

# Sensitivity Analyses

## *Increasing Employment Instability among Young People? Labor Market Entries and Early Careers in Sweden 1980 – 2000*

**Martin Hällsten and Karin Halldén**

The first “real” job is hard to define in the Swedish context where education and employment typically are sandwiched during the early career. In the paper, with analyses on data from the Swedish Level of Living Survey (LNU), we use the last educational spell where the individual does not have any work experience at completion. Hence, we define the first “real job” by first defining the “graduation”. The alternative definition of the first “real job” is the first job after graduation from highest education the individual attain, i.e., imposing no restriction on work experience at graduation. Comparing transition rates of labor market entry and job mobility over time are not straightforward, since the 1990s in Sweden was characterized by both high unemployment rate and a strong increase in tertiary education participation. Identifying comparable cases across time points seem difficult. Controlling for level of education (time-varying) is indispensable, but does it suffice?

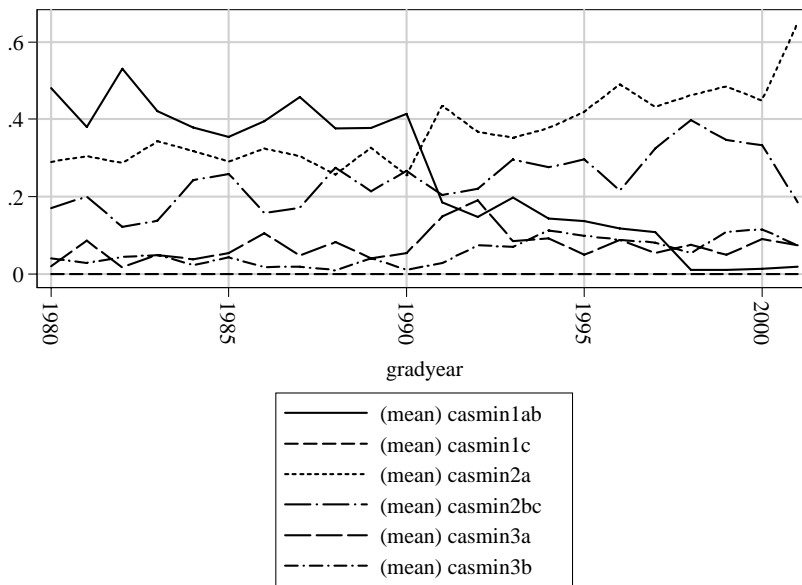
The sensitivity analysis will focus on three questions:

1. How much does the definition of the first job influence the findings?
2. Is the observed increased transition time into first employment the paper reliable?
3. Is the (zero-change) upward mobility pattern robust?

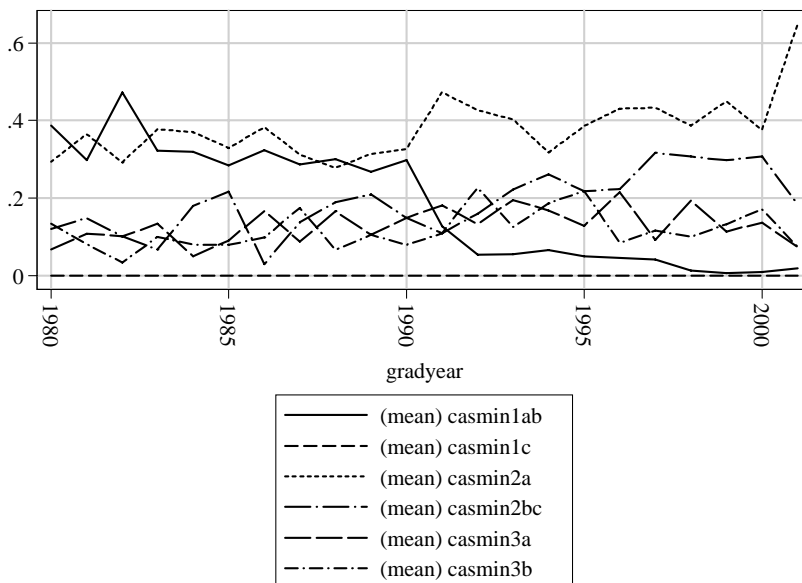
**1. Effects of different definitions of “graduation” on educational level at labor market entry.**

The following figures show the distribution of educational levels in the sample. For each year on the x-axis, the y-axis presents the proportion belonging to a specific educational level, operationalized by the CASMIN scheme (i.e., the points on the y-axis sum to unity). The levels are connected so that trends are discernable.

**Figure 1. The distribution of educational levels at “graduation” (NO WORK EXPERIENCE at “graduation”).**



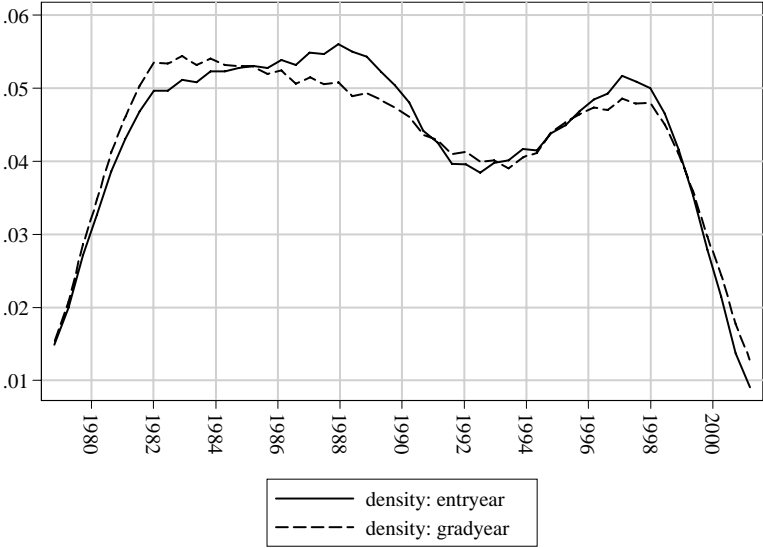
**Figure 2. The distribution of educational levels at “graduation” (UNLIMITED WORK EXPERIENCE at “graduation”).**



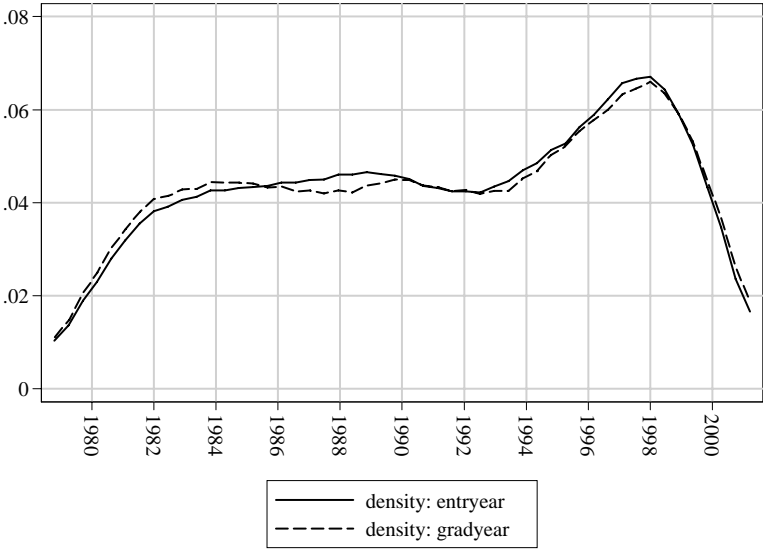
**Comment:** The two figures are quite similar. Educational upgrading seems to be a common pattern, but the degree of upgrading does not differ strongly between the operational definitions.

The following figures describe the within sample distribution (probability density function) of the graduation and entry times according to the two definitions.

