**Title:** The interrelation between unemployment and overqualification among second generation and ancestral population in Sweden

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## Introduction

The Second generations —the children of immigrants born in the host country— are disadvantaged with respect to their native peers with two native parents in terms of labor market outcomes (Heath et al., 2008; OECD, 2017). Previous studies showed that the second generations show higher levels of unemployment (Drouhot & Nee, 2019; Heath et al., 2008) and unemployment persistence compared to ancestral natives (Aradhya et al., 2023). Moreover, a previous study also found that the inequality in unemployment between ancestral natives and the second generation is mainly driven by a higher probability of unemployment entry for the latter (Grotti et al., 2023). Even when employed, the second generations encounter another challenge: educational mismatch. Educational mismatch, defined as the discrepancy between a worker's education level and the requirement of a worker's job (Flisi et al., 2017), is a relevant labor market disadvantage because it is associated with other penalties such as lower return to education and slower wage growths (Joona et al., 2014; Korpi & Tåhlin, 2009), and lower job satisfaction (Erdogan & Bauer, 2009). Since the second generations are born, raised, and educated in the host society, they are not expected to show a systematic difference in job matching compared to native peers. However, previous research shows that second generations with non-Western background experience ethnic penalties in educational mismatch, especially in terms of overqualification (Falcke et al., 2020; Kim, 2023). Furthermore, another line of research points to the direction that unemployment and overqualification are interrelated. On the one hand, past overqualification increases the risk of unemployment among higher-educated female workers (Esposito & Scicchitano, 2022). On the other hand, previous unemployment experience has been reported to increase the risk of overqualification for men and women with secondary education (Boll et al., 2016).

This study investigates whether overqualification and unemployment are interrelated over time such that one disadvantage begets the other, generating a vicious circle of accumulating labor market disadvantages. Specifically, this paper analyzes this interrelationship comparing the second generations with the ancestral population in Sweden by focusing on the transition from past to current states of unemployment and overqualification. Although this interrelationship can contribute to the second generation's persistent labor market disadvantages, it has not been

investigated by previous research, to our knowledge. Therefore, we ask the following questions: does past overqualification/unemployment affect current unemployment/overqualification, and how does it vary between ancestral Swedes and 8 second generation origin groups? Following the model specification suggested by Rabe-Hesketh and Skrondal (2013), We answer these questions using dynamic correlated random-effects multinomial models to study the effect of past on current employment with different matching statuses and unemployment. We use Swedish register data to follow individuals over their early working careers.

**Theoretical framework**

Two lines of theory on overqualification predict that overqualification increases unemployment risk. The career mobility hypothesis (Sicherman & Galor, 1990) explains that accepting a job that they are overqualified for is a strategic choice to acquire additional human capital and prepare for upward job mobility. Due to this upward mobility, the overqualified are likely to experience frictional unemployment (Rubb, 2006). Meanwhile, the entrapment hypothesis suggests that overqualification is associated with higher unemployment risk either due to deskilling or negative signaling effects. Deskilling of workers' human capital may occur due to cognitive decline (de Grip et al., 2008) or less investment in job training (Verhaest & Omey, 2006). Meanwhile, the negative signaling hypothesis (McCormick, 1990) explains that employers perceive overqualification experience as an indicator of lower productivity, and thus the employability of the overqualified is lower than the matched. Empirical evidence from a field experiment reported that the stigma effects mainly occur when searching for permanent contract positions (Baert & Verhaest, 2019). No systematic difference is expected in deskilling process between the ancestral population and the second generations. However, the likelihood of frictional and transient unemployment may vary between groups due to heterogeneity in state dependence in overqualification among the immigrant population (Joona et al., 2014). Also, the second generations may have a disproportionately more substantial negative signal effect due to ethnic discrimination in the labor market.

There are several reasons to suspect the positive effect of past unemployment on overqualification. First, job seekers are more likely to accept a job that they are overqualified for because they prefer to minimize unemployment duration and subsequent human capital deskilling. Second, the unemployment spell lowers job seekers' reservation wages, and thus they may accept a job offer where they would be overqualified. Previous research reported that lower reservation wages shortened the average unemployment duration but increased the risk of overqualification (Pollmann-Schult & Büchel, 2005). Third, job seekers may be less likely

to find a matched job due to the negative signaling effect of past unemployment. The second generations with the ancestry of visual minorities or substantive cultural/social distance possibly experience a stronger unemployment scarring effect i.e., ethnic unemployment scarring (Birkelund et al., 2017; Li & Heath, 2020).
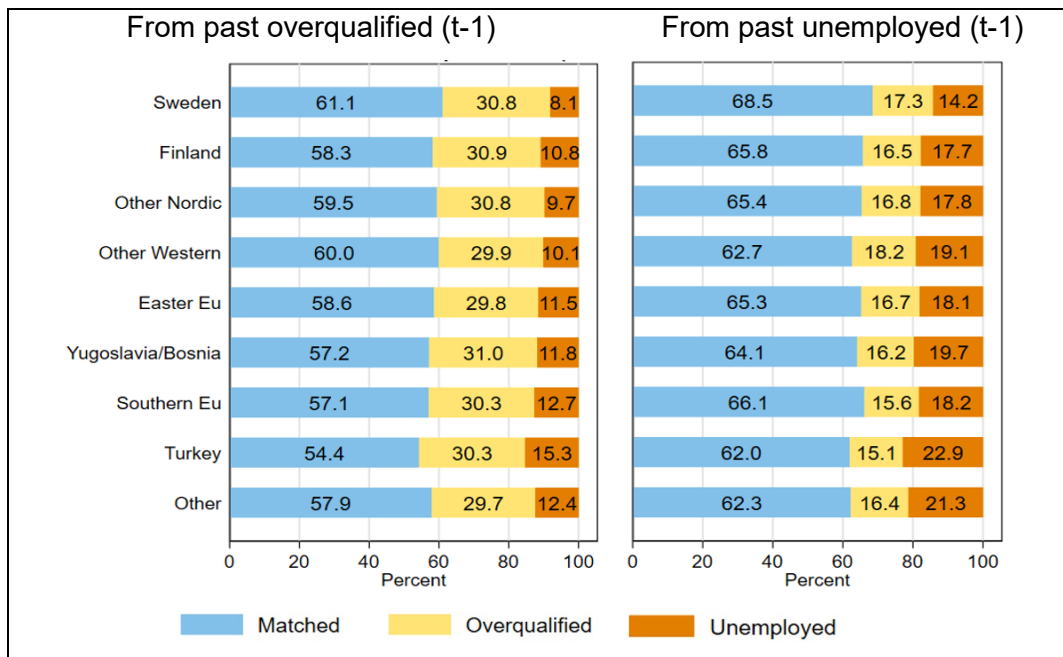
**Data and methods**

We used Swedish total population registers to construct an individual-level longitudinal dataset containing demographic and socioeconomic characteristics (ethical approval registration number: 2017/1980-31/5). In addition, we linked individuals to their parents in order to identify the parental country of birth and parents' socioeconomic characteristics. The study population included 188,304 men and 183,562 women born in Sweden between 1977 and 1981, followed from the age of 25, or since they transited from education to the labor market, to the age of 39. Our outcome of interest is the labor market participation state, which has three categories: employed as matched, employed as overqualified, and unemployed. We defined as unemployed during a given year those who were registered as unemployed for 90 days or more (Aradhya et al., 2023). We measured overqualification following the realized match method (Verdugo & Verdugo, 1989). We defined as overqualified those whose years of education are higher than the modal years of education required for each occupation block, constructed based on the SSYK occupation (based on ISCO, 4-digit level) and by age, year, and sex. Second generations are defined according to their parental country of birth, and ancestry is categorized according to their father's country of birth. As a result, we distinguish between 9 ancestries: Sweden, Finland, Other Nordic, Other Western, Eastern Europe, Yugoslavia and Bosnia, Southern European, Turkey, and Other Non-Western. To estimate the probabilities of transiting from a past state to a current state, we used a dynamic correlated random-effects multinomial model. To address potential bias from unobserved heterogeneity and initial condition problem (Heckman, 1981), we employed the approach developed by Rabe-Hesketh and Skrondal (2013). We controlled for a set of covariates that are likely to be associated with the transition dynamics.

**Results**

Figure 1 presents the predicted probability of transiting from past overqualification (left panel) and from past unemployment (right panel) to the current labor market state for men by ancestry groups, respectively (transitions from past matched employment have been estimated but are not shown here). Overall, all groups experience a similar degree of state dependence in overqualification. However, the probability of transiting from past overqualification to unemployment is higher among non-Western second generations, such as Turkish (15.3%),

Southern European (12.7%), and other non-Western (12.4 %) second generation groups, compared to ancestral Swedes (8.1%). The probability of transitioning from past unemployment to overqualification status is similar across ancestry groups. Again, most second generation groups have a lower probability of transitioning from unemployment to matched employment (from 62% to 66.1%) compared to ancestral Swedes (68.5%) due to their higher state dependence in unemployment (22.9% and 14.2% for Turks and ancestral Swedes respectively).

Figure 1. The predicted probability of transitioning from past unemployment and overqualification to current labor market participation state, for men

| | From past overqualified (t-1) | | | From past unemployed (t-1) | | |
|---|---|---|---|---|---|---|
| | Matched | Overqualified | Unemployed | Matched | Overqualified | Unemployed |
| Sweden | 61.1 | 30.8 | 8.1 | 68.5 | 17.3 | 14.2 |
| Finland | 58.3 | 30.9 | 10.8 | 65.8 | 16.5 | 17.7 |
| Other Nordic | 59.5 | 30.8 | 9.7 | 65.4 | 16.8 | 17.8 |
| Other Western | 60.0 | 29.9 | 10.1 | 62.7 | 18.2 | 19.1 |
| Easter Eu | 58.6 | 29.8 | 11.5 | 65.3 | 16.7 | 18.1 |
| Yugoslavia/Bosnia | 57.2 | 31.0 | 11.8 | 64.1 | 16.2 | 19.7 |
| Southern Eu | 57.1 | 30.3 | 12.7 | 66.1 | 15.6 | 18.2 |
| Turkey | 54.4 | 30.3 | 15.3 | 62.0 | 15.1 | 22.9 |
| Other | 57.9 | 29.7 | 12.4 | 62.3 | 16.4 | 21.3 |

Legend: Matched, Overqualified, Unemployed

**Conclusions**

Our results show that ancestral Swedes are more likely to experience transient disadvantaged positions due to their higher probabilities of transitioning to matched employment. In fact, when unemployed, they are more likely to transit into a matched job and less likely to remain unemployed. At the same time, they are more likely to transit into a matched employment when overqualified. Conversely, the second generations are more likely to fall into or remain in unemployment. Importantly, all ancestry groups show a lower probability of transiting from overqualification to a matched job than from unemployment to a matched job. This result indicates that career mobility theory does not hold in the Swedish labor market. Moreover, higher transition risks from overqualification to unemployment, together with a higher unemployment stickiness, suggest that the second generations experience more severe entrapment into unemployment compared to ancestral Swedes.

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