

HOW DELAYED IS 'DELAYED INTEGRATION'? ESTIMATING TRANSITIONS OUT OF UNEMPLOYMENT SPELLS IN FINLAND

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Työsuojelurahasto

BACKGROUND OF RESEARCH

- The dimensions of **the integrative capacity** can be various: from the system of integrative, maintenance, and exclusionary transitions at the labor market (Räisänen & Schmid, 2008) to the employment quality concept (Measuring quality of employment, 2010), or to the unemployment quality concept (Sengenberger, 2011).
- In Finland **the dynamics of the labour market has ambiguous character**. On one hand, transition to the economic inactivity remains one of the most typical features of unsuccessful adaption to the labour market conditions. **More than 10 %** of unemployed people do not realize transitions between statuses at the labour market and outside it.
- On the other hand, overwhelming majority of population realizes only **one transition during a two-year period**. In most cases these are such transitions as 'outside the labour market – employment' and 'unemployment – employment'. (Peltola 2005: 54–56; Jolkkonen & Kurvinen 2012: 58–59)
- **At the end of May 2016**, the number of long-term unemployed who had been unemployed without interruption for more than a year amounted to **125,000**, up 19,500 on the previous year. Long-term unemployed numbered **55,900**, which is 9,100 more than a year ago. (Sources: The Ministry of Employment and the Economy, the Employment Service Statistics, www.findikaattori.fi)

DATA

- The data was collected from the URA-database, the employment services' system provided by the Ministry of Employment and the Economy in Finland.
- Only immigrants who have been registered in the URA-database as “unemployed population”, and, consequently, obtained a right to participate in programs of adaptation for unemployed persons initiated by the Government of Finland, have been chosen for the present research.
- Our sample consists of unemployment durations and unemployment spells that terminate for employment or other reasons. So, individuals are only followed from January 1952 up to December 2014; ongoing spells at that date are interval-censored (16,166 person/unemployment periods).

RESEARCH SAMPLE: UNEMPLOYMENT SPELLS BY TIME AND STATE OF EXIT (N=16,166)

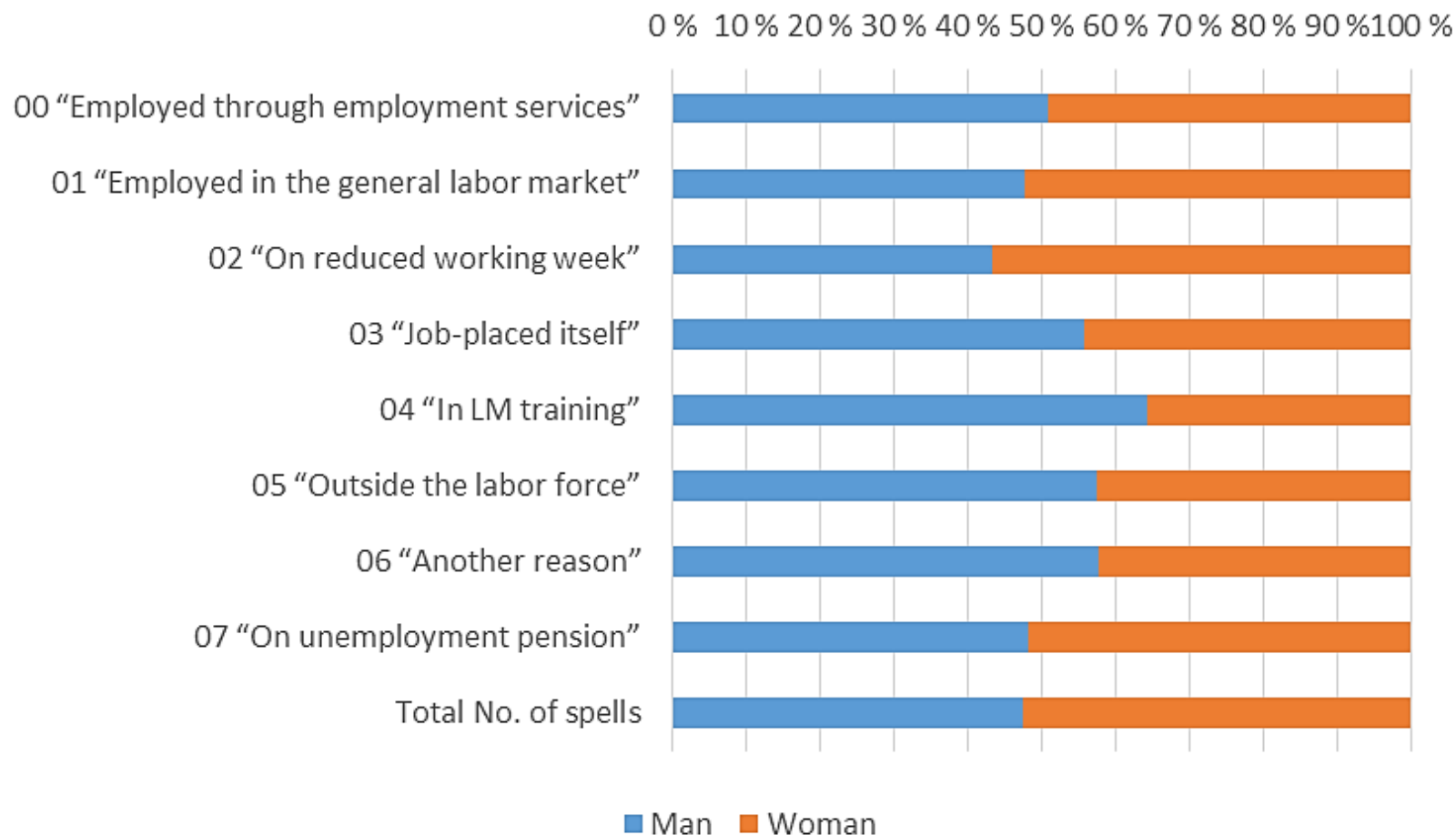
Duration (months)	00 "Employed through employment services"	01 "Employed in the general labor market"	02 "On reduced working week"	03 "Job-placed itself"	04 "In LM training"	05 "Outside the labor force"	06 "Another reason"	07 "On unemployment pension"	Total No. of spells
1-3	1,999	410	4,199	131	67	82	35	215	7,138
4-6	783	304	1,698	10	63	22	45	120	3,045
7-12	519	401	1,039	4	74	35	34	148	2,254
13-24	239	450	287	3	91	43	53	140	1,306
> 25	441	1,022	199	10	160	91	115	385	2,423
Total No. of spells	3,981	2,587	7,422	158	455	273	282	1,008	16,166