**Figure 3. The distribution of the last “graduation” and labor market entries (NO WORK EXPERIENCE at graduation, i.e. low educational level at graduation).**



**Figure 4. The distribution of the last “graduation” and labor market entries (UNLIMITED WORK EXPERIENCE at graduation, i.e. high educational level at graduation).**



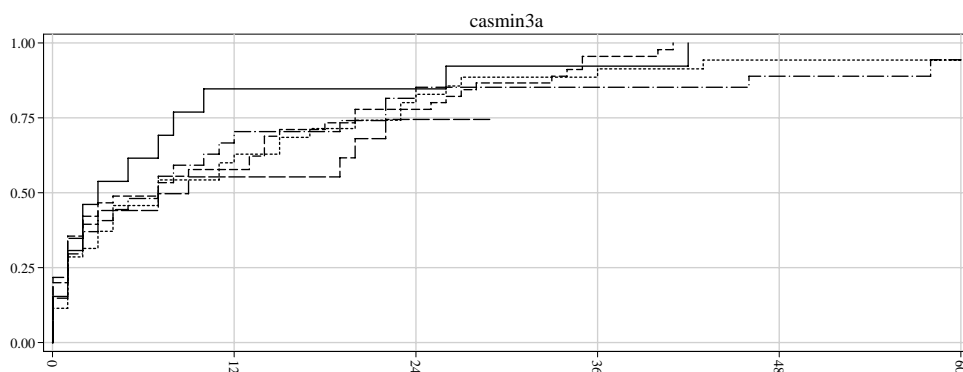
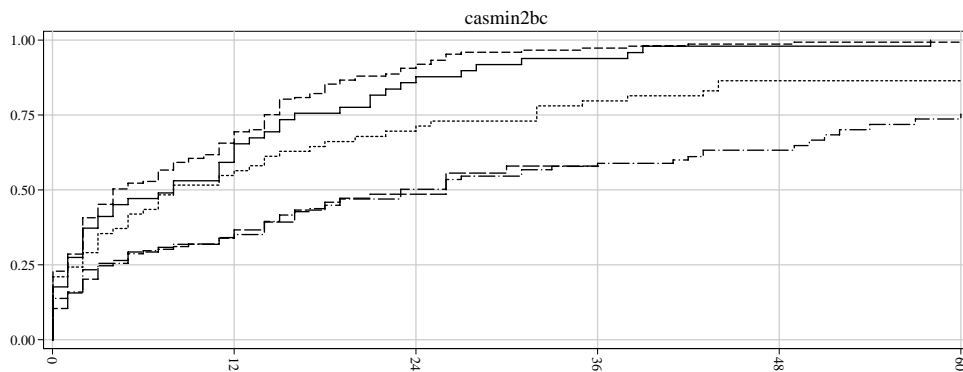
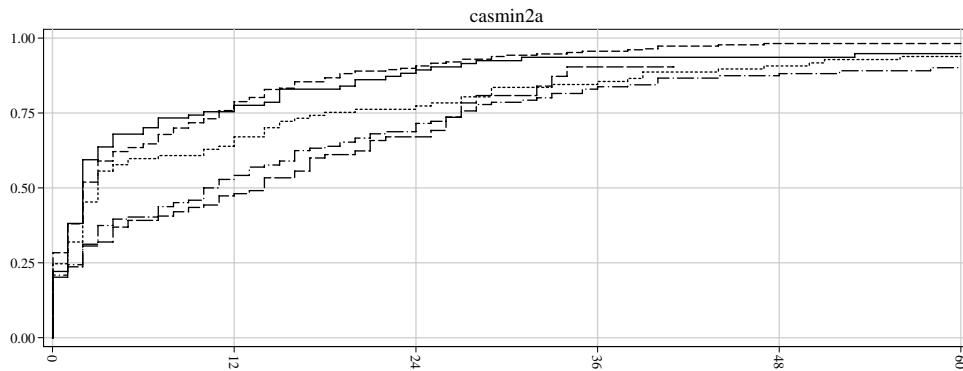
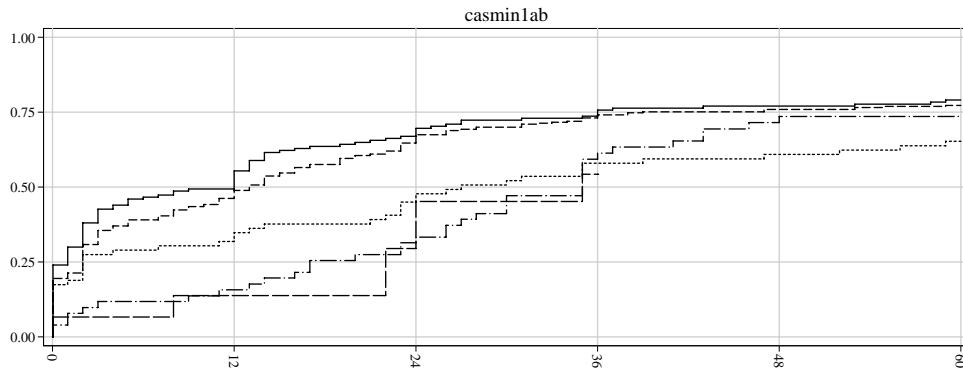
**Comment:** The above pattern seems consistent with the labor market conditions in Sweden during the 1990s. Few people with low education managed to enter the labor market since the unemployment was high. Instead they enrolled in education and “graduated” later. Even those who manage to enter subsequently return to education.

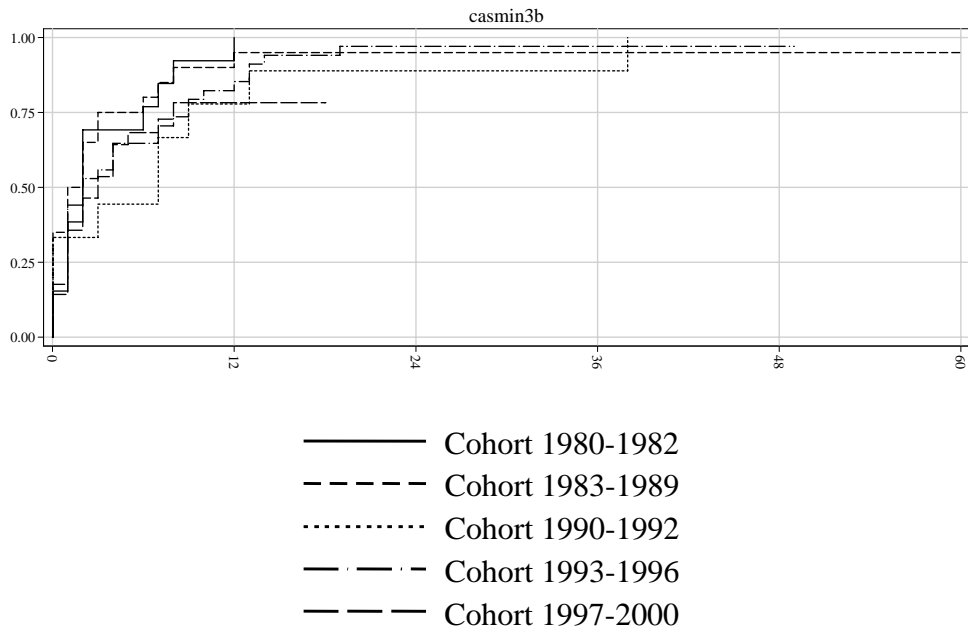
**Conclusion:** The definitions used seem not to affect the distribution of graduation level. Although describing different phenomena, both seem to have face validity.

## 2. Transition into first job at different educational levels over time.

The below figures present Kaplan-Meier unconditional failure curves of transitions to labor market by educational level.

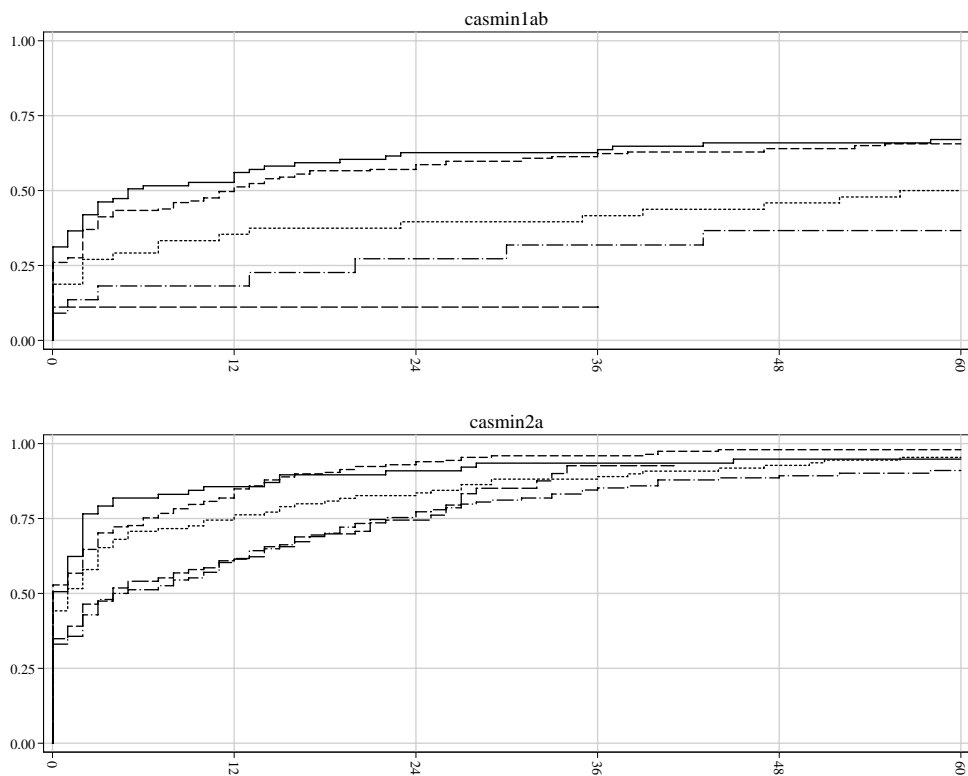
**Figure 5. Kaplan-Meier failure curves of entry into the first real job (NO WORK EXPERIENCE at graduation).**

