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Overeducation at the start of the career: stepping stone or trap?

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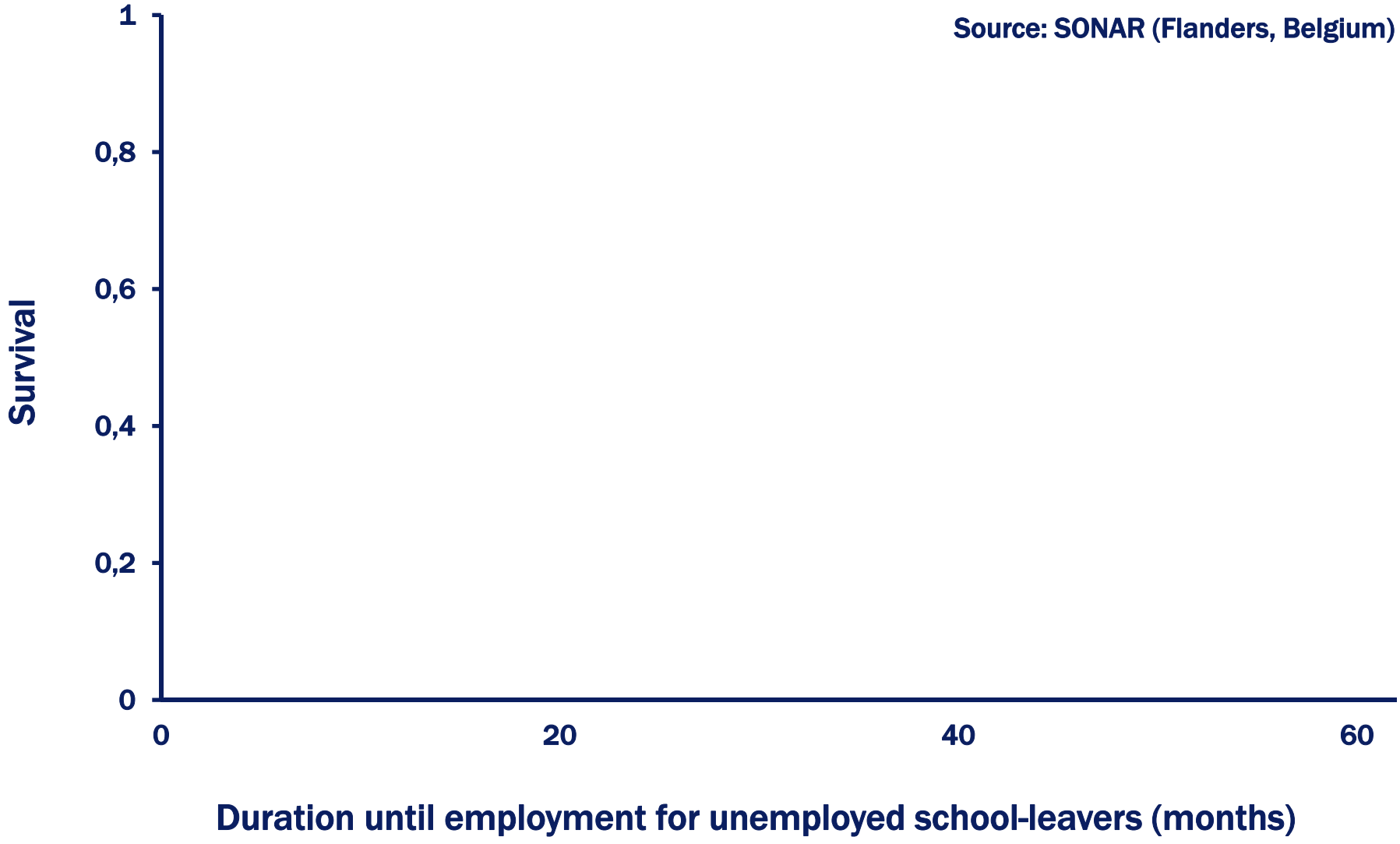
Introduction