METHOD

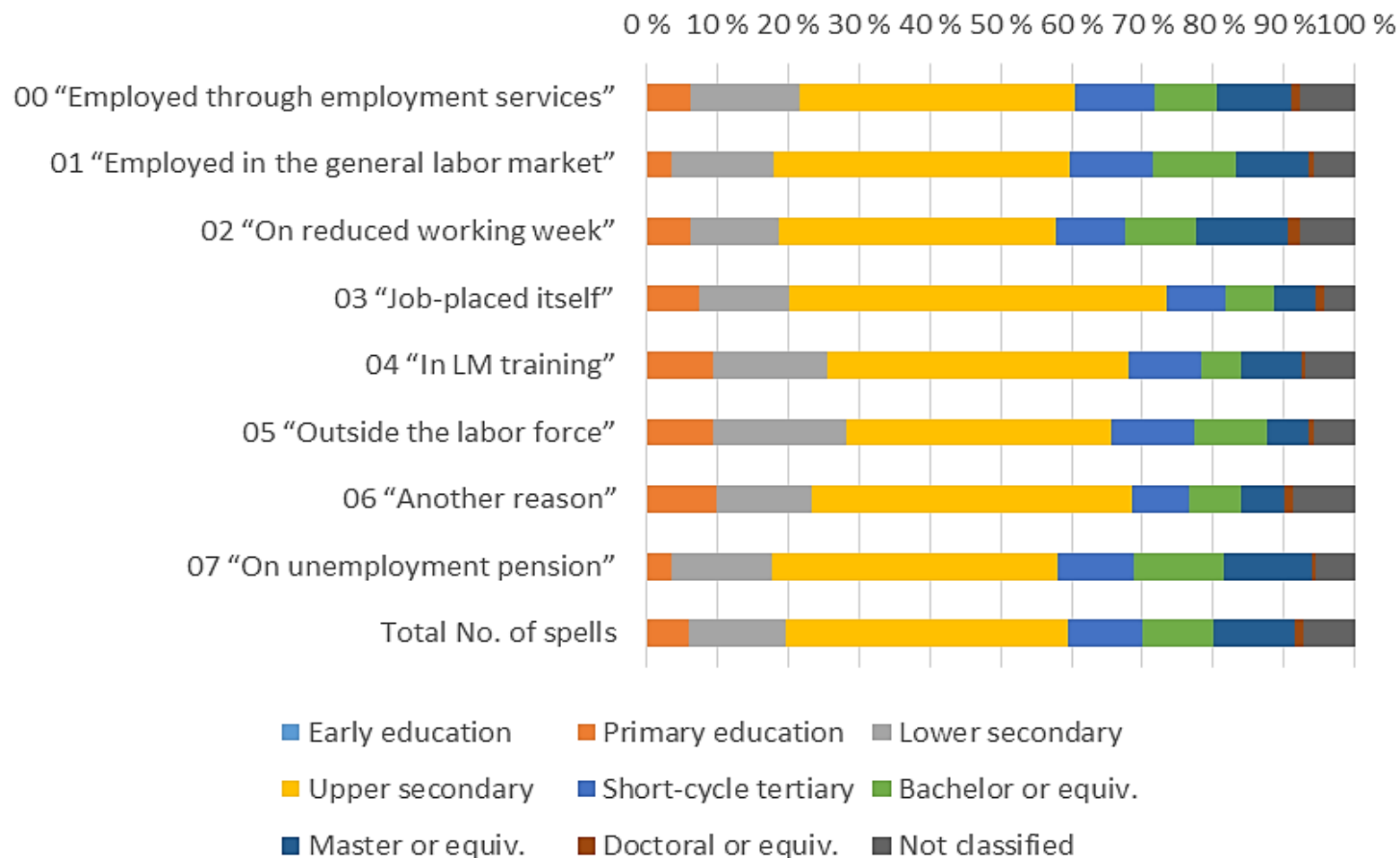
- In the case of the present research, transitions out of unemployment spells are verified by means of Discrete-Time Survival models, which are specified in terms of the discrete-time hazard.
- Each person should be represented by a row of data for each month the person was **at risk** (s). We therefore expand the data and create a new variable 'month' that labels **the months per person**. We use notation T for the time in months to exit from unemployment spell, which can take integer values $t = 1, 2 \dots k$.
- If the variable '**event**' equals 1, we know that T equals 'months', and if 'event' equals 0, we know that T is greater than 'months'. Discrete-time survival models are specified in terms of the discrete-time hazard, defined as the conditional probability that the event occurs at time t , given that it has not yet occurred:

$$h_t \equiv \Pr(T = t | T > t - 1) = \Pr(T = t | T \geq t)$$

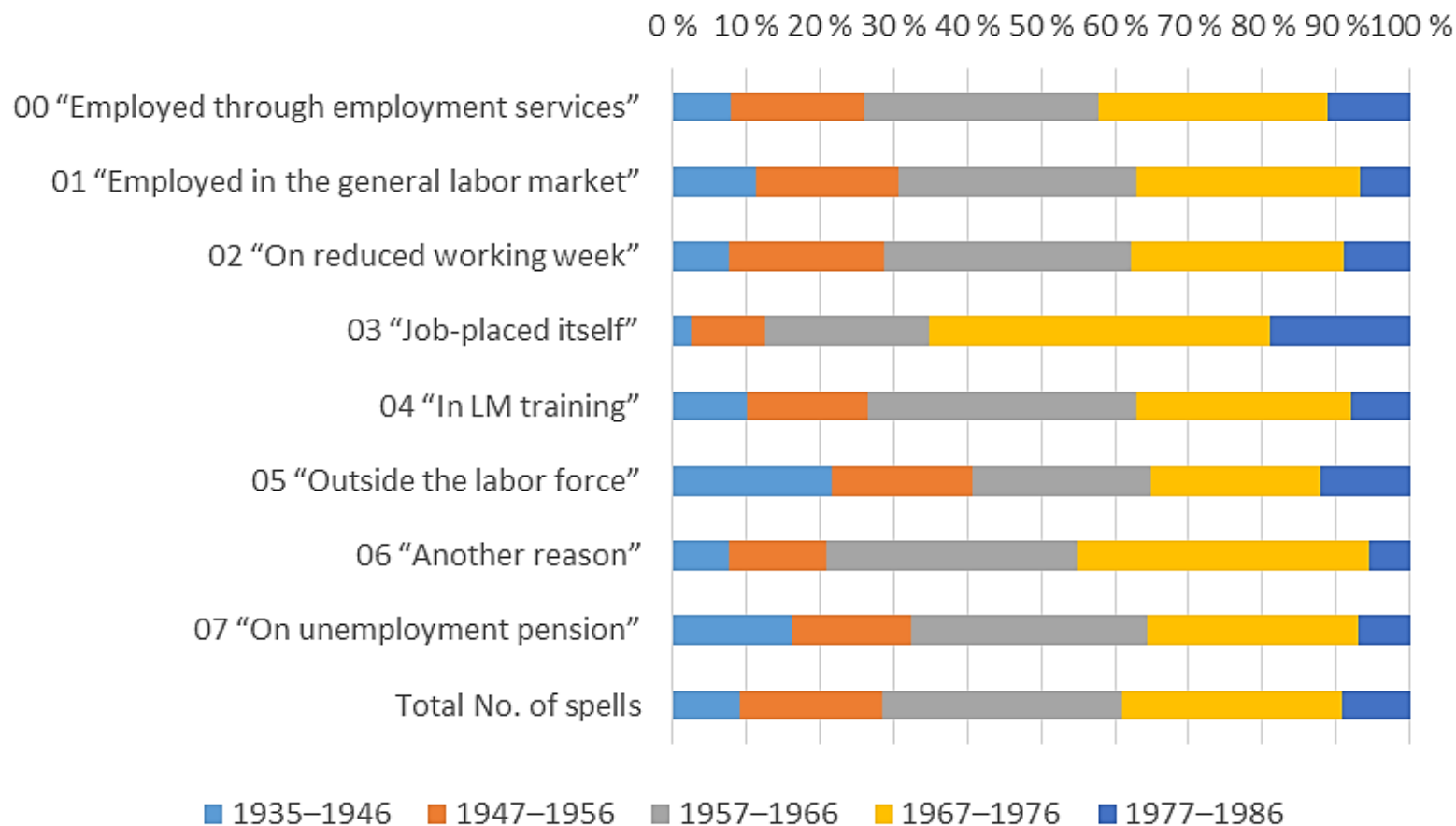
Proportions of men and women in transitions out of unemployment