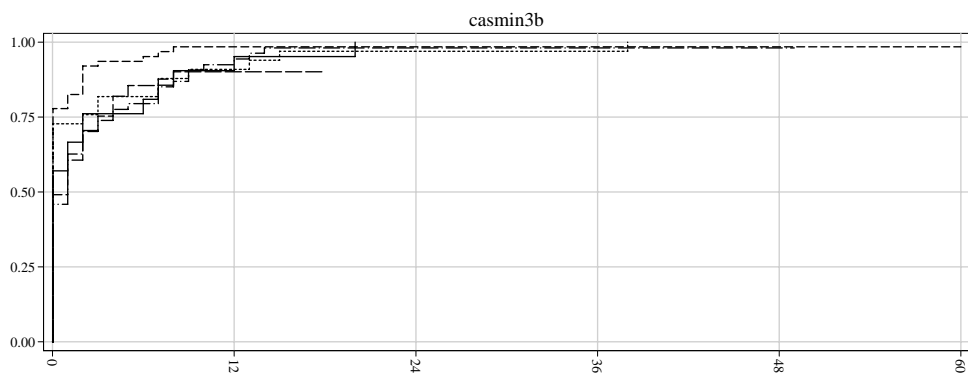
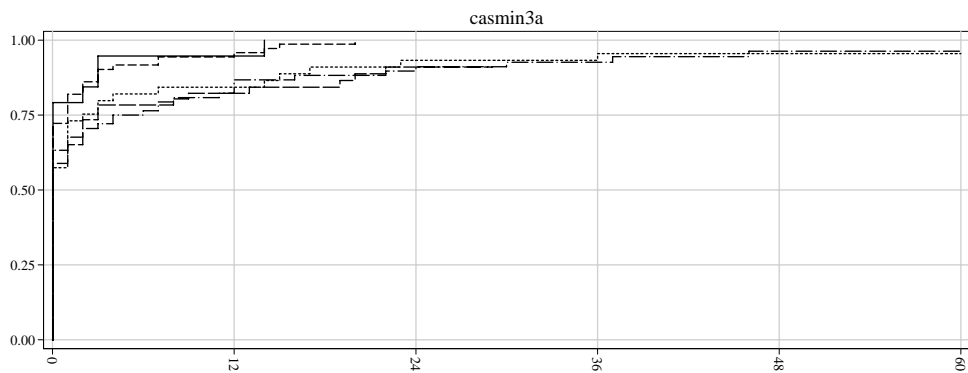
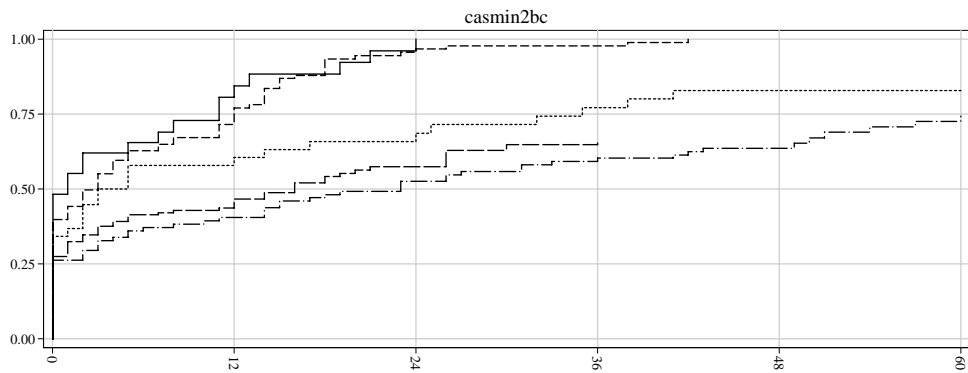




**Comment:** The cross cohort differences decline with educational level. The cross-cohort differences are however quite small in the casmin2a category.

**Figure 6. Kaplan-Meier failure curves of entry into the first real job (UNLIMITED WORK EXPERIENCE at graduation).**





- Cohort 1980-1982
- - - Cohort 1983-1989
- ..... Cohort 1990-1992
- . - . Cohort 1993-1996
- - - - Cohort 1997-2000

**Comment:** The cross cohort differences decline with educational level, but are very small in the casmin2a category.

**Conclusion:** The observed pattern of declining cross-cohorts differences with educational level is robust to different definitions of the first job.

The tables below show cross-cohorts differences when conditioning on covariates.

**Table 1. Piecewise constant exponential hazard regression of transition into first employment >6 months (NO WORK EXPERIENCE at graduation).**

	m1casmin1ab	m1casmin2a	m1casmin2bc	m1casmin3a	m1casmin3b	m1casmin3ab
Duration 0 to 3 months	-4.335**	-0.547	-3.671**	-2.533*	-1.220	-3.131**
Duration 3 to 6 months	-6.345**	-2.407**	-5.080**	-4.320**	-3.091	-4.956**
Duration 6 to 9 months	-5.227**	-2.008**	-5.044**	-3.613**	-1.933	-4.064**
Duration 9 to 12 months	-5.468**	-2.106**	-5.257**	-3.812**	-2.249	-4.344**
Duration 12 and more months	-5.985**	-2.384**	-5.238**	-4.297**	-3.507*	-5.016**
Men * duration 0 to 3 months	0.745**	-0.137	-0.520**	-0.764**	-0.323	-0.533**
Men * duration 3 to 6 months	0.440	-0.121	-0.650	-1.008	0.573	-0.100
Men * duration 6 to 9 months	-0.949*	-0.877*	-0.797*	-0.505	0.130	-0.246
Men * duration 9 to 12 months	0.169	0.104	0.143	-1.323	-0.961	-1.219
Men * duration 12 and more months	0.272	0.223	0.150	0.144	0.580	0.232
Cohort 1980-1982	0.148	-0.081	-0.110	0.217	0.105	0.231
Cohort 1990-1992	<b>-0.502**</b>	<b>-0.389**</b>	<b>-0.649**</b>	-0.017	-0.152	-0.132
Cohort 1993-1996	-0.317	<b>-0.635**</b>	<b>-1.200**</b>	-0.145	-0.234	-0.081
Cohort 1997-2000	-0.478	<b>-0.673**</b>	<b>-1.133**</b>	-0.467	-0.360	-0.320
Age in years at leave from education	0.111**	-0.025	0.128*	0.059	0.017	0.088**
Foreign born	0.725**	-0.583	-0.145	0.020	-0.833	-0.360
Observations	3274	2477	2101	516	236	752
Subjects	645	715	485	143	104	247
Failures	462	629	384	131	95	226
Log likelihood	-1383.6818	-1698.5289	-1020.1506	-308.2679	-226.0786	-542.7501

**Bold** coefficients = support decrease of transition over time.

Underlined coefficients = support increase over time.

