

# Specific measures for older employees and employment duration

Jan Fries

Bernhard Boockmann

Christian Göbel

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## Motivation: Specific measures for older employees (SMOE)

- We observe that firms set up human resource measures with the aim to retain older workers
- Motivation for implementation of SMOE is firm-specific, but limited number of observed measures

⇒ What is the relation of SMOE applied by the firm to employment duration of older workers?

We are empirical economists, so:  
Exploit information on SMOE in LIAB data

*„Which of the following programmes concerning employment of older workers do you apply in your establishment?“*

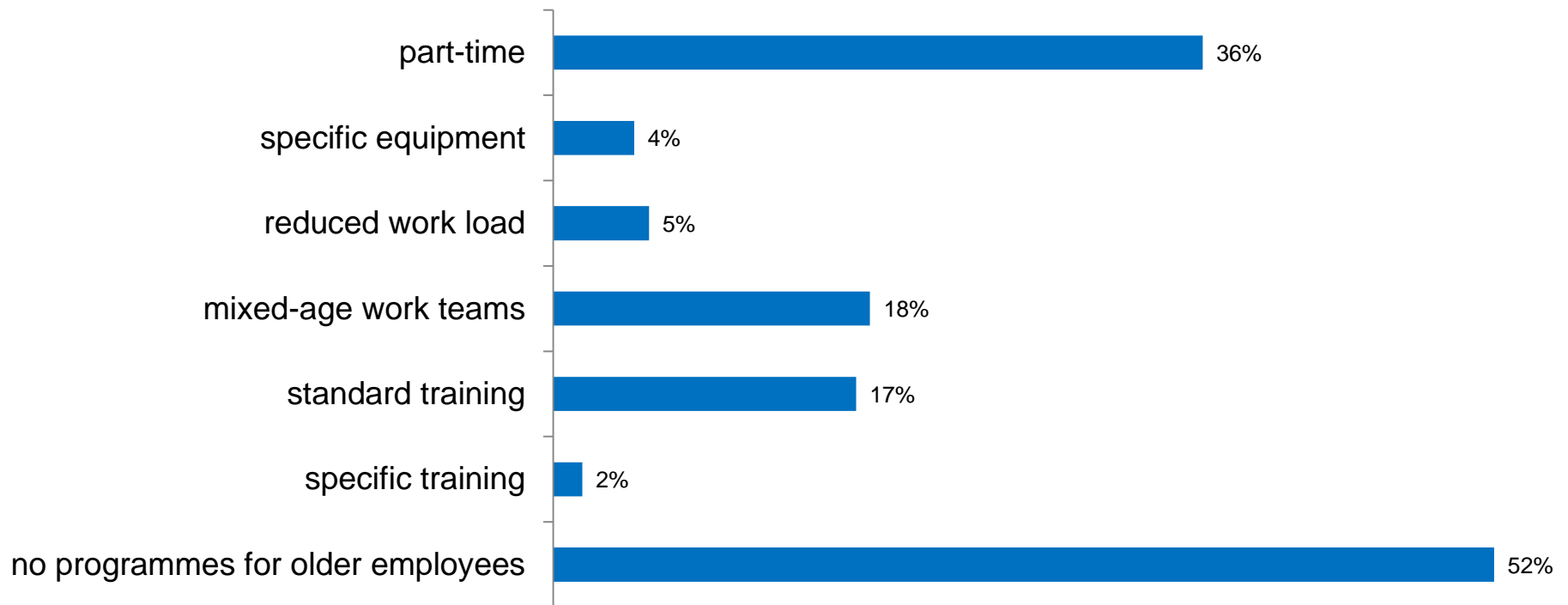
- Age-specific part-time work
- Age-specific equipment of workspaces
- Reduced work load
- Mixed-age work teams
- Standard training is also offered to older employees
- Specific training for older employees

## We use longitudinal employer-employee data: LIAB

- Longitudinal structure: 1975(!)-2006.
- Firm information from yearly establishment surveys: questions on SMOE in 2002 wave.
- Daily individual employment information from administrative data sources.
- Stock-sampling of employment spells of older workers (50+).

