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MARGINALISATION IN THE DANISH LABOUR MARKET

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Abstract. *In this paper, I estimate different time hazard models of the exit from different labour market states – unemployment, employment and inactivity – in Denmark. I find that women and individuals over fifty are more likely to experience long-term unemployment and inactivity. The less educated and unskilled workers are found to be another risk group to face marginalisation. Being previously employed reduces the risk of inactivity and increases the probability of re-entry to employment, while long-term unemployment or inactivity makes workers more likely to return to these labour market states in the future. Living in biggest Danish cities where job competition is high is a disadvantage, but it has a positive effect on labour market performance of persons over fifty. And finally, I find that those who have stayed in job for one year tend to remain employed, while persons inactive for longer than one year face a much higher risk of marginalisation.*

Key words: *marginalisation, labour market, long-term unemployment, duration analysis*

Introduction

This paper examines the flows between unemployment (U), employment (E) and inactivity (OLF) in Denmark in the period 1994–2003 and distinguishes the factors having an impact on the transitions above. The goal of the analysis is twofold: firstly, I capture the phenomenon of repeated unemployment by observing the exits from work to unemployment of previously unemployed individuals, and secondly, I tackle the issue of marginalisation in the labour market by examining the risks of leaving a job or unemployment for OLF and of remaining inactive (see Table A.1).

Unemployment was high in Denmark during the 1980s and 1990s, but since 1994 it decreased significantly, partly as a result of the Danish "Flexicurity" model (the model consisting of three elements: 1) flexible hiring and firing rules (flex-element), 2) fairly generous unemployment insurance system (security-element), and 3) active labour market policies (ALMPs) which are a fairly strict set of rules and regulations regarding availability for work, job search and participation in different programs (see, e.g., Andersen & Svarer, 2006). At the same time, the reform in youth labour market policies (Jensen et al., 2003) resulted in a decline in the youth unemployment rate.

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Analysis of the labour market spells of 20–59 years old individuals in a representative one per cent sample of the 16–70-year-old Danish population in 1994–2003, however, leads to the result that 42.3% of employment spells of the persons who in the previous spell were unemployed, end in new unemployment, while those inactive in the previous spell tend to return back into inactivity (47.3% of the spells). Thus, the "Flexicurity" model, besides the strengths, also may have some weaknesses: flexible firing rules and high reservation wages (implied by the generous income transfer schemes) can lead some workers (e.g., least skilled, least educated ones) to become disadvantaged in the labour market.

A number of studies are focused on the transitions between labour market states. For example, Marston (1976) covers three labour market states – employment, unemployment and inactivity – in the US labour market; Meghir & Whitehouse (1997) model the transitions in and out of work for men over the age of 40 in the UK; Nielsen et al. (2000) examine transitions from employment among young Norwegians, while Djurdjevic (2003) tackles the issue of re-entry to unemployment by studying the exits from different employment states and inactivity in Switzerland.

Rosholm (2001) applies a three-state competing risks model to analyse marginalisation in the Danish labour market in 1981–1990 when the unemployment rate was mostly high. He covers the flows from unemployment, employment and inactivity of three age groups of Danish youth and finds the marginalisation of the youth to be caused by a high mobility between unemployment and inactivity (i.e. U-OLF and OLF-U flows) for the young cohorts, and a high E-U flow. In particular, it was not caused by the low U-E flow.

This study contributes to the above research by further tackling the issue of marginalisation in the Danish labour market, i.e. by taking into analysis persons 20–59 years old and employing a richer set of explanatory variables representing the personal and geographical characteristics of the individuals and their labour market history. Moreover, I choose the observation period from January 1, 1994 to December 31, 2003 – the time when different labour market policies were applied in Denmark (eligibility for unemployment benefits was reduced from 7 to 4 years and its renewal by program participation was abandoned, i.e. since 1994 a person must have at least 26 weeks of full-time employment in order to renew benefit eligibility; for a detailed description of Danish labour market policies, see Lauzadyte, 2007).

I use a longitudinal register-based data set and estimate a discrete time hazard model for the exit from unemployment, employment and inactivity. The model was introduced by Jenkins (1995) and further developed by Lauer (2003), when she analysed the link between education and risk to become unemployed in a French–German comparison. The idea to use this model in the analysis of re-unemployment was implemented by Djurdjevic (2003) when she analysed the effect of unemployment on the subsequent employment history in Switzerland. Modelling the exit rate from different labour market states leads to analyse how the transitions out of the states depend on duration. It also leads to analyse which individuals are more likely to withdraw from the labour market after unemployment.

The structure of the paper is the following. Section 1 presents the data set used in the study. The modelling framework is explained in Section 2. Section 3 discusses estimation results, and graphs the transitions from the labour market states, based on gender and age, while Section 5 provides the concluding remarks.

1. Data

This study uses a longitudinal register-based data set consisting of event histories for persons belonging to a representative 1 per cent sample of the 16–70-year-aged Danish population. The sample is rotating, i.e. it is updated in such a way that it is representative in each of the years. I cover the period from January 1, 1994 to December 31, 2003. I use a number of observable explanatory variables representing personal and geographical characteristics and labour market history (see Table A.1). Individuals younger than 20 and older than 59 are excluded from the analysis.