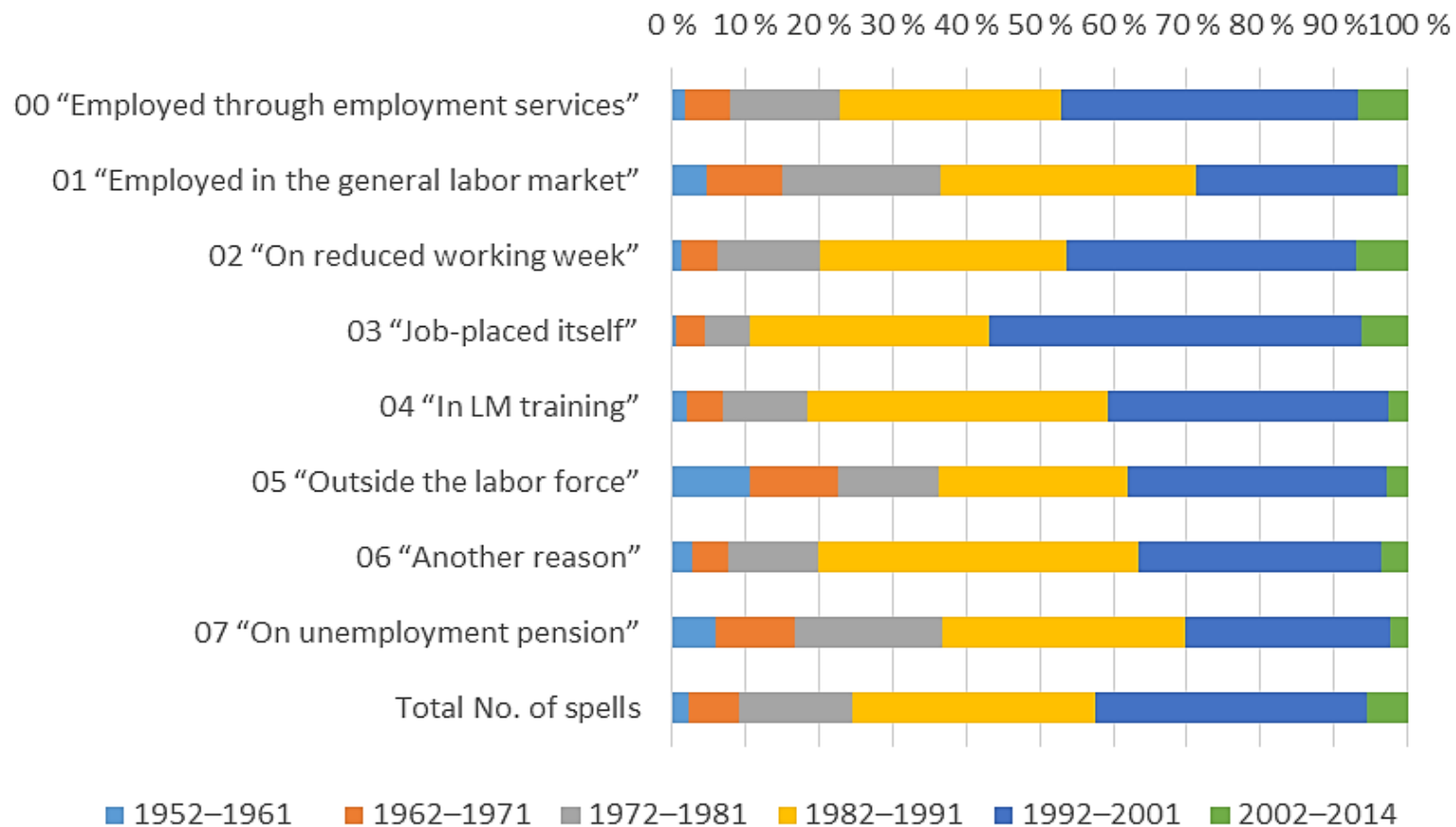
Proportions of groups with various educational levels in transitions out of unemployment



Proportions of various birth-cohorts in transitions out of unemployment



Proportions of various cohorts on time of first unemployment in Finalnd in transitions out of unemployment



