose that the mechanisms for their higher risk of recurrent unemployment are rather different. Many studies (Djurdjevic 2003; Fluder et al. 2011; Weber 2006) have shown that the risk for long-term unemployment is highest among older workers. These workers have normally high salaries and social insurance costs and are also thought to be less flexible and less willing to learn than younger ones. Foreign workers might be suffering from stigmatization and do no longer find a job for this reason. On the contrary, the fragility of highly educated workers seems to be a Swiss peculiarity observed in many studies, but hard to explain without a specific analysis.

### *5.2 The risk of downgrading after a period of unemployment*

In this section, we examine the risk of occupational downgrading after a spell of unemployment by the same set of independent variables.

The risk of downgrading is present regardless of whether the respondents have been unemployed or not. Consequently, we observe the risk of downgrading due to unemployment comparing the sample including the sequences with a period of unemployment (right-hand part of the table) with the control sample (left-hand part of the table). We consider the downgrading risk as an effect of unemployment when there is an increase of this risk passing from the control sample to the main sample. We observe this increase for women and workers coming from top managerial jobs and liberal professions and from intellectuals and managerial jobs. We introduce marginal effects to quantify the effect of the categories significantly different from the reference. These values are expressed in percentage points. Consequently, we can observe that the risk of downgrading is 7.7 percentage points lower for women than for men when unemployment is absent while it is 23.0 percentage points higher in the main sample. Workers coming from top managerial jobs and liberal professions have a smaller effect as they lost their “advantage”. The propensity to downgrade changes from being 8.3 percentage points lower than middle employees to be the same or even higher (the Bayesian probability of the beta to be positive is 90.2%). This job category has the lower downgrading risk in the control sample, while after a period of unemployment, it is the category with the second highest risk. Finally, workers in intellectual and managerial positions increase their risk of downgrading from the same level as middle employees to 59.0 percentage points above this reference. This is the job category with the highest downgrading risk in the main sample.

Table 3 : The risk of downgrading after an unemployment spell

		Beta								
		Control sample				Main sample				
		Value	p >	marginal	Value	p >	marginal	Value	p >	marginal
		REF	REF	effects	REF	REF	effects	REF	REF	effects
<b>Intercept</b>		-2.324	**		-1.363	*				
<b>Sex</b>	<b>Man</b>	REF		REF	REF					
	<b>Woman</b>	-2.750	**	1.9%	-0.077			1.163	*	95.1% 0.230
<b>Age</b>	<b>14-24 years</b>	26.126	***	>99.9%	0.917			-0.060		48.7% -0.015
	<b>25-50 years</b>	REF						REF		
	<b>50+ years</b>	2.694	**	98.6%	0.498			-2.512	*	4.1% -0.179
<b>Nationality</b>	<b>Swiss citizens</b>	REF						REF		
	<b>Foreign citizens</b>	-		49.6%				0.152		57.2%
<b>Social origin</b>	<b>High</b>	0.468		38.5%				0.251		62.1%
	<b>Medium</b>	REF						REF		
	<b>Low</b>	0.754		72.1%				0.511		69.6%
<b>Education</b>	<b>High</b>	0.485		64.8%				-3.055	***	0.3% -0.187
	<b>Medium</b>	REF						REF		
	<b>Low</b>	3.920	**	98.8%	0.749			32.056		52.0%
<b>Former job</b>	<b>Top jobs</b>	-	***	<0.1%	-0.083			1.732		90.2%
	<b>Intellectuals and managerial jobs</b>	31.192								
	<b>Middle employees</b>	0.527		64.9%				1.092	**	99.3% 0.590
	<b>Low self-employed</b>	REF						REF		
	<b>Non-manual employees</b>	-4.142	**	1.3%	-0.081			-42.589		47.3%
	<b>Manual employees</b>	43.871	***	>99.9%	0.917			1.636		95.0%
	<b>Non-skilled employees</b>	-	***	<0.1%	-0.083			-35.291	***	<0.1% -0.198
		35.384								
	N.A.							N.A.		

Signif. codes: 0 '\*\*\*' 0.01 '\*\*' 0.05 '\*' 0.1 '.' 1

### 5.3 The risk of an unstable trajectory after a period of unemployment

Our last measure of post-unemployment scarring examines the stability of the subsequent employment trajectory. As the instability index is a continuous measure (range 0 to 1) the effect of unemployment can be calculated directly comparing the control sample with the sample including a period of unemployment. The effect of unemployment is reported in the last column of table 4.