The data are presented in a person-month format and there can be distinguished four states occupied by the individual – employment (E), unemployment (U), recall (or temporary) unemployment (T) and inactivity (or out of the labour force (OLF)). According to the UN's International Labour Office (ILO) definition, a person is categorised as unemployed if he is out of work, available to work and actively searching for a job. The unemployment is defined as recall unemployment when the unemployed worker returns to the former employer during the first three months after becoming unemployed. In this paper, I only analyse the unemployment spells that do not end with recall. Recall unemployment and unemployment shorter than 1 month are merged with the employment spells. Employed persons are employees, self-employed or assisting spouses, while OLF is the remaining category and includes retirement, maternity leave, education, being a housewife and other non-specified states out of the labour force.

Thus, there are three mutually excluding states: Employment (E), Unemployment (U) and Out of the Labour Force (OLF), and the following transitions are examined: U-E, U-OLF, E-U, E-OLF, OLF-E and OLF-U.

In the analysis, I use a flow sample. For each spell, I observe the starting and ending dates, the state occupied and the destination state. To handle the issue of left-censored spells (see, e.g. Lancaster, 1990; and Steiner, 2001), there is an alternative, namely to use the stock sample; however, in this case the model would become very complex, and the number of parameters to be estimated should be reduced. Moreover, this would require a fairly strong stationarity assumption (i.e. the process should be assumed to be constant).

Using the flow sample, however, does not give representative event histories. I exclude from the analysis individuals who had their unemployment, employment or OLF spell in progress on January 1, 1994 and remained in that labour market state during the period of observation. However, the majority of the excluded individuals belong to the employed ones (93 persons excluded as unemployed throughout the observation period, 10890 individuals as employed, while 916 persons as staying inactive), and this analysis is focused on the weaker persons who face a risk of being disadvantaged in the labour market.

2. Methodological Framework

This study estimates a discrete time hazard model for the exit from different labour market states: unemployment, employment and out of the labour force. The idea of the hazard rate models (see, for example, Allison, 1982, Lancaster, 1990) is to divide the duration spent in a state into a number of time intervals and then to look to each interval whether an individual survived or exited the state. Since data for this study are available in discrete time intervals (months), I chose a discrete time modelling framework.

I distinguish between different possible destination states and adopt a competing risks formulation, since the factors that influence transitions to different destination states (for example, transitions from unemployment to employment and from unemployment to OLF) may differ, and following the tradition in the latest studies (see, among others, Nielsen et al., 2000; Lauer, 2003; Djurdjevic, 2003; Jones et al., 2005) run a multinomial logit estimation.

To examine whether the modelling specification is appropriate, I run a couple of specification tests. Firstly, I run the Wald tests for combining the states to make the modelling specification to be binomial, that is, I test the null hypothesis that the coefficients of two categories are not significantly different from each other, and thus that the categories can be collapsed. A series of tests are applied for exits from unemployment, employment and OLF, and the hypothesis is rejected in all the cases (i.e. the labour market states can't be combined).

Furthermore, I use the Small and Hsiao tests (Small, Hsiao, 1985) to examine the hypothesis of Independence of Irrelevant Alternatives (IIA). If any degree of substitutability among the labour market states exists, the IIA assumption is violated and the multinomial logit specification is rejected. The results of the test lead to the finding that the IIA assumption is supported by the data for all the transitions tested.

Moreover, I run a series of Wald tests on the significance of variables and their interactions with the gender and age dummies.

For expositional convenience, the results of the tests are not presented in this paper, i.e. for these results and for a more detailed modelling specification I refer the reader to Lauzadyte, 2007.

2.1. Model Description

Let us assume that T_{ij}^{s} expresses the time spent by individual i in the s^{th} spell of state j before transition to another state or censoring. T_{ij}^{s} can be partitioned into a discrete number of intervals, I_t. In case transition or censoring occurs in interval I_t, we have $t = T_{ij}^{s}$. If a person survives in the state until the end of interval I_t, we have $T_{ij}^{s} > t$. The set of the observed variables is covered by x_{ij}. Since the time variation in x may be endogenous (e. g., relation between job loss and break-up of marriage), the variables are assumed to be time-invariant, while ε_{ijk} represents the unobserved characteristics. The probability that person i moves from the state j to state $k,(\neq j) \in \{1 \ldots \Omega\}$ in the time interval I_t given survival until the beginning of I_t is expressed by a destination-specific hazard rate and is defined as:

$$h_{ijk}^{s}(t|x_{ij},\varepsilon_{ijk}) = Pr(T_{ij}^{s} = t,\ \delta_{ijk}^{s} = 1|T_{ij}^{s} \geq t,x_{ij},\varepsilon_{ijk});$$
$$i = 1,\ldots,N;\ t = 1,\ldots,T_{ij}^{s};\ j,k = 1,\ldots,K.$$

Here, δ_{ijk}^{s} means the transition indicator which equals 1 if the s^{th} spell of individual i in state j ends in state k and 0 otherwise. Since the exit states are mutually exclusive, the probability of ending the s^{th} spell of state type j for any other state in interval I_t can be expressed as

$$H_{ij}^{s}(t|x_{ij},\varepsilon_{ijk}) = Pr(T_{ij}^{s} = t|T_{ij}^{s} \geq t,x_{ij},\varepsilon_{ijk}) = \sum_{k\neq j}^{\Omega} h_{ijk}^{s}(t|x_{ij},\varepsilon_{ijk}).$$

The survivor function shows the unconditional probability that the person stays in the state j until the end of interval I_t and is defined as

$$S_{ij}^{s}(t|x_{ij},\varepsilon_{ijk}) = Pr(T_{ij}^{s} > t|x_{ij},\varepsilon_{ijk}) = \prod_{z=1}^{t} (1 - H_{ij}^{s}(z|x_{ij},\varepsilon_{ijk})).$$