ECONOMETRIC MODEL

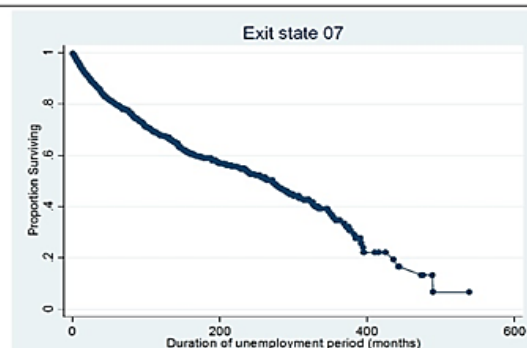
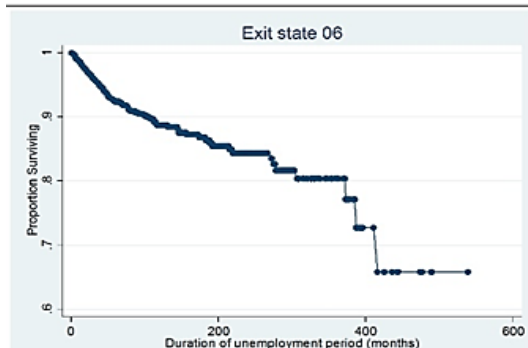
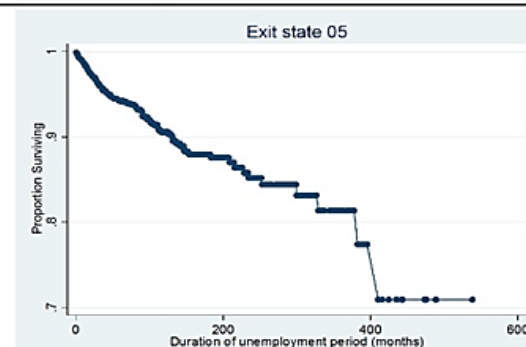
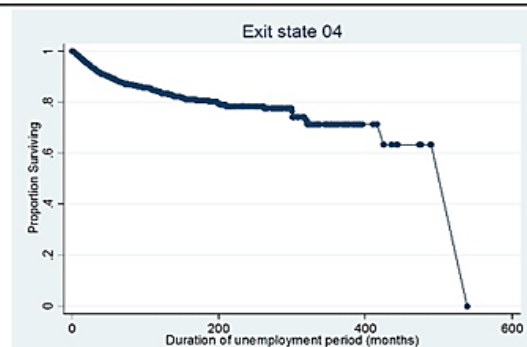
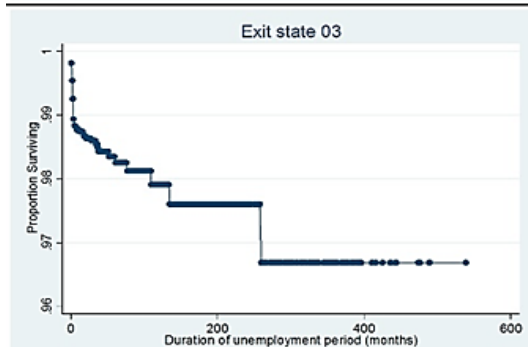
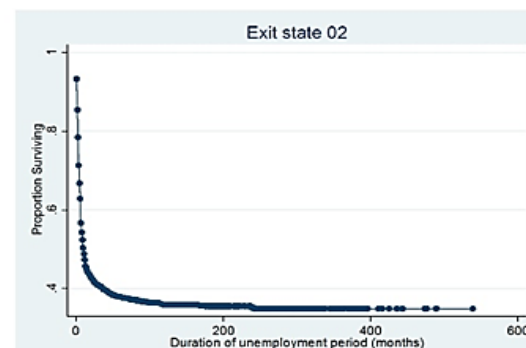
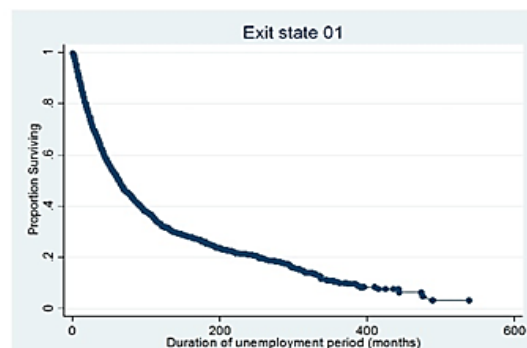
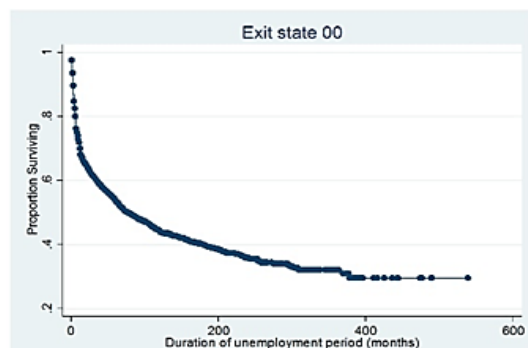
Exit

