Employment changes among immigrants and their descendants in four European countries

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Background

A growing body of literature has investigated the employment of the descendants of post-war labour migrants and the employment of recent immigrants to various European countries. Studies show that their employment levels remain below those of native populations in Europe and that their salaries are lower. However, employment rates, which vary by the immigrants' country of origin, are usually the highest among migrants from other industrialised countries and the lowest among those from low-income regions (Alba 2005; Kreyenfeld and Konietzka 2002; Dustmann and Fabbri 2005; Dale et al. 2006; Meurs et al. 2006; Dustmann and Theodouropoulos 2010; Demireva and Kesler 2011; Kogan 2011; Milewski 2013; Longhi et al. 2013; Vidal-Coso and Miret-Gamundi 2014; Connor and Koenig 2015). Research has investigated explanations for the gaps in employment and income. First, many of the descendants of post-war labour migrants have low educational levels related to their parental background (Dustmann and Fabbri 2005; Clauss and Nauck 2010). The educational attainment of the post-1990 immigrants tends to vary: some groups are low skilled and have little opportunities in the labour and housing markets, whereas others are highly skilled and competitive in these markets. Second, traditional gender roles and high levels of religiosity may explain the low female labour market participation among some immigrant groups (Khoudja and Fleischmann 2015).

Third, hidden discrimination in the labour market is considered important. Although some studies show that differences in employment and income vanish after adjusting for individual human capital (Belzil and Poinas 2010), many studies demonstrate that ethnic gaps persist, particularly among non-Western migrant and minority groups (Khattab 2012; Rafferty 2013; Cheung 2014; Rathelot 2014). Penalties are considered to be the highest among Caribbean groups and Sub-Saharan Africans (being black) and those migrant and minority groups of Turkish, South Asian and North African origin (being Muslim) (Khattab and Johnston 2015; Modood and Khattab 2016). Research has also argued that women from those groups may face both 'ethnic' and 'motherhood' penalties, particularly in countries with liberal and conservative welfare state provisions (Hartmann 2016). Finally, state policies are expected to shape the labour market behaviour of immigrants and their descendants. Group differences are expected to be smaller in countries with inclusive integration policies and/or a wide range of policies that reduce differences between population subgroups in an effort to promote social equality (Seifert 1997; Esping-Andersen 1999). However, a number of recent studies have challenged these assumptions, showing that 'ethnic' penalties exist in all European countries (Wiesbrock 2011; Kelly and Hedman 2016).

This paper examines employment trajectories on immigrants and their descendants in four European countries: the UK, France, Germany and Sweden. First, we will analyse employment changes, both into and out of employment, and the type of employment attained, with partnership and childbearing histories included as time-varying covariates. Second, we will investigate whether women of

immigrant family backgrounds pay a higher wage penalty for marriage and motherhood in some countries. Third, we will also calculate time spent in and outside of employment for various groups of immigrants and their descendants.

Data

We combine data from four different countries. We focus on men and women, born between 1950 and 1999. We include individuals born in the destination country with no migration background ("natives"), those born abroad who migrated at age 16 or older ("first generation"), those who migrated before age 16 ("1.5 generation"), and those born in the destination country to at least one foreign-born parent ("second generation"). We use both prospective and retrospective employment, partnership and fertility histories of individuals to fully capture their life course.

For the United Kingdom, we used 9 waves (2009-2019) of Understanding Society, the UK Household Longitudinal Study (University of Essex, 2020). This household panel study interviews all adult household members in over 30,000 households across the United Kingdom to capture family formation and relationships. To facilitate the study of the continuously changing British population, Understanding Society includes immigrant ethnic minority boost samples to ensure a sufficient number of individuals from the largest migrant groups (Indian, Pakistani, Bangladeshi, Caribbean, and African background). Parents' birthplace (with the mother's preferred) and self-reported ethnicity are used to identify second generation individuals. The UK sample contains 26,409 natives, 6,855 first generation, 3,093 1.5 generation, and 6,976 second generation individuals.

German Socio-Economic Panel (GSOEP), collected by DIW Berlin, is a household panel that started in 1984 and runs to the present day. Similarly to Understanding Society, GSOEP oversamples individuals of scientific interest such as those from LGBT, and lower income or migrant households (Jacobsen et al., 2021). Following previous family research on Germany, which highlight differences among East and West Germans (e.g. Kreyenfeld, 2004), we separated the native group into East and West Germans. Former Soviet countries such as Russia, Kazakhstan, and Ukraine, are merged into one group; many individuals from these countries have ethnic German background ("Aussiedlers"). Large immigrant groups such as individuals from Turkey, Poland, and Southern Europe are included in the analyses. Second generation individuals are detected by using information on the respondent's parents' birth place and citizenship, in combination with the respondent's own birthplace, citizenship, and former citizenship.

For France, we use data from the *Trajectoires et Origines* [Trajectories and Origins] (T&O) study, a joint project that started in 2008 between the French National Institute of Demography (INED) and the French National Statistical Office. This dataset was created specifically to target issues such as social exclusion and limitations on access to resources for immigrants in France. Second generation individuals born in France are identified by their parents' birth place. In the French sample, 725 individuals born in French overseas territories and their descendants (656) are removed, leaving 19,445 individuals, comprised of 3,507 natives, 5,171 first generation, 2,674 1.5 generation, and 8,093 descendants.

For Sweden, we use register data, which includes all Swedish population and has rich information on their employment and family changes. All individuals in this study are observed starting at age 16 or at age of immigration and censored at age 60 or at the time of lost to follow-up.

Methods

We will model employment changes, both into and out of employment, with partnership and childbearing histories included as time-varying covariates (see Figure 1). We will adopt a multistate

approach and will apply competing risks event-history models (Putter et al. 2007). The transition-specific hazard function, $h_k(t)$, is defined as follows:

$$h_k(t) = \lim_{\Delta t \to 0} \frac{Pr(t \leq T < t+\Delta t, S=k | T \geq t)}{\Delta t}, k = 1,2\ldots,K, \qquad \textbf{(1)}$$

where ***S*** denotes either the transition into or out of employment with ***k*** as the number of different transitions and ***T*** represents an individual's age or time leaving education (natives and descendants), time since migration (immigrants) or time since previous event (if any). We define a transition-specific proportional hazards regression model as follows:

$$lnh_k(t) = ln\, h_{k,0}\,(t) + \sum_l \beta_{kl} x_l(t) + \gamma_k z, \qquad \textbf{(2)}$$

where $h_k(t)$ denotes an individual's hazard of moving into or out of employment and $h_{k,0}(t)$ is the baseline hazard for transition ***k*** at duration ***t***, which we define as piecewise constant; $x(t)$ is a variable measuring individual characteristics both time-varying (parity) and time-constant (education) and β is the parameter estimate for this variable, with ***l*** variables. γ_k represents the effect of variable ***z*** (migrant status by country) on transition ***k***.

The effect of baseline and other variables can vary by transition in the model defined in equation 2. However, it is not possible to measure the relative importance of each transition by migrant status and country from separate models. Therefore, we extend this model to also determine the relative importance of each transition by migrant status and country:

$$lnh_k(t) = ln\, h_0\,(t) + \sum_l \beta_l x_l(t) + \gamma_k z, \qquad \textbf{(3)}$$

The model in equation 3 assumes a common baseline for all transitions and the same effect of control variables across the transitions. However, the effect of migrant status and country is allowed to vary by transition; γ_k is a transition-specific parameter for variable ***z***, migrants status by country. All transition rates by migrant status can be now easily compared as they have a single reference point.

Normally, the event-history model described in equations 2 and 3 are fitted using individual-level data. Combining individual-level data is not always possible, e.g. for legal reasons when data come from different countries. In such circumstances a counted data approach can be used. Assume that we specify the baseline hazard as piecewise constant:

$$lnh_0(t) = ln\, h_j \qquad \text{for } t \text{ in } \left[t_j, t_{j+1}\right) \qquad \textbf{(4)}$$

The common-baseline model in equation 3 becomes then as follows:

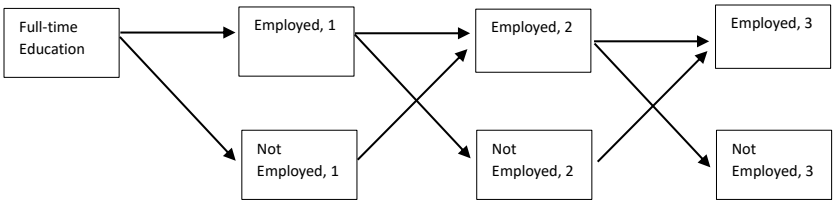
$$lnh_{jk} = ln\, h_j + \sum_l \beta_l x_{jl} + \gamma_k z, \qquad \textbf{(5)}$$

where h_{jk} is the hazard for time period j and transition k. Holford (1980) and Laird and Olivier (1981) have shown that log-linear models for the cell means of contingency tables with Poisson data are equivalent to log-linear hazard models for survival data, when the model baseline is specified piecewise constant and the model included categorical covariates. Therefore, we can use a count(ed) data approach, i.e. use a Poisson regression model to model piecewise constant transition rates. In order to fit such a model an event-time (or occurrence-exposure) table is prepared, which is defined by a cross-classification over a set of time intervals and covariate categories (Preston, 2005). Such a

model has been used in family and fertility research to study transition rates with one outcome (Kulu et al 2017). In this study, we also extend it to a competing-risks framework.

Finally, we will extend multistate modelling to also calculate multistate life table estimates other than transition rates. We will calculate time spent in and out of employment by migrant status and country from age 16, time since leaving education or time since migration. In order to do that, estimated transition rates will be transformed to annual (or monthly) probabilities, which will be used to calculate the time spent in various states by migrant groups (Crowther and Lambert 2016).

Analysis: natives, 1.5G and 2G



Analysis: immigrants (aged 16 and older)

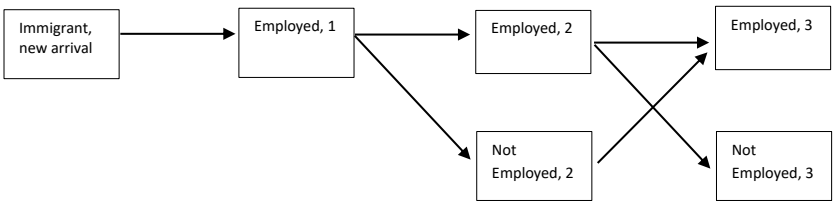


Figure 1. Employment states and transitions studied in this paper.

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