

# The manifold effect of social background on youth unemployment: unemployment-to-work-transition models using survey data and register data

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Previous research consistently found measurement error in retrospective data on unemployment (Dex & McCulloch 1988; Mathiowetz & Duncan 1988; Pierret 2001; Solga 2001). Ambivalent findings are reported towards the relation between unemployment reports and respondents socio-economic characteristics (Manzoni et al 2010; Dietrich 2006), depending on type of data compared, the complexity of the event structure or the distance between the occurrence of the event and the time of the report. However, only a few research findings are available about the effect of measurement error or competing measurements on model outcomes (see Biemer/Stokes 1991 and 2011; Manzoni et al. 2010; Magidson et al. 2009, Rendtel et al. 1998).

In particular, we are substantially interested in the effect of social background on the labor market outcomes of the unemployed. Background related findings are reported both concerning the duration of unemployment and the transition out of unemployment. However, we are also concerned with the extent of error in the report of unemployment. Using register based data on unemployment as reference (quasi gold standard), Dietrich (2006) described systematic effects of social background, level of education, school performance, and labor market status at the time of interview on individuals' reporting of occurrence and duration of unemployment episodes in retrospective survey data.

However, we know from combined register data on employment and unemployment in German (IEB, [http://fdz.iab.de/en/FDZ.Individual\\_Data.aspx#SIAB](http://fdz.iab.de/en/FDZ.Individual_Data.aspx#SIAB)) that register data are vulnerable to measurement errors of register unemployment information, too. Our hypothesis is that social background works in a manifold way, affecting the report of unemployment episodes on the one hand, and labor market outcomes, such as the hazard of leaving unemployment on the other hand. We aim to disentangle the interplay of social background effects on unemployment report and on the labor market outcomes of the unemployed.

## Data

We use two datasets:

- The so-called Jugalo sample, a multi-wave-survey where 4000 German youths who were below 25 and registered as unemployed between 1998 and 1999 were interviewed in the years 2000, 2001 and 2004. It delivers monthly information on educational and work biographies, as well as longitudinal information on household composition, social background and individual characteristics, like work orientation or mental health.
- Official register information on unemployment, employment and active labour market scheme participation from the German Social-Security-System (IEB-data), containing longitudinal information about individuals labor market activities on a daily basis. Using an anonymized personal ID provided in both the datasets, we successfully match the two datasets on a monthly basis for 1600 respondents, who have already graduated from the German apprenticeship system. For our analysis we consider information for the first two waves of the Jugalo survey and constrain our analysis to the episodes of unemployment in 98/99 from which the sample was generated, and their corresponding outcomes.

## Method

We first look descriptively at the timing and type of labor market episodes. Then, following Manzoni et al. (2010), we apply a latent Markov model, which allows us to account for measurement error. In particular, we relax the assumption that register based data work as a gold standard and account for correlated measurement error. We assume that individual characteristics and social background in particular, as well as the labor market state at the time of survey, affect both measurement error and labor market outcomes. Eventually, we use the estimates of the true (latent) unemployment state from the latent Markov model in a hazard model to predict the labor market outcome of interest. The first findings support the multiple social background effect hypotheses.