## SMOE are applied by many firms

2,587 firms in our sample, 69% apply at least one SMOE



## Estimation approach: Transition model

- We specify a model that allows identification of age-specific transition rates.
- We suggest a partial likelihood framework to estimate age dependence with simultaneous modelling of duration dependence (based on Imbens, 1994).
- We only look at transitions in 2002 to exclude business cycle effects and control for the institutional setting.

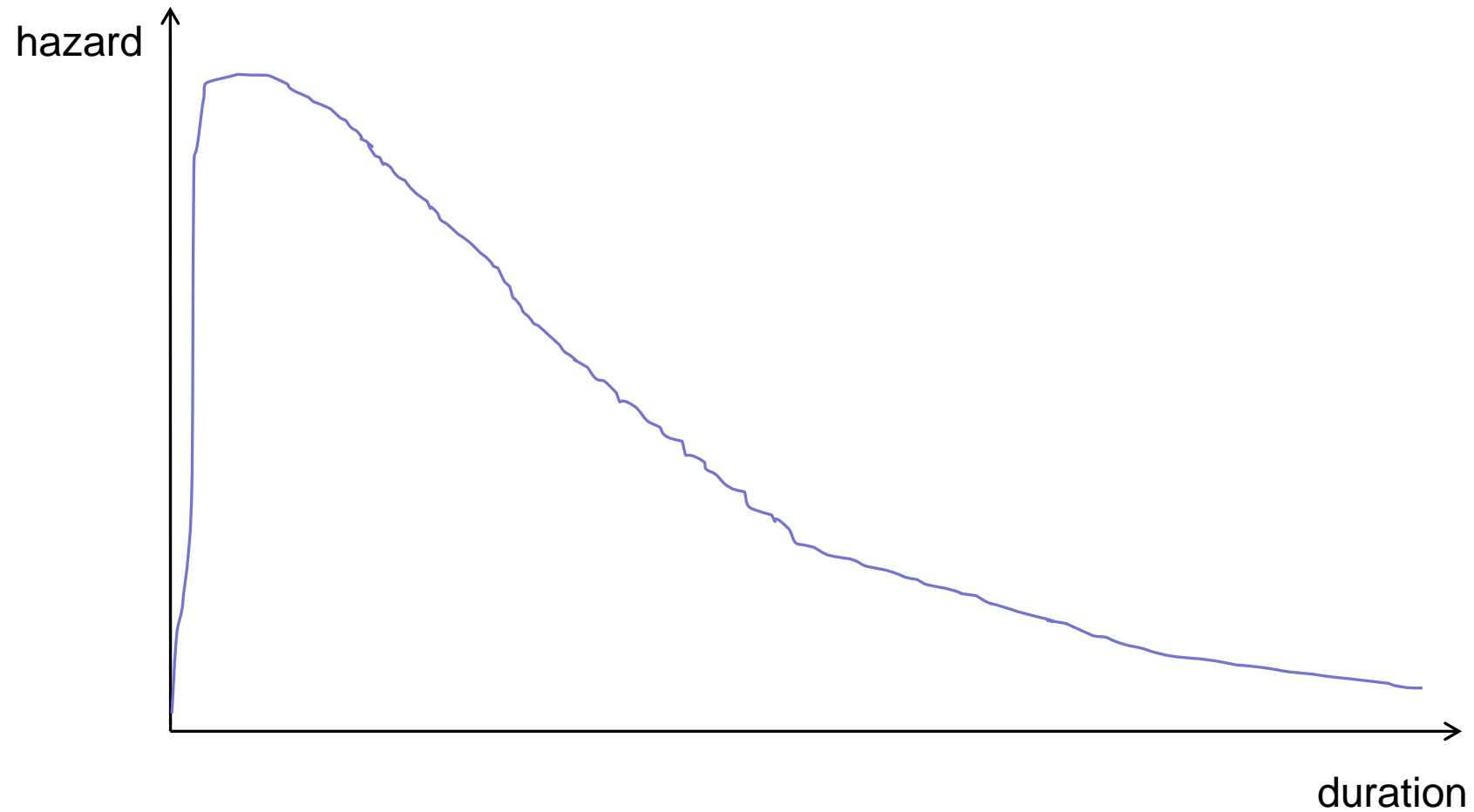
## Consideration of both age dependence and duration dependence

Combined consideration of effects caused by age and by employment duration in the firm:

- Flexible specification of age effects: yearly piece-wise constant hazard rates.
- Weibull-parametric specification of duration dependence.
- Explanatory part with individual/firm characteristics.