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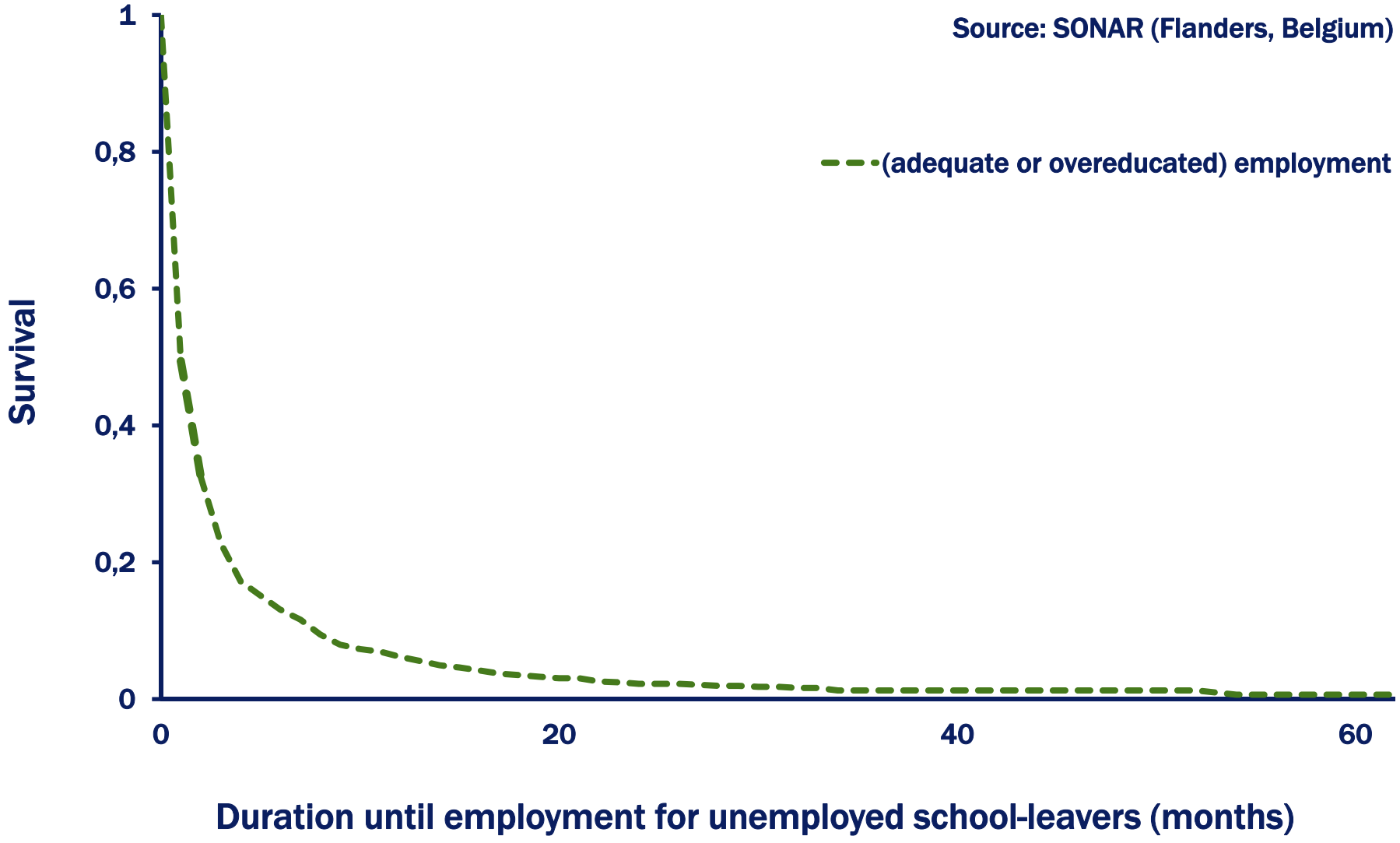