Table 4 : The risk of an unstable trajectory after a period of unemployment

		Control sample		Main sample		Effect		Change
		Value	p > REF	β Value	p > REF	Control sample	Main sample	Net effect
<b>Intercept</b>		0.155 ***	>99.9%	0.147 ***	100.0%	0.155	0.147	-0.008
<b>Sex</b>	<b>Man</b>	REF		REF		0.155	0.147	-0.008
	<b>Woman</b>	0.017 *	96.3%	0.000	49.0%	0.172	0.147	-0.025
<b>Age</b>	<b>14-24 years</b>	0.073 ***	>99.9%	0.036 **	98.9%	0.228	0.183	-0.045
	<b>25-50 years</b>	REF		REF		0.155	0.147	-0.008
	<b>50+ years</b>	-0.018 *	3.1%	-0.008	18.6%	0.137	0.139	0.003
<b>Nationality</b>	<b>Swiss citizens</b>	REF				0.155	0.147	-0.008
	<b>Foreign citizens</b>	-0.017	6.4%	-0.017	6.8%	0.138	0.130	-0.007
<b>Social origin</b>	<b>High</b>	0.002	55.2%	0.003	61.6%	0.157	0.150	-0.006
	<b>Medium</b>	REF		REF		0.155	0.147	-0.008
	<b>Low</b>	-0.020 *	3.5%	0.001	55.5%	0.135	0.149	0.014
<b>Education</b>	<b>High</b>	-0.007	29.7%	0.000	50.2%	0.148	0.147	-0.001
	<b>Medium</b>	REF		REF		0.155	0.147	-0.008
	<b>Low</b>	0.018	92.2%	-0.021	7.6%	0.173	0.126	-0.047
<b>Former job</b>	<b>Top jobs</b>	0.006	58.9%	-0.043	6.1%	0.161	0.104	-0.057
	<b>Intellectuals and managerial jobs</b>	-0.005	39.1%	0.003	56.9%	0.150	0.150	0.000
	<b>Middle employees</b>	REF		REF		0.155	0.147	-0.008
	<b>Low self-employed</b>	-0.015	20.8%	0.021	86.8%	0.140	0.168	0.027
	<b>Non-manual employees</b>	0.024	87.9%	0.000	50.7%	0.179	0.147	-0.032
	<b>Manual employees</b>	0.016	84.7%	0.029 **	98.5%	0.171	0.176	0.005
	<b>Non-skilled employees</b>	-0.031	5.8%	0.058 ***	99.9%	0.124	0.205	0.081
	<b>Inactivity</b>	-0.031 **	0.6%	0.030 **	98.6%	0.124	0.177	0.053
<b>Undefined job</b>	-0.035 *	2.4%	0.005	66.8%	0.120	0.152	0.033	

Signif. codes: 0 '\*\*\*' 0.01 '\*\*' 0.05 '\*' 0.1 '.' 1

Unemployment does not substantially affect the general level of instability (very low global reduction). Instability seems to hit other categories than the two previous forms of post-unemployment

scarring. Neither women, nor foreigners experience a larger instability subsequent to a spell of unemployment. Workers over 50 years are only marginally touched by an increase in instability. The larger increases in instability are observed among workers coming from low social origins, non-skilled jobs, inactivity and, in minor part, low self-employed.

#### *5.4 Discussion*

We consider *recurrent unemployment* as a form of permanent exclusion as the membership in this cluster is, in most of the cases, not the result of a specific strategy or choice. The respondents who become repeatedly unemployed may have no alternative choice and struggle constantly to get back to the labor market. In particular, we can assume that at least for a part of them a re-entry into the labor market – coming with added turbulence and reorientation or even with downgrading – is not an option. This is probably the case for older and foreign workers. We can assume that these groups are exposed to stigmatization and discrimination and therefore struggle to get back to the labor market. The situation is different for the well-educated and those having occupied a top job before the spell of unemployment. Here we can imagine two mechanisms: on the one hand, it is possible that also this group is touched by stigmatization, but for other reasons. Because unemployment is so rare for people with these education or positions, unemployment takes a different meaning. Employers might implicitly categorize these workers as “problematic” due to work performance or personal characteristics. However, we can also posit that these groups may pursue a long-term strategy to find a good job, as they have the educational, social and economic resources to afford it. In any case, the issue of recurrent unemployment among highly educated workers seems to be specific to Switzerland.