**Comment:** The general decline in transition rates seems rather robust, but not for the tertiary educational levels.

**Table 2. Piecewise constant exponential hazard regression of transition into first employment >6 months (UNLIMITED WORK EXPERIENCE at graduation).**

	m1casmin1ab	m1casmin2a	m1casmin2bc	m1casmin3a	m1casmin3b	m1casmin3ab
Duration 0 to 3 months	-5.688**	-2.659**	-5.793**	-1.858**	-6.893**	-2.748**
Duration 3 to 6 months	-7.919**	-4.941**	-7.490**	-4.731**	-9.527**	-5.583**
Duration 6 to 9 months	-7.222**	-4.653**	-8.286**	-4.520**	-8.025**	-4.769**
Duration 9 to 12 months	-7.460**	-4.751**	-7.984**	-4.446**	-8.578**	-5.242**
Duration 12 and more months	-8.676**	-5.279**	-7.969**	-4.145**	-10.548**	-5.511**
Men * duration 0 to 3 months	1.031**	-0.178	-0.309*	0.296*	-0.339*	0.021
Men * duration 3 to 6 months	0.825	0.034	-0.593	-0.767	0.476	0.431
Men * duration 6 to 9 months	0.040	-0.924*	-0.294	0.656	-0.682	0.258
Men * duration 9 to 12 months	0.698	0.017	0.599	-0.590	-1.542	-0.621
Men * duration 12 and more months	0.655*	0.514**	0.599*	-0.711	0.954	-0.120
Cohort 1980-1982	0.207	0.064	0.213	0.120	<u>-0.525*</u>	-0.269
Cohort 1990-1992	<b>-0.723**</b>	<b>-0.322**</b>	<b>-1.063**</b>	<b>-0.556**</b>	-0.401	<b>-0.408**</b>
Cohort 1993-1996	<b>-1.052**</b>	<b>-0.679**</b>	<b>-1.364**</b>	<b>-0.697**</b>	<b>-0.826**</b>	<b>-0.734**</b>
Cohort 1997-2000	-1.779	<b>-0.665**</b>	<b>-1.142**</b>	<b>-0.725**</b>	<b>-0.914**</b>	<b>-0.760**</b>
Age in years at leave from education	0.186**	0.105**	0.249**	0.084**	0.287**	0.121**
Foreign born	0.573	-0.371	0.341	0.599	-0.675	0.046
Observations	2132	2200	1580	501	376	877
Subjects	402	759	399	279	239	518
Failures	223	666	298	262	226	488
Log likelihood	-848.2690	-2144.7534	-970.6275	-856.2071	-657.7869	-1552.9085

**Bold** coefficients = support decrease of transition over time.

Underlined coefficients = support increase over time.

**Comment:** The decrease of transition rates over time seems stronger when using the definition of the first real job with unlimited work experience. The decrease is now significant even at higher educational levels.

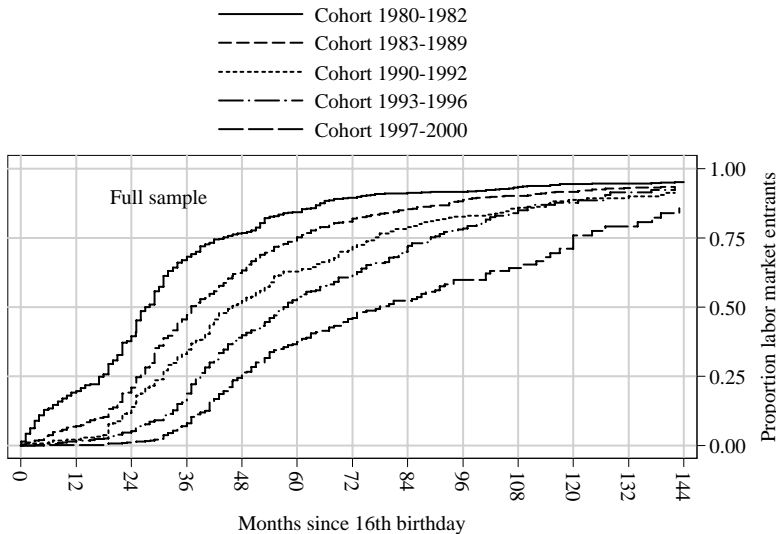
**Conclusion:** The above observed decrease in transition rates is robust. Nonetheless, the real problem with the analysis is that the activities between graduation and labor market entry are unobserved. We cannot separate (involuntary) effects due to structural changes from (voluntary) changes due to behaviour differences. The fact that participation in military service has decreased, which should counteract the observed decrease, gives some credibility to structural change as the explanative factor.

*Transition from an absolute rather than a relative point in time*

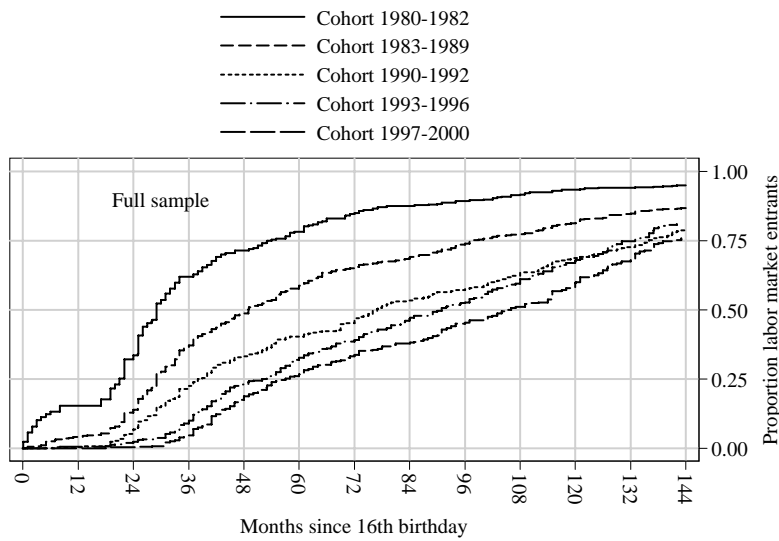
Transitions from graduation may conceal important changes, since the time of graduation is varying over time. By fixing the starting point, i.e., when individuals enter the risk pool, we get an alternative picture of the labor market entry. In the following analyses the time at risk starts at individuals 16<sup>th</sup> birthday.

The figures below illustrate the transition rates for different educational cohort according to the two definitions. Changes in educational levels over time are deliberately ignored..

**Figure 7. Kaplan-Meier failure curves of entry into the first real job, starting from 16<sup>th</sup> birthday (NO WORK EXPERIENCE at graduation).**



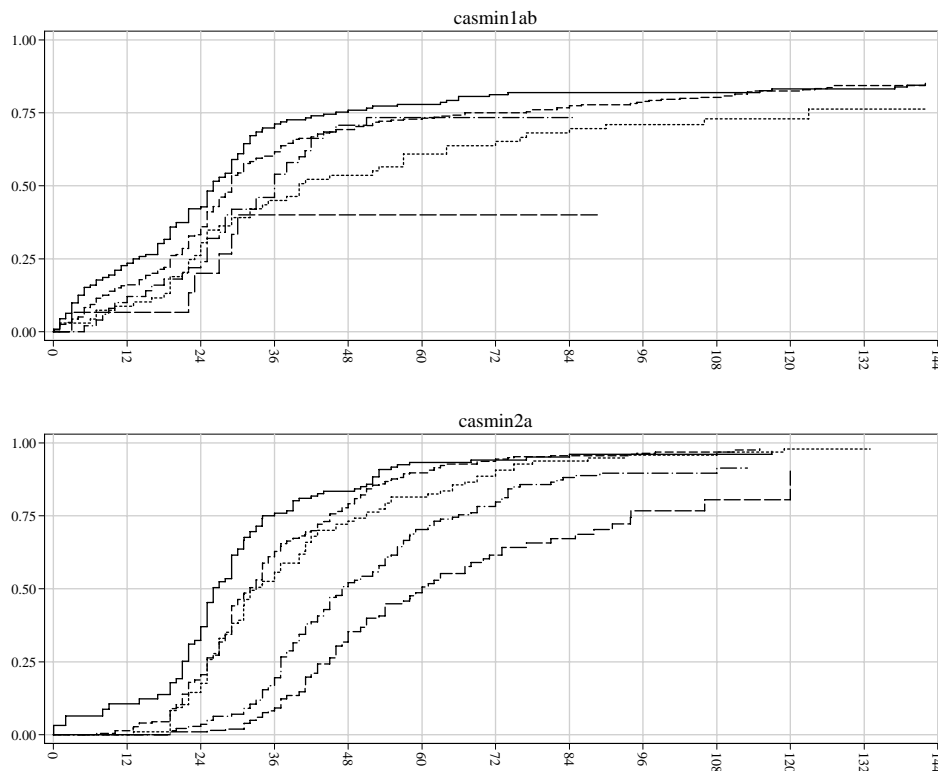
**Figure 8. Kaplan-Meier failure curves of entry into the first real job, starting from 16<sup>th</sup> birthday (UNLIMITED WORK EXPERIENCE at graduation).**