And finally, the unconditional probability that individual i moves from his original state j to state k in interval I_t can be expressed by the product of probabilities that he survives the time interval I_{t-1} and that he leaves state j in interval I_t (given that he had survived until I_{t-1}):

$$p_{ijk}^{s}(t|x_{ij},\varepsilon_{ijk}) = Pr(T_{ij}^{s} = t,k|x_{ij},\varepsilon_{ijk}) = h_{ijk}^{s}(t|x_{ij},\varepsilon_{ijk})S_{ij}^{s}(t-1|x_{ij},\varepsilon_{ijk}).$$

The hazard rate is assumed to have a multinomial logit form:

$$h_{ijk}^{s}(t|x_{ij},\varepsilon_{ijk}) = ((exp[\alpha_{jk}(t) + \beta_{jk}'x_{ij} + \varepsilon_{ijk}])/(1 + \sum_{l\neq j} exp[\alpha_{jl}(t) + \beta_{jl}'x_{ij} + \varepsilon_{ijl}])).$$

The term $\alpha_{jk}(t)$ represents the baseline hazard function which shows the way the hazard rate depends on time. I chose the semi-parametric approach by assuming the baseline hazard function to be piecewise constant (i.e. $\alpha_{jk}(t) = \alpha_{jkm}$, $m = 1; \ldots; M_j$, where M_j is the number of intervals for baseline hazard). The following cut-off points for the intervals are used for all hazard rates (the unemployment, employment and OLF spells durations are all measured in months): 3, 6, 9, 12, 15, 18, 21, 24, 36, 60 and 84.

The x_{ij} represent the observed variables which are assumed not to be determined by the future outcomes of the employment, unemployment and inactivity processes.

2.2. Unobserved Heterogeneity

The unobserved heterogeneity ε_{ijk} is specified non-parametrically, using the mass point approach (see Heckman&Singer (1984)). There is assumed a discrete probability distribution for ε_{ijk}, i.e. that ε_{ijk} can be partitioned into a limited number R of mass points or location parameters ε_{rjk} with a given probability $Pr(\varepsilon_{rjk})$. The following conditions are imposed on the mass points and their probabilities:

$$\sum Pr(\varepsilon_{rjk}) = 1,$$

$$\sum Pr(\varepsilon_{rjk})\varepsilon_{rjk} = 0,$$

$$E(\varepsilon_{rjk} x_{ij}) = 0.$$

Note that the transition rates out of the different labour market states are estimated separately, and I impose a restriction of no correlation between unobservable characteristics in the exits out of different states, i.e. $Corr(v_u, v_e, v_{olf}) = 0$.

When modelling transitions out of a given state, I use a "factor loading specification", imposing a perfect correlation between the two unobserved heterogeneity terms. Such parameterization has been chosen for computational reasons, i.e. to restrict the number of unknown parameters and to limit the computational burden of the estimation of the model.

3. Transitions in the Danish Labour Market

This section presents the estimation of the factors having an impact on the flows between the three labour market states – unemployment, employment and inactivity in Denmark. For expositional convenience, the estimated coefficients are not presented in the text, i.e. I refer the reader to Appendix Table A.1.

Due to the choice of the multinomial logit specification, a note on the interpretation of the estimated parameters is needed, i.e. the results presented in Appendix Table A.1 are the parameters that inform us about the probability of leaving a state for a certain destination state relative to the probability of staying. In other words, I report the probability of leaving for a certain destination state relative to staying in a current state, i.e. the odds ratio P_k / P_j.

Alternatively, the marginal effect of a covariate on the probability of entering state k, i.e. the change in the hazard rate that would result from changing the value of one covariate while keeping other covariates fixed, could be computed, which is not necessarily of the same sign as the parameter involved.

3.1. Estimation Results

Concerning personal characteristics, it appears that being a woman increases the risk of re-entry to unemployment once employed and reduces the chance of leaving unemployment or inactivity for job. Married men face higher U-E and lower U-OLF transitions, while married women risk to be trapped in unemployment. Once in job, however, marriage plays a positive role for the employment situation of both men and women: the probabilities of U (for men) or OLF (for women) reduce.

The unemployed women with a baby of two years or younger are less likely to get employed and face a higher risk to exit from the labour market and to remain inactive. This is not surprising, since they have less time to search for a job and are likely to drop out temporarily from the labour market. Under the Danish policies, the mother has 14 weeks of maternity leave after the childbirth. When the child is 14 weeks old, the parents are entitled to 32 weeks leave with full benefit to be divided freely between them, but it is more common for mother to stay with the child at home.

There are several childcare alternatives for 0–6-year-old children in Denmark, collectively known as childcare facilities; therefore, labour market participation of women by international standards is relatively high. However, some women may still prefer staying at home for childbearing reasons.

Children older than two but younger than seven reduce their employment probability as well, though to a much lesser extent, while those older than six lower the risk of OLF. Once in job, having a child younger than seven is found not to be significant regarding exits from employment, but children of seven or older make their mothers more attached to the labour market.

For men, however, children of all age groups increase their fathers' U-E transitions and lower the risk of leaving a job or unemployment for inactivity.

Immigrants are found to be a group risking to be trapped in long-term unemployment. On the one hand, they have a lower chance of exiting unemployment for a job, but on the other hand, the risk of OLF is lower. Once employed or inactive, immigrants are found to be more likely to re-enter unemployment.