To accept a *social downgrading* seems to be another “strategy” in order to get back into the labor market that is mainly deployed by women. This group has traditionally been among the weakest in the Swiss labor market and was used as a buffer in times of crisis. Women may be particularly subject of stigmatization when unemployed for longer periods and therefore seek to remain within the labor market, even if this comes at the cost of being downgraded. On the other hand, this group might accept downgrading because of the lack of alternatives. It may be difficult for them to change frequently and to reorient themselves at their return into the labor market. We observed a high risk of social downgrading also among the highest job positions (managers, intellectual workers and workers in liberal professions). Nevertheless, we are doubtful about the validity of this effect, which probably can be explained by a a

position effect. As these workers cannot upgrade to a more prestigious jobs (they are already at the top), their only possible change is downgrading.

*Instability* and greater turbulence after a spell of unemployment can hide different things. At least, compared to the group with recurrent spells of unemployment, it seems that this group is able to get back and remain within the labor market. We can thus assume that the greater turbulence can be explained by a kind of a reorientation subsequent to a spell of unemployment. It is precisely because of the interruption of their career by unemployment that these respondents have to find new ways and strategies – and do so by changing frequently between jobs and socio-occupational categories. Together with the acceptance of a (temporary) social downgrading, reorientation seems to be a specific kind of adaptation in order to manage the re-entry into the labor market. This type of scarring is particularly frequent among the workers that are already at the bottom of the socio-occupational hierarchy. Only by accepting frequent changes, they seem to be able to re-enter the labor market after a spell of unemployment.

## **6. Conclusion**

In this contribution, we analyzed the scarring effect of a spell of unemployment within an innovative framework that combined a multi-dimensional measure of unemployment scarring with a focus on whole trajectories. Focusing on the Swiss context, we argued that different groups are exposed to different forms of unemployment scarring – depending on their resources and opportunity structures. We explored our hypothesis based on data from the Swiss household panel, comparing a main sample (n=512) whose members experienced a spell of unemployment and a matched control sample of the same size whose members were never unemployed. Our methodological strategy includes two steps: in a first step, we describe and classified the trajectories for 48 months after an initial spell of unemployment. In a second step, we examine three specific types of risk: recurrent unemployment, downgrading and higher career instability by two sets of independent variables.

Our hypothesis referring to the general structure of post-unemployment work trajectories is confirmed. We show that “the unemployed” are not a homogeneous group, but composed of different, sometimes social distant or even opposed sub-groups. In particular in the specific context of Switzerland we can observe that once become unemployed, unemployment scarring not only hits the weak groups at

the margins of labor market (such as older workers, women or foreigners) but also well-educated groups. This last observation, particularly, confirms a particularity of the Swiss labor market and even specifies that well-educated workers are scared through a high propensity to recurrent unemployment. It is very likely that even though the occurrence of unemployment scarring across these social groups is the same, the mechanisms behind differ strongly according to the social group.

When it comes to the three more specific hypotheses, we took into account different forms of risk to better understand and describe post-unemployment scarring. *Recurrent unemployment* affects less flexible individuals as old and foreign workers. This confirms our hypothesis and even expands it to foreign workers. Socio-occupational *downgrading* appears to be less extended than in our initial hypothesis. This type of scarring affects not all the traditionally unprotected workers, but only women. Finally, as hypothesized, an increase in career *instability* affects low socio-economic positions that cannot neither afford a complete exclusion nor rely on downgrading. More generally, we could show that not one single group is touched by all forms of unemployment scarring and inversely, that specific groups are hit by specific forms of scarring. This leads us to a broader reflection about the possible relationship across different forms of scarring: individuals may be obliged to choose between different forms of scarring. However, this is not only a question of choice, as specific resources and opportunity structures determine which forms of scarring are available for particular groups.

**Notes:**

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<sup>1</sup> The cluster analysis identified also two residual groups, which will not be in the focus of our analysis. A group of individuals who shift from a (mostly longer) period of unemployment to “inactivity” (S3) and a cluster of sequences with undefined status (S2).