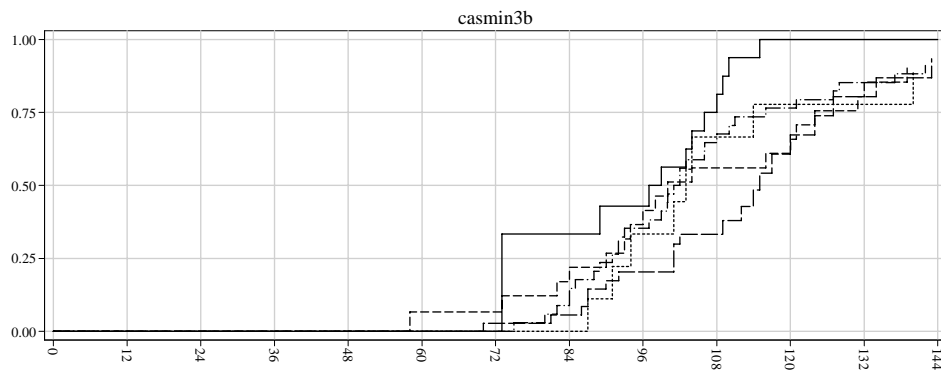
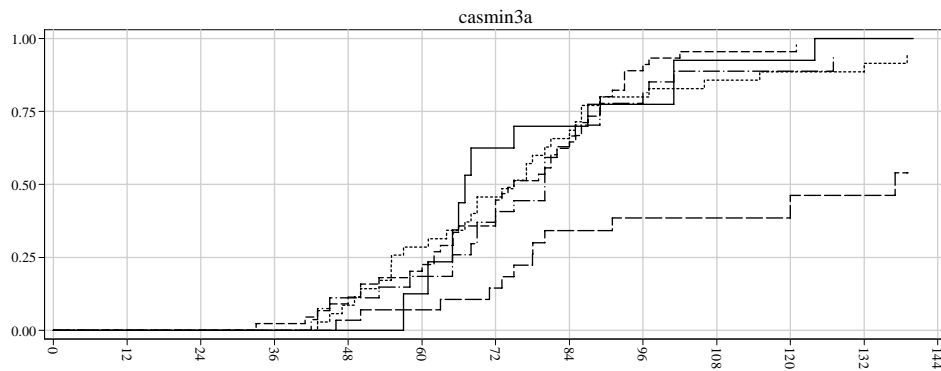
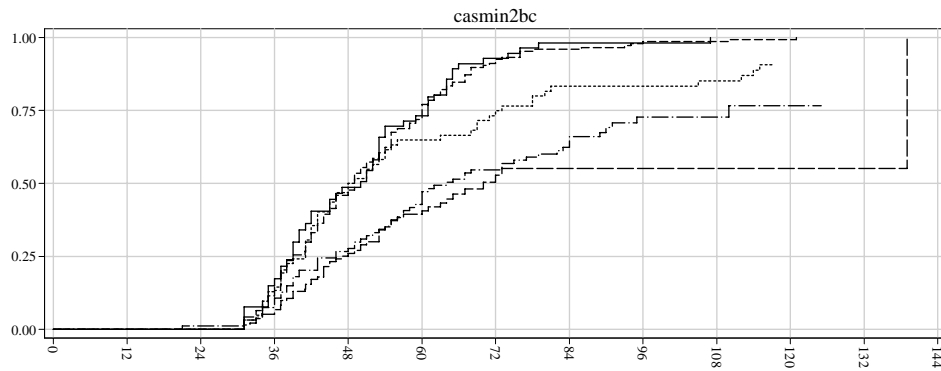


**Comment:** Individuals enter their first real job at higher ages in the younger cohorts. The pattern is robust to definitions of the first real job. It seems obvious that these changes are driven by stark educational upgrading.

The figures below describe the same failure curves as above by educational levels. The effect of educational upgrading is then expected to be wiped out.

**Figure 9. Kaplan-Meier failure curves of entry into the first real job, starting from 16<sup>th</sup> birthday, by educational level (NO WORK EXPERIENCE at graduation).**

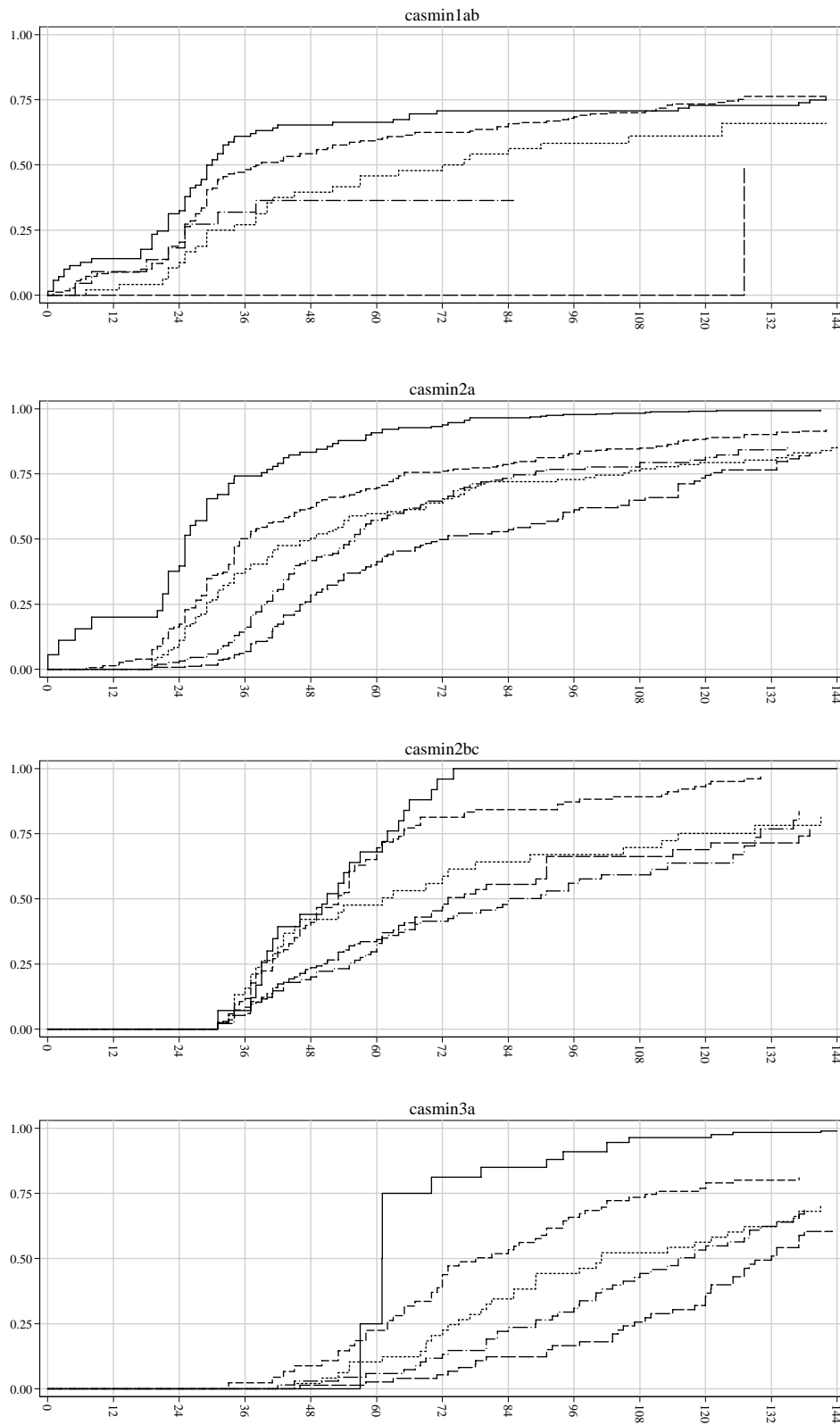


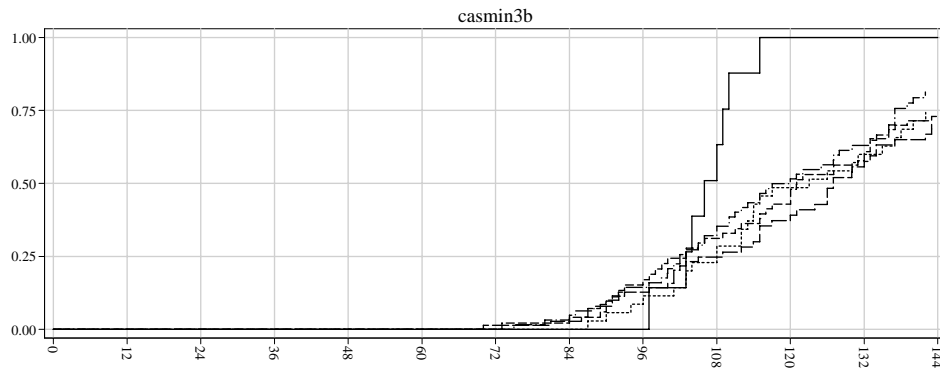


- Cohort 1980-1982
- - - - Cohort 1983-1989
- ..... Cohort 1990-1992
- . - . Cohort 1993-1996
- - - - Cohort 1997-2000

**Comment:** The graphs reveal substantial heterogeneity in the cross-cohort effects. The differences appear substantial even within educational levels. Thus, individuals establish themselves in the labor market at older ages. Only in the casmin 3a and 3a categories the cohort differences seem small.