The age factor tends to play an extremely important role in explaining labour market transitions. The youngest individuals are found to be the most flexible, while those over fifty are disadvantaged in the labour market. Compared to the middle-aged (30–49 age group) persons, the unemployed youth are more likely to exit unemployment for both job and OLF. The elderly workers, however, have much lower chances to get employed and face a comparatively high risk to get into inactivity.

Being 20–29 years old reduces the risk of unemployment, but the probability of dropping outside the labour market increases, and the overall risk of exiting employment is higher. Once inactive, however, the youth are found to have a higher probability of getting a job than the representatives of the other age groups. But here I want to pay attention to the elderly workers who are found to be strongly disadvantaged in the labour market as compared with their younger counterparts. Being older than 50 increases the risk of exiting job for unemployment or inactivity and sharply lowers the chances of exiting OLF for both employment and unemployment; thus, the coefficient for overall OLF exit probability is (-1.116) + (-0.458) = (-1.574) (see Appendix Table A.1).

Education level is an important factor helping to exit U or OLF for employment and to remain in a job. Men in all educational groups are found to be in a favourable employment situation as compared with the reference group (those with nine or less years of education), and the most educated individuals face the lowest risk of leaving a job. For women, the years of education have no impact no the transitions from job to inactivity, but they lower the risk of unemployment. Once unemployed, less educated persons risk withdrawing from the labour market more often as compared with the more educated ones.

Unemployment insurance fund membership plays a complementary role in explaining labour market transitions. Members of all UI funds face a much lower risk of leaving unemployment for inactivity than the reference category – unskilled workers insured by *SID* (*Specialarbejderforbundet* – UI fund for unskilled male workers) and *KAD* (*Kvindeligt Arbejderforbund* – UI fund for unskilled female workers). Once in job, however, they experience a higher risk of re-entry to unemployment. On the other hand, they also experience a much lower risk of moving outside the labour market and survive shorter in inactivity, and thus are in a better employment situation than unskilled workers.

Self-employed individuals are most likely to remain employed as compared with the members of the rest UI funds, and the coefficients for E-U and E-OLF flows for them are (-0.366) and (-0.989) respectively (see Appendix Table A.1).

The past employment history plays an extremely important role for 50–59-year-old persons: those with the previous job spell longer than 6 months are more likely to leave inactivity for both new job or UI. Individuals having more than six months of past unemployment history, however, face a much higher risk of staying trapped out of the labour market as compared with the reference group – persons unemployed for less than six months (the coefficient for the exit from OLF is (-1.524) + (-1.443) = (-2.967); see Appendix Table A.1).

The geographical characteristics of unemployed individuals also seem to have an impact on their future labour market prospects. Residents of the counties with the four biggest Danish cities are found to be disadvantaged. Living in Copenhagen prolongs a persons' stay unemployed most, while inhabitants of Aarhus face the highest risk of becoming inactive. Residents of Copenhagen, Aarhus, Odense and Aalborg are more likely to loose a job as compared with the reference category – other places of residence.

Living in Copenhagen, however, slightly increases the chance of getting back into employment, but here I want to mention that inhabitants of Aarhus and Odense are less likely to leave OLF for unemployment, i.e. there is a danger for these individuals to be discouraged to search for a job and thus to be marginalised and remain out of the labour market. Residents of Aalborg face the lowest transitions from OLF to employment.

Inhabitants of Copenhagen, and especially of Aarhus, older than fifty, are found to be in a favourable labour market situation. The coefficient for the exits from inactivity of the elderly inhabitants of Aarhus is 0.545 + 0.588 = 1.133 (see Appendix Table A.1).

I have found a negative duration dependence in the U-E, E-U, E-OLF, OLF-E and U-E flows. The probability of getting job declines with the time spent unemployed or inactive, while the risk of exiting job reduces with the length of employment spell. There is a sharp decline in the baseline hazards after the first year of employment and OLF. In the U-OLF flow, there is positive duration dependence, i.e. long-term unemployment increases the risk of getting outside the labour market.

Finally, I cover the issue of the individual unobserved heterogeneity. I account for unobserved heterogeneity by employing two mass points of support to improve the model. The presence of these points means that the persons can be divided into two heterogeneous groups. For some unobserved reasons, 28% (Pr (ε1) = 0.28) of individuals have an above-average probability of exiting unemployment for a job, while 14% of inactive persons face labour market marginalisation. Once employed, 76% of persons face a higher risk to re-enter unemployment.

To summarise the above findings and to illustrate the duration dependence pattern, I have computed the survivor and hazard functions, based on the gender and age of individuals. The functions have been calculated for the sub-groups of persons from the estimated coefficients, based on gender- and age-specific characteristic means.

3.2. Transitions from Unemployment

The unemployment survivor functions (Fig. 1) show a steady decline over time for both genders and all age groups. It turns out that women remain in unemployment longer than men. Differences in the survival among the age groups, however, are sharper. The elderly individuals experience higher survival rates, while the youngest group has the best chances to leave unemployment (after two years of unemployment, 18% of the youth versus 49% of the elderly remain in such a situation).

The U-E transitions have a spike in 4–6 months of unemployment spell and then decline gradually, but remain rather stable after the first year on benefits. The flows into OLF, on the contrary, become stable after 6 months of unemployment, but increase sharply after 21 months. Concerning the gender issue, I find women to experience lower transitions to a job (especially in the first year of unemployment) and higher flows to inactivity, while the age-based analysis discovers the youngest to have the highest chances to move to a job, but also to OLF. The elderly persons are less likely to transit to a job, and the middle-aged ones are at the lowest risk of becoming inactive.