<sup>2</sup> We can assume that recurrent unemployment corresponds to a form of permanent exclusion as none of our sequences refers to workers with a structurally instable job (seasonal tourism and agriculture, artistic jobs).

<sup>3</sup> As having a period of unemployment is one of the preconditions needed to enter in the treatment sample, there are no work sequences including recurrent unemployment in the control sample. Nevertheless, we still can define the baseline as the non-transition to this status. Therefore, the relative relations measured on the sample must be read as absolutes.



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**Appendix 1 – Complete tables***Risk of becoming recurrently unemployed*

		<b>Beta</b>		
		<b>Value</b>	<b>p &gt; REF</b>	<b>Standard Deviation</b>
<b>Intercept</b>		-3,345 ***		0,719
<b>Sex</b>	<b>Man</b>	REF		
	<b>Woman</b>	0,073	55,9%	0,485
<b>Age</b>	<b>14-24 years</b>	-0,506	37,8%	1,631
	<b>25-50 years</b>	REF		
	<b>50+ years</b>	1,365 ***	99,8%	0,468
<b>Nationality</b>	<b>Swiss citizens</b>	REF		
	<b>Foreign citizens</b>	1,104 *	97,5%	0,565
<b>Social origin</b>	<b>High</b>	-0,760	12,5%	0,660
	<b>Medium</b>	REF		
	<b>Low</b>	-0,548	20,0%	0,653
<b>Education</b>	<b>High</b>	0,803	90,3%	0,619
	<b>Medium</b>	REF		
	<b>Low</b>	0,203	58,1%	0,994
<b>Former job</b>	<b>Top jobs</b>	1,312	82,0%	1,436
	<b>Intellectuals and managerial jobs</b>	0,605	77,2%	0,813
	<b>Middle employees</b>	REF		
	<b>Low self-employed</b>	-0,704	29,1%	1,281
	<b>Non-manual employees</b>	0,572	68,8%	1,170
	<b>Manual employees</b>	0,911	88,1%	0,773
	<b>Non-skilled employees</b>	0,059	51,9%	1,230
	<b>Inactivity</b>	-0,611	28,6%	1,080
	<b>Undefined job</b>	0,771	87,0%	0,685

Signif. codes: 0 '\*\*\*' 0.01 '\*\*' 0.05 '\*' 0.1 '.' 1

*The risk of downgrading after an unemployment spell*

		Beta							
		Control sample			Main sample				
		Beta Value	p > REF	Standard Deviation	marginal effects	Beta Value	p > REF	Standard Deviation	marginal effects
<b>Intercept</b>		-2,324 **		1,118		-1,363 *		0,764	
<b>Sex</b>	<b>Man</b>	REF				REF			
	<b>Woman</b>	-2,750 **	1,9%	1,324	-0,08	1,163 *	95,1%	0,704	0,230
<b>Age</b>	<b>14-24 years</b>	26,126 ***	>99,9%	<0,001	0,92	-0,060	48,7%	1,791	-0,015
	<b>25-50 years</b>	REF				REF			
	<b>50+ years</b>	2,694 **	98,6%	1,220	0,50	-2,512 *	4,1%	1,444	-0,179
<b>Nationality</b>	<b>Swiss citizens</b>	REF				REF			
	<b>Foreign citizens</b>	-13,990	49,6%	1256,134	-0,08	0,152	57,2%	0,842	0,030
<b>Social origin</b>	<b>High</b>	0,468	38,5%	1,595	-0,03	0,251	62,1%	0,816	0,018
	<b>Medium</b>	REF				REF			
	<b>Low</b>	0,754	72,1%	1,287	0,07	0,511	69,6%	0,999	-0,013
<b>Education</b>	<b>High</b>	0,485	64,8%	1,276	0,02	-3,055 ***	0,3%	1,107	-0,187
	<b>Medium</b>	REF				REF			
	<b>Low</b>	3,920 **	98,8%	1,747	0,75	32,056	52,0%	625,986	0,802
<b>Former job</b>	<b>Top jobs</b>	-31,192 ***	<0,1%	<0,001	-0,08	1,732	90,2%	1,732	0,508
	<b>Intellectuals and managerial jobs</b>	0,527	64,9%	1,379	0,06	1,092 **	99,3%	1,092	0,590
	<b>Middle employees</b>	REF				REF			
	<b>Low self-employed</b>	-4,142 **	1,3%	1,857	-0,08	-42,589	47,3%	625,986	-0,198
	<b>Non-manual employees</b>	43,871 ***	>99,9%	<0,001	0,92	1,636	95,0%	0,996	0,335
	<b>Manual employees</b>	-35,384 ***	<0,1%	<0,001	-0,08	-35,291 ***	<0,1%	0,000	-0,198
	<b>Non-skilled employees</b>	N.A.				N.A.			