**Figure 10. Kaplan-Meier failure curves of entry into the first real job, starting from 16<sup>th</sup> birthday, by educational level (UNLIMITED WORK EXPERIENCE at graduation).**





- Cohort 1980-1982
- - - - Cohort 1983-1989
- ..... Cohort 1990-1992
- · - · Cohort 1993-1996
- - - - Cohort 1997-2000

**Comment:** The pattern is similar when allowing unlimited work experience at “graduation”, but the cross-cohorts differences are more accentuated. It is only in the very highest casmin category the differences disappear.

**Conclusion:** These graphs add to the evidence of declining transition rates.

The tables below show cross-cohort differences when conditioning on covariates.

**Table 3. Piecewise constant exponential hazard regression of transition into first employment >6 months (NO WORK EXPERIENCE at graduation).**

	m1casmin1ab	m1casmin2a	m1casmin2bc	m1casmin3a	m1casmin3ab
Duration 0 to 24 months	-4.168**	1.988**	-15.327	-17.736	-15.485
Duration 24 to 96 months	-4.676**	4.187**	2.381	0.752	2.089**
Duration 96 to 108 months	-6.857**	3.428**	1.375	2.051	3.947**
Duration 108 to 120 months	-5.669**	4.197**	2.584	1.006	3.414**
Duration 120 to 132 months	-6.683**	-11.904	-15.284	1.920	4.087**
Duration 132 to 144 months	-5.924**	-11.815	-15.353	-16.605	3.584**
Duration 144 to 156 months	-5.399**	3.789**	-15.278	2.796*	4.157**
Duration 156 to 168 months	-5.729**	-12.119	-15.042	3.387*	4.500**
Duration 168 and more months	-5.241**	-12.116	-15.216	-15.504	-14.157
Men * Duration 0 to 24 months	-0.109	0.073	12.707	-0.126	-0.025
Men * Duration 24 to 96 months	0.638**	-0.103	-0.143	-0.122	-0.259
Men * Duration 96 to 108 months	1.261	-13.905	-0.148	-0.468	-0.423
Men * Duration 108 to 120 months	0.377	1.262	0.686	-0.365	0.511
Men * Duration 120 to 132 months	1.484	2.019	18.834	-0.010	0.102
Men * Duration 132 to 144 months	0.289	1.931	18.985	18.953	0.827
Men * Duration 144 to 156 months	0.590	1.344	0.063	-19.732	-0.262
Men * Duration 156 to 168 months	0.677	2.029	-0.174	-19.886	-18.529
Men * Duration 168 and more months	0.323	17.448		17.798	18.596
Cohort 1980-1982	<b>0.230*</b>	0.109	0.094	<b>0.643*</b>	<b>0.643**</b>
Cohort 1990-1992	-0.251	<b>-0.464**</b>	<b>-0.483**</b>	-0.304	<b>-0.426*</b>
Cohort 1993-1996	0.112	<b>-0.696**</b>	<b>-0.967**</b>	-0.203	-0.132
Cohort 1997-2000	-0.514	<b>-0.927**</b>	<b>-1.079**</b>	<b>-0.693*</b>	<b>-0.534*</b>
Age in years at exit from education	0.011	-0.368**	-0.284**	-0.215**	-0.280**
Foreign born	0.530	-0.864*	-0.174	-0.020	-0.030
Observations	4164	4077	3100	1229	2362
Subjects	620	775	514	149	262
Failures	497	635	388	130	224
Log likelihood	-953.3335	-508.8749	-265.7064	-77.8410	-92.7741

**Bold** coefficients = support decrease of transition over time.

**Table 4. Piecewise constant exponential hazard regression of transition into first employment >6 months (UNLIMITED WORK EXPERIENCE at graduation).**

	m1casmin1ab	m1casmin2a	m1casmin2bc	m1casmin3a	m1casmin3ab
Duration 0 to 24 months	-6.617**	-0.052	-16.777	-15.138	-13.899
Duration 24 to 96 months	-7.141**	2.107**	0.916	4.630**	5.076**
Duration 96 to 108 months	-21.809	2.112**	1.010	6.594**	7.106**
Duration 108 to 120 months	-7.339**	2.969**	1.797*	6.335**	7.459**
Duration 120 to 132 months	-7.668**	2.441**	2.448**	7.361**	7.929**
Duration 132 to 144 months	-7.604**	2.911**	1.977*	7.035**	8.224**
Duration 144 to 156 months	-7.087**	2.426**	1.504	7.928**	8.524**
Duration 156 to 168 months	-7.423**	3.606**	3.939**	8.512**	9.133**
Duration 168 and more months	-6.942**	3.064**	4.427**	8.237**	8.999**
Men * Duration 0 to 24 months	0.111	-0.079	-0.022	0.028	0.125
Men * Duration 24 to 96 months	1.136**	-0.005	-0.124	-0.106	-0.382*
Men * Duration 96 to 108 months	14.525	0.781	-0.140	-0.267	-0.196
Men * Duration 108 to 120 months	0.358	0.830*	0.107	0.385	0.089
Men * Duration 120 to 132 months	0.774	0.891	0.448	-0.427	0.028
Men * Duration 132 to 144 months	0.275	1.314**	0.591	0.521	0.317
Men * Duration 144 to 156 months	0.580	1.842**	1.186	-0.075	0.010
Men * Duration 156 to 168 months	0.665	1.237**	-0.731	-0.472	-0.441
Men * Duration 168 and more months	0.312	1.344*	-0.229	0.324	0.554
Cohort 1980-1982	<b>0.322*</b>	0.155	0.395	<b>0.714**</b>	<b>0.887**</b>
Cohort 1990-1992	-0.372	<b>-0.288*</b>	<b>-1.032**</b>	<b>-1.046**</b>	<b>-0.761**</b>
Cohort 1993-1996	-0.522	<b>-0.562**</b>	<b>-1.031**</b>	-0.325	-0.088
Cohort 1997-2000	<b>-2.393*</b>	<b>-0.676**</b>	<b>-0.811**</b>	-0.352	-0.172
Age in years at exit from education	0.111**	-0.268**	-0.211**	-0.389**	-0.418**
Foreign born	0.436	-1.337**	-1.002	0.225	0.060
Observations	3551	5663	3111	3260	6249
Subjects	392	826	434	289	543
Failures	272	653	301	237	452
Log likelihood	-545.1406	-500.2504	-221.6642	-47.2789	19.8943

**Bold** coefficients = support decrease of transition over time.

**Conclusion:** All the graphs presented and the models estimated unanimously show declining transitions rates over time.

### Matching estimates of the transition into first real job.

The design of the survey implies that we ask retrospective questions at time  $t$  about different states in previous times. If recall bias is at play, there is a risk that we compare a unit entering at time  $t-5$  with a unit entering a time  $t-10$ .

The idea is here to compare units from the 1991 and the 2000 LNU survey both entering/graduating at  $t-\#$ ,  $\#$  being any discrete value from 0 to 9. If we can find such an effect, we can conclude that the difference between the surveys is not dependent on recall bias.

Matching estimator can provide a way to estimate differences between the surveys. If we compare individuals of the same gender, with the same level of education that have reached the same age at the time of the survey waves, this cannot be due to recall bias, assuming it to be constant across survey. Of course recall bias may be time-varying and perhaps increases during turbulent times as the 1990s in Sweden, but that is beyond the scope of this paper. Matching estimators are thus a way of securing that the *ceteris paribus* assumption holds true. In regression models it is often violated by the linearity assumption (i.e., the parameters are identified under the linearity assumption even if there are no comparable cases).

The estimators below are simple: all individuals that share the same characteristics are defined to be in the same cell, i.e. a unique combination of values on the variables. All cells that do not contain individuals from both the 1991 and the 2000 survey are incomparable and are therefore dropped. In the remaining cells, all individuals are similar apart from the belonging to different surveys (the treatment). Three types of estimates are presented: (1) a within cell difference of the survey treatment variable, (2) an overall regression difference estimator; and (3) for reference purposes an overall difference estimate with controls for the characteristics that formed the cells is also included. The within estimator deflates the number of observations and would in principle be equal to the overall difference estimator if weights based on the cell size was used.