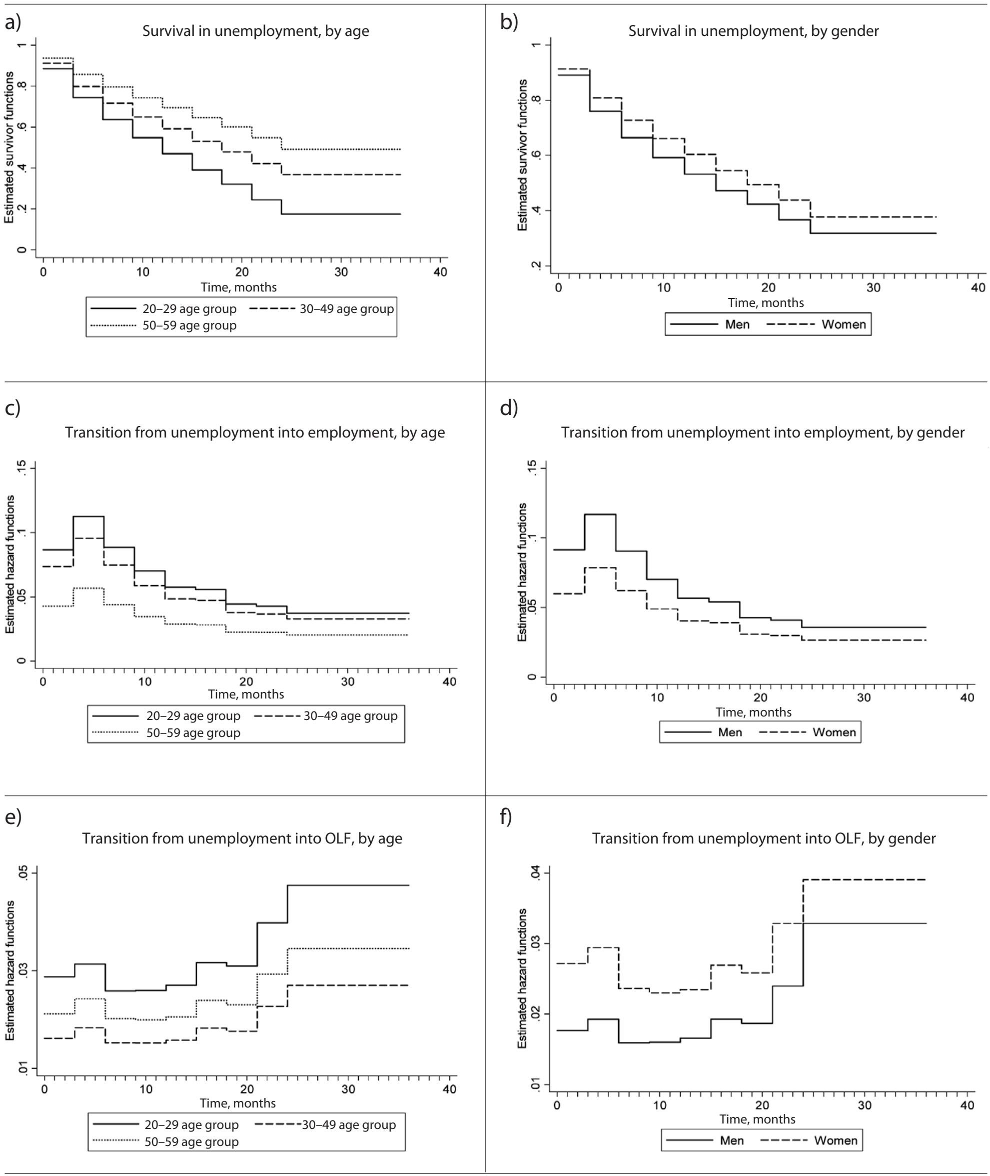

FIG. 1. **Transitions from unemployment**

3.3. Transitions from employment

It turns out that men stay employed longer than women, but the gender-specific survival differences are slight (Fig. 2). Looking to the E-U and E-OLF flows (especially during the first year of employment), however, there is an evidence that men are more likely to leave a job for unemployment, while women more tend to move into inactivity.