Time-constant covariates:
gender, education, birth cohort and
entrance cohort

dummy variables for months 2 – k

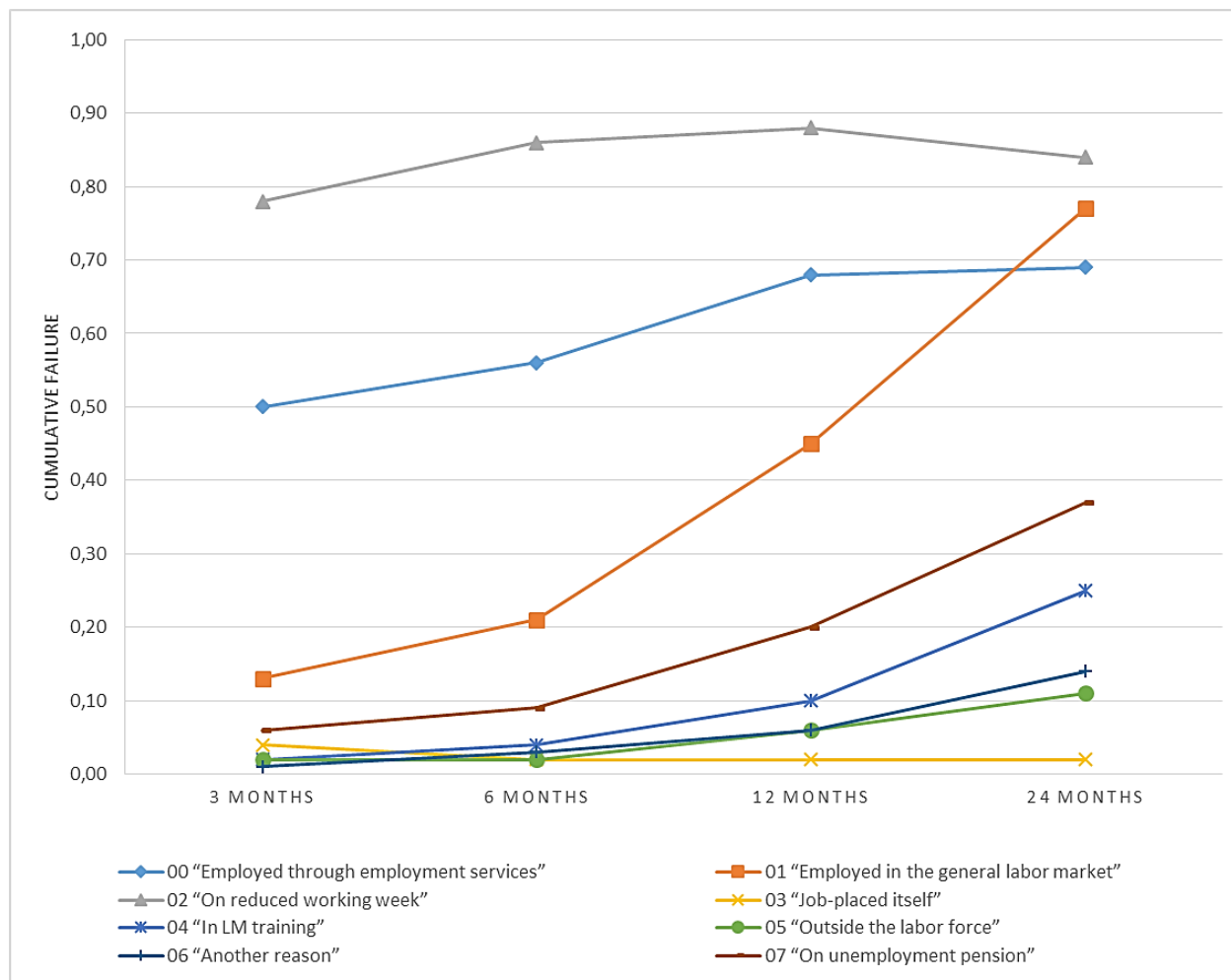
$$\begin{aligned}
 00 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 1 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[1]} + a_2^{[1]} d_{2si} + \dots + a_k^{[1]} d_{ksi} + \beta_1^{[1]} x_{1i} + \beta_2^{[1]} x_{2i} + \beta_3^{[1]} x_{3i} + \beta_4^{[1]} x_{4i} \\
 01 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 2 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[2]} + a_2^{[2]} d_{2si} + \dots + a_k^{[2]} d_{ksi} + \beta_1^{[2]} x_{1i} + \beta_2^{[2]} x_{2i} + \beta_3^{[2]} x_{3i} + \beta_4^{[2]} x_{4i} \\
 02 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 3 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[3]} + a_2^{[3]} d_{2si} + \dots + a_k^{[3]} d_{ksi} + \beta_1^{[3]} x_{1i} + \beta_2^{[3]} x_{2i} + \beta_3^{[3]} x_{3i} + \beta_4^{[3]} x_{4i} \\
 03 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 4 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[4]} + a_2^{[4]} d_{2si} + \dots + a_k^{[4]} d_{ksi} + \beta_1^{[4]} x_{1i} + \beta_2^{[4]} x_{2i} + \beta_3^{[4]} x_{3i} + \beta_4^{[4]} x_{4i} \\
 04 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 5 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[5]} + a_2^{[5]} d_{2si} + \dots + a_k^{[5]} d_{ksi} + \beta_1^{[5]} x_{1i} + \beta_2^{[5]} x_{2i} + \beta_3^{[5]} x_{3i} + \beta_4^{[5]} x_{4i} \\
 05 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 6 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[6]} + a_2^{[6]} d_{2si} + \dots + a_k^{[6]} d_{ksi} + \beta_1^{[6]} x_{1i} + \beta_2^{[6]} x_{2i} + \beta_3^{[6]} x_{3i} + \beta_4^{[6]} x_{4i} \\
 06 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 7 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[7]} + a_2^{[7]} d_{2si} + \dots + a_k^{[7]} d_{ksi} + \beta_1^{[7]} x_{1i} + \beta_2^{[7]} x_{2i} + \beta_3^{[7]} x_{3i} + \beta_4^{[7]} x_{4i} \\
 07 \rightarrow \ln \left\{ \frac{\Pr(z_{si} = 8 | \mathbf{d}_i, x_{si})}{\Pr(z_{si} = 0 | \mathbf{d}_i, x_{si})} \right\} &= a_1^{[8]} + a_2^{[8]} d_{2si} + \dots + a_k^{[8]} d_{ksi} + \beta_1^{[8]} x_{1i} + \beta_2^{[8]} x_{2i} + \beta_3^{[8]} x_{3i} + \beta_4^{[8]} x_{4i}
 \end{aligned}$$