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*The risk of an unstable trajectory after a period of unemployment*

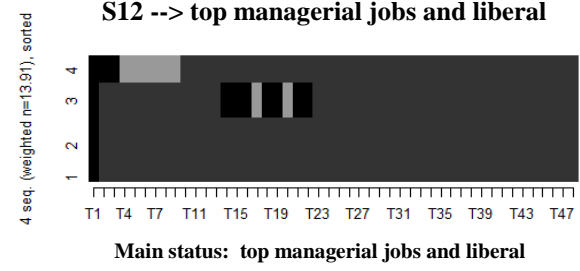
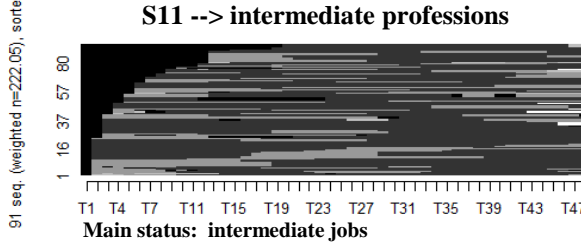
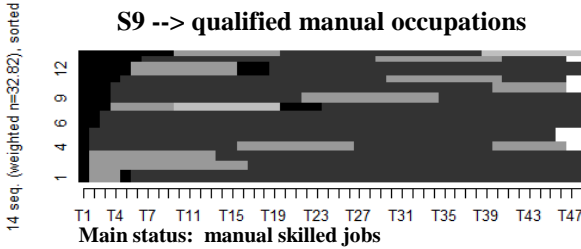
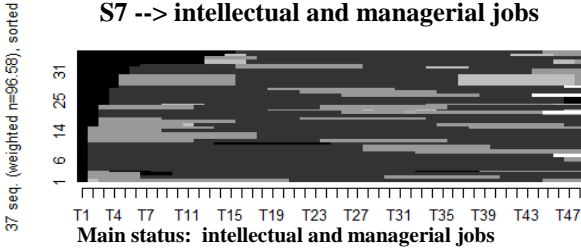
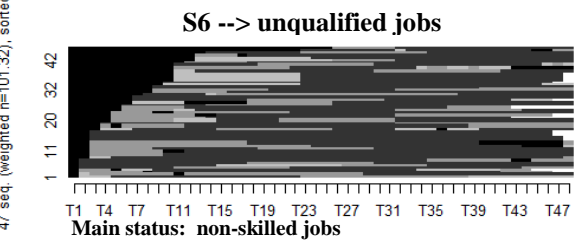
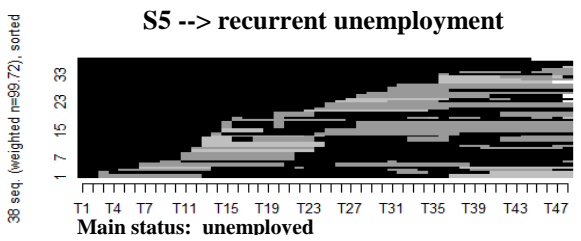
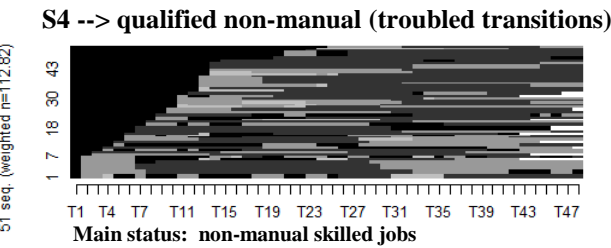
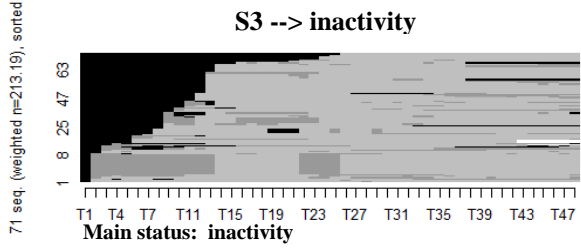
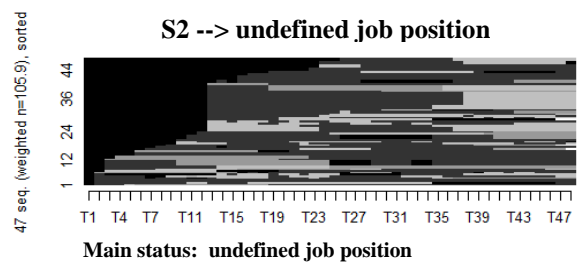
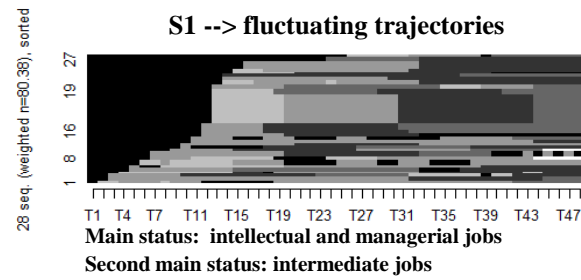
Effect Change