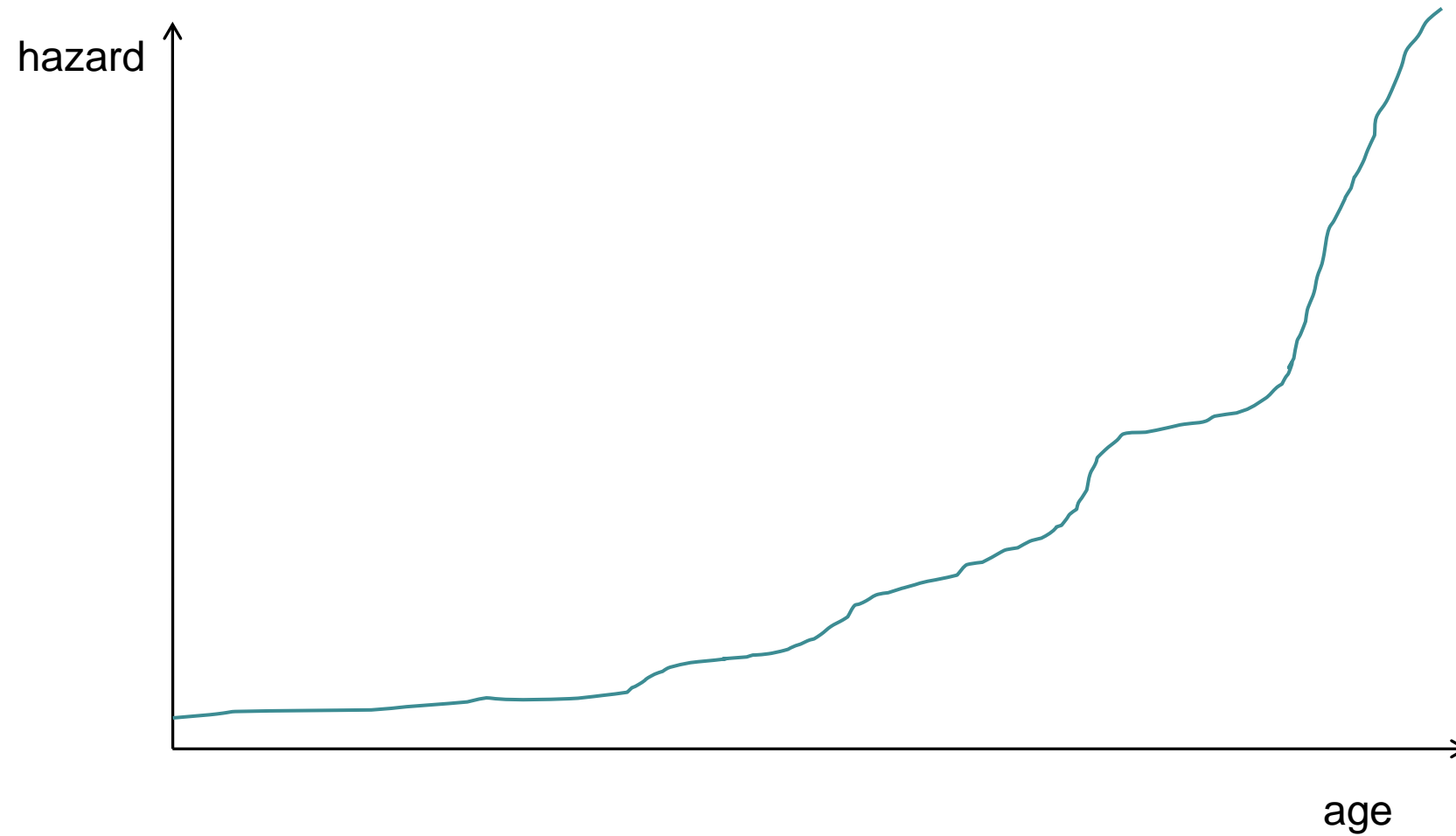
$$h(\text{age} | t, X) = h_0(\text{age}) \cdot \theta(t - t_0)^{\theta-1} \cdot \exp(X' \beta)$$