PROPORTION SURVIVING FOR EXIT STATES

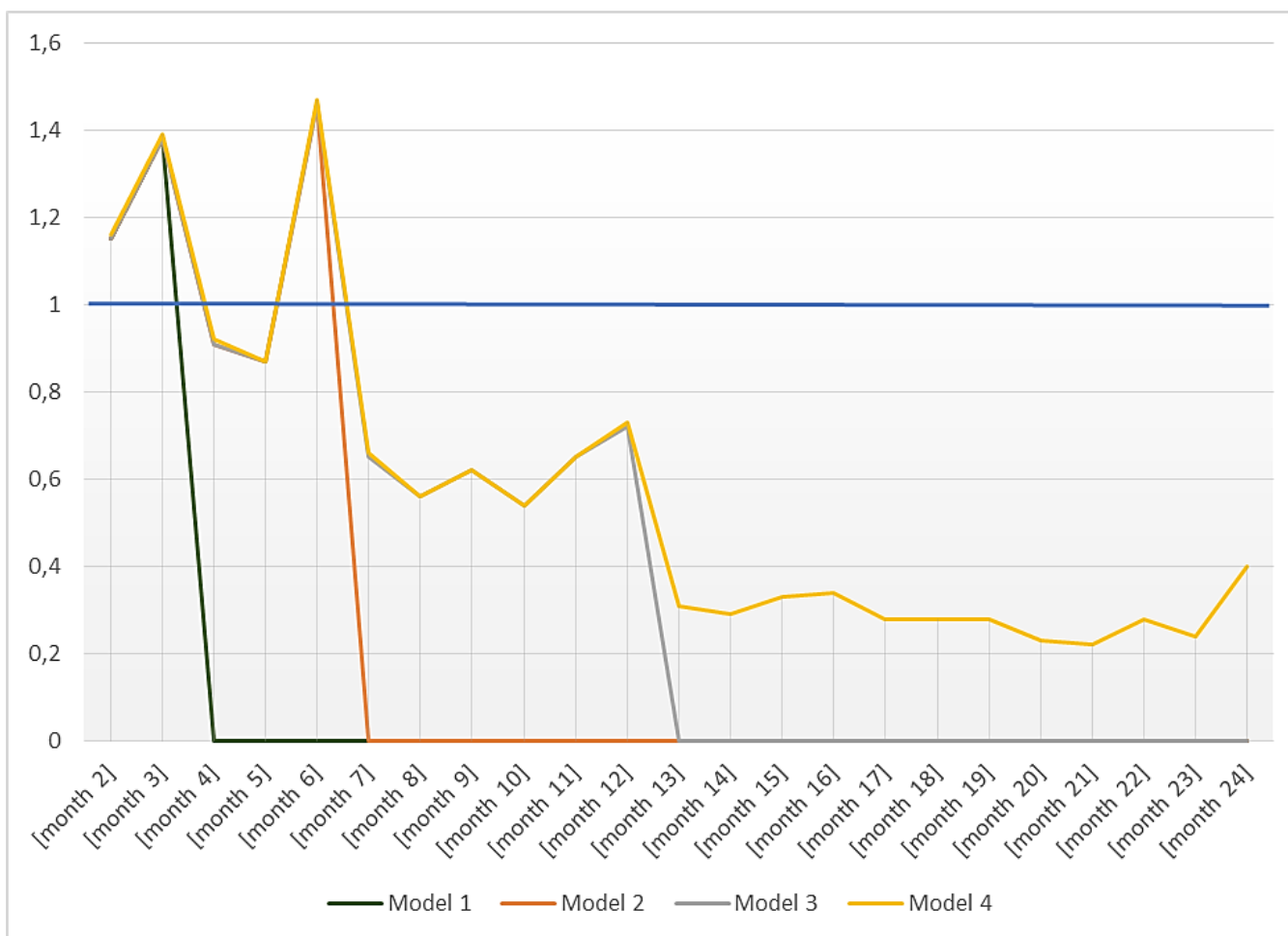


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CUMULATIVE FAILURE FOR COMPLETED UNEMPLOYMENT PERIODS AFTER 3, 6, 12, AND 24 MONTHS (URA –DATABASE, N=16,166 UNEMPLOYMENT PERIODS, PERIOD 1952-2014)



THE MAXIMUM LIKELIHOOD ESTIMATES OF THE ODDS RATIOS FOR TRANSITIONS OUT OF UNEMPLOYMENT FOR MODELS 1, 2, 3 AND 4 REPRESENTING VARIOUS PERIODS OF OBSERVATION – 3, 6, 12 AND 24 MONTHS



WHAT FACTORS PREDICT TRANSITIONS AND TIME OF COMPLETION OF UNEMPLOYMENT?

- The maximum likelihood estimates of the odds ratios for response variable “transitions out of unemployment spells” and time-constant covariates for Models 1, 2, 3 and 4 representing various periods of observation – 3, 6, 12 and 24 months.
- **Model 1.** Period of observation – 3 months. Time-constant covariates: gender (1.07**), education (0.98**), birth cohort (1.04**) and entrance cohort (1.22***).
- **Model 2.** Period of observation – 6 months. Time-constant covariates: gender (1.07**), education (0.98***), birth cohort (1.01) and entrance cohort (1.26***).
- **Model 3.** Period of observation – 12 months. Time-constant covariates: gender (1.07***), education (0.99), birth cohort (0.99) and entrance cohort (1.31***).
- **Model 4.** Period of observation – 24 months. Time-constant covariates: gender (1.05*), education (0.98*), birth cohort (1.01) and entrance cohort (1.31***).