		Control sample			Main sample			Control sample	Main sample	
		Beta value	p > REF	Standard error	Beta value	p > REF	Standard error			Net effect
<b>Intercept</b>		0,155 ***	>99,9%	0,013	0,147 ***	100,0%	0,011	0,155	0,147	-0,008
<b>Sex</b>	<b>Man</b>	REF			REF			0,155	0,147	-0,008
	<b>Woman</b>	0,017 *	96,3%	0,010	0,000	49,0%	0,008	0,172	0,147	-0,025
<b>Age</b>	<b>14-24 years</b>	0,073 ***	>99,9%	0,016	0,036 **	98,9%	0,016	0,228	0,183	-0,045
	<b>25-50 years</b>	REF			REF			0,155	0,147	-0,008
	<b>50+ years</b>	-0,018 *	3,1%	0,010	-0,008	18,6%	0,009	0,137	0,139	0,003
<b>Nationality</b>	<b>Swiss citizens</b>	REF						0,155	0,147	-0,008
	<b>Foreign citizens</b>	-0,017	6,4%	0,011	-0,017	6,8%	0,011	0,138	0,130	-0,007
<b>Social origin</b>	<b>High</b>	0,002	55,2%	0,013	0,003	61,6%	0,011	0,157	0,150	-0,006
	<b>Medium</b>	REF			REF			0,155	0,147	-0,008
	<b>Low</b>	-0,020 *	3,5%	0,011	0,001	55,5%	0,011	0,135	0,149	0,014
<b>Education</b>	<b>High</b>	-0,007	29,7%	0,013	0,000	50,2%	0,011	0,148	0,147	-0,001
	<b>Medium</b>	REF			REF			0,155	0,147	-0,008
	<b>Low</b>	0,018	92,2%	0,013	-0,021	7,6%	0,014	0,173	0,126	-0,047
<b>Former job</b>	<b>Top jobs</b>	0,006	58,9%	0,028	-0,043	6,1%	0,028	0,161	0,104	-0,057
	<b>Intellectuals and managerial jobs</b>	-0,005	39,1%	0,017	0,003	56,9%	0,016	0,150	0,150	0,000
	<b>Middle employees</b>	REF			REF			0,155	0,147	-0,008
	<b>Low self-employed</b>	-0,015	20,8%	0,018	0,021	86,8%	0,018	0,140	0,168	0,027
	<b>Non-manual employees</b>	0,024	87,9%	0,021	0,000	50,7%	0,019	0,179	0,147	-0,032
	<b>Manual employees</b>	0,016	84,7%	0,016	0,029 **	98,5%	0,013	0,171	0,176	0,005
	<b>Non-skilled employees</b>	-0,031	5,8%	0,020	0,058 ***	99,9%	0,018	0,124	0,205	0,081
	<b>Inactivity</b>	-0,035 **	0,6%	0,014	0,030 **	98,6%	0,014	0,120	0,177	0,057
<b>Undefined job</b>	-0,031 *	2,4%	0,016	0,005	66,8%	0,012	0,124	0,152	0,029	

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Appendix 2 – Easy to print (B/W) graphic



LEGEND	
	Second main status
	Other status
	Inactivity