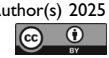
Check for updates

International Migration Review
2026, Vol. 60(2) 1025-1052
© The Author(s) 2025

Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/01979183251323606
journals.sagepub.com/home/mrx

The Transferability of Human Capital and Migrant Incorporation Strategies in the Swedish Labor Market: A Sequence Analysis

Guilherme Kenji Chihaya
Nord University, Norway
Linköping University, Sweden

Charlotta Hedberg
Umeå University, Sweden

Abstract

Migrants benefit differently from their educational credentials depending on their origin. We use the case of Sweden to study the strategies that migrants adopt to overcome barriers keeping them from fully using their education in the host society's labor market. We used administrative register data on employment, self-employment, unemployment, parental leave, and education to classify nine-year-long labor-market sequences of a cohort of migrants. Optimal matching and cluster analysis yielded five sequence types from which incorporation strategies can be inferred. We studied how institutional barriers to the transferability of human capital moderate the association between education and sequence type. We found that the association between education and the probability of each labor market sequence type depended on the institutional dissimilarity between origin and host country, even when linguistic dissimilarity and cultural dissimilarity were accounted for. Favored by supranational institutional arrangements that

Corresponding Author:
Guilherme Kenji Chihaya, Postal Box 1490, Nord University, Faculty of Social Sciences, postal code 8049, Bodø, Norway.
Email: guilherme.k.silva@nord.no

standardize educational credentials, migrants whose origin country was a member of what later became the