# Employment duration dependence (~tenure)

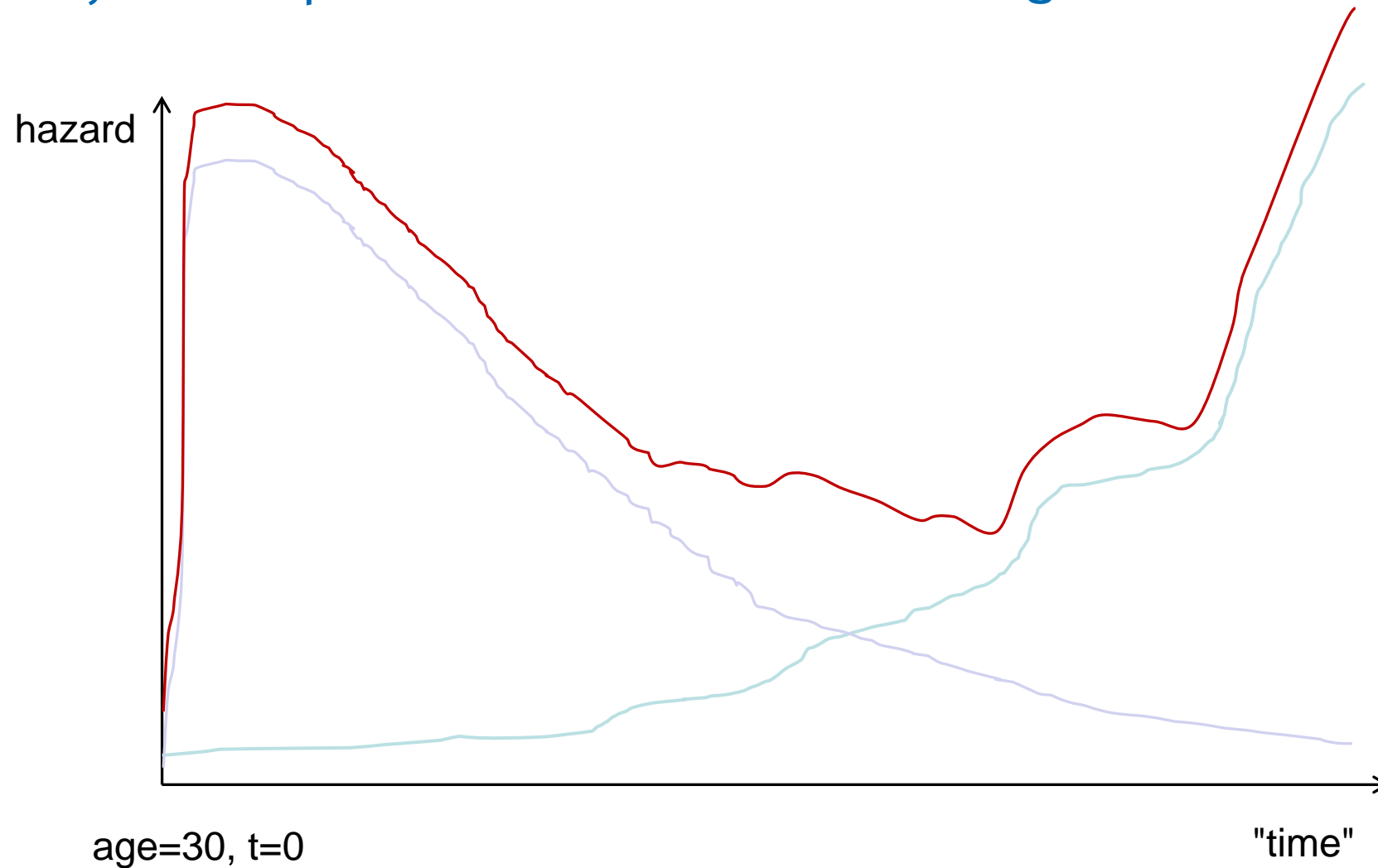




# Age dependence



# Why it is important to control for both age and duration



## Further features of the estimator

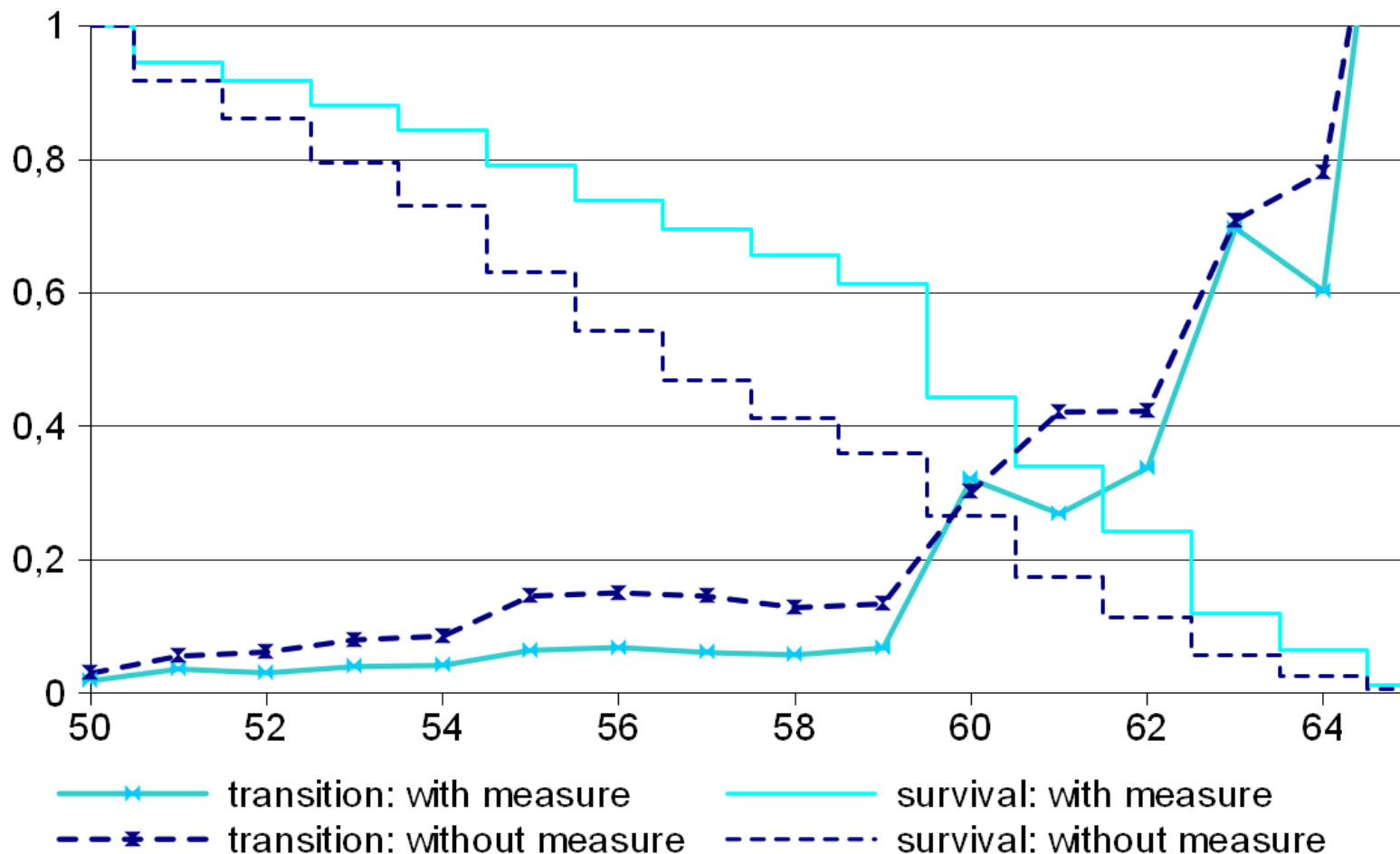
- Control for right-censoring of employment durations.
- Correct for bias caused by stock-sampling.
- Account for unobserved heterogeneity at the level of the establishment (fixed effects).

