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Immigrants' Prospects on the Labor Market, Occupational Change, and Unequal Opportunities in Sweden[1]

- **Tomas Berglund**
  Professor, Department of Sociology and Work Science, University of Gothenburg, Sweden

- **Gabriella Elgenius[2]**
  Professor, Department of Sociology and Work Science, University of Gothenburg, Sweden

- **Denis Frank**
  Associate Professor, Department of Sociology and Work Science, University of Gothenburg, Sweden

- **Vedran Omanović**
  Associate Professor, Department of Business Administration, University of Gothenburg, Sweden

ABSTRACT

This study focuses on immigrants' labor market prospects in Sweden and their subsequent opportunities for mobility in the occupational structure with particular reference to the likelihood that immigrants of European and non-European origins work in low and high-paid jobs. We use data from the Swedish Labor Force Survey and compare outcomes of two key periods: 1998–2000 and 2012–2014. Our findings reveal an increasing ethnicization of the occupational structure, as the number of immigrants in low-paid employment has increased over time. We also find tendencies of polarization of the occupational structure that have not been conducive to equal opportunities for immigrants on the Swedish labor market who face various disadvantages and migration history penalties. Immigrants of non-European descent are at particular risk of working in low-paid employment and of having fewer opportunities for high-paid jobs. Thus, recent changes in the Swedish occupational structure contribute toward reinforcing ethnic inequalities and severely challenge the notion and ideal of Swedish equality.

KEYWORDS

immigration / ethnic penalty / inequality / migration / migration history penalty / mobility / occupational change / polarization / sequence analysis

1. Introduction

Sweden has been associated with a solidaristic wage policies and the so-called 'high-road' labor market but has, as many Western labor markets, been exposed to digitalization, globalization, and increasing inequalities (Berglund & Ulfsdotter Eriksson 2024; Gallie 2007). Digitalization impacts the nature of work and globalization the

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[2] Corresponding author: Gabriella Elgenius. E-mail: gabriella.elgenius@gu.se

flows of capital and increasing mobility across state borders, resulting in divides between different categories of workers. These trends have been said to be especially challenging for smaller countries with open economies, forcing them to adapt and mitigate unwanted consequences. Sweden has also been a destination for labor migrants and refugees since the Second World War, and the latter category has increased since the 1990s and after 2015 with the refugee emergency (Dahlstedt & Neergaard 2019). Refugees have mainly arrived from the former Yugoslavia in the 1990s and later from the Middle East, Afghanistan, and Somalia. Today, roughly 20% of the Swedish population are born outside Sweden (Statistics Sweden 2024).

The core of the Swedish labor market model is based on occupational upgrading, mobility, and solidaristic wage policies (Johansson, 2014; Thelen 2014). The latter puts pressure on employment at the lower end of the occupational distribution by boosting pay of the lowest wages while restraining those at the higher end, hereby increasing employment in those positions. Upward mobility is key to prevent increased unemployment at the lower-end of the occupational structure and facilitated by labor market policies and adult education. With the introduction of digital technology, middle-ranked employees and routine tasks tend to be replaced by automatization, whereas the productivity for employees with non-routine cognitive tasks at the higher-end increases (Acemoglu & Autor 2011; Autor et al. 2003, 2006). In turn, non-routine lower-level jobs are harder to replace and less affected by digitalization. This polarization of the labor market may put pressure on the Swedish model, as upward mobility from the lowest paid occupations can become harder with a decreasing middle. A focus on immigration is warranted in this context since immigrants often are forced to start careers in low-paid jobs with the prospect of transiting into better-paid positions (Elgenius et al. 2024). Thus, polarization may hamper mobility and increase the risk of becoming stuck in low-paid employment.

This study investigates immigrants' labor market prospects and opportunities for mobility within the occupational structure in Sweden and the likelihood of individuals of European and non-European origins to work in low and high-paid jobs. While several studies have focused on immigrants labor market prospects (Duvander 2001; Le Grand & Szulkin 2002; Lundborg 2013), only a few have explored changing opportunities over time in relation to overall labor market changes (e.g., Hermansen et al. 2023; Elgenius et al. 2024). Thus, this study contributes to the debate about ongoing occupational changes due to digitalization, with the specific focus on immigrants labor market mobility. This article will analyze how the changing occupational structure in Sweden interacts with immigrants' opportunities by responding to the following questions: (1) Has the likelihood of immigrants working in low and high-paid jobs changed over time? (2) Have the prospects for immigrants' mobility changed over time? (3) Does the likelihood vary between different categories of immigrants? We analyze data from the Swedish Labor Force Survey (LFS) and register data, comparing immigrants of various backgrounds within the occupational structure, in two significant periods (1998–2000 and 2012–2014). These periods are characterized by labor market recovery following the economic downturn of the 1990s crisis in Sweden and the Global Financial Crisis of 2008–2009.

We commence below by discussing immigrants labor market integration, the job polarization thesis, and how these interact in the Swedish context. Thereafter, methods and data are described before we present results and discuss our findings.

2. Immigrants' labor market opportunities

In Western economies, factors that affect workers' positions and prospects at the labor market include their human capital, such as skills, qualifications, and abilities (Becker 1964), and their social networks (Granovetter 1995). Workers' job success also depends on employers' labor demands, staffing strategies, and possible biases about job applicants (Doeringer & Piore 1971; Fang & Moro 2011; Risberg & Romani 2021). However, these factors often work to the disadvantage of immigrant job seekers (Heath & Cheung 2006).

Individuals who migrate tend to belong to positively selected categories, for example, with reference to human capital in comparison to the average population of their country of origin (Chiswick 2008; Feliciano 2005; Ichou 2014). However, there are variations between categories regarding prospects and opportunities. For instance, positive self-selection favors economic migrants over refugees and family immigrants (Chiswick 2008). While economic immigrants often migrate with information about the demand for their skills in the receiving labor market, refugees move in a situation of crisis or war and may have less choice about receiving country (Brell et al. 2020). The relatively high share of refugees in Sweden is, consequently, relevant to migrants' prospects of labor market integration (OECD 2020).

Hence, positive selection may not, in itself, provide an advantage if there is a mismatch between migrants' human capital and the in-demand skills of the receiving country (Pichler 2011). The transferability of skills, formal recognition of degrees, language proficiency may constitute additional obstacles (Chiswick & Miller 2008). According to Dahlstedt (2011), highly qualified migrant workers in Sweden risk finding jobs below their skill-level, although this tendency is less pronounced among EU immigrants than among immigrants from, for example, Africa (Andersson et al. 2014). Labor market opportunities usually improve with the length of residency and the size of the immigrant population in the receiving country (Van Tubergen et al. 2004). However, the latter may also risk to lock-in immigrants in low-skilled jobs by limiting access to parts of the labor market beyond ethnic networks (Allen 2009; Edin et al. 2003).