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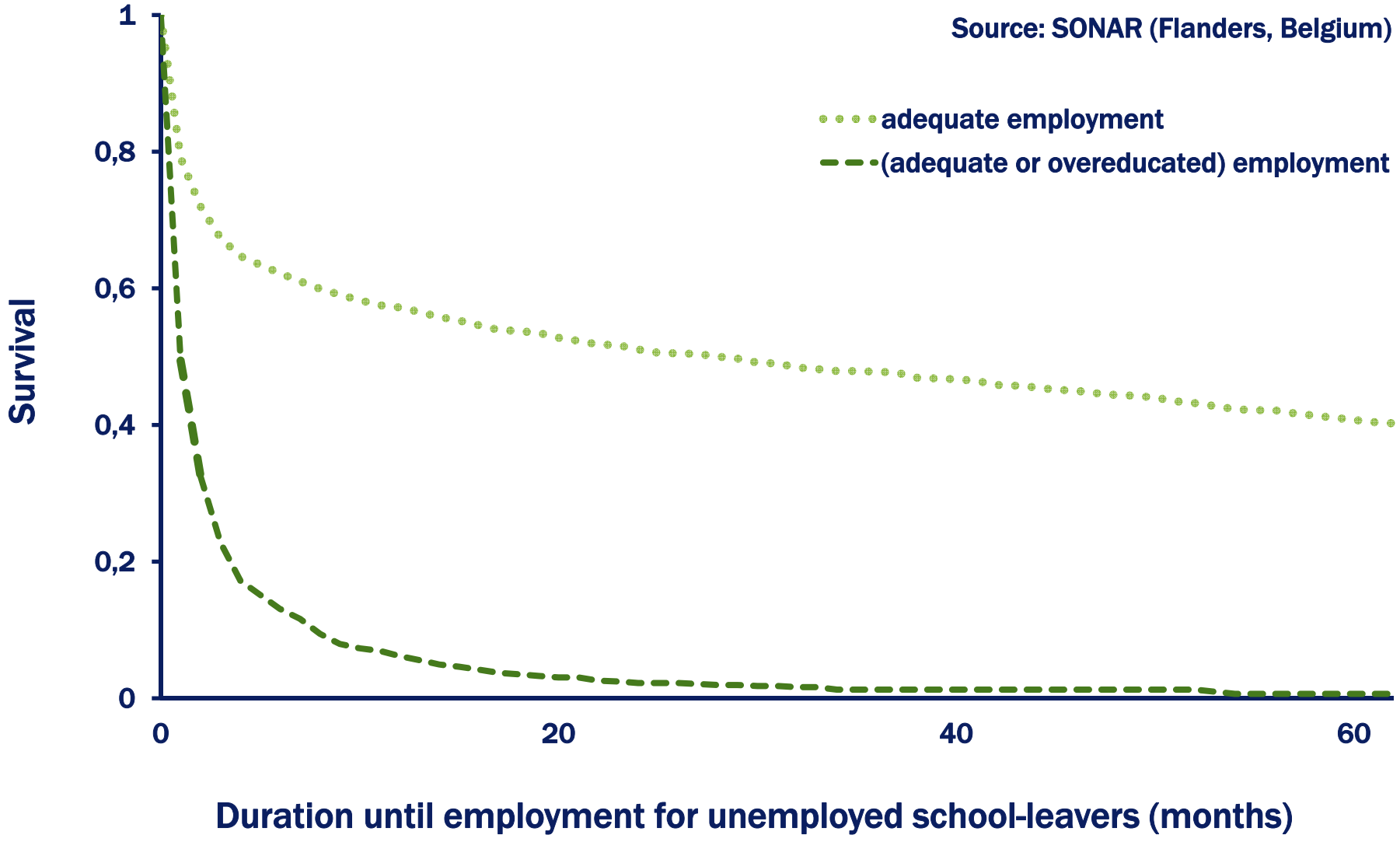

Many unemployed school-leavers accept jobs in which they are overeducated.