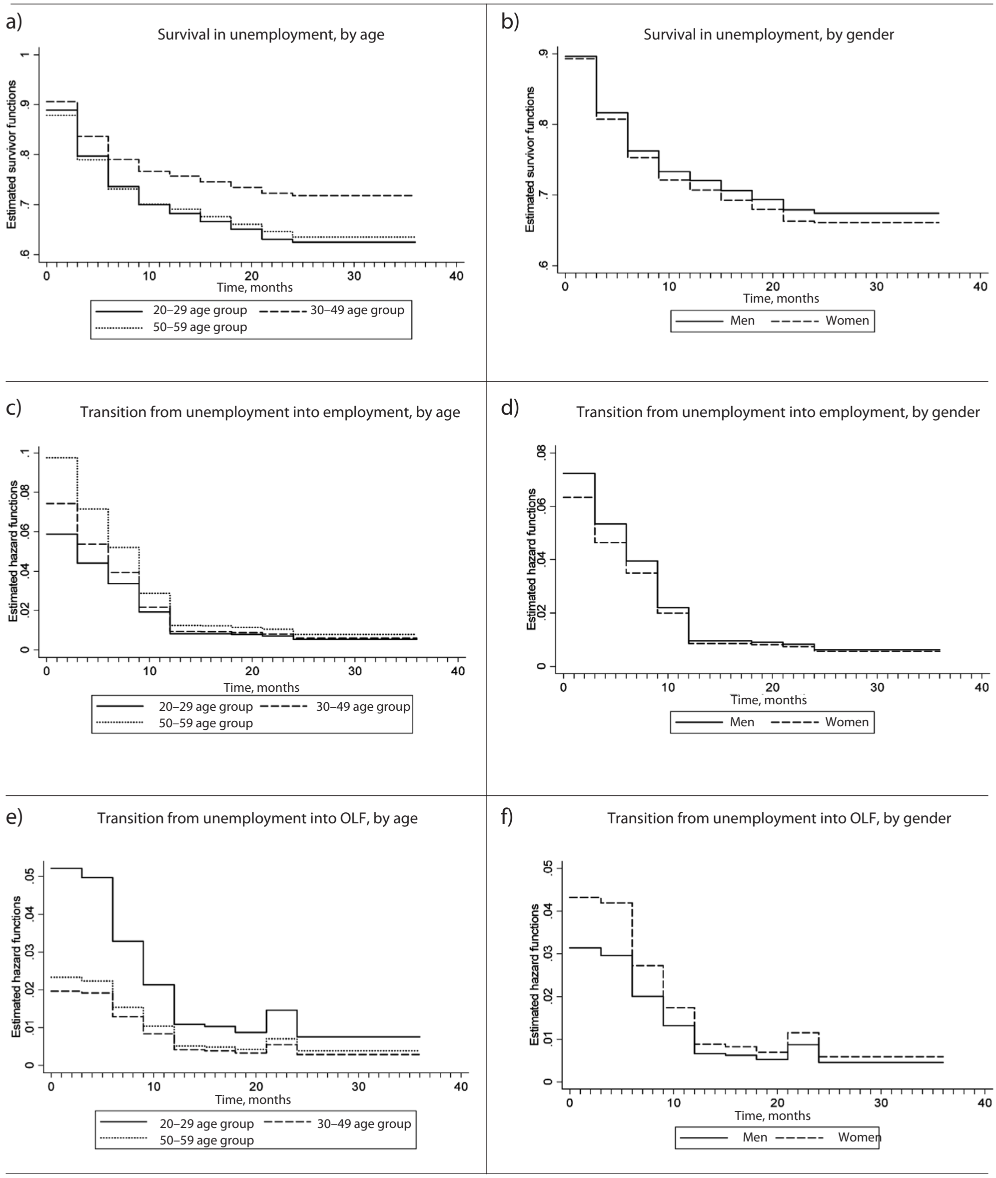

FIG. 2. **Transitions from employment**

There is a minor difference in job survival of the youth and elderly individuals, and both age groups survive as employed shorter than their middle-aged counterparts. But here, again, there is a difference in the transitions: the youngest persons are much more likely to drop out of the labour market, while those older than 50 face the risk of re-entry to unemployment.

Another interesting and important finding is a sharp decline in the transition rates into unemployment and inactivity after the first year of employment: the individuals that have survived employed for one year tend to remain in that state.

3.4. Transitions from OLF

Concerning survival in inactivity, I have observed women to stay in OLF longer than men (Fig. 3).