Unequal labor market chances are also directly linked to the place of origin (Duvander 2001; Le Grand & Szulkin 2002). Immigrants from Africa, Asia, and Latin America have the most limited opportunities on the Swedish labor market (Lundborg 2013). Some studies have not found extensive discriminatory practices among employers (Åslund et al. 2014), whereas other studies find that certain categories of immigrants compete on unequal terms with the majority population (Elgenius et al. 2024; Heath & Cheung 2006; Le Grand & Szulkin 2002). For instance, audit studies have demonstrated that job applicants with Arabic and African names found it more difficult to obtain jobs appropriate to their competences (Rooth 2010; Sabuni et al. 2001). In addition, Quillian et al. (2019) found that Sweden has one of the highest rates of racial discrimination with reference to hiring practices. These results indicate that the labor market integration of immigrants do not necessarily depend on migrants' strategies and characteristics or on supply factors but on employers' practices and organizational strategies.

One such strategy relates to employers' attempts to achieve flexibility in advanced economies, which have tended to segment labor markets into a primary and a secondary sector (Doeringer & Piore 1971). The primary labor market is characterized by relatively secure jobs, career ladders, and training opportunities, whereas the secondary labor market has insecure jobs, relatively low wages, and low job quality. This

tendency toward dualization is often pronounced in highly regulated European labor markets with strong employment protection legislation, such as the Swedish labor market (Emmenegger 2014).

According to Piore (1979), labor market segmentation creates a demand for immigrants who are prepared to take low-quality jobs that native populations avoid. This has been explained as a 'dual frame of reference' when immigrants, with a lower bargaining power than the majority population, compare their current labor market positions and opportunities to the ones they once had and therefore are more likely to accept secondary jobs, feel forced to accept jobs with low pay or below their skills (Waldinger & Lichter 2003). In the Swedish case, immigrants are also more likely than Swedish-born workers to be in temporary employment (Berglund et al. 2010).

3. Occupational change and job polarization

The last decades immigration to Sweden coincides with a time of fundamental labor market changes due to technological development, especially the digitalization of the economy (Brynjolsson & McAfee 2014). The concept of digitalization usually includes advances in computerization, automatization, robotization, and information and communication technologies.

The effects of technology have for a long-time been described as skill-biased technological change (SBTC), which asserts that the demand for low-skilled labor tends to drop, while the demand for highly skilled employees increase (Katz & Murphy 1992). This upgrading of the occupational structure was pronounced in Sweden during the 1970s and 1980s (Åberg 2003). However, the changes of the Swedish occupational structure during recent decades have, according to several researchers, moved toward polarization (Åberg 2015; Adermon & Gustavsson 2015; Heyman 2016). In these studies, polarization is indicated by the parallel growth of the lowest and highest paid jobs, while jobs in the middle range decline.

Polarization is usually explained by routine-biased technological change (RBTC), which emphasizes the penetration of digital technology into today's production systems. This technology augments productivity for workers with non-routine cognitive tasks (such as analysts or technicians), while replacing middle-ranked employees with mainly routine tasks (e.g., bookkeepers or assembly workers) by automatization (Acemoglu & Autor 2011; Autor et al. 2003, 2006). Lower-level jobs with non-routine tasks (hairdressers, waiters, childcare workers, etc.) are less affected by digitalization and, consequently, harder to replace. The net effect of these changes is a relative decline in mid-level jobs and increases at both ends of the occupational distribution.

However, findings about polarization in Sweden are not undisputed. Other studies have indicated an upgrading of the occupational structure using different indicators such as wage (Eurofound 2017; Fernández-Macías 2012; Oesch & Piccitto 2019), qualification requirements (Tåhlin 2019) or job quality (Oesch & Piccitto 2019).

Apart from technological change, other explanations for job polarization include the outsourcing of production to low-cost countries, which hits middle-level jobs disproportionally (Acemoglu & Autor 2011), and increased demand for low-paid personal services among the growing highly skilled strata (Mazzolari & Ragusa 2013). Institutional

and policy changes may also affect the occupational structure (Fernández-Macías 2012; Eurofound, 2017).

4. The changing occupational structure and immigrants' labor market position

Recent research have argued that it is key to distinguish between wages and skills. While wages and skills are reasonably interrelated in the higher skilled/higher wages part of the occupational distribution, the relationship is less clear further down the distribution (Tåhlin 2019, 2023). In this study, however, we focus mainly on wages and less on skills, and are interested in immigrants placement in the occupational-wage structure and their labor market mobility. This focus is driven by the query how a presumed polarization of the labor market is related to inequality patterns in Sweden.

Scholars agree about the strong demand for high-skilled/high-paid workers on the Swedish labor market but disagree on the direction of change at the lower end of the occupational hierarchy. Citing Baumol's cost disease, Autor (2015) argues that low-paid employment grows mainly because of its low potential for increased productivity. One way to expand business without productivity gains is to suppress wages. A steady supply of workers with strong incentives to accept low-paid secondary jobs may therefore expand the low-wage sector. However, the Swedish labor market model is not supposed to depress wages due to its solidaristic wage coordination, which could constitute a force against the expansion of low-paid employment. A side effect is the risk of higher unemployment, especially in segments of the labor force that do not compete for higher positions in the occupational hierarchy. Sweden has, since the 1990s, relatively high unemployment, and foreign-born individuals are over-represented among the unemployed (Berglund & Esser 2014).

In the Swedish industrial relations model based on collective agreements, governments aim for minimal interference in their efforts to reduce unemployment. Thus, one measure is to decrease wage-costs for employers by subsidizing employment in sectors of low-paid employent. For example, the center-right government of 2006–2014 introduced subsidies, such as the ROT and RUT reforms in 2007 (deductions for repairs, conversions, extensions, maintenance, cleaning and laundry services) and the tax relief for restaurants in 2012, to increase the market for personal services and expand employment (Konjunkturinstitutet 2015; Tillväxtanalys 2019). Moreover, subsidized employment has been the main measure of the governments' active labor market programs for unemployment since the 1990s, while investments in labor market training have decreased significantly (Bengtsson & Berglund 2012). The majority of individuals in subsidized employment are foreign-born (Engdahl & Forslund 2019).

The placement of immigrants in the occupational structure must also consider scholarship on ethnic inequalities, theorized through conceptualizations about 'ethnic penalties' and 'migration history penalties' (Heath & Cheung 2006, 2007; Midtbøen 2015; Elgenius et al. 2024). These concept emphasize immigrants' disadvantages in labor market outcomes that remain between majorities and minorities after controlling for origin and human capital. Such penalties are found in all Western labor markets with a substantial immigrant labor force, but their magnitude and scope differ (Midtbøen

2015). Variations in ethnic inequalities are explained by country-specific labor market conditions, institutional constraints, structural discrimination, migration, and citizenship regimes. The concept 'ethnic penalty' (Heath & Cheung 2007) is used to highlight penalties and discrimination on the basis of ethnic origin, whereas the term 'migration history penalty' (Elgenius et al. 2024) emphasizes that penalties and discriminatory practices are in addition linked to structural inequalities associated with migration such as unfavorable socioeconomic conditions of leaving and settling, housing and school segregration.