THE MAXIMUM LIKELIHOOD ESTIMATES OF THE ODDS RATIOS FOR TRANSITIONS OUT OF UNEMPLOYMENT AND TIME-CONSTANT COVARIATES FOR EACH OF EIGHT EXIT STATES (N=261,672)

	00 "Employed through employment services"	01 "Employed in the general labor market"	02 "On reduced working week"	03 "Job-placed itself"	04 "In LM training"	05 "Outside the labor force"	06 "Another reason"	07 "On unemployment pension"
gender	0.81***	1.11***	1.25***	0.60***	0.87***	0.66***	0.78***	1.11***
education	0.98***	0.97***	1.04***	1.07***	0.94***	1.03***	0.89***	1.04***
birth cohort	1.01*	1.17***	0.92***	1.25***	0.82***	0.90***	1.10***	0.89***
entrance cohort	1.11***	0.75***	2.20***	1.03 ^{ns}	1.29***	0.73***	0.92***	0.72***

ASSCRIPTIVE CRITERIA “GENDER” AND TRANSITIONS OUT OF UNEMPLOYMENT SPELLS

- **Employment through employment services:** the cumulative failure for men achieves 73.1%, whereas for women – 66.7%.
- **Employment at the general labour market:** the probability is almost the same as for men as for women (95.7% and 96.2% correspondingly).
- **Job-placement on reduced working week:** the cumulative failure for men comes to 61.9% for men and 66.2% for women.
- **The labour market training:** the cumulative failure comes to 32.8% for men and 100% for women.
- **Economic inactivity:** the cumulative failure for men is 36.3% and for women is 23.3%.
- **Transitions to unemployment pension:** the cumulative failure for men is 100%, for women – 91.8%.

ASSCRIPTIVE CRITERIA “EDUCATION” AND TRANSITIONS OUT OF UNEMPLOYMENT SPELLS

- **Employment through employment services:** the probability is higher for immigrants having primary education (71.7%), lower secondary education (77.4%) and doctoral degree (72.5%).
- **Employment at the general labour market:** the cumulative failure is higher for immigrants having lower secondary education (92.2%), upper secondary education (94.3%) and bachelor degree (94.6%).
- **Job-placement on reduced working week:** the probability is higher for immigrants having master degree (71.1%) or doctoral degree (78.4%)
- **The labour market training:** the probability is the highest for immigrants either having primary education or a doctoral degree (100%, respectively).
- **Economic inactivity:** the probability is higher for immigrants having short-cycle tertiary education (61.6%), upper secondary education (32.2%) and doctoral degree (34.3%).

ASSCRIPTIVE CRITERIA “BIRTH COHORT” AND TRANSITIONS OUT OF UNEMPLOYMENT SPELLS

- **Employment through employment services:** the probability accounts for 73.5% to 82.4% for all the cohorts, except the cohort “1935-1946”, for which the cumulative failure is minimal (52.2%).
- **Employment at the general labour market:** the cumulative failure for birth cohorts varies from 91.3% to 100%.
- **Job-placement on reduced working week:** the maximal cumulative failure is widely peculiar to three cohorts, “1957-1966”, “1967-1976”, and “1977-1986” (73.2% – 79.1%).
- **The labour market training:** the earliest birth cohort, “1935-1946”, is exceptional in this case, because the cumulative failure for this cohort is the maximal.
- **Economic inactivity:** the maximal cumulative failure is widely peculiar both to the cohorts “1935-1946”, “1967-1976” and “1977-1986”.

ASSCRIPTIVE CRITERIA “ENTRANCE COHORT” AND TRANSITIONS OUT OF UNEMPLOYMENT SPELLS

- **Employment through employment services:** the three latest entrance cohorts (“1982-1991”, “1992-2001”, “2002-2014”) have the maximal cumulative failure.
- **Employment at the general labour market:** the cumulative failure is the highest for two entrance cohorts “1972-1981” and “1982-1991”.
- **Job-placement on reduced working week:** the cumulative failure of job-placement with a reduced working week is the maximal for two latest cohorts (“1992-2001” and “2002-2014”).
- **The labour market training:** the maximal cumulative failure occurs for two marginal entrance cohorts (“1952-1961” and “2002-2014”).
- **Economic inactivity:** the maximal cumulative failure ensues for the two entrance cohorts “1952-1961” and “1992-2001”.

CONCLUSIONS

- 87% of immigrants realize transitions from unemployment to one of the forms of employment, however, time of completion of unemployment essentially differs.
- Especially during the first six months of staying in unemployment, job-placement is more effective. Completion of unemployment periods during this time for the reason of job-placement is one of the highest.
- However, experience of unemployment is specific owing to influence of ascriptive criteria.
- Another dynamic concerns unemployment periods lasting more than 1 year, when a share of those who have found a job essentially decreases.
- The probability for job-placement decreases in proportion to a period of staying in unemployment. The longer unemployment lasts and more episodes of unemployment an unemployed person has, consequently, the lesser the probability to be employed in the future.

THANK YOU FOR ATTENTION!