## Research question: What is the relation of SMOE to employment duration?

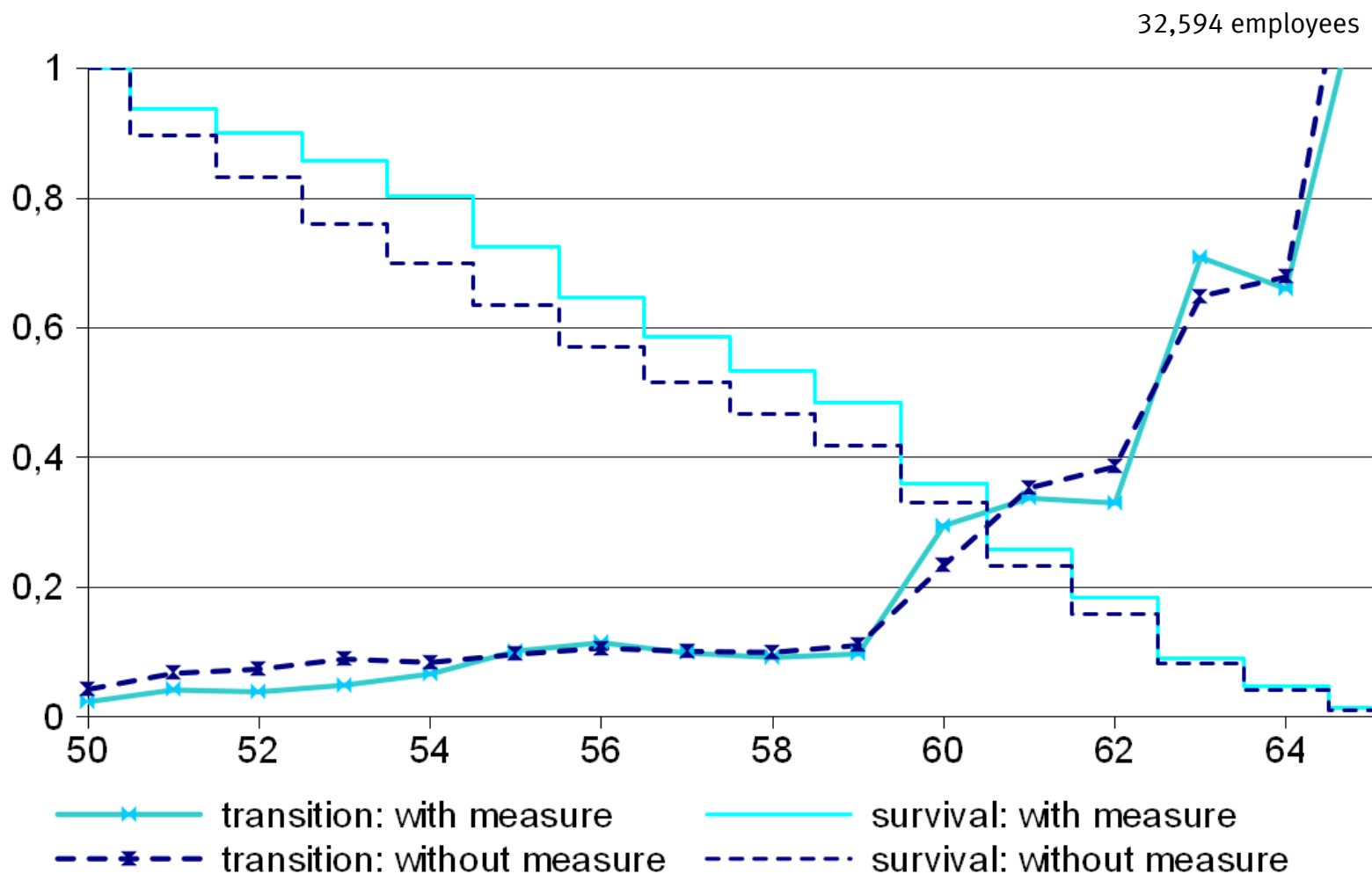
- Group establishments by their use of SMOE:
  - firms that apply one certain measure.
  - “control group“ of firms that do not offer this certain measure.
- Estimate transitions by age within each group of establishments.

# Relation of specifically equipped workspaces to individual employment duration

69,279 employees



# Relation of training to individual employment duration



## Conclusions

- So far, several kinds of SMOE come along with slightly reduced age-specific transitions of older employees:
  - part-time,
  - reduced work requirements,
  - and specific equipment of workspaces.
- Firms set up measures that are actually related to prolonged employment duration.