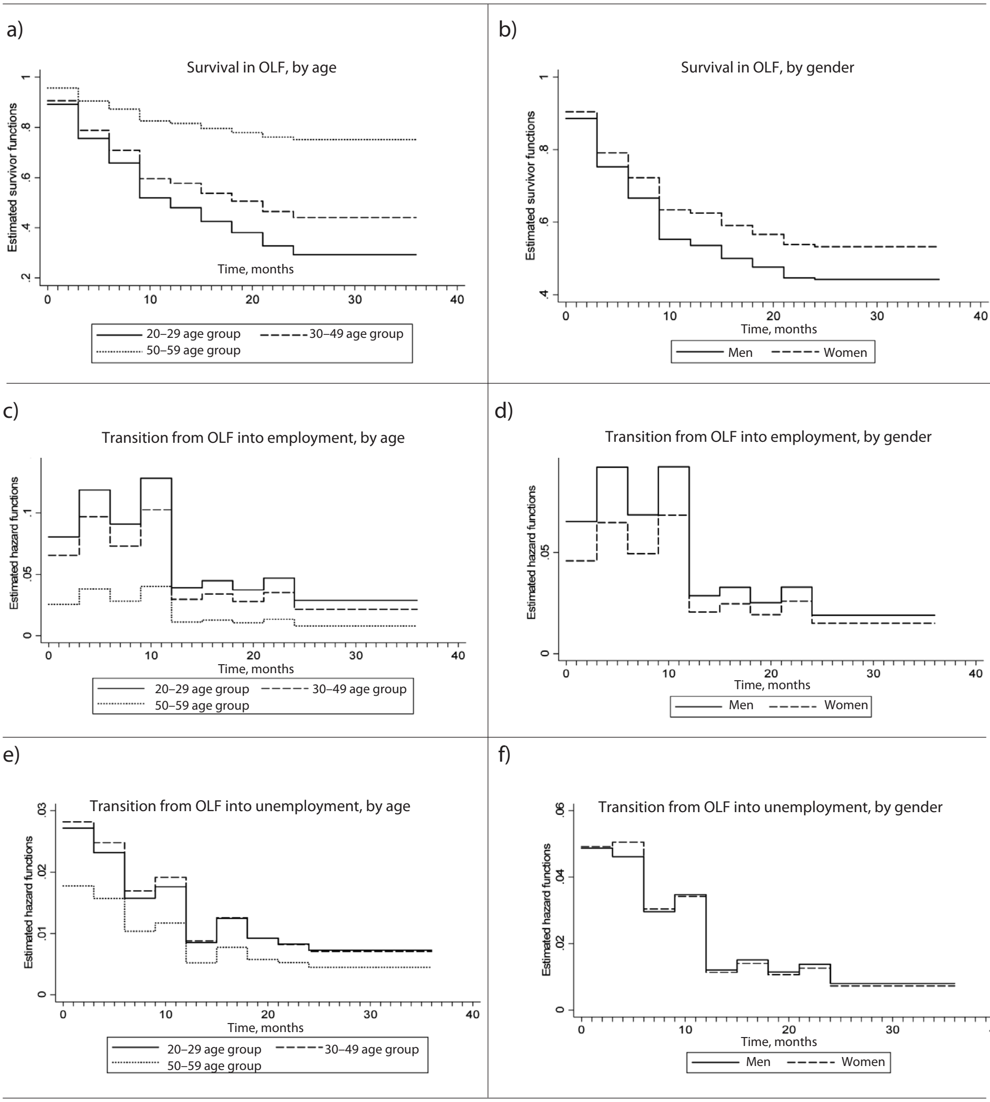

FIG. 3. **Transitions from OLF**

The youngest persons are least likely to remain inactive, while the elderly are found to be the risk group. After two years in OLF, 30% of 20–29-year-old individuals versus 75% of those older than 50 remain in this state.

There are no gender differences in transition from OLF into unemployment, but women experience lower chances of leaving inactivity for a job, especially during the first year outside the labour market. Youth are more likely to move into job than their older counterparts; while looking at the OLF-U flow, I find the middle-aged to be in the best situation. In both transitions, again I find the age-based differences to be mostly expressed in the first year of inactivity.

The last and very important finding is a sharp decline in both transitions after the first year in OLF. Previously, I have mentioned such a break to be existent in the case of employment; however, here it is even more expressed. For example, during 10–12 months of inactivity, the hazards for the 20–29, 30–49 and 50–59 age groups are 13%, 10% and 4%, but after one year spent in OLF they drop to 4%, 3% and 1%, respectively. A similar tendency is observed in gender-based hazard rates and in the hazards from OLF into unemployment.

Conclusions

In this paper, I use the longitudinal register-based data and estimate a discrete time hazard model for the exits from the different labour market states – unemployment, employment and inactivity – in the Danish labour market. I distinguish among the different possible destination states, adopt a competing risks formulation and run a multinomial logit estimation.

The estimation results seem to indicate that some workers encounter difficulties in the Danish labour market, i.e. flexible firing rules and high reservation wages may lead to a greater risk of exclusion for particular groups of individuals (i.e. women and elderly persons, non-skilled and low-educated workers, immigrants and residents of the biggest Danish cities).

This suggests that the policies to reduce unemployment and labour market marginalisation should be targeted towards low-skilled individuals and on increasing the education level. The access to higher education or the completion of vocational qualification (and improving Danish skills for immigrants) could provide a better protection against the risk of entering unemployment. In addition, a wider use of subsidised employment programs with private employers (which were found to be especially effective for women; see Lauzadyte, Rosholm, 2008) and promoting the access to employment for the persons that are constrained to withdraw from the labour market should prove worthwhile.

The scarring effect of long-term (i.e. longer than one year) inactivity motivates the necessity of special programs oriented to individuals with specific problems (e. g., disability, alcoholism, etc.), while the harm of long-term unemployment to the future labour market performance of individuals over fifty implies that policies aimed at reducing short-term unemployment incidence (i.e. activation of these persons at the early months of unemployment spell) could have longer positive effects.

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APPENDIX

TABLE A.1. **Transitions in Danish labour market ***

Variables	Exits from U		Exits from E		Exits from OLF	
	To E	To OLF	To U	To OLF	To E	To U
Female worker	**-0.293**	0.016	**0.202**	-0.020	**-0.209**	-0.021
Age (reference: 30–49 years)						
20–29 years	**0.362**	**0.305**	**-0.255**	**0.672**	**0.424**	0.042
50–59 years	**-0.574**	**0.506**	**0.398**	**0.348**	**-1.116**	**-0.458**
Married man	**0.145**	*-0.091*	**-0.107**	-0.005	0.002	**–0.143**
Married woman	**-0.122**	0.044	0.010	**-0.237**	–	–
Immigrant	**-0.626**	**-0.124**	**0.158**	0.043	**-0.182**	**0.326**
Age of youngest child (for women; reference: no children)						
0–2 years	**-0.445**	**0.481**	0.035	0.029	**-0.674**	-0.025
3–6 years	**-0.175**	*0.085*	0.055	-0.043	**-0.148**	0.075
7–17 years	0.063	**-0.268**	**-0.193**	***-0.231***	0.098	0.039
*Age of youngest child (for men; reference: no children)***						
0–2 years	**0.152**	-0.070	-0.012	**-0.360**	–	–
3–6 years	**0.112**	**-0.311**	***-0.131***	**-0.410**	–	–
7–17 years	**0.096**	*-0.187*	0.006	*-0.269*	–	–
Education, for men (reference:<10 years of education)						
10–11 years	0.005	0.082	-0.039	***-0.165***	0.061	0.001
12 years	0.056	**0.204**	**-0.306**	**0.152**	***0.068***	**-0.562**
13–14 years	**0.117**	**-0.111**	**-0.176**	**-0.285**	**0.129**	**-0.154**
15–16 years	**0.150**	*-0.149*	**-0.245**	*-0.152*	0.083	**-0.443**
17–18 years	**0.320**	-0.087	**-0.726**	**-0.541**	**0.351**	**-0.623**
Education, for women (reference:<10 years of education)						
10–11 years	***0.095***	*-0.126*	-0.073	-0.102	*0.119*	-0.049
12 years	**0.321**	*-0.124*	*-0.129*	0.011	***0.128***	0.076
13–14 years	**0.165**	**0.128**	**-0.160**	-0.043	-0.027	0.053
15–16 years	**0.347**	**0.184**	**-0.325**	0.169	***0.158***	0.005
17–18 years	**0.533**	0.195	0.151	0.135	0.041	0.160
Experience	**0.014**	**-0.017**	**-0.025**	**-0.037**	***0.005***	*-0.005*
Previous state – employment	**0.365**	**-0.214**	–	–	**0.552**	**-0.715**
*Man previously employed >6 months***	**0.100**	**-0.258**	–	–	**0.246**	**-0.684**
*Man previously unemployed >6 months***	**–**	**–**	**0.472**	**-0.292**	**-0.593**	**0.306**
*Man previously. inactive >6 months***	**-0.334**	**0.374**	**-0.398**	**0.762**	–	–
*Woman previously employed >6 months***	-0.047	0.029	–	–	**0.189**	0.032
*Woman previously inactive >6 months***	***0.150***	**-0.252**	–	–	–	–
*50–59 years – previously employed. >6 months***	–	–	–	–	***0.194***	**0.274**
*50–59 years – previously unemployed. >6 months***	–	–	-0.066	**0.510**	**-1.524**	**-1.443**

TABLE A.1. **Transitions in Danish Labour Market (continued) ***

Variables	Exits from U		Exits from E		Exits from OLF	
	To E	To OLF	To U	To OLF	To E	To U
UI fund membership (reference: members of SID (men) and KAD (women) UI funds)						
Metal	**0.085**	**-0.694**	**0.482**	**-1.231**	**0.371**	**1.085**
Manufacturing	**0.053**	**-0.770**	**0.677**	**-1.152**	**0.301**	**1.032**
Construction	**0.454**	**-0.727**	**0.698**	**-1.246**	**0.431**	**0.760**
Technicians	**-0.271**	**-0.582**	**0.211**	**-1.017**	**0.192**	**1.040**
Trade	**-0.384**	**-0.537**	**0.261**	**-1.164**	0.063	**0.919**
Clerical	**0.097**	**-0.520**	**0.162**	**-1.088**	**0.511**	**0.811**
Academics	**-0.162**	**-0.614**	***0.185***	**-0.939**	**0.219**	**1.334**
Other UI	-0.031	**-0.558**	**0.476**	**-0.835**	**0.267**	**0.906**
Self-employed	**-0.453**	**-0.407**	**-0.366**	**-0.989**	***0.169***	**0.239**
Place of residence (reference: other place of residence)						
Copenhagen	**-0.220**	0.024	**-0.179**	**0.215**	*0.027*	**-0.087**
Aarhus	**-0.156**	**0.207**	**-0.152**	**0.457**	***-0.078***	**-0.192**
Odense	**-0.121**	-0.072	0.081	***0.135***	-0.040	***-0.125***
Aalborg	**-0.128**	0.062	**0.232**	**0.245**	**-0.136**	0.016
*Place of residence & 50–59 years (reference: other place of residence)***						
Copenhagen	-0.078	***-0.164***	–	–	**0.300**	**0.298**
Aarhus	-0.145	**-0.382**	–	–	**0.545**	**0.588**
Odense	-0.176	0.175	–	–	0.051	0.225
Aalborg	*0.215*	***-0.367***	–	–	0.059	0.238
Baseline hazard (reference: 1–3 months)						
4–6 months	**0.334**	**0.145**	**-0.282**	-0.042	**0.414**	**0.076**
7–9 months	**0.103**	***-0.082***	**-0.566**	**-0.436**	**0.125**	**-0.361**
10–12 months	**-0.123**	**-0.111**	**-1.138**	**-0.892**	**0.518**	**-0.117**
13–15 months	**-0.312**	*-0.082*	**-1.983**	**-1.579**	**-0.701**	**-1.223**
16–18 months	**-0.321**	0.075	**-1.982**	**-1.637**	**-0.526**	**-0.971**
19–21 months	**-0.551**	**0.040**	**-2.027**	**-1.797**	**-0.774**	**-1.243**
22–24 months	**-0.567**	**0.305**	**-2.111**	**-1.276**	**-0.480**	**-1.032**
25–36 months	**-0.685**	**0.488**	**-2.401**	**-1.883**	**-0.994**	**-1.548**
37–60 months	**-1.383**	**0.255**	**-3.041**	**-2.166**	**-1.767**	**-2.226**
61–84 months	**-1.373**	**1.624**	**-3.473**	**-2.363**	**-2.459**	**-3.590**
>84 months	**-2.700**	**1.346**	**-3.490**	**-2.218**	**-3.508**	**-6.442**
Constant	**-2.655**	**-3.447**	**-2.395**	**-2.663**	**-3.066**	**-2.943**
Mass points						
ε1	***0.561***	-0.039	-0.405	-0.3135	0.131	-0.093
ε2	**-0.218**	0.015	**0.128**	**0.099**	***-0.805***	0.571
Pr (ε1)	0.28		0.24		0.86	
Pr (ε2)	0.72		0.76		0.14	

** **Bold:** significant at 1% level; ***bold-italic:*** significant at 5% level; *italic:* significant at 10% level.

** The variables and interactions that proved not to be significant at 10 percent level at least were dropped from the model.