Overeducated workers are less paid (Hartog, 2000)

Overeducated workers are less satisfied (Tsang, 1978; Allen and van der Velden, 2000)

Overeducated job = a stepping-stone?

Career mobility theory (Sicherman & Galor, 1990)

Avoiding unemployment scarring (Arulampalam, 2001)

Overeducated job = a trap?

Locking in (Pissarides, 1994; Verhaest and Omey, 2009)

Overeducation scarring (McCormick, 1990; de Grip et al., 2008)

Reduced job search intensity (Holzer, 1978)

Which strategy to pursue in order to land in an adequate job as soon as possible?

Accepting overeducation as a stepping stone?

Or staying unemployed in search for a good match?

Roadmap

1. Empirical literature and our contribution
2. Data
3. Econometric model
4. Results
5. Conclusion

Former contributions and research question

- Many studies tested whether overeducation is temporary or permanent
  - Mixed findings
  - Even if overeducation is persistent, this does not reject the hypothesis that it may act as a stepping stone to an adequate job.

Our research question	Does accepting an overeducated job augment the transition rate to an adequate job for unemployed school-leavers?

- Problem: **non-random selection into overeducation**
- Solution: Timing of Events approach (Abbring & van den Berg, 2003)

Our approach

- Timing of Events approach:
  - Treatment: overeducated job
  - Outcome at interest: adequate job
  - **Treatment effect**: effect of inflowing into an overeducated job on the transition rate to an adequate job
- Comparison of probability of getting an adequate job at a particular time with resp. without prior inflow into overeducation
- Multivariate duration model accounting for observed and unobserved heterogeneity
- Allows estimation of how treatment effect changes over time

SONAR

- SONAR: retrospective survey covering transition from school to work
- Two birth cohorts of 3000 individuals
  - Born in 1978 and 1980
  - Interviewed at age 23 and at age 26/29
- Detailed school and labour market career data
  - Monthly basis
  - Starting dates of job search, transitions from unemployment to employment, job-to-job changes and position changes within the same firm
  - Enables comparison of results with respect to various definitions of overeducation

Overeducation definition

- Job analysis approach
  - Each function in the data is coded following the Standard Occupation Classification (CBS, 2001)
    - Based on 5 functional levels:
      - Less than lower secondary education
      - Lower secondary education
      - Secondary education
      - Lower tertiary education
      - Higher tertiary education
  - **Overeducated job**: functional level under the education level of the worker
  - **Adequate job**: functional level equal to / above the education level of the worker

Modelled durations

- Two duration times are modelled for each individual
  - Duration until inflow into overeducated job
  - Duration until inflow into adequate job
- Start: moment when school-leaver starts searching
- Duration times are censored for various reasons:
  - End of the observation period
  - Transition to (i) job with unknown functional level, (ii) full time education, (iii) self-employment or (iv) disability

Sample

- Youngsters who are unemployed right after graduation.
- Only males are considered.
- Exclusion of individuals without lower secondary education degree.
- Elimination of individuals for which explanatory variables are missing.
- Sample size: 1434 individuals.

Specification (1)

Econometric framework

$$\begin{cases} ln\theta_o(t|x,V_o) = ln\lambda_o(t) + x'\beta_o + V_0 \\ ln\theta_e(t|t_o,x,V_e) = ln\lambda_e(t) + x'\beta_e + \delta(t|t_o,x)\mathbb{1}(t > t_0) + V_e \end{cases}$$

- *o*: index for overeducated job; and *e*: index for adequate job
- θ: hazard rates
  - *t*: elapsed durations since start job search
  - λ: baseline hazards (piecewise constant)
  - *x*: vector of observable characteristics
  - *V*: unobservable component (discrete distribution)
  - $\mathbb{1}(.)$: indicator function (1 if true, 0 otherwise)