**Table 5. Matching estimates of transition times (not rates!) into first real job (NO WORK EXPERIENCE at graduation).**

	Months after graduation			Months after 16th birthday		
	Within	Regr.	Regr. with controls	Within	Regr.	Regr. with controls
LNU 1991 (vs. LNU 2000)	<b>-4.295**</b>	<b>-6.408**</b>	-6.996**	<b>-14.043**</b>	<b>-7.471**</b>	-3.961**
gradage			-1.366**			
woman			-1.407			-6.230**
casmin			-1.229*			12.234**
surveyage						0.486**
Constant		15.204**	44.821**		52.940**	7.503
Observations	58	1949	1949	100	1565	1565
Unique matched cases	1949	1949	1949	1565	1565	1565
Percent matched cases	84.37	84.37	84.37	77.44	77.44	77.44
Unique matched cells	59	59	59	101	101	101
Percent matched cells	59.00	59.00	59.00	51.27	51.27	51.27

**Bold** coefficients = support decrease of transition rates over time.

**Comment:** The transition times are clearly lower in the 1991 survey even if we take the 16<sup>th</sup> birthday as reference (and not the graduation date).

**Table 6. Matching estimates of transition times (not rates!) into first real job (UNLIMITED WORK EXPERIENCE at graduation).**

	Months after graduation			Months after 16th birthday		
	Within	Regr.	Regr. with controls	Within	Regr.	Regr. with controls
LNU 1991 (vs. LNU 2000)	<b>-1.469**</b>	<b>-7.850**</b>	-7.122**	<b>-22.860**</b>	-1.665	3.286
Gradage			-0.911**			
Woman			0.625			0.466
Casmin			-2.599**			16.049**
Surveyage						4.012**
Constant		12.979**	39.735**		82.366**	-91.514**
Observations	146	1447	1447	141	1623	1623
Unique matched cases	1447	1447	1447	1623	1623	1623
Percent matched cases	64.86	64.86	64.86	83.23	83.23	83.23
Unique matched cells	147	147	147	142	142	142
Percent matched cells	28.43	28.43	28.43	60.43	60.43	60.43

**Bold** coefficients = support decrease of transition rates over time.

**Comment:** The transition times are lower in the 1991 survey, but the difference is not significant if we start measuring at the 16<sup>th</sup> birthday. The within estimator is however significant, and the overall difference is negative despite being significant.

**Conclusion:** 7/8 of the matching estimators support the conclusion of increasing transitions times (or decreasing transition rates), which is taken as satisfying.

**Note:** We programmed our own estimators, but the results has been corroborated by the 'nnmatch' stata-plugin using exact matches only.

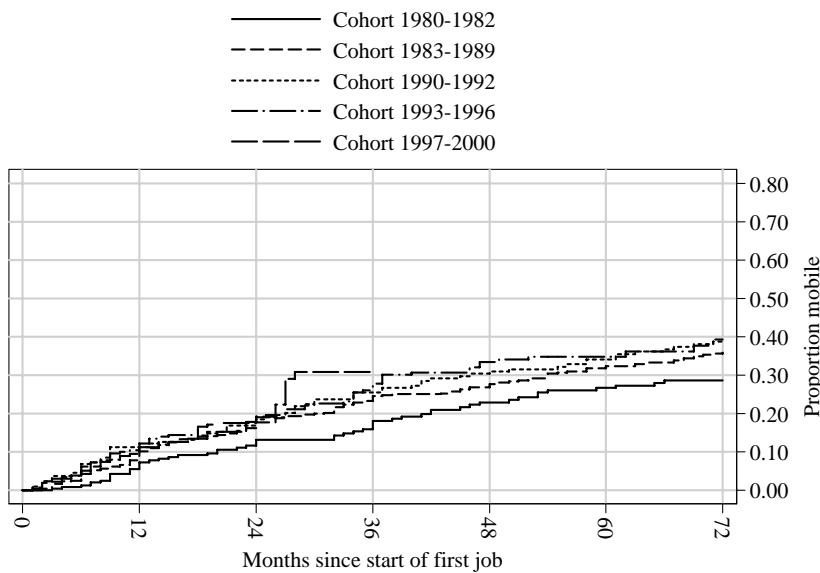
### 3. Is the upward mobility pattern found robust to definitions?

The following figures describe Kaplan-Meier unconditional failure curves of upward mobility for different cohorts and different definitions of the first real job.

**Figure 11. Kaplan-Meier unconditional upward mobility rates (NO WORK EXPERIENCE at graduation, i.e. low educational level at graduation).**



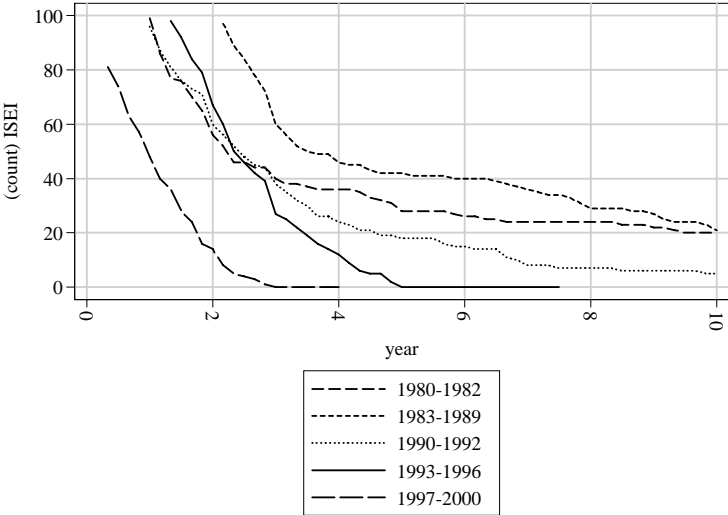
**Figure 12. Kaplan-Meier unconditional upward mobility rates (UNLIMITED EXPERIENCE at graduation, i.e. high educational level at graduation).**



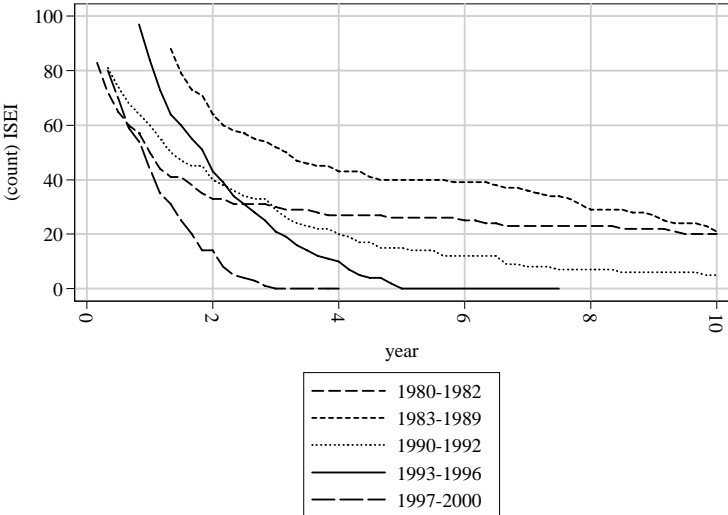
**Comment:** The no change pattern in upward mobility for later time points seems robust to the definition of the first real job.

The figure below describes how many cases that are “at risk” over time by educational cohorts and the two definitions (no work experience vs. unlimited work experience).

**Figure 13. Individuals at risk over time by educational cohorts (NO WORK EXPERIENCE at graduation).**



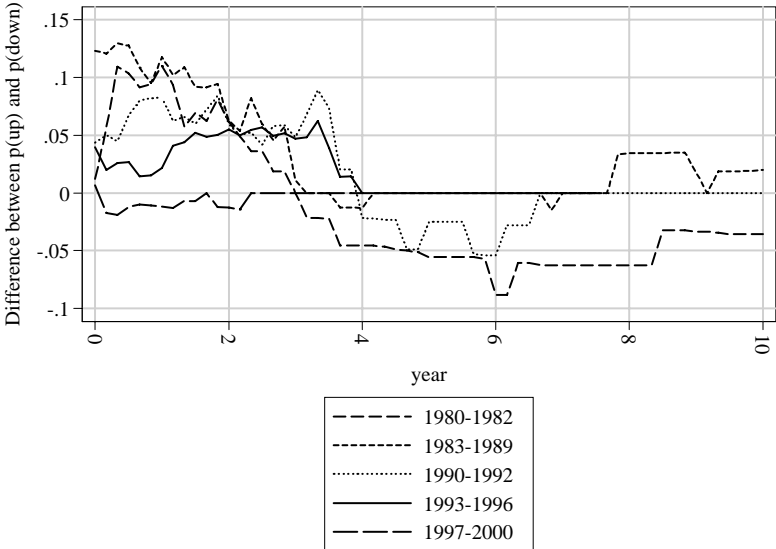
**Figure 14. Individuals at risk over time by educational cohorts (UNLIMITED WORK EXPERIENCE at graduation).**



**Comment:** The two figures describe a similar pattern. The number of cases at risk for upward and downward mobility decline over time (as it should by definition), but the decline is very strong for the last cohorts, i.e. the 1997-2000 one. The results for this cohort should thus be interpreted with care. The number of cases at risk is also quite small for the 1993-1996 cohorts after three years.

