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DIAL Working Paper Series 10/2020

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Dynamics of Inequality Across the Lifecourse: structures and process

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 724363

NORFACE NETWORK

The heterogeneous unemployment dynamics of natives and second-generation immigrants in Sweden

Siddartha Aradhya[1], Raffaele Grotti[2] & Juho Härkönen[3]

Abstract

Many immigrant groups disproportionately experience unemployment and this disadvantage often extends to their Swedish-born children—the second generation. This paper contributes to this stream of research by studying unemployment dynamics of ancestral Swedes and second-generation immigrants in Sweden. In particular, we ask: To what extent does unemployment persist over individuals' working careers, i.e. what is the 'causal' link between past and current unemployment? And are these dynamics different for ancestral Swedes and second generation immigrants in Sweden?

We answer these questions using correlated dynamic random-effects logit models. This type of analysis is particularly well-suited for our scope because it allows us to study the persistence of unemployment as the 'causal' relationship between past and current unemployment experiences. We use Swedish register data to follow individuals over their early working career – most importantly since they leave education and enter the labor market. The results indicate that although the odds of remaining unemployed in time *t* if one was unemployed in *t-1* are nearly equivalent across groups, the consequences of state dependence are far more pronounced for second generation Middle-Eastern, Eastern European, and Southern European immigrants.

Keywords:

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Acknowledgments

The project CRITEVENTS is financially supported by the NORFACE Joint Research Programme on Dynamics of Inequality Across the Life-course, which is co-funded by the European Commission through Horizon 2020 under grant agreement No 724363.

Introduction

The integration of immigrants and their offspring to host societies is a central social and political question in today's Europe. Immigrants tend to be socioeconomically disadvantaged compared to the native population, but their children—the second generation—often improve their position both in absolute terms and in relation to those with two native parents, in line with classical assimilation theory (Alba and Nee 2009). Despite general convergence, the second generation often experiences disadvantages, particularly in the labor market (Drouhot and Nee 2019; Heath, Rothon, and Kilpi 2008), raising questions of both the causes and consequences of this disparity.

Children of immigrants have lower employment rates compared to those of native ancestry, a gap that stems primarily from weaker access to employment, rather than higher retention rates, among the former (Drouhot and Nee 2019; Heath et al. 2008). Discrimination by employers—especially against the second generation with ancestry in Muslim countries—is a contributing factor (Birkelund, Heggebø, and Rogstad 2017; Quillian et al. 2019), but the second generation may also be disadvantaged by a lack of social and cultural capital that facilitate access to employment (Crul and Vermeulen 2003; Koopmans 2016). Difficulties in employment access may have long term negative consequences (Brand 2015). Unemployment has negative effects on future wages (Gangl 2006; Schmieder, von Wachter, and Bender 2016) and labor market opportunities in general (Cockx and Picchio 2013). Importantly, unemployment begets later unemployment (Arulampalam 2001; Ayllón and Valbuena 2017; Machin and Manning 1999). Because unemployment, especially when prolonged, has negative effects not only on labor market outcomes but on health and other aspects of well-being (Janlert, Winefield, and Hammarström 2015; Kolsrud et al. 2018), unemployment persistence can amplify second generation disadvantage.

This is the first study to analyze heterogeneity in unemployment persistence—how strongly unemployment predicts future unemployment—among children of immigrants of different ancestry. Focusing on Sweden, we estimate unemployment persistence in 10 second generation ancestry groups and compare it to unemployment persistence among Swedes born to Swedish parents. Sweden's large and heterogeneous immigrant population make it an interesting context: as of 2017, approximately 18% of the Swedish population were immigrants and another 13% their descendants with the five largest immigrant groups stemming from Syria, Finland, Iraq, Poland, and Iran (Aradhya and Mussino 2020). Sweden's immigrant

population has faced particular difficulties in labor market integration, motivating the focus on unemployment and its persistence. Sweden also provides population register data that covers the whole population and allows analysis of specified ancestry groups. We analyze unemployment persistence using correlated dynamic random effects logit models, which allow controlling for sources of unobserved heterogeneity that can otherwise bias estimates of unemployment persistence.

To preview the results, we find strong unemployment persistence in the Swedish labor market, but that the multiplicative effect on unemployment on later unemployment varies little between most groups. This suggests that the main mechanisms responsible for unemployment persistence are similar across most groups. Yet similar magnitudes of unemployment persistence have larger unemployment consequences—in terms of percentage point increase in unemployment—in groups with higher baseline unemployment. This implies that initial labor market disadvantages, caused by discrimination, segregated networks, or other factors, can become entrenched by the cumulative disadvantage of unemployment persistence. This entrenchment is even stronger for groups—such as men of Middle Eastern ancestry—for whom unemployment persistence is stronger. Our analysis highlights an unstudied process that can affect second generation labor market integration. It also contributes to research on unemployment persistence, which generally has not considered its potential heterogeneity. Below, we argue that some of the mechanisms proposed to explain unemployment persistence are more likely to vary across ancestry groups than others. By investigating heterogeneity in unemployment persistence, we provide indirect evidence to assess the underlying processes.

The second generation in the Swedish labor market

Between 1945 and today, Sweden transformed from a country whose population was almost entirely native-born to a country where the share of the foreign-born population surpasses the OECD average and those of countries such as the United States, Germany, and the UK (Åslund, Hensvik, and Nordström Skans 2014; Bengtsson, Lundh, and Scott 2005; OECD 2017). Immigrants and their descendants together account for almost 30% of Sweden's population. Sweden's migrant-background population is both large and diverse. After the 1960s and 1970s, when immigration was dominated by labor migration from Southern Europe, Poland and particularly, Finland, the majority of immigrants have arrived for asylum seeking or family reunification reasons from non-Western countries, following conflicts worldwide. These waves

of immigration include Chileans in the 1970s and 1980s, former Yugoslavians in 1992-1995, Iranians in the 1980s and 1990s, and most recently, Syria. In addition, there has been more a steady flow of refugees and family reunification immigrants from the Middle East (Iraq and Lebanon) and East Africa (Ethiopia and Eritrea).

The diversity of the migrant population has challenged labor market integration. Since the 1970s, immigrants have been disadvantaged in terms of earnings and in particular, employment rates (Bengtsson et al. 2005). Due to Sweden's regulated labor market, earnings differentials are compressed and labor market disadvantages may appear more in employment rates rather than earnings (Bengtsson et al. 2005). Today, the employment rates of foreign-born men and women are 10 percentage points and 20 percentage points lower, respectively, than those of native-borns. Deindustrialization contributed to this process as manual and low-to-semi skilled work diminished at the expense of information and communication working processes that emphasized country-specific human capital, such as language proficiency, cultural competencies and institutional familiarity, that newly arrived immigrants lacked (Lundh 2004; Rooth 1999; Schön 2007; Scott 1999).

The children of immigrants who were born, raised and educated in the host country—the second generation—should generally not face the barriers experienced by their parents, such as a lack of language skills or transferability of educational qualifications (Alba and Foner 2015; Crul and Vermeulen 2003; Sweetman and van Ours 2015). By many measures, the second generation does make notable socioeconomic progress and approaches their native ancestry peers through social mobility (Drouhot and Nee 2019). Yet the intergenerational convergence in outcomes to the native average may not be systematic, and certain groups can experience stagnation or deterioration (Portes and Rumbaut 2001; Portes and Zhou 1993).

In Europe, the second generation disadvantage is most visible in the labor market (Drouhot and Nee 2019; Heath et al. 2008). This disadvantage is patterned by ethnicity and particularly characteristic of immigrants born in non-Western countries and their children born in the host societies, who experience worse labor market outcomes compared to other groups even after taking into account observable characteristics (Connor and Koenig 2015; Gracia, Vázquez-Quesada, and Van de Werfhorst 2016; Quillian et al. 2019). This is also the case in Sweden. Rooth and Ekberg (2003), for instance, reported that unemployment of the second generation largely mirrored those of the first generation. Those of non-Western origin had higher unemployment than those of Western origin, and individuals of Southern and Eastern European ancestries fared worse than those of Northern European heritage.

Poorer access to employment—rather than weaker advancement once employed—is a key factor explaining the second generation's disadvantage in labor market integration in Europe (Algan et al. 2010; Drouhot and Nee 2019; Heath et al. 2008; Hermansen 2013). Part of this disparity is related to lower levels of human capital, but a gap in employment access generally persists even after socioeconomic and demographic characteristics are taken into account. In Sweden, the employment disparities attenuated when human capital and demographic variables were controlled for, expect for second generation individuals with non-Western and Southern European ancestries (Rooth and Ekberg 2003). Remaining gaps in employment access can reflect group-specific differences in unmeasured skills—such as language proficiency—acculturation, and weaker social networks (Crul and Vermeulen 2003; Koopmans 2016). Among women especially, differences in employment entry can also reflect cultural gendered beliefs and norms about household and economic activity (Fernandez and Fogli 2009).

Employer discrimination contributes to disadvantages in access to employment, as has been documented by several field experiments (correspondence tests) of call-back rates to fictitious job applications (Quillian et al. 2019). The pattern of this discrimination follows perceived cultural and social distances between natives and different ancestry groups (Hagendoorn 1995; Hraba, Hagendoorn, and Hagendoorn 1989; Strabac and Listhaug 2008), which may be derived not only from social or cultural differences but can also be inferred from more visible traits, such as skin color (Fetzer 2013). Sweden shows a high rate of discrimination (Quillian et al. 2019), possibly reflecting the composition of its immigrant-background population, as described above. Field experiments from Sweden show that call-back rates show a negative correlation with ethno-cultural distance (Vernby and Dancygier 2019), which applicants with Arabic/North African/Middle Eastern names having the lowest call-back rates (Arai, Bursell, and Nekby 2016; Bursell 2012, 2014; Carlsson 2010; Carlsson and Rooth 2007). This disadvantage extends to second generation job applicants (Carlsson 2010) and similar results have been reported from neighboring Norway (Midtbøen 2016). Importantly, some evidence suggests strongest discrimination against men—rather than women—from culturally and socially most distant ancestries (Arai et al. 2016; Bursell 2014).

Unemployment persistence and the second generation

Unemployment begets unemployment: those who were unemployed at one point in time have an elevated probability of being unemployed at the next time point as well (Arulampalam 2001; Arulampalam, Booth, and Taylor 2000; Ayllón and Valbuena 2017; Biewen and Steffes 2010; Machin and Manning 1999; Plum and Ayllón 2015). This unemployment persistence can reflect selection processes: those who become unemployed are not randomly chosen from the labor force, and those who remain unemployed (i.e., do not find a job) become an even more selected group over time (Machin and Manning 1999). The factors according to which selection happens can be observed—such as education, gender and ethnicity—or unobserved, such as ability and motivation. Alternatively, being unemployed may have a causal effect on future unemployment. That is, ceteris paribus, the unemployed are less likely to get a job than those already holding one.

A large literature in labor economics and sociology has attempted to separate between the two mechanisms. Several studies on long-term unemployment have concluded that unobserved heterogeneity trumps genuine state dependency in explaining why unemployment exit decreases as unemployment duration increases (Atkinson and Micklewright 1991; Machin and Manning 1999). However, studies estimating the effect of unemployment experience, compared to not being unemployed, have concluded that past experience of unemployment has a strong effect on future unemployment not only in the short-term (Arulampalam et al. 2000; Ayllón and Valbuena 2017; Plum and Ayllón 2015), but also in the long-run (Eliason and Storrie 2006; Gregg 2001; Schmillen and Umkehrer 2017). These results imply that an initial experience of unemployment can lead to its accumulation over individual life courses. They also imply that group-level differences in unemployment experience can shape differences in future unemployment rates.

The scarring effect of unemployment—sometimes also referred to as genuine state dependency—has been theorized to stem both from supply and demand side factors (Ayllón 2013; Biewen and Steffes 2010; Contini and Negri 2006; Gangl 2006; Kroft, Lange, and Notowidigdo 2013; Pedulla 2016; Tatsiramos and van Ours 2014; Weisshaar 2018). On the supply side, human capital decay is frequently pointed out as a potential mechanism behind unemployment persistence. Unemployment, especially when prolonged, can lead to skills becoming obsolete because they are not used and kept up to date, which may explain why unemployed workers are less attractive to employers (Becker 1964; Machin and Manning

1999; Pissarides 1992). Unemployed workers may also have less access to social networks that aid in finding a job (cf. Granovetter 1977).

Prolonged or recurrent experiences of unemployment may lead to lower job search activity over time (Ayllón 2013). This discouraged worker effect due to past or current unemployment has been reported to be larger when unemployment is high and finding work is in general more difficult. Unemployment spells can also become prolonged because of unemployment benefit disincentives, which have in Sweden been argued to explain part of the story (Landais, Michaillat, and Saez 2018).

On the demand side, unemployment can send a signal of low productivity and poor employability to employers who lack better information (Stiglitz 2002). Evidence for discrimination against the unemployed has been found in field experiments that record callback rates to unemployed compared to employed job applicants (Birkelund et al. 2017; Cockx and Picchio 2013; Eriksson and Rooth 2014; Pedulla 2016; Weisshaar 2018). For example, Eriksson and Rooth (2014) found evidence of stigma effects for Swedish job applicants who were unemployed for 9 months or more, but not for the short-term unemployed nor the previously unemployed. Cockx and Picchio (2013) reached a similar conclusion for youth in Belgium. In particular, they find that while human capital depreciation does not play much of a role, results are in line with signaling theory. The stigmatization effect is stronger when the labor market is tight (Biewen and Steffes 2010).

Past unemployment can also affect future unemployment through higher unemployment incidence, that is, a higher probability of losing one's job attained after an unemployment spell (Böheim and Taylor 2002). This mechanism can be particularly important in a country like Sweden, where workers are generally made redundant using the "last-in-first-out" principle, which can disadvantage workers with a recent unemployment spell.

Are there reasons to expect that these mechanisms contributing to unemployment persistence vary between ancestry groups, creating different degrees of unemployment persistence? Previous analyses have generally not considered heterogeneity in unemployment persistence, and no studies to our knowledge have considered heterogeneity according to ancestry. Plum and Ayllón (2015) and Ayllón and Valbuena (2017) reported major cross-national heterogeneity in unemployment persistence in Europe among prime-age and young workers, respectively, but few differences by gender. Unemployment scarring also tends to be stronger among prime-age than younger workers (cf. Arulampalam et al., 2000, for the UK), Sweden being one of the exceptions. Cutuli and Grotti (Forthcoming) analyzed a number of European countries and show stronger unemployment persistence among individuals with past

unemployment experience. On the other hand, Plum and Ayllón (2015) reported that estimates of unemployment persistence can be heavily underestimated unless heterogeneity in persistence is taken into account. This suggests that the mechanisms producing unemployment persistence can vary across individuals and groups.

Regarding the supply side mechanisms, it is unclear why human capital would decay at different rates by ancestry. An example of such a case could be general and job-specific language skills, but even in this case stark differences between workers of native heritage and the second generation seem unlikely. However, given the high degree of ethnic residential segregation and social homophily in Sweden (Andersson 2007, 2013; Bråmå 2006), unemployment may have a stronger influence on the relevant social networks of second generation than native background workers. This disadvantage can be particularly strong among groups with larger social distance. Likewise, it is possible that labor supply elasticities vary by ancestry groups, and more among women than men. Second generation women with more traditional cultural heritages may be expected to work less than those from less traditional background, affecting the elasticity of their labor supply to (generous) unemployment benefits.

Regarding the demand side, job applicants have a lower call-back rate if they are of foreign ancestry (and in particular, of visible minorities or Middle Eastern or North African background) or if they are unemployed. Do these factors operate independently or can the effect of unemployment on the call-back rate be stronger among the second generation than among children of native Swedish parents? Birkelund, Heggebø and Rogstad (2017) argued that ethnic unemployment scarring, where the negative signal of unemployment is particularly strong among minorities, is possible when two conditions co-exist: first, if employers discriminate against minorities—either by holding negative stereotypes against them or use minority status as a proxy for unmeasured traits—and second, if unemployment is associated with human capital deterioration or other unfavourable characteristics. In such cases, employers can see unemployment and ethnic status as reinforcing one another. Their field experiment results of call back rates of job applications with typically native Norwegian and Pakistani names did not support this hypothesis. Rather, the similar call back effect of unemployment in the two groups suggested that employers treated ethnic and unemployment status independently.

Theory and previous research provide strong reasons to expect unemployment persistence in the Swedish labor market. Although theory and evidence are less established, we also expect that unemployment persistence is stronger among the second generation than those with Swedish-born parents. This can be due, in particular, to stronger exclusion from useful

social networks among unemployed second generation workers, and a combination of ethnic discrimination and human capital depreciation among the unemployed (Birkelund et al. 2017).

Data

The data for this study come from the Swedish population registers. Using unique identification numbers assigned to each individual, we link information in various administrative registers to construct an individual-level longitudinal dataset covering socioeconomic (educational registers and the LISA registers that includes detailed information on various sources of income and transfers, as well as employment information) and demographic characteristics. In addition, we linked individuals to their parents to identify parental country of birth (those whose parents are not born in Sweden are considered second generation immigrants), as well as their socioeconomic characteristics and educational attainment. The study population includes 223,463 men and 213,109 women born in Sweden between 1977 and 1981, and followed from 1994 to 2016 (between the ages of 17 and 39).

Variables

Our outcome of interest is unemployment. In our data, there are two ways to identify unemployment: unemployment status of an individual in November of a given calendar year or whether an individual received unemployment benefits during that year. We define an individual as unemployed based on the latter, which has the advantage of capturing very short unemployment spells that would have been missed otherwise. Conversely, individuals are considered as employed if they do not receive any unemployment benefits and either receive any labor earnings or are in parental leave.

Using benefit reception for defining unemployment implies that we register higher unemployment rates as compared to official statistics. This discrepancy exists because official statistics are based on the Labour Force Survey which collects unemployment as reported by the respondent during the reference week. As a result, other spells occurring during the rest of the year are not captured, thus underestimating the number of individuals experiencing unemployment during the year. This is particularly applicable to individuals at younger ages since employment careers are more volatile. Figure A1, A2, and A3 in the Appendix, shows unemployment trends for men and women in our sample based on our definition of unemployment for all the groups considered compared to the overall unemployment rate based

on official statistics. Although our estimates are slightly higher, they follow the same trend as the official statistics and are consistent across all groups.

Second generation immigrants are defined according to their parents' country of birth. In the case of the 2.5 generation immigrants (one parent was born in Sweden while the other abroad), individuals are categorized according to the country of birth of the foreign-born parent. In our model we include a variable to identify the 2.5 generation. In the case both parents were born abroad but in different countries, the individual immigration background is defined by father's country of birth. Accordingly, we distinguish between individuals whose parents were born in: Sweden, Finland, Other Nordic, Other Western, Eastern Europe, Yugoslavia, Southern Europe, Middle East, Iran, Turkey, and Other (Non-European)[4]. While we mainly classify countries within broader geographical areas, we also separate particular origin groups that have had unique integration experiences in Sweden. For example, the Finns have a long immigration history in Sweden and were well integrated into the labor market, at least initially, and a large share of them are part of a Swedish-speaking ethnolinguistic minority group in Finland (Saarela and Scott 2015). Similarly, Iranians have integrated exceedingly well into the Swedish labor market, and their children (the second generation) have been shown to outperform their Swedish peers in terms of schooling (Aradhya, Scott, and Smith 2019; Jonsson and Rudolphi 2011). In contrast, groups such as those with Turkish origin have traditionally struggled to gain a foothold in Swedish society (Aradhya et al. 2019; Bayram et al. 2009).

In order to estimate the effect of past unemployment on current unemployment and how this varies across groups, in our model we include a set of characteristics that are likely associated to unemployment dynamics as well as to the possible heterogeneity of these dynamic across group. We distinguish between time-varying and time-constant characteristics. Time varying-characteristics include age, ranging between 17 and 39 (we also include age squared); marital status, that distinguishes between single, in couple, and separated or divorced. Marital status has been shown to affect the length of unemployment spell, and this may also vary between men and women where the first are advantaged when married while the second when single (Maurer-Fazio and Wang 2018; Teachman, Call, and Carver 1994; Wurzel 1993). Number of young children as this may be also related to unemployment duration by affecting search intensity, especially for women. Therefore, we include in our model the number of children below 8 years of age and categorized as no children, 1, 2, 3, and 4 or more children. Finally, we also include a measure of individual health problems proxied by whether he/she

[4] See appendix A3 for detailed description of country classification.

receives any sickness benefits.[5] Health issues can be considered a measure of human capital and may have obvious consequences on re-employment chances. These variables are also used to capture unobserved heterogeneity. As we will explain later, within-individual variation in these characteristics are associated with unobserved traits that are positively or negatively associated with unemployment.

The second set of characteristics are time-constant characteristics and mainly capture human capital. We control for level of educational attainment as primary, lower secondary, upper secondary (vocational or academic), post-secondary (vocational or university), and doctorate education. We also include academic achievement, captured by a standardized measure of GPA at age 16, as an additional variable to capture human capital. We also include a measure of parental SES as they could affect educational choices, as well as proxy the size and quality of networks that can be used for finding a job (Pedulla and Pager 2019). Parental SES is defined according to the level of skills involved in parental occupation, and is categorized as farmer, unskilled, low-skilled, medium-skilled, high-skilled and professionals, self-employed, not employed, and missing. Finally, we control for region of residence at the NUTS 2 level and year dummies.

Methods

In order to study dynamics in unemployment we use a correlated dynamic random-effects logit model, as is standardly used for studying persistence in dichotomous outcomes. The dynamic specification models the amount of inertia in the previous status, i.e. state dependence processes, via the inclusion of a $t-1$ lag in the outcome variable. State dependence processes, however, can be considered unbiased or *genuine* only in absence of unobserved heterogeneity correlated with the outcome (Heckman 1981a, 1981b). A further problem in identifying state dependence as genuine, is the so called initial condition problem – according to which the initial period y_{i0} that the researcher observe might not be period in which the stochastic process leading to the observed outcome starts.

Literature has seen several different approaches to address these issues (Biewen 2009; Heckman 1981c; Rabe-Hesketh and Skrondal 2013; Stewart 2007; Wooldridge 2005). In this paper, we employ the approach recently developed by Rabe-Hasketh and Skrondal (2013) as it provides a more parsimonious specification and can be implemented also with unbalanced

[5] Sickness benefits are received for spells that are longer than those covered by the employer period.

panels (see Skrondal and Rabe-Hesketh (2014) and Grotti and Cutuli (2018) for its implementation).

The dynamic model is specified as follows:

$$y_{it}^{*} = \gamma Z_{it} + \rho y_{it-1} + c_i + u_{it} \quad (1)$$

where y_{it}^{*} in equation (1) represents the chances of experiencing unemployment for unit i ($i = 1, \dots, N$) at time t. It is a function of a set of time-varying explanatory variables Z_{it} which are considered exogenous, conditional on the unit-specific unobserved effect c_i. y_{it-1} captures (genuine) state dependence and in our model it is interacted with parental origin. Finally, u_{it} represents an idiosyncratic error term.

The unit-specific unobserved effect c_i is expressed as

$$c_i = \alpha_0 + \alpha_1 y_{i0} + \alpha_2 \overline{Z}_{\iota} + \alpha_3 Z_{i0} + a_i \quad (2)$$

In equation (2), y_{i0} and Z_{i0} stands for the initial value of the outcome and of the time-varying explanatory variables, respectively.[6][7] $\overline{Z}_{\iota} = \frac{1}{T}\sum_{i=0}^{T} Z_{it}$ represents the within-unit averages of the time-varying explanatory variables. Finally, a_i is a unit specific time-constant error term.

Under the assumption that unobserved heterogeneity is captured by c_i, the parameter ρ can be interpreted as genuine state dependence – i.e. as the causal effect exerted by unemployment in the previous year on unemployment in the current year. Based on the above equations, the model is then estimated as a standard Random Effects (RE) logit model.

Differently from the common practice, we estimate logit instead of probit models. Although providing equivalent estimates, logit models have the clear advantage of allowing for a direct meaningful interpretation of the coefficients if expressed in terms of odds ratio.

Literature employing observational data usually models the unemployment outcome using probit models and reports results in terms of probit coefficients. Although this is common practice, interpreting the magnitude of the effect is very difficult. Therefore, in the result

[6] Note that the subscript $i0$ refers to the first observation of the unit i; it refers to the current time period at which the unit is evaluated; while $it - 1$ refers to the time period before the unit is evaluated.

[7] A clarification is needed about the initial condition of the outcome variable. As we said, we follow individual since they transited from education to the labor marked. Notwithstanding entitlement to benefits is conditional on previous employment, we are able to observe individuals to receive unemployment benefit because they have accumulated some employment experience while studying – that is common in Sweden.

section we first report results expressed in terms of odds ratio (OR), which is considered to reflect the 'structural' or 'causal' effect of past unemployment on current unemployment. In the second step we present results in terms of predicted probabilities in order to show the probabilities to be unemployed for both those who were and were not unemployed the year before. These results then reflect the societal consequences of state dependence and makes possible to identify the most disadvantaged groups which would benefit the most from policy intervention, for example. All analyses are conducted separately for men and women.

Results

Table 1 reports descriptive statistics for the study population. Second generation immigrants represent 15 percent of the population, while ancestral Swedes make up the remaining 85 percent. The size of second generation immigrant groups ranges from 0.1 to 5.3 percent for Iranian and Finnish origins individuals, respectively. Overall, individuals from different origin groups are followed for a similar number of years and enter the labor market at similar ages. Group differences exist, however, in the average years of follow-up between 13 (second generation Iranians) and 15.4 (ancestral Swedes) years. These differences reflect variations in age at labor market entry, for which Iranian origins individuals are those who enter the labor market at the highest age—22.9 years old. Age at labor market entry is also associated with educational achievements—origins groups characterized by higher age at labor market entry also display higher shares of tertiary educated (see Table A1 in the Appendix). Results for women follow a similar pattern, although they are followed for a slightly shorter period, since they enter the labor market at later ages.

The last three columns of Table 1 report a series of statistics concerning unemployment. The overall unemployment rate over the period 1996-2016 is 10.4 for men and 12.8 for women. Differences exist, however, across origin groups. Among men, the unemployment rate for ancestral Swedes is among the lowest, of 10.2 percent. For the other groups, unemployment rate ranges between 9.9 for Iranian origin men and 13.1 for men with Yugoslavian and Bosnian origins. The unemployment rate for women displays larger variations, ranging between 10.5 and 16.6 for Iranian and Turkish origins women, respectively. Ancestral Swedish women have an unemployment rate of 12.6. In general, second generation Iranian men and women report among the lowest rates of unemployment, whereas second generation Turkish and Yugoslavian and Bosnians report the highest unemployment rates.

Table 1. Descriptive statistics

Men	N. individuals	Group size (%)	Mean N. years	Mean age at LM entry	Unemployment rate	Entry rate	Persistence rate
Native	190,280	85.15	15.4	21.6	10.19	4.69	58.92
Finland	11,715	5.24	15.2	21.1	11.74	5.47	60.67
Other Nordic	3,924	1.76	15.0	21.2	12.29	5.89	60.49
Other Western	3,929	1.76	14.3	22.0	9.55	4.48	58.78
Eastern Europe	2,949	1.32	13.7	22.4	10.33	4.93	59.40
Yugoslavia & Bosnia	2,670	1.19	15.2	21.1	13.11	6.22	61.72
Southern Europe	2,033	0.91	14.6	21.6	11.07	5.19	61.96
Middle East	595	0.27	14.2	21.7	10.99	5.12	62.15
Iran	249	0.11	13.0	22.9	9.86	5.24	55.75
Turkey	1,688	0.76	15.0	21.2	11.80	5.80	59.81
Other	3,413	1.53	13.6	22.0	10.67	5.09	59.85
Women							
Native	181,119	84.99	14.8	22.3	12.65	5.70	60.50
Finland	11,413	5.36	14.9	21.6	13.94	6.45	61.76
Other Nordic	3,813	1.79	14.8	21.6	14.61	6.80	61.87
Other Western	3,794	1.78	13.6	22.6	11.60	5.56	58.44
Eastern Europe	2,796	1.31	13.6	22.6	12.51	5.90	60.41
Yugoslavia & Bosnia	2,487	1.17	14.9	21.6	14.71	6.75	63.13
Southern Europe	1,979	0.93	13.9	22.1	12.43	5.82	61.12
Middle East	539	0.25	14.4	21.7	13.94	7.21	59.17
Iran	221	0.10	12.7	22.6	10.47	5.24	58.82
Turkey	1,711	0.80	15.2	21.2	16.57	7.84	63.97
Other	3,237	1.52	13.2	22.5	11.20	5.54	58.51

The remaining two columns present descriptive statistics on unemployment dynamics. Entry rate reflects the share of individuals that transit from employment to unemployment from one year to the next, and persistence rate reflects the share of individuals who are (remain) unemployed, among those who were unemployed in the previous year. Between 4.5 (Other Western) and 6.2 (Yugoslavia and Bosnia) percent of men enter unemployment each year. While between 55.7 (Iran) and 62 (Middle East) percent of men who are unemployed in one year are also unemployed in the following year. Ancestral Swedish men present among the lowest rates in both statistics. Among women, the probability to enter unemployment ranges from 5.2 and 7.8 percent for second generation Iranian and Turkish women, respectively. Persistence rates range between 58.2 percent for women with Other origins and 64 percent for second generation Turkish women. Similar to unemployment rates, the groups that stand out as the most disadvantaged as measured by these statistics are men and women with Turkish, Yugoslavian and Bosnian, and also Middle East origins. On the contrary, Iranian and Other Western origins individuals stand out for experiencing the least unfavorable unemployment dynamics.

Overall, while ancestral Swedes are certainly among the least disadvantaged groups with respect to unemployment, they do not represent the group having systematically the lowest unemployment risks. The statistics presented, however, are purely descriptive and do not take into account the possible heterogeneity in the observed (as well as unobserved) characteristics between the groups.

We turn now to the results from our multivariate analyses based on CRE dynamic logit models. As mentioned previously, these estimates account for observed and unobserved heterogeneity, controlling for a broad set of potential confounders in the relationship between immigrant origin group and unemployment dynamics.

Table 2 reports OR for genuine state dependence by origin group. The OR for ancestral Swedes represents the main effect of genuine state dependence as estimated by the models in Table A2 in the Appendix, while the ORs for the other groups incorporate both the main effect and the interaction effects between genuine state dependence and origin group (column “Diff.” reports significance levels for this interaction – i.e. for the difference between each origin group and Sweden). Starting with ancestral Swedes, we find that men and women report an OR of 13.4 and 12.5, respectively. That means that the likelihood of being unemployed is approximately 13 times higher for those who were unemployed in the previous year compared to those who were employed in the previous year. This suggests that genuine state dependence or unemployment persistence is strong for both ancestral Swedish men and women.

Table 2. Genuine state dependence in unemployment by parental origin. OR and CI from CRE dynamic logit model

	Men			Women		
	OR	CI	Diff.	OR	CI	Diff.
Sweden	13.39	[13.22 - 13.55]	Ref.	12.52	[12.38 - 12.67]	Ref.
Finland	13.33	[12.78 - 13.90]		12.57	[12.08 - 13.07]	
Other Nordic	13.07	[12.17 - 14.04]		12.00	[11.22 - 12.82]	
Other Western	15.29	[14.07 - 16.60]	**	12.20	[11.30 - 13.17]	
Eastern Europe	14.97	[13.63 - 16.45]	*	13.17	[12.07 - 14.38]	
Yugoslavia and	14.35					*
Bosnia		[13.20 - 15.59]		13.81	[12.72 - 15.00]	
Southern Europe	15.90	[14.28 - 17.70]	**	14.33	[12.92 - 15.89]	*
Middle East	18.04	[14.75 - 22.08]	**	11.40	[09.52 - 13.66]	
Iran	11.21	[08.00 - 15.70]		14.76	[10.43 - 20.89]	
Turkey	15.09	[13.52 - 16.84]	*	13.44	[12.25 - 14.75]	
Other	15.98	[14.66 - 17.42]	***	14.09	[12.93 - 15.36]	**

Note: column Diff. reports statistical test for the difference between native and immigrant groups. * $p<0.05$, ** $p<0.01$, *** $p<0.001$

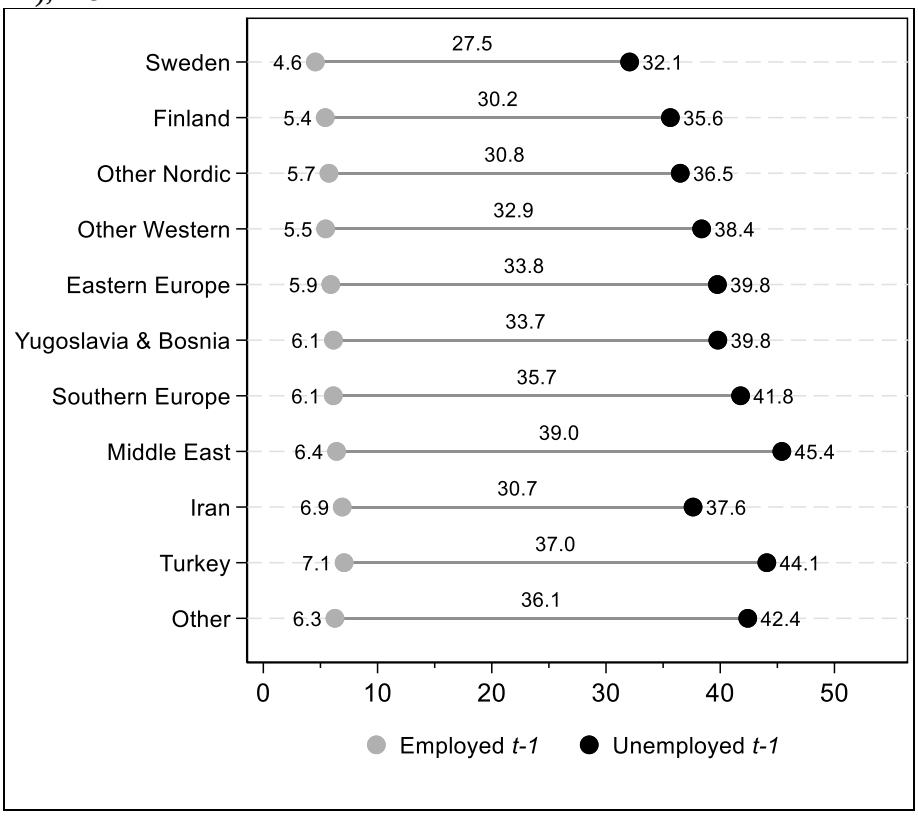
If we compare ancestral Swedes with second generation immigrants we find rather similar patterns. Among men, we find that ORs are very similar compared to ancestral Swedes and not statistically significant for second generation immigrants from Finland, other Nordic countries, Yugoslavia and Bosnia, and Iran (see column Diff. in Table 2). Although statistically significant group differences are found for other groups, they are of little practical significance except for second generation immigrants with Middle Eastern origin who display an OR of 18. Middle East men experience a significantly higher likelihood of remaining trapped into unemployment. In contrast, second generation Southern Europeans and Other origins show statistically significant differences and higher ORs compared to ancestral Swedes, but the magnitude of these differences is negligible.

Among women, we basically find no differences between second generation immigrants and natives. Indeed, most of the OR are not statistically different from those of ancestral Swedes, and in the cases they are statistically significant, there are no substantive differences in the magnitudes.

In order to look at unemployment dynamics from a societal perspective, we now present results expressed in terms of probabilities. Figure 1 and Figure 2 report predicted probabilities of being unemployed in *t* for individuals who were employed (gray dots)—entry rates—or unemployed—persistence rates—in the previous year (black dots), for men and women

respectively. The figures also show genuine state dependence, as the difference between the two probabilities and represented by the line that connects the two points.

Figure 1. Predicted probabilities of being unemployed for those who were employed and those who were unemployed the year before (t-1), men



Note: based on Models in Table A2 in the Appendix.
Solid lines that connect the dots represent genuine state dependence

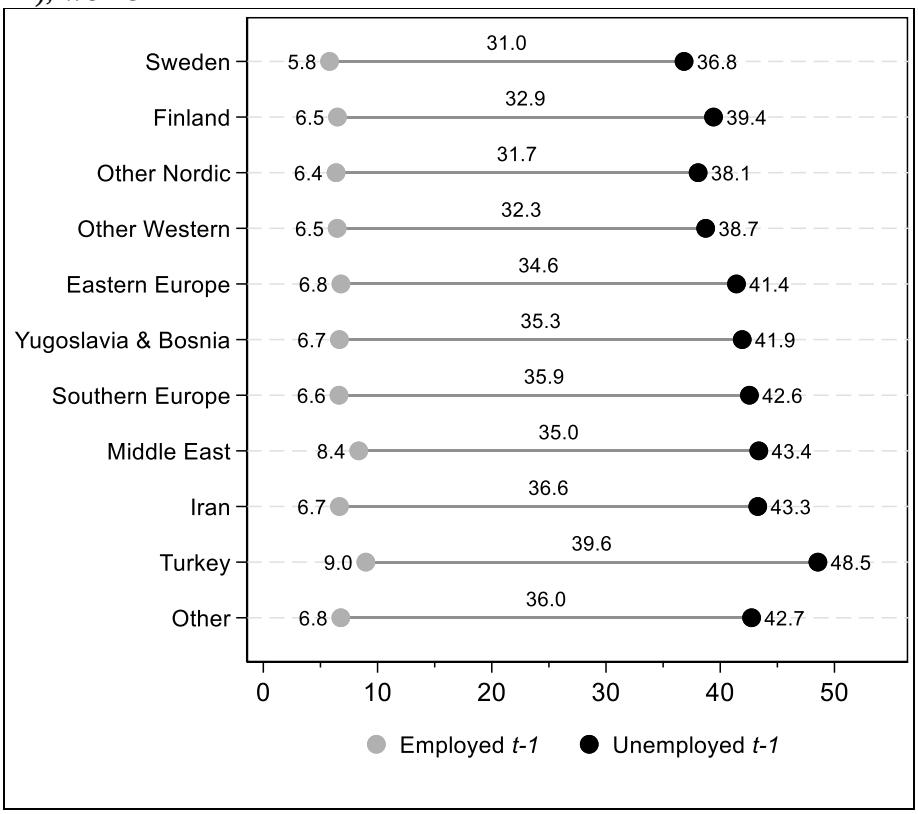
Among men in Figure 1, we find that ancestral Swedish men have the lowest risk of entering unemployment (gray dots) with a probability of 4.6 percent. Turning to second generation immigrants, there seems to be 3 different clusters. The first cluster includes origin groups that can be considered as the more similar to Sweden: Finland, the other Nordic countries and Other Western countries whose entry probabilities range between 5.4 and 5.7. A second cluster include second generation immigrants whose origins are from South Europe, Former Yugoslavia and Bosnia, Eastern Europe, and the Middle East. Probabilities for entering unemployment for in this cluster range between 5.9 and 6.4. Finally, the third cluster with the highest risk of entering unemployment include individuals with Iranian (6.9) and Turkish (7.1) origins.

The risks of entering unemployment are slightly higher for women (Figure 2), ranging between 5.8 for Swedish origins women and 9.0 for Turkish origins women. Group differences

largely follow a similar pattern to those found for men, except that the most disadvantaged second generation groups are those with Middle Eastern (8.4) and Turkish (9.0) origin.

Turning to persistence rates (black dots), the risks of being unemployed in *t* if unemployed the year before are much higher compared to those who were employed, and group differences are magnified. In fact, unemployment persistence ranges between 32.1 percent for ancestral Swedish men and 45.4 percent for second generation Middle Eastern immigrants. Group differences follow a similar pattern to those found for unemployment entry rates, with the exception that Iranian descendants do not stand out when it comes to unemployment persistence.

Figure 2. Predicted probabilities of being unemployed for those who were employed and those who were unemployed the year before (t-1), women



Note: based on Models in Table A2 in the Appendix.
Solid lines that connect the dots represent genuine state dependence

Discussion and Conclusions

This study examines early career unemployment persistence among individuals born in Sweden between 1977 and 1981, distinguishing between second generation immigrants and

ancestral Swedes. The results indicate that there are clear differences in the unemployment entry risks, as well as in genuine state dependence or persistence risks (differences in the predicted probability of unemployment status at *t* if one was unemployed or employed at *t-1*). Moreover, these differences are interpreted as causal effects as the models account for unobserved heterogeneity at the individual level, thus our estimates correspond directly the effect of unemployment status in *t-1* on the unemployment status in time *t*.

These results can be interpreted through two lenses capturing the micro and macro consequences of these processes. The micro-level interpretation is best represented in the form of odds ratios (Table 2) indicating that there are very small differences across groups in state dependence, except for notably higher odds ratio for Middle Eastern men. Among ancestral Swedish men and women, the odds of being unemployed in *t* are approximately 13 times higher for those who were unemployed in *t-1* as compared to those who were employed. The only group that displays significantly larger disadvantages in this respect are Middle Eastern men with a corresponding odds ratio of approximately 18 which is 35 percent higher than that experienced by ancestral Swedish men (see Table 2). Although other origin groups of men and women display statistically significant differences in the odds ratio, these differences are substantively negligible compared to their ancestral Swedish counterparts. These results suggest that, at the micro level, unemployment persistence is rather similar across groups of second generation immigrants and the labor market disadvantages faced by unemployed people are equivalent. The odds ratio, however, does not tell the full story as it only provides a group-level interpretation of the effects.

The macro perspective of the results is best presented in the average marginal effect, or the difference in the predicted probabilities of unemployment in *t* for those that that were employed or unemployed in *t-1*. Figure 1 and Figure 2 present these results for men and women, respectively. Here we find large differences in genuine state dependence across groups that can be interpreted as the societal consequences of state dependence. The results must be interpreted in three parts: the baseline risk (those that were employed in *t-1*), the risk of persistent unemployment (those that were unemployed in *t-1*), and genuine state dependence (the difference between the two). Among ancestral Swedish men, for example, the baseline risk of unemployment is 4.6 percent, the risk of persistent unemployment is 32.1 percent, and genuine state dependence is 27.5 percentage points—reflecting the population with the lowest levels of disadvantage as compared to the other groups in the analysis. Middle Eastern and Turkish men, on the other hand, experience the highest levels of baseline risk, persistence risk, and genuine state dependence. Among women, the Turkish population most notably stands out.

As one can see, together the micro and macro level interpretations of the result provide a clear picture of the heterogeneities in the dynamics and consequences of unemployment persistence. Specifically, considering the baseline risk of unemployment for each group allow us to quantify the absolute effect of state dependence. For example, we find similar odds of persistent unemployment, with the exception of Middle Eastern men, indicating that the relative disadvantages of unemployed persons are equal; however, otherwise equal state dependence translates into heterogeneous absolute effects across groups. Among Middle Eastern men and Turkish men and women state dependence leads to larger overall disadvantages due to their higher levels of baseline risk.

At the onset of the paper, we discussed several mechanisms by which unemployment persistence may differ across groups: human capital depreciation, signaling, and discrimination. Although these mechanisms are impossible to directly test with the data available, our focus on examining heterogeneities between second generation immigrants and individuals with Swedish born parents allows for a high degree of comparability. Specifically, there is little theoretical basis to assume that during spells of unemployment the rate of human capital depreciation differs across groups. Similarly, unemployment spells should theoretically produce the same negative signal for potential employers regardless of parental country of origin, net of employer biases.

Not observing any difference in micro level dynamics exclude a possible role played by the above mentioned mechanisms, most importantly discrimination. This is largely supported by the estimated odds ratios showing similar risks of persistent unemployment between groups. Nonetheless, discrimination might still be at play for unemployment dynamics. This is true when we look at the macro level consequences. In fact, discrimination indirectly leads to higher state dependence and unemployment persistence for immigrant groups as compared to natives by shaping baseline risks. This can be seen in the predicted probabilities since we observe heterogeneities in the levels of baseline unemployment risk, persistence risk, and genuine state dependence. In this case, the ancestral Swedish group displays the lowest levels of all three components for both men and women.

It is worth noting, however, that the results from this study show highly gendered labor market dynamics. Middle Eastern men are the only group that does not follow the general pattern described above. Rather, they display higher unemployment dependence in both micro- and macro-level measures. This leaves open the possibility of discrimination, since it is unlikely that other mechanisms drive this disadvantage independently of discrimination (Carlsson 2010; Quillian et al. 2019). That is, in the case of Middle Eastern men previous

unemployment spells may be subject to employer biases in the hiring process such that perceived human capital deprecation or negative signaling disproportionately disadvantage them relative to other groups. Here we claim that this can be the only pathway through which past unemployment can be causally linked to future unemployment. Middle Eastern women, on the other hand, do not experience the same degree of unemployment persistence which is in line with the gendered experiences of discrimination found in other studies (Arai et al. 2016). The results from this study complement the consistent findings from field experiments showing a causal discrimination against Middle Eastern men in call-back rates by suggesting that higher barriers in labor market entry have disproportionally higher long-term consequences.

This study comes with twofold policy implications for inequality in Swedish labor market. First, ethnic inequality in unemployment dynamics could be reduced via introducing stronger employment protection legislation. This would leave less room for discrimination processes in firing decisions (decreasing the baseline risks) and thus equalize the consequence of genuine state dependence in unemployment for both men and women. Second, our results highlight that this strategy would not completely equalize the outcomes for Middle-East men since within this group the effect of past unemployment on future unemployment is stronger. Policies targeting discriminatory hiring practices would be better suited for improving their long-term labor market prospects.

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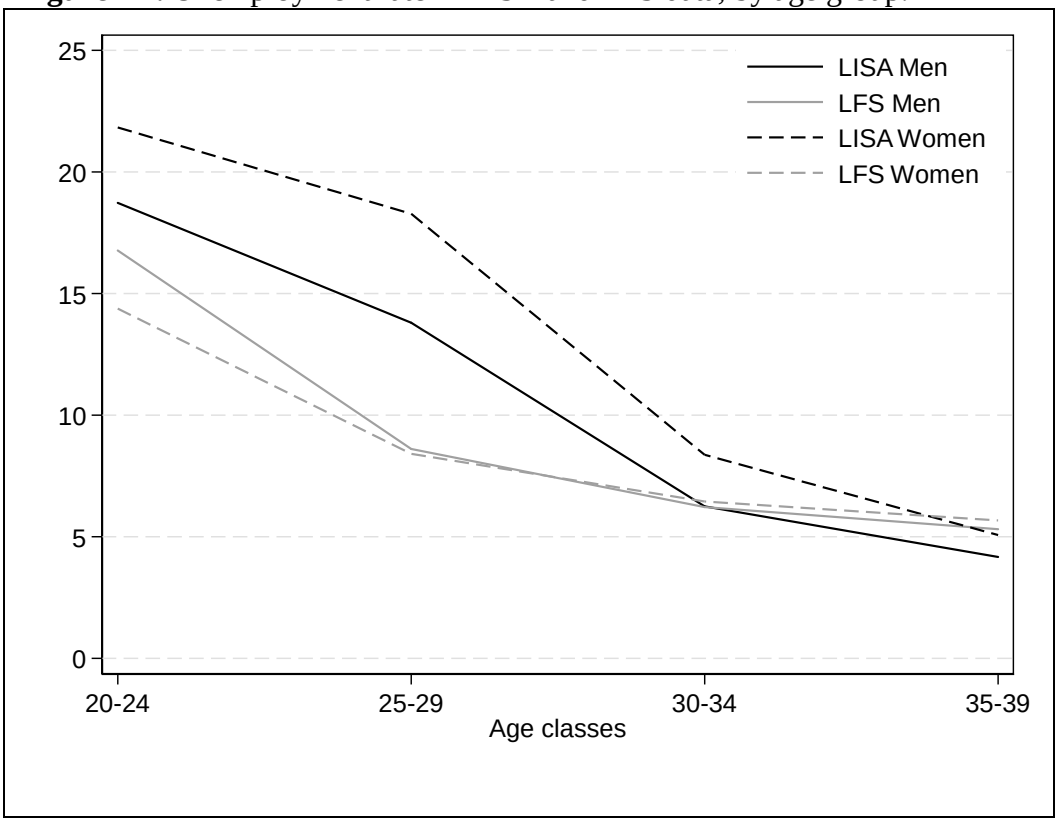
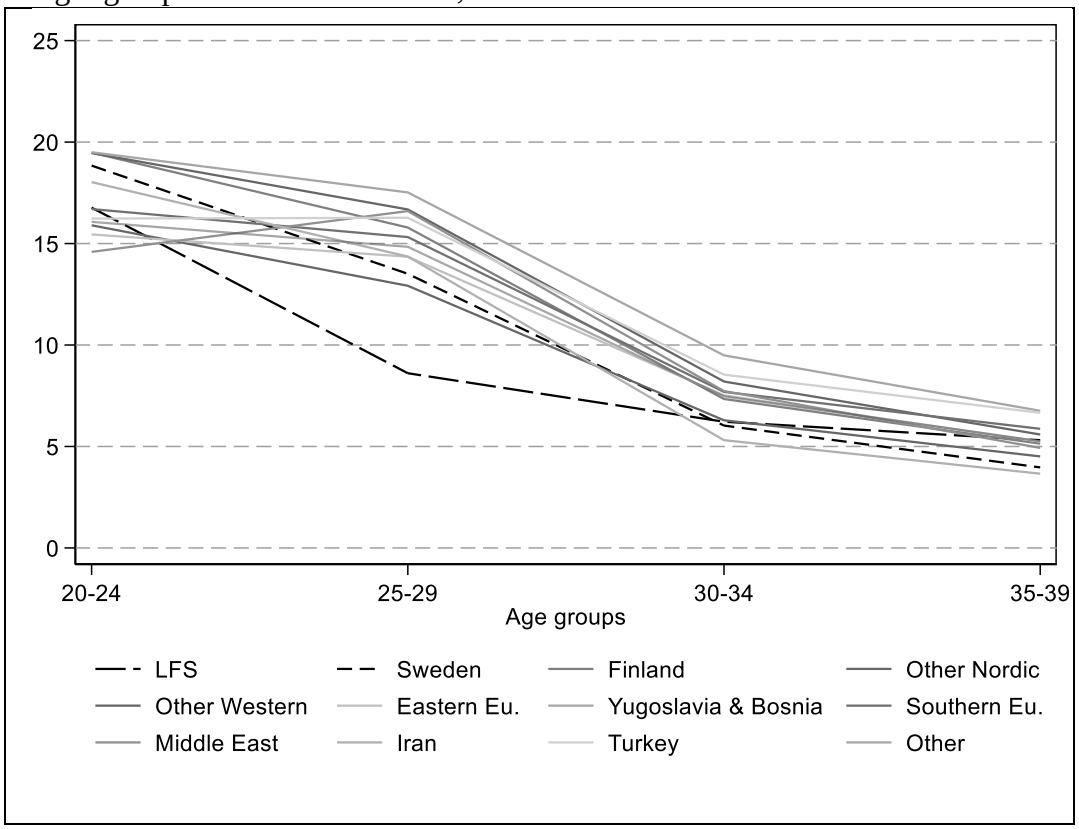
Appendix

Figure A1. Unemployment rate in LISA and LFS data, by age group.



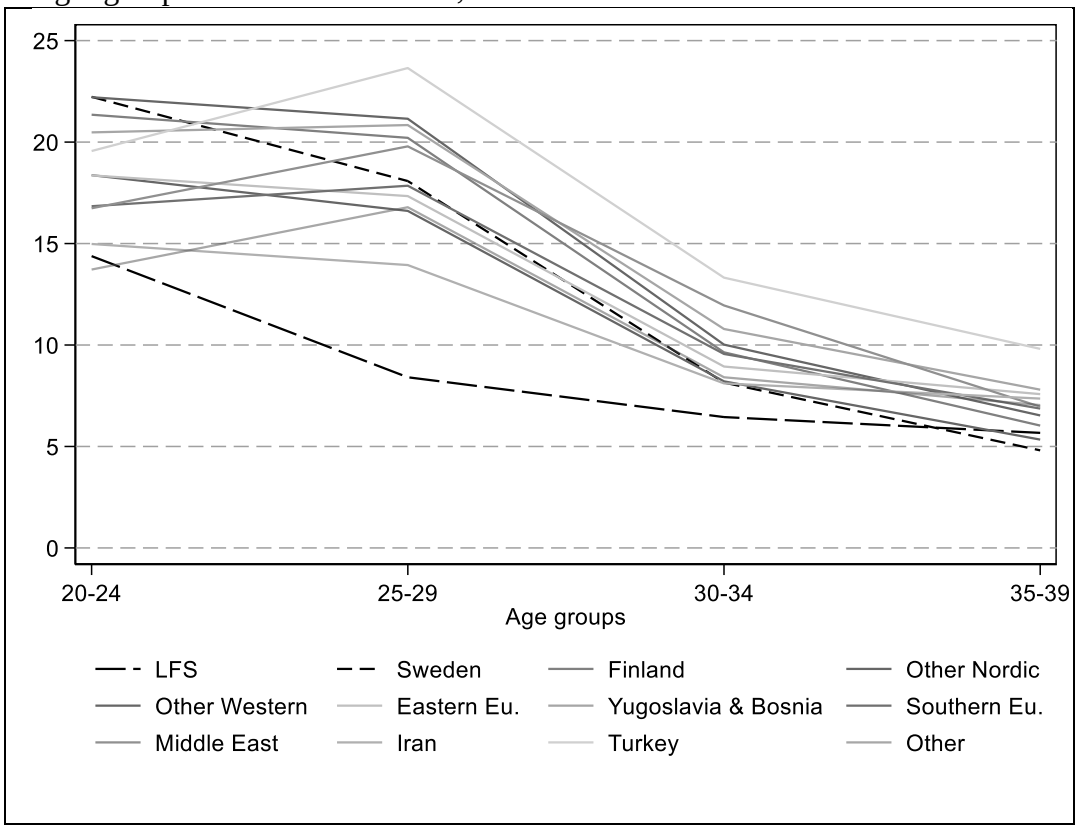
Note: LISA and LFS data, years 1997-2016.

Figure A2. Unemployment rates by age group. Overall rates from LFS data and origin group rates from LISA data, Men



Note: LISA and LFS data, years 1997-2016.

Figure A3. Unemployment rates by age group. Overall rates from LFS data and origin group rates from LISA data, Women



Note: LISA and LFS data, years 1997-2016.

Table A1. Level of education at labor market entry

Men	Lower secondary	Upper secondary	Tertiary
Native	12.71	53.78	33.51
Finland	20.08	56.23	23.7
Other Nordic	19.34	56.46	24.2
Other Western	15.63	48.62	35.74
Eastern Europe	13.69	44.98	41.33
Yugoslavia & Bosnia	19.96	56.31	23.73
Southern Europe	21.18	49.58	29.24
Middle East	25.76	45.96	28.28
Iran	10.84	44.18	44.98
Turkey	35.82	44.22	19.96
Other	19.46	46.95	33.59
Total	13.75	53.53	32.71
Women			
Native	10.09	44.22	45.68
Finland	17.95	47.62	34.43
Other Nordic	17.02	49.72	33.25
Other Western	11.57	41.68	46.76
Eastern Europe	11.42	40.77	47.81
Yugoslavia & Bosnia	14.32	52.75	32.93
Southern Europe	16.90	45.28	37.83
Middle East	15.64	51.21	33.15
Iran	16.36	37.27	46.36
Turkey	19.87	55.33	24.79
Other	16.08	39.86	44.06
Total	10.98	44.56	44.46

Table A2. Correlated random-effects dynamic logit model, OR (s.e.)

	Men	Women
Unemployed t-1	13.386***	12.523***
	(0.0833)	(0.0732)
Country of origin (ref. Natives)		
Finland	1.217***	1.135***
	(0.0236)	(0.0209)
Other Nordic	1.299***	1.111***
	(0.0394)	(0.0321)
Other Western	1.224***	1.130***
	(0.0403)	(0.0353)
Eastern Europe	1.341***	1.196***
	(0.0468)	(0.0399)
Yugoslavia and Bosnia	1.402***	1.169***
	(0.0436)	(0.0361)
Southern Europe	1.398***	1.162***
	(0.0549)	(0.0445)
Middle East	1.473***	1.521***
	(0.103)	(0.0974)
Iran	1.606***	1.169
	(0.179)	(0.136)
Turkey	1.651***	1.655***
	(0.0653)	(0.0579)
Other	1.435***	1.193***
	(0.0460)	(0.0375)
Country of origin*Unemployment t-1		
Finland	0.996	1.003
	(0.0220)	(0.0207)
Other Nordic	0.977	0.958
	(0.0360)	(0.0328)
Other Western	1.142**	0.974
	(0.0484)	(0.0385)
Eastern Europe	1.119*	1.052
	(0.0539)	(0.0473)
Yugoslavia and Bosnia	1.072	1.103*
	(0.0459)	(0.0468)
Southern Europe	1.188**	1.144*
	(0.0653)	(0.0606)
Middle East	1.348**	0.911
	(0.139)	(0.0839)
Iran	0.837	1.179
	(0.144)	(0.209)
Turkey	1.127*	1.074
	(0.0633)	(0.0511)
Other	1.194***	1.125**
	(0.0528)	(0.0497)
Mixed background	0.873***	0.951**
	(0.0161)	(0.0166)
Age	1.005	1.086***
	(0.0112)	(0.0119)
Age square	0.999***	0.998***
	(0.000195)	(0.000189)
Standardized GPA	0.833***	0.865***
	(0.00355)	(0.00344)
Marital status (ref. Single)		
Couple	0.855***	0.932***

	(0.00960)	(0.00857)
Separated	1.187***	1.118***
	(0.0321)	(0.0230)
Health problems	1.234***	0.937***
	(0.0115)	(0.00618)
Level of education (ref. Primary and lower secondary - less than 9 years of education)		
Primary and lower sec. 9-10y	0.761	1.004
	(0.133)	(0.192)
Upper secondary 1-2y	0.838	1.227
	(0.147)	(0.235)
Upper secondary 3y	0.669*	1.085
	(0.117)	(0.208)
Post sec. 1-2y	0.645*	0.902
	(0.113)	(0.173)
Post sec. 3-5y	0.562**	0.744
	(0.0989)	(0.143)
PhD	1.323	2.287***
	(0.241)	(0.448)
N. children up to age 8 (ref. None)		
1	0.869***	1.026
	(0.0245)	(0.0208)
2	0.897***	1.195***
	(0.0283)	(0.0259)
3	0.908*	1.269***
	(0.0358)	(0.0341)
4 or more	0.792***	1.240***
	(0.0433)	(0.0458)
Parental occupation (ref. High skilled & professionals)		
Farmers	0.718***	0.977
	(0.0236)	(0.0283)
Unskilled	1.094***	1.095***
	(0.0131)	(0.0124)
Low skilled	1.060***	1.081***
	(0.0124)	(0.0119)
Medium-skilled	1.032**	1.027**
	(0.0104)	(0.00983)
Self-employed	0.981	1.055***
	(0.0136)	(0.0137)
Missing	1.076**	1.078***
	(0.0244)	(0.0224)
Not employed	1.177***	1.129***
	(0.0288)	(0.0253)
Region (ref. Stockholm)		
East Middle	1.706***	1.632***
	(0.0183)	(0.0160)
South	1.851***	1.700***
	(0.0209)	(0.0175)
North Middle	2.332***	2.023***
	(0.0286)	(0.0233)
Middle Norrland	2.357***	2.046***
	(0.0364)	(0.0306)
Upper Norrland	2.338***	1.974***
	(0.0322)	(0.0264)
Smaland & islands	1.483***	1.532***
	(0.0194)	(0.0186)

West	1.550***	1.548***
	(0.0162)	(0.0145)
Year (ref. 2016)		
1995	0.226***	0.162***
	(0.0436)	(0.0355)
1996	0.458***	0.331***
	(0.0451)	(0.0357)
1997	3.458***	1.886***
	(0.192)	(0.104)
1998	3.906***	2.723***
	(0.201)	(0.137)
1999	3.527***	2.879***
	(0.173)	(0.137)
2000	2.584***	2.675***
	(0.121)	(0.121)
2001	2.505***	2.349***
	(0.112)	(0.101)
2002	3.003***	2.544***
	(0.129)	(0.104)
2003	3.218***	2.789***
	(0.132)	(0.109)
2004	3.468***	3.183***
	(0.136)	(0.118)
2005	2.762***	2.881***
	(0.103)	(0.102)
2006	2.138***	2.377***
	(0.0758)	(0.0793)
2007	1.164***	1.389***
	(0.0395)	(0.0440)
2008	0.957	1.171***
	(0.0310)	(0.0351)
2009	2.494***	1.597***
	(0.0738)	(0.0445)
2010	1.670***	1.504***
	(0.0462)	(0.0389)
2011	0.960	1.157***
	(0.0252)	(0.0279)
2012	1.259***	1.243***
	(0.0302)	(0.0275)
2013	1.433***	1.274***
	(0.0312)	(0.0258)
2014	1.196***	1.135***
	(0.0244)	(0.0215)
2015	1.107***	1.083***
	(0.0216)	(0.0197)
Initial condition (t 0)		
Unemployed	3.163***	2.947***
	(0.0271)	(0.0242)
Marital status (ref. Single)		
Couple	1.087**	1.129***
	(0.0336)	(0.0199)
Separated	0.805	0.984
	(0.102)	(0.0637)
Health problems	0.988	1.028*
	(0.0158)	(0.0121)
N. children up to age 8 (ref. None)		
1	0.963	0.878**

	(0.0560)	(0.0368)
2	0.638***	0.681***
	(0.0382)	(0.0270)
3	0.647***	0.728***
	(0.0479)	(0.0360)
4 or more	0.642***	0.702***
	(0.0671)	(0.0487)
Age	1.015***	0.962***
	(0.00230)	(0.00208)
Within-unit averages		
Marital status (ref. Single)		
Couple	0.761***	0.792***
	(0.0132)	(0.0111)
Separated	1.249***	1.017
	(0.0578)	(0.0342)
Health problems	3.859***	2.023***
	(0.116)	(0.0409)
N. children up to age 8 (ref. None)		
1	1.036	1.023
	(0.0641)	(0.0457)
2	1.273***	0.961
	(0.0797)	(0.0401)
3	1.251**	0.815***
	(0.101)	(0.0452)
4 or more	1.520***	0.866
	(0.190)	(0.0757)
Age	0.977***	1.027***
	(0.00287)	(0.00321)
Var(u_i)	1.940***	1.742***
	(0.0144)	(0.0115)
N. groups	223,463	213,109
Observations	3,155,855	2,882,181

* p<0.05, ** p<0.01, *** p<0.001

Table A3. Country of origin groups

	Finland	Other Nordic	Other Western	Eastern European	Yugoslavia & Bosnia	Southern European	Middle East	Iran	Turkey	Other
Finland	X									
Denmark		X								
Iceland		X								
Norway		X								
UK and Ireland			X							
Germanic states			X							
Netherlands			X							
France and Benelux			X							
USA and Canada			X							
NZ and Australia			X							
Poland				X						
Latvia and Lithuania				X						
East Europe				X						
Bulgaria				X						
Romania				X						
Czech R and Slovakia				X						
Hungary				X						
Estonia				X						
Bosnia Herzegovina					X					
Yugoslavia					X					
South Europe						X				
Greece and Cyprus						X				
Italy and Malta						X				
Other Middle East							X			
Lebanon							X			
Syria							X			
Iraq							X			
Afghanistan							X			
Iran								X		
Turkey									X	
Central America and Caribbean										X
Chile										X
South America										X
Somalia and Djibouti										X
Eritrea										X
Ethiopia										X
North Africa (except Egypt)										X
Other Africa										X
China (excluding Taiwan and HK)										X
Other East Asia										X
Other South-East Asia and Pacific										X
Philippines										X
Vietnam										X
Thailand										X
Pakistan and Bangladesh										X
India Nepal Bhutan										X
Sri Lanka										X
North and South Korea										X
Brazil										X
Egypt										X
Other										X