Specification (2)

Econometric framework

$$\begin{cases} ln\theta_o(t|x,V_o) = ln\lambda_o(t) + x'\beta_o + V_0 \\ ln\theta_e(t|t_o,x,V_e) = ln\lambda_e(t) + x'\beta_e + \delta(t|t_o,x)\mathbb{1}(t > t_0) + V_e \end{cases}$$

Treatment effect: Constant treatment effect model

$$\delta(t|t_o,x) = \delta(t|t_o,x) = \delta_o$$

Treatment effect: Extended model

$$\delta(t|t_o) = \delta_o + \delta_1(t-t_o) + \delta_2(t-t_o)^2 + \delta_3(t_o) + \delta_4(t_o)^2$$

Main results

Econometric framework

$$\begin{cases} ln\theta_o(t|x,V_o) = ln\lambda_o(t) + x'\beta_o + V_0 \\ ln\theta_e(t|t_o,x,V_e) = ln\lambda_e(t) + x'\beta_e + \delta(t|t_o,x)\mathbb{1}(t > t_0) + V_e \end{cases}$$

Treatment effect: Constant treatment effect model

$$\delta(t|t_o,x) = \delta(t|t_o,x) = \delta_o$$

Estimation results

	δ_0	δ_1	δ_2	δ_3	δ_4
Benchmark model	-3.171*** *(0.287)*				
Extended model	-4.080*** *(0.354)*	-0.014 *(0.012)*	0.000 *(0.000)*	0.232*** *(0.088)*	-0.004 *(0.004)*

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Econometric framework

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Sensitivity analysis 1

- Re-estimation for 4 subsamples according to their highest diploma
  - Unemployed school-leavers: select subsample of higher educated
  - Imposing proportional effects of diploma variable might be too strong

Estimation results					
	δ_0	δ_1	δ_2	δ_3	δ_4
Lower secondary	-4.322*** *(0.618)*	-0.006 *(0.022)*	0.000 *(0.000)*	0.357*** *(0.121)*	-0.008 *(0.005)*
Secondary	-4.893*** *(0.689)*	-0.006 *(0.017)*	0.000 *(0.000)*	0.421*** *(0.152)*	-0.011* *(0..006)*
Lower tertiary	-4.149*** *(0.606)*	0.015 *(0.042)*	-0.000 *(0.000)*	0.219 *(0.214)*	-0.009 *(0.013)*
Higher tertiary	-4.044 *(2.906)*	0.081 *(0.088)*	-0.001 *(0.001)*	0.200 *(0.350)*	-.0.003 *(0.012)*

Sensitivity analysis 2

- More heterogeneity in the treatment effect
  - Effect less severe in times of booming economy?
  - Effect less severe for the high skilled?

Treatment effect: Extended model (sensitivity analysis 2)

$$\delta(t|t_o) = \delta_o + \delta_1(t - t_o) + \delta_2(t - t_o)^2 + \delta_3(t_o) + \delta_4(t_o)^2 + \delta_5 ur_t + \delta_6 delay_{16}$$

Estimation results

δ_0	δ_1	δ_2	δ_3	δ_4	δ_5	δ_6
-4.216*** *(0.605)*	-0.015 *(0.012)*	0.000 *(0.000)*	0.229** *(0.090)*	-.0.004 *(0.004)*	0.012 *(0.028)*	-0.222 *(0.153)*

Sensitivity analysis 3

- Alternative measure of overeducation
  - Modified subjective measure

Estimation results				
δ_0	δ_1	δ_2	δ_3	δ_4
-4.103*** *(0.267)*	-0.045*** *(0.016)*	0.000** *(0.000)*	0.320*** *(0.072)*	-0.009** *(0.003)*

Accepting an overeducated job strongly retards transition into an adequate job

- Reduced job-search intensity?
- Firm-specific training investments?
- Habituation?
- Overeducation scarring?