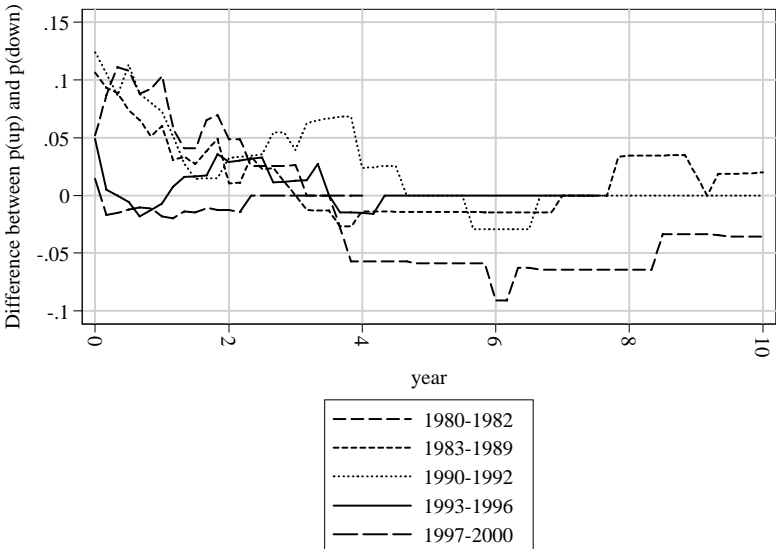
The following figure presents a crude measure of the balance between upward and downward mobility (aggregated to intervals of two months). That is, for each point on the x-axis the lines belonging to the different cohorts describe the difference between upward mobility and downward mobility occurring in the defined interval.

**Figure 15. Balance between upward and downward mobility (NO WORK EXPERIENCE at graduation, i.e. low educational level at graduation).**



**Comment:** The initial balance of mobility is clearly higher for the 1980s cohorts during the first two years. The 1997-2000 and 1993-1996 cohorts have the lowest balance in the early years. The 1980-1982 and 1990-1992 cohorts have quite a large incidence of downward mobility after some years.

**Figure 16. Balance between upward and downward mobility (UNLIMITED WORK EXPERIENCE at graduation, i.e. high educational level at graduation).**

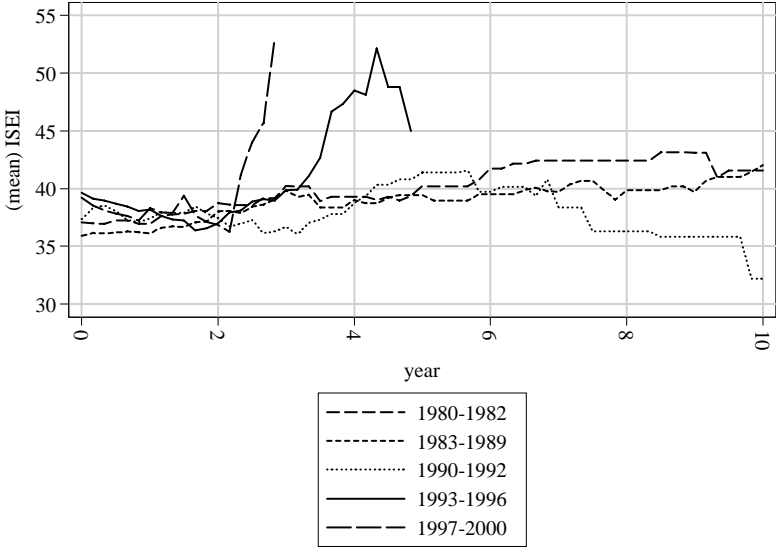


**Comment:** The initial balance is dominated by upward mobility, and so it remains for most cohorts. The 1980s cohorts here too have quite a large incidence of upward mobility in the

beginning, but later the incidence of downward mobility is higher (which is consistent with the 1990s crisis in the Swedish labor market).

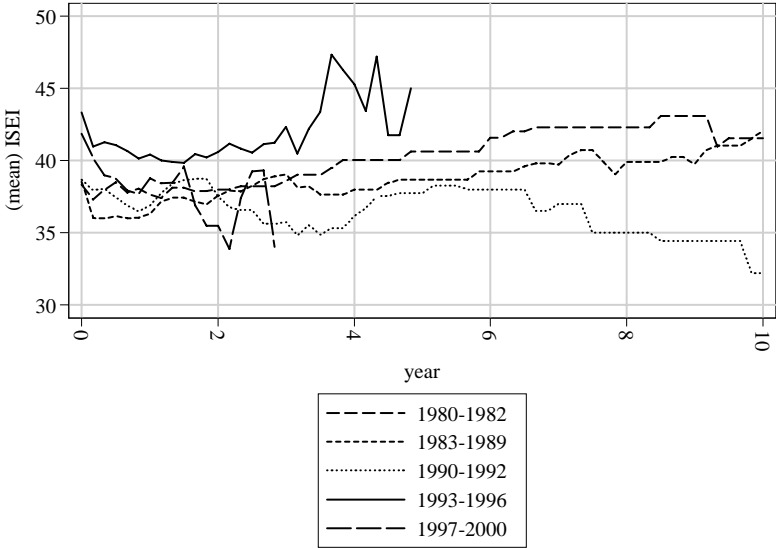
The below figures describe the mean prestige scores of individuals occupations aggregated to intervals of two months for different educational cohorts.

**Figure 17. Mean prestige scores over time by cohorts (NO WORK EXPERIENCE at graduation, i.e. low educational level at graduation).**



**Comment:** The 1993-1996 cohorts and 1997-2000 cohorts have clearly higher prestige scores at labor market entry. However, they converge to the level of the other cohorts, and after two and three years respectively, they peak off.

**Figure 18. Mean prestige scores over time by cohorts (UNLIMITED WORK EXPERIENCE at graduation, i.e. high educational level at graduation).**



**Comment:** 1997-2000 have clearly higher prestige scores than average at labor market entry, but they converge to the level of the other cohorts. The 1993-1996 cohorts have high initial levels which stay on and increase relative to the other cohorts after three years.

The table below contain estimates of the Piecewise constant exponential hazard regression models using different definition of the first job.

**Table 7. Conditional estimates of upward mobility - Piecewise constant exponential hazard regression**

No work exp at graduation		Unlimited work exp at graduation	
Duration 0 to 6 months	-3.624**	Duration 0 to 6 months	-2.573**
Duration 6 to 12 months	-2.202**	Duration 6 to 12 months	-2.216**
Duration 12 to 18 months	-2.698**	Duration 12 to 18 months	-2.733**
Duration 18 to 24 months	-2.507**	Duration 18 to 24 months	-2.441**
Duration 24 to 36 months	-2.528**	Duration 24 to 36 months	-2.487**
Duration 36 to 48 months	-3.040**	Duration 36 to 48 months	-2.950**
Duration 48 to 60 months	-2.949**	Duration 48 to 60 months	-2.961**
Duration 60 and more months	-4.188**	Duration 60 and more months	-4.303**
Cohort 1980-1982	-0.086	Cohort 1980-1982	-0.273
Cohort 1990-1992	-0.045	Cohort 1990-1992	-0.039
Cohort 1993-1996	-0.001	Cohort 1993-1996	0.007
Cohort 1997-2000	-0.055	Cohort 1997-2000	0.038
Age in years at exit from education	-0.023	Age in years at exit from education	-0.034*
Foreign born	0.524*	Foreign born	0.508
Woman	-0.044	Woman	-0.119
Intermediate vocational education	0.285*	Intermediate vocational education	0.499**
Intermediate general education	1.104**	Intermediate general education	1.048**
Lower tertiary education	0.918**	Lower tertiary education	1.257**
Higher tertiary education	1.545**	Higher tertiary education	2.243**

**Comment:** The two models give fairly similar result.

**Conclusion:** The observed no change in upward mobility seems unrelated to model specification, and receives support.