Thus, while the polarization thesis is contested in the Swedish context, and with empirical evidences pointing in two different directions, we hypothesize that Sweden's occupational structure moves in the direction of polarization. The Swedish labor market model reinforces increasing high-paid employment by restraining wage growth in the upper levels. However, the increased supply of immigrant workers, who face disadvantages and penalties in the labormarket, has a higher willingness to take low-paid jobs for various reasons. This, alongside tax subsidies for personal service jobs and related labor market programs on subsidized employment, has contributed to the expansion of the low-paid sector. A polarized and stratified pattern of the Swedish labor market is therefore to be expected within which immigrants are increasingly placed at the bottom of the occupational wage structure, while Swedish-born workers move into better-paid positions.

5. Data and method

This study is based on micro-data from the Swedish LFS of the adult population aged 16–64 years. The LFS contains three separate monthly samples gathered quarterly, each sampling approximately 20,000 individuals and designed as a rotating panel, with each individual interviewed quarterly, eight times over a two-year period. LFS is initially used as a cross-section to compare the mean distribution of immigrants in the occupational-wage (OW) structure (see explanation below) between the periods 1998–2000 and 2012–2014. The years in those periods were merged to increase the numbers in each immigrant category. The time span (14 years) between periods allowed us to account for overall occupational changes. Both people in dependent employment and self-employed are included in the analysis. This study also used the panels in the LFS for a sequence analysis of occupational transitions over eight consecutive quarters. The analysis focuses on individuals' transitional patterns between labor market positions with the inclusion criteria of at least in one measurement point (quarter) been employed in the lowest-paid occupational quintile. Thus, the analysis shows a snapshot of typical labor market trajectories that involves a position in the lowest paid occupations.

The first part of the analysis started by including all observations each year for the two periods and used weights provided by Statistics Sweden to calculate the total change in employment for each stratum in the OW structure. Thereafter, multinomial logistic regressions were used to study the chances of immigrants working in the different strata of the OW structure. To ensure that the same individual did not appear later the same year (independent observations), the regression analysis included only the first of eight rotation groups (R1) in each calendar month of the year.

The second part focused on the sequences of eight subsequent quarters and used the LFS panels with a starting point within the two periods in focus. Thus, the analysis included time-points outside the two periods; for example, the eighth measurement point for an individual first recorded in the first quarter of 2000 would be the fourth quarter of 2001. Because LFS data were not available no later than 2015, the starting point of the final sequences in the 2012–2014 period was the first quarter of 2014, as sequences into 2016 were not possible to follow. To make the panels of the first time period similar to the second period (due to possible cyclical effects), only panels with starting-points between the first quarter 1998 up to the first quarter of 2000 were included.

The dependent variable of the first part of the study was 'employed individuals' *position* in the OW structure. This structure is based first on occupation, classified according to the Swedish SSYK-96 (similar to ISCO-88) at the three-digit level (113 occupations). The full-time median wage was then inserted for each occupation based on Swedish wage structure statistics. Wage distribution across occupations for 2013 (the latest available year with wages, according to the SSYK-96) was used to estimate the median wage. We used the last year's wages because the processes of SBTC and RBTC may have revalued some jobs. However, the ranks of occupations in 2000 and 2013 correlate strongly ($r^2 = 0.92$), which indicates very high stability.

The occupations were arranged from lowest to highest paid. The distribution of individuals in the OW structure was then calculated into five equal quintiles for 1998–2000. The occupations within the quintiles from the first period were held constant over time, and the numbers of individuals within the occupational quintiles were recalculated for the 2012–2014 period. The quintiles constituted the main dependent variables in the descriptive analysis and the multinomial regressions of the first part of the analysis.

The second part of the study was based on a sequence analysis of individuals' labor market positions over eight consecutive quarters. The positions included one of the five quintiles of the OW structure, as well as being unemployed or outside the labor force. To be included in the analysis, individuals should have been employed in Quintile 1 in at least one of the eight quarters; those who remained in Quintile 1 for all eight quarters were excluded when the sequences were discerned.

The sequences were defined by sequence analysis with dynamic Hamming using the SADI package in Stata (Halpin 2017). This method creates a distance matrix of dissimilarities by calculating so-called substitution costs. Taking the order of states into consideration, similar sequences are defined by low substitution costs, while increasing costs imply dissimilarity. In a second step, clusters of sequences were extracted using hierarchical cluster analysis with Ward's distance (Halpin 2017). The number of clusters was decided by checking chronograms, sequence plots, and the cumulative duration in states, considering the similarity and meaningfulness of the sequences in each of them. In both periods, we ended up with six clusters. Fewer clusters concealed important patterns (e.g., in the first period, the *downward mobility* and *step-up* clusters were combined when only five clusters were chosen), while more clusters differentiated patterns into smaller but similar clusters (e.g., the *step-in* cluster in the second period separated just two subtypes). The clusters are presented with so-called chronograms and used as dependent variables in descriptive analyses and in multinomial regressions. However, in the regressions, individuals stable in Quintile 1 over eight quarters were reintroduced as a reference category.

Our main independent variable was country of birth based on register data from the Longitudinal Integration Database for Health Insurance and Labor Market Studies (LISA). Due to Swedish privacy rules, information about country of origin was only included in aggregated form. We used the following categorization in the analysis: Swedish, Nordic (excluding Sweden), EU-15, New EU Member States (post-2004 and 2007 expansions), Europeans of non-EU descent, and non-Europeans. While the last category includes immigrants from a large variety of continents, the large majority is from Asia, and according to official statistics we know that people in this category are originating mainly from the Middle East (e.g., Iran, Iraq, Syria). In the regressions of the sequence clusters, several categories had to be further collapsed due to small numbers.

The regression analyses also controlled for gender, age, and education. The three categories of education are based on the International Standard Classification of Education. Numbers of years in Sweden (based on the LISA register) was also included as an independent variable in the first part of the analysis. However, when this variable was included in the analysis, a large category of Swedish-born people who had returned to Sweden was also used as a separate category. Due to low numbers, the variable was not included in the sequence analysis.

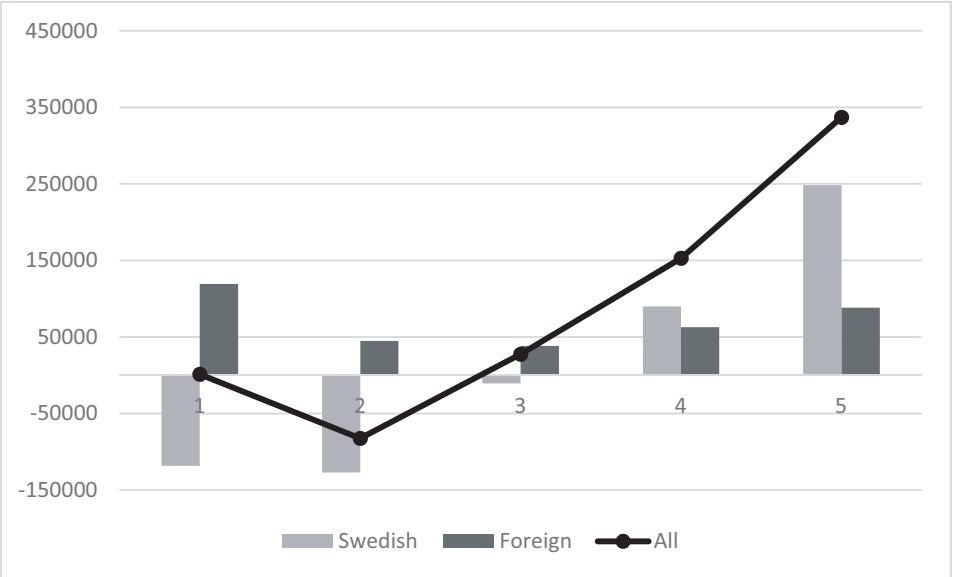
6. Results

We start by showing the positions of immigrants in the Swedish OW structure, comparing the period 1998–2000 with 2012–2014. Figure 1 presents changes in the estimated number employed in the different OW quintiles and indicates an overall upward pattern. The number of employed in Quintiles 4 and 5, which include occupations with the highest (full-time) wages, grew by approximately 490,000 from the first to the second period (growth of 45%). The lowest-paid quintile (1) remained constant, while Quintile 2 decreased by more than 80,000 (–11%). Typical occupations in Quintile 1 are personal care workers, housekeepers, and restaurant workers, and Quintile 2 is exemplified by assembly workers and office clerks. The overall changes in the OW structure are more in line with the expectations of SBTC than RBTC, although the patterns in the lower part resemble change in the direction of polarization.

Considering the foreign- and the Swedish-born cohorts, the most striking change in Quintile 1 is the increase of almost 120,000 foreign-born workers, while the number of Swedish-born decreased by a similar number. The largest increase in Swedish-born was found in the highest-paid quintile. However, among foreign-born, we see a (weak) polarized pattern with a relative strong increase also in Quintile 5.

Table 1 presents the general distribution of foreign-born in the OW structure, indicating a general increase of immigrants on the Swedish labor market. In the period 1998–2000, 9% were born outside Sweden, a figure that increased to 16% in 2012–2014. The largest increase of foreign-born within quintiles is found in Quintile 1 (from 12% to nearly 26%). Studying the distribution of foreign-born across quintiles, both ends of the distribution have increased, while the shares situated in Quintiles 2 and 3 have declined. Table 1 also shows the distribution of individuals of different origin across quintiles. Individuals of Swedish, Nordic, and EU-15 descents have similar distributions during the first period, while decreased their shares in the lowest-paid quintiles and increased their shares in the highest-paid quintiles in the second period.

Figure 1 Changes in thousands of employed in different quintiles of the occupational wage distribution between the two periods (1998–2000 and 2012–2014).



Note: The Swedish Labor Force Survey of workers aged 16–64 years, all yearly observations per period. Weighted data. Unweighted number of observations: 1998–2000: 383,970; 2012–2014: 490,851.

Immigrants from Europe (non-EU) and new EU Member States, together with people of non-European origin, show a more polarized pattern with increases in both ends of the distribution and declines in quintile 2 and 3.

The composition of the immigrant categories on the labor market is presented on the right side of Table 1. Overall, the largest immigrant population from 1998 to 2000 is of Nordic origins, while the second-largest is of non-European origin. In 2012–2014, non-European clearly became the largest category, constituting 46% of all immigrants on the labor market (compared to 29% the first period), while the Nordic immigrants dropped from 35% to 15%. The overall demographic change is reflected in the composition of immigrants within quintiles. Non-European were in the majority in all the quintiles in the latter period, including the highest paid. In the two lowest quintiles in 2012–2014, non-Europeans constituted over 50% of immigrants.

Table 2 shows the predicted probabilities of people from different origins to work in the various quintiles. These probabilities are estimated in separate multinomial regressions for the two periods, using a mean model that includes gender, age, education, and study year (within periods) as control variables. Thus, these predictions are based on similar characteristics of both Swedes and immigrants on these background characteristics (such as educational level). Another variable is number of years of residing in Sweden, which has two functions in the analysis. First, time residing in Sweden affects labor market integration (Dustmann & Frattini 2011). Second, as the composition of immigrant categories has changed over time with larger shares of non-Europeans, opportunities and bargaining power on the labor market can be affected.

Table 1 Swedish and foreign-born workers across and within different quintiles (Q1-Q5) of the occupational wage structure (Quintile 1, occupations with lowest monthly full-time wages)

	Across quintiles						Within quintiles					
Foreign-born	Q1	Q2	Q3	Q4	Q5	Tot	Q1	Q2	Q3	Q4	Q5	Tot
1998–2000	28.5	19.5	21.3	15.5	15.2	100 (36,342)	12.2	9.9	9.8	6.8	7.7	9.3
Total	–	–	–	–	–	–	100 (84,512)	100 (69,997)	100 (78,221)	100 (81,173)	100 (70,067)	100 (383,970)
2012–2014	31.0	16.2	16.3	16.6	19.9	100 (62,979)	25.5	17.8	14.0	12.0	13.4	16.2
Total	–	–	–	–	–	–	100 (100,141)	100 (73,856)	100 (95,707)	100 (110,762)	100 (110,385)	100 (490,851)
	Across quintiles						**Within quintiles (excluding Swedish)**					
1998–2000	Q1	Q2	Q3	Q4	Q5	Tot	Q1	Q2	Q3	Q4	Q5	Tot
Swedish	21.1	18.3	20.1	21.7	18.8	100 (347,628)	–	–	–	–	–	–
Nordic	23.8	17.3	23.9	20.3	14.7	100 (13,558)	29.3	31.3	39.2	45.9	33.8	35.1
EU-15	22.0	14.8	17.6	20.5	25.4	100 (3,994)	8.3	8.1	8.7	14.2	17.8	10.7
New EU Members	25.1	18.2	19.5	18.6	18.6	100 (3,630)	8.8	9.4	9.1	12.0	12.2	10.0
European (non-EU)	30.9	24.1	26.0	8.8	10.2	100 (5,120)	16.1	18.4	18.1	8.4	9.9	14.8
Non-European	36.4	21.8	18.1	10.2	13.5	100 (10,022)	37.5	32.9	24.8	19.4	26.1	29.4
Total	21.8	18.4	20.3	21.1	18.4	100 (383,952)	100 (10,346)	100 (6,892)	100 (7,826)	100 (5,743)	100 (5,517)	100 (36,324)

2012–2014	Q1	Q2	Q3	Q4	Q5	Tot	Q1	Q2	Q3	Q4	Q5	Tot
Swedish	17.7	14.5	19.4	23.6	24.9	100 (427,872)	–	–	–	–	–	–
Nordic	20.0	12.8	19.3	23.7	24.3	100 (10,527)	9.4	11.5	17.4	20.9	17.9	14.7
EU-15	17.7	9.7	12.0	22.8	37.7	100 (5,013)	4.9	5.2	6.4	11.9	16.4	8.7
New EU Members	28.5	14.2	16.8	21.0	19.6	100 (6,927)	10.7	10.1	11.9	14.6	11.4	11.6
European (non-EU)	31.2	19.5	20.4	14.4	14.4	100 (11,641)	19.0	22.7	23.6	16.4	13.6	18.8
Non-European	37.5	17.7	14.4	13.0	17.5	100 (28,851)	56.0	50.5	40.7	36.1	40.7	46.3
Total	19.7	14.8	18.9	22.5	24.1	100 (490,831)	100 (20,207)	100 (10,201)	100 (10,687)	100 (10,319)	100 (11,515)	100 (62,959)

Note: The Swedish Labor Force Survey of workers aged 16–64 years, all yearly observations per period. Weighted data. The unweighted number of observations is shown in parentheses. Percent.

We calculated predicted probabilities for two time intervals residing in Sweden. The first interval (0–5 years) captures the opportunities of relatively newly arrived immigrants, while the second interval (11–20 years) measures the effect of longer time of residence in Sweden. The second range also measures the composition of immigrants back in time – the first period of immigrants arriving in the 1980s, and the second period of immigrants arriving in the 1990s and the early 2000s. This variable also includes repatriated Swedish-born, who constituted 13.8% of all immigrants in 1998–2000 and 16.9% in 2012–2014.

The first row of Table 2 shows the predicted probabilities of Swedes (excluding returnees) to work in the different quintiles at the mean of the rest of the variables and works as a comparison for the other distributions. This is followed by an overall outline of immigrants' probabilities without considering the time-in-Sweden variable. Nordic immigrants are similar to the Swedish-born in the baseline model, while people from EU-15 have a slightly higher probability of working in both the lowest- and highest-paid quintiles. Immigrants from the newest EU Member States, non-EU Europeans, and people from outside Europe have a much higher probability of working in Quintile 1 in the later period, with the non-European clearly having the highest probability. Over time, the probability of working in Quintile 1 for these three categories has increased. In parallel, the chance of working in the highest-paid quintile is lower than for the other categories, although the probability of non-EU Europeans and people from outside Europe increased slightly over time.

In the second model, we also considered time residing in Sweden and calculated the predicted probabilities for immigrants who had spent 0–5 and 11–20 years in Sweden (Table 2). For immigrants with 0–5 years in Sweden in the later period, the impacts were largest among non-Nordic immigrants, who were in most cases exposed to more than double the risk of working in Quintile 1 compared to Swedish-born. For non-Europeans, the risks were close to four times than for Swedish-born, and the probability remained similar in the two periods (60% compared to 59%). For immigrants who had lived in Sweden for 11–20 years, the risk of working in Quintile 1 was reduced for most immigrant populations. However, a longer time living in Sweden reduces that risk less for non-European in 2012–2014 (from 59% to 42%) compared to the earlier period (from 60% to 33%). The immigrant categories in 1998–2000, living 0–5 years in Sweden and arriving between 1993 and 2000, are largely the same categories found in 2012–2014, living in Sweden 11–20 years, that is, arriving between 1992 and 2003. Consequently, the decrease among non-European from 60% probability of working in Quintile 1 1998–2000 (0–5 years in Sweden) to 42% 2012–2014 (11–20 years) is significant, indicating that several individuals have left the lowest paid quintile. However, the risk of non-Europeans working in Quintile 1 is still about 2.8 times higher than for Swedish-born.

We move to analyze immigrants' mobility patterns within the OW structure with sequence and cluster analysis for the two periods, focusing on sequences over eight quarters involving Quintile 1. An individual can have one of seven different states at each measurement point: working in one of the five occupational quintiles, unemployed, or outside the labor force. Figure 2 shows chronograms of the six typical sequences for the two periods (a) 1998–2000 and (b) 2012–2014 that were extracted and interpreted as meaningful with explanations and comparisons below.

Table 2 Predicted probabilities (percent) of working in quintile for individuals of different origins

Origin	**1 Quintile**		**2 Quintile**		**3 Quintile**		**4 Quintile**		**5 Quintile**	
	98–00	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**
Swedish, excl. returnees	15.4 (0.2)	14.8 (0.2)	18.8 (0.2)	15.6 (0.2)	24.6 (0.3)	23.7 (0.2)	23.7 (0.2)	25.8 (0.2)	17.5 (0.2)	20.0 (0.2)
Excluding time in Sweden	**1 Quintile**		**2 Quintile**		**3 Quintile**		**4 Quintile**		**5 Quintile**	
	98–00	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**
Returnee Swedes	12.0 (1.2)	13.3 (0.8)	18.3 (1.5)	12.9 (0.9)	16.3 (1.4)	16.6 (1.0)	27.5 (1.6)	26.1 (1.0)	25.9 (1.5)	31.1 (1.1)
Nordic	16.0 (0.9)	15.7 (0.9)	16.9 (1.0)	13.8 (1.0)	30.7 (1.3)	24.4 (1.3)	22.6 (1.2)	25.0 (1.3)	13.7 (0.9)	21.1 (1.2)
EU-15	18.9 (2.5)	25.2 (2.2)	13.9 (1.9)	13.1 (1.6)	23.7 (2.2)	16.6 (1.7)	23.4 (2.2)	21.5 (1.7)	20.2 (2.0)	23.6 (1.7)
New EU Members	17.5 (2.2)	27.1 (1.6)	21.1 (2.4)	18.5 (1.4)	27.4 (2.5)	19.9 (1.5)	19.2 (2.1)	19.5 (1.4)	14.7 (1.7)	14.9 (1.2)
Europe (non-EU)	26.8 (2.1)	29.8 (1.3)	26.6 (1.9)	22.3 (1.1)	29.3 (2.0)	23.4 (1.1)	9.5 (1.3)	14.4 (1.0)	7.7 (1.1)	10.0 (0.8)
Non-European	37.5 (1.9)	42.0 (1.0)	23.5 (1.4)	20.7 (0.7)	20.3 (1.3)	17.3 (0.7)	10.1 (0.9)	10.0 (0.5)	8.6 (0.8)	9.9 (0.5)
Time in SE 0–5 years	**1 Quintile**		**2 Quintile**		**3 Quintile**		**4 Quintile**		**5 Quintile**	
	98–00	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**
Returnee Swedes	11.3 (2.1)	16.5 (2.1)	15.6 (3.0)	11.2 (1.7)	10.9 (2.6)	16.0 (2.0)	32.1 (3.6)	20.9 (2.1)	30.0 (3.2)	35.4 (2.6)
Nordic	34.0 (8.0)	18.5 (4.4)	11.9 (4.7)	13.7 (4.2)	15.0 (5.0)	14.5 (4.1)	16.4 (5.2)	22.9 (4.7)	22.8 (5.5)	30.4 (4.7)
EU-15	37.3 (10.5)	28.0 (5.3)	4.7 (3.3)	13.2 (3.5)	17.7 (5.7)	15.6 (3.4)	22.5 (6.0)	13.4 (2.9)	17.8 (5.0)	29.8 (4.0)

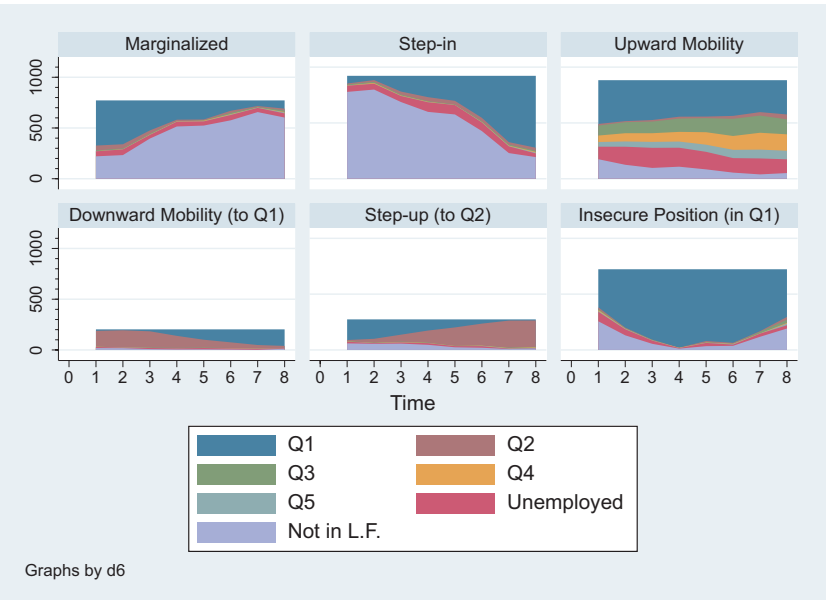
(*Continued*)

Table 2 (*Continued*)

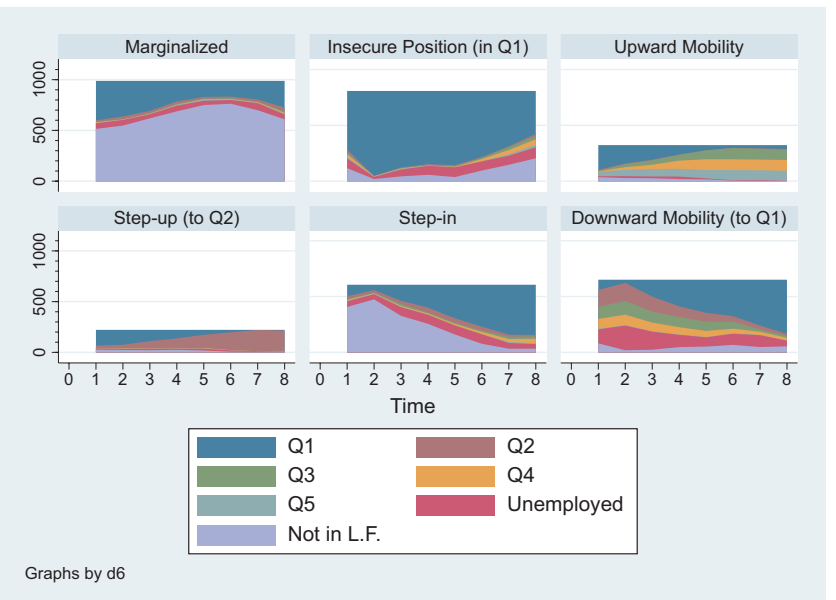
New EU Members	24.4 (8.1)	39.7 (3.6)	32.6 (9.5)	17.9 (2.7)	22.8 (8.6)	12.5 (2.3)	6.7 (4.6)	19.5 (2.8)	13.5 (6.3)	10.5 (1.9)
Europe (non-EU)	28.5 (4.1)	41.9 (4.4)	24.1 (3.6)	23.5 (3.4)	36.0 (4.1)	16.7 (2.9)	6.8 (2.0)	9.9 (2.3)	4.6 (1.4)	8.0 (1.9)
Non-European	60.4 (5.7)	58.7 (2.3)	21.1 (4.1)	16.7 (1.5)	10.4 (3.0)	11.2 (1.2)	3.0 (1.3)	4.8 (0.7)	5.0 (1.6)	8.5 (1.0)
Time in SE 11–20 years	**1 Quintile**		**2 Quintile**		**3 Quintile**		**4 Quintile**		**5 Quintile**	
	98–00	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**	**98–00**	**12–14**
Returnee Swedes	13.8 (2.5)	12.2 (1.4)	22.5 (3.0)	13.8 (1.5)	16.2 (2.6)	16.8 (1.6)	24.7 (2.9)	26.5 (1.8)	22.8 (2.6)	30.7 (1.8)
Nordic	16.6 (2.6)	13.2 (2.9)	20.9 (3.1)	11.8 (3.0)	26.8 (3.3)	17.7 (3.5)	19.8 (2.9)	29.9 (3.9)	15.8 (2.5)	27.4 (3.7)
EU-15	16.8 (4.8)	22.8 (5.0)	11.6 (3.6)	9.3 (3.1)	28.0 (4.9)	18.9 (4.0)	27.1 (5.2)	19.9 (3.5)	16.6 (4.0)	29.1 (3.9)
New EU Members	23.4 (4.5)	28.5 (4.0)	28.3 (4.4)	13.6 (3.2)	21.8 (4.0)	24.7 (4.1)	15.7 (3.4)	14.6 (3.2)	10.8 (2.4)	18.6 (3.3)
Europe (non-EU)	37.9 (5.7)	26.9 (1.7)	31.1 (5.1)	22.9 (1.6)	23.3 (4.8)	26.8 (1.7)	1.0 (1.0)	14.3 (1.4)	6.7 (2.7)	9.1 (1.0)
Non-European	33.2 (2.8)	42.3 (1.9)	22.6 (2.2)	22.0 (1.5)	23.1 (2.2)	17.6 (1.4)	12.1 (1.7)	10.1 (1.0)	9.0 (1.4)	8.1 (0.8)

Note: Swedish Labor Force Survey, aged 16–64 years, rotation group 1. Unweighted data. Multinomial regression. Predicted probabilities in two models: (1) excluding different length of stay in Sweden, (2) including different length of stay in Sweden, and origin and time in Sweden interaction. Both models control at mean for gender, age, education, and study year. For 1998–2000, n = 45,889; for 2012–2014, n = 60,605. Robust standard errors in parentheses. Selected predictions: 0–5 years in Sweden and 11–20 years in Sweden.

Figure 2 (a, b) Chronograms of eight quarters of employment sequences including at least one state in Q1.



a) The sequences over eight quarters starts 1998–2000.



b) The sequences over eight quarters starts in 2012–2014.

Note: Each sequence begins in 1999–2000 and 2012–2014. The latest starting quarter in each period is the first quarter of the last year (2000 and 2014). For sequences 1998–2000, n = 3777; for 2012–2014, n = 3,598.

The first *marginalized* cluster indicates sequences that mainly have starting points in Quintile 1 but end outside the labor force. Table 3 shows mean time (with quarter of the year as a unit) and emphasizes the interpretation of the cluster as very weak attachments to the labor market. In average, individuals in this cluster (both periods) spend about two quarters in Q1 and five quarters outside the labor force. Moreover, Table 3 also shows the size of each cluster; the marginalized constitute 20.4% of all clusters extracted in 1998–2000 and 27.5% in 2012–2014 (the largest cluster in that period). If we include the shares with sequences stable over eight quarters in Q1 (54.5% and 50.6% of all sequences in the first and second periods, respectively), then 9.3% in the first period and 13.6% in the second period were in the marginalized cluster.

Table 3 Mean time (quarters of a year) and shares (%) in different states

1998–2000	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Unemployed**	**Not in L.F.**	**Mobile %**	**Incl. Stable %**
Marginalized	2.3	0.2	0.1	0.0	0.0	0.5	4.8	20.4	9.3
Step-in (to Q1)	2.5	0.2	0.1	0.0	0.0	0.5	4.7	24.4	11.1
Upward Mobility (to Q3–Q5)	3.0	0.2	1.1	0.9	0.6	1.3	0.8	23.4	10.6
Downward Mobility (to Q1)	3.2	3.9	1.0	0.0	0.0	0.3	0.4	5.4	2.4
Step-up (to Q2)	2.6	3.8	1.0	0.1	0.0	0.3	1.0	7.3	3.3
Insecure Position (in Q1)	6.2	1.0	1.0	0.0	0.0	0.3	1.2	19.1	8.7
Tot								100 (3,777)	
Stable Q1									54.5
Tot incl stable									100 (8,303)
2012–2014	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Unemployed**	**Not in L.F.**	**Mobile %**	**Incl. Stable %**
Marginalized	2.0	0.2	0.1	0.0	0.0	0.4	5.3	27.5	13.6
Step-in (to Q1)	3.4	0.4	0.2	0.2	0.1	0.8	2.9	16.8	8.3
Upward Mobility (to Q3–Q5)	2.3	0.1	1.5	1.6	1.8	0.3	0.4	9.0	4.4
Downward Mobility (to Q1)	3.1	1.1	0.9	0.7	0.0	1.5	0.6	18.1	8.9
Step-up (to Q2)	2.6	4.2	0.1	0.1	0.0	0.4	0.6	6.2	3.1
Insecure Position (in Q1)	5.9	0.1	0.1	0.2	0.1	0.7	0.9	22.5	11.1
Tot								100 (3,598)	
Stable Q1									50.6
Tot incl stable									100 (7,279)

The second *step-in* cluster mainly shows mobility patterns from outside the labor market into work in Quintile 1. This was the largest cluster in the first period (24.4% and 11.1% including stable), while its relative size was reduced in the second period (16.8% and 8.3%).

The third cluster showed *upward mobility* from Quintile 1 and more distinct upward mobility from Q1 to Q3, Q4, and Q5 only in the second period. In 1998–2000, the mobility patterns to a higher extent also included starting points outside the labor force and in unemployment before mobility upward in the occupational structure (see Table 3). Moreover, the earlier period included less straightforward upward sequences when sequence plots were checked in more detail (not shown). This indicates a more unstable position in the upper quintiles, such as a start in Q3, falling to Q1 or into unemployment, and then up to Q4. The upward cluster is much larger in 1998–2000 than in the second period (23.4% and 10.6%, respectively, 9.0% and 4.4%).

The fourth cluster shows patterns of *downward mobility*. In 1998–2000, it was only possible to discern downward mobility from Q2 to Q1, constituting 5.4% (2.4% including stable in Q1) of the sequences. A large downward cluster was found in 2012–2014, including 18.1% (8.9%) of all sequences involving a Q1 position. Besides Q2, those sequences often also started in Q3 and Q4.

A fifth cluster of the sequences is the *step-up*, mainly showing mobility from Q1 to Q2. This cluster included 7.3 percent of all mobility sequences in 1998–2000 and 6.2% in 2012–2014 (3.3% and 3.1%, respectively, including stable in Q1).

The sixth cluster of *insecure positions* is large and clear-cut in both periods (19.1% and 8.7% including stable in the first period, and 22.5% or 11.8%, respectively, in the second). These sequences often involve a step-in from outside the labor market or unemployment to a position in Q1, with the individuals again with no employment at the end of the two-year period.

Table 4 Odds ratios and predicted probabilities at mean to be found in sequence (stable is reference)

	1998–2000		2012–2014	
	Odds ratio	**Probability at mean (%)**	**Odds ratio**	**Probability at mean (%)**
Marginal				
Swedish (Ref)	1	8.4 (0.4)	1	9.7 (0.5)
EU	1.41	10.0 (1.7)	0.96	8.7 (1.6)
Non-EU	1.90**	10.9 (1.6)	1.42*	11.5 (1.4)
Step-in (to Q1)				
Swedish (Ref)	1	7.0 (0.4)	1	6.3 (0.4)
EU	1.44	8.6 (1.6)	1.70*	9.9 (2.0)

(*Continued*)

Table 4 *(Continued)*

Non-EU	3.02***	14.4 (1.8)	1.87***	9.8 (1.2)
Upward Mobility (to Q3–Q5)				
Swedish (Ref)	1	11.2 (0.4)	1	4.1 (0.3)
EU	1.70**	16.1 (2.0)	0.89	3.3 (1.0)
Non-EU	1.95***	14.9 (1.7)	0.80	2.7 (0.6)
Step-up (to Q2)				
Swedish (Ref)	1	6.1 (0.3)	1	3.4 (0.3)
EU	1.15	4.5 (1.2)	0.86	2.8 (1.0)
Non-EU	1.10	5.1 (1.0)	0.95	2.7 (0.7)
Insecure Position (in Q1)				
Swedish (Ref)	1	9.9 (0.4)	1	13.0 (0.5)
EU	1.45*	12.2 (1.8)	1.02	12.3 (2.0)
Non-EU	2.32***	15.7 (1.9)	1.75***	19.1 (1.7)
Downward Mobility (to Q1)				
Swedish (Ref)	1	2.7 (0.2)	1	10.7 (0.5)
EU	0.53	1.2 (0.6)	1.40	13.9 (2.1)
Non-EU	1.37	2.5 (7.5)	1.07	9.6 (1.2)
n	8267		7091	

Note: Multinomial regression with robust standard errors in brackets Controlled for gender, age, and education. Significance levels: *p<0.05; **p<0.01; ***p<0.001

Table 4 presents a multinomial regression with the clusters as the dependent variable (stable in Q1 is the baseline) and uses origin as the main independent variable (although reduced to three categories due to low figures). First, people with non-EU origin have a statistically significant higher risk (odds ratio) than Swedish-born of being found in the marginalized cluster. The predicted probabilities (at mean of the controls) are similar between the two periods. Also for the insecure cluster, the regression analysis shows that non-EU immigrants have a higher risk to follow the sequence. Their relative difference

to Swedish-born reduced slightly between the two periods, while predicted probabilities for both categories increased.

Moreover, the regression analysis of the step-in cluster discerns it as an important mobility pattern for people with non-EU descent in the first period, as they had much higher odds, as well as higher probability than Swedes, of following the trajectory. However, their relative difference to Swedes was strongly reduced in the second period, as was their overall probability of moving along the trajectory. In a similar way, both categories of foreign-born had higher odds of being found in the upward-mobility cluster, while no significant differences were found in the second period (Table 4).

The regression analysis did not find any significant differences between Swedish-born and foreign-born workers in the studied periods for the downward-mobility and step-up clusters.

In summary, foreign-born people had a higher probability than Swedish-born of being found in clusters characterized by marginalization and insecurity. Whereas their relative risk, compared to the Swedish-born, decreased, the estimated probability of foreign-born obtaining insecure positions increased. Furthermore, immigrants had a higher probability of being found in the step-in cluster, while the cluster decreased in size between the two periods. The immigrants probability for upward mobility from Q1 was much higher in 1998–2000 than in 2012–2014, although the clusters of the two periods are not particularly comparable. The overall probability of downward mobility increased in the latter period, while no significant differences between Swedish and foreign-born are found. This cluster is also less comparable over time.

7. Conclusion

This study shows that the occupational structure in Sweden has undergone significant transformations in recent decades as outlined below.

First, the overall changes in the occupational structure did not reveal a change in the direction of polarization (e.g., Åberg 2015) nor did these confirm the critique against the polarization thesis (e.g., Oesch & Piccitto 2019). Clearly, job opportunities have increased in the upper end of the occupational distribution, while lower-middle employment has decreased. However, employment in the lowest-paid quintile has not increased but has remained stable. When focusing on immigrants labor market opportunities, it is important to remember that the data does not take into account undeclared and undocumented precarious work (Frank 2013; Håkansta et.al. 2024), which implies that the lowest-paid quintile, where immigrants are proportionally overrepresented, probably is underestimated.

Second, the solidaristic wage regime in Sweden continues to safeguard relative wage equality and should unequivocally work in the direction of upgrading (Berglund & Ulfsdotter Eriksson 2024). However, the strong growth in labor supply has increased the number of workers who face structural disadvantages, which due to a 'double frame of reference' and migration history penalties often accept jobs in the lowest-paid segment of the occupational structure (Elgenius et al. 2024). Policies such as the RUT and ROT reforms and related subsidies reinforce the demand for workers in low-paid sectors too. The result is a changed occupational distribution strongly structured by

background, origin and structural disadvantages given migration history, and as the numbers of Swedish-born workers decrease in low-paid occupations, they are replaced by immigrants. Thus, the number of foreign-born people in the lowest-paid quintile has increased significantly by approximately 120,000 over the time period studied, and constitutes 12% in the first and 26% in the second period. However, the number of Swedish-born people decreased in these quintiles by similar numbers. The growth of the highest-paid quintile, including both Swedish and foreign-born workers, finds the share of foreign-born increasing from 8% to 13%.

Third, this study reveals the continued stratification of the changing labor market and the ethnicization of the occupational hierarchy in Sweden, with Swedish-born and EU-migrants having better access to well-paid positions and immigrants from outside the EU being more likely to occupy the lowest-paid jobs. Immigrants from outside the EU have the highest risks of working in low-paid occupations, while those from the Nordic region and the EU-15 group having a similar distribution to the Swedish-born. These results are even more evident when education is controlled for, indicating that the rewards for formal education are limited in determining immigrants' positions in the occupational structure (Jonsson et al. 2023). The length of time in a country of settlement is also important for labor market integration, and the number of years spent in Sweden contributes to decreasing differences between foreign- and Swedish-born. However, when time is controlled for, significant differences remain between the Swedish-born population and all categories of immigrants. Thus, immigrants face what Heath and Cheung call an ethnic penalty (2007) and Elgenius et al. (2024) conceptualize as a migration history penalty, the latter referring also to disadvantages given country-specific labor market conditions, institutional constraints, structural discrimination in housing and schooling, migration and citizenship regimes. The background gradient to the placement of immigrants in the occupational hierarchy in Sweden is hereby linked to experiences of disadvantages and discrimination. This pattern resembles that of other Nordic countries (Hermansen et al. 2023).

Fourth, the sequence analysis demonstrates changing mobility patterns at the lower end of the occupational structure where the role of low-paid employment as a stepping-stone toward an upward career path has been increasingly challenged over time. Instead, the position for workers in the lowest-paid quintile has become more insecure over time, with increasing risks of unemployment. Such findings contradict expectations that jobs in the low-paid sector provide an entry to better-paid employment. On the contrary, entering the low-paid sector increases workers' 'durable inequality' (Tilly 1998) and risk cementing inequalities by locking workers into low-paid jobs. This tendency hits immigrants of non-EU descent harder, as they face reduced opportunities to move into and upward in the occupational structure. Consequently, reduced upward mobility counteracts one of the most important mechanisms of the Swedish model, which is to create high-quality jobs within reach for all workers. Instead, the ethnic segmentation of the labor market is deepening, creating larger obstacles to upward mobility, for those in the low-paid sector.

Finally, the changing focus of active labor market programs by the welfare state – from training to subsidized jobs for the unemployed – has expanded the low-paid sector without equipping workers with training to move into better positions and also risk locking marginalized workers into subsidized employment or unemployment, rather than providing more secure conditions. Recent policy changes to reduce

unemployment in Sweden also risk reinforcing the polarization of the labor market along ethnic lines. Foreign-born workers face a higher risk of getting stuck in a cycle of unemployment and subsidized secondary employment, with fewer opportunities to obtain a more secure labor market position. A strategy that combines job creation with large investments in training and education would appear to be a more appropriate way to benefit from an increasing supply of workers, combined with a strong creation of high-quality jobs on the Swedish labor market. Austerity measures since the 1990s and a neoliberal political discourse have made such investments infeasible (Berglund & Esser 2014).

Several European and North American countries face similar challenges of sustaining employment rates in labor markets exposed to rapid technological change and changing labor supply due to migration. Dustmann and Frattini (2011) showed the systematic placement of immigrants, particularly non-EU immigrants, at the bottom of the occupational and wage structure in Europe, and Mandelman and Zlate (2022) found that immigration from 1980 to 2010 strongly increased polarization by depressing wages and increasing employment in the lower tail of the occupational distribution in the United States. Nordic countries have special preconditions, as their open economies and extensive welfare institutions not only expose them to changes and external shocks but also make them resilient and able to mobilize collective resources to sustain those challenges (Alsos & Dølvik 2021). However, labor market conditions generated by digitalization and increased demands of digital skills in combination with demographic change makes this particularly challenging.

This study has limitations, and we recognize the challenge with broad and heterogeneous categorizations of origin and would have preferred more specific operationalizations, for example, with reference to refugee status, labor immigration, or country of origin. This would have allowed for the investigation of the specific mechanisms of selection in the occupational structure. Moreover, in measuring the characteristics of occupations, and the processes related to occupational change, direct indicators of skill-levels and educational requirements would have added additional information and promising studies that measure skill gaps for immigrants with reference to the occupational structure have recently been published (Hermansen et al. 2023). Other possible interactions between immigrant status and gender should also be tested in future research. This is of special interest, as previous research has shown that the lowest paid quintile is dominated by women (Tåhlin 2019), although significant changes in gender composition are also ongoing (Berglund & Ulfsdotter Eriksson 2024).

In conclusion, the results of this study show that recent changes of the occupational structure and labor market policies have not been beneficial for equal opportunities in Swedish society. An occupational structure moving in the direction of polarization, stratification, and migration history penalties is likely to further reduce the potential for upward mobility from low-paid work to high-paid jobs due to the decrease of middle-placed positions. The neoliberal dismantling of central characteristics of the Swedish welfare state has put immigrants in a more precarious situation. Individudals of non-European descent are especially vulnerable and in risk at working in low-paid employment and of having fewer opportunities to achieve secure positions. The on-going changes in the occupational structure and demonstrated penalties given migration history and origin, reinforce ethnic inequalities and challenge the egalitarian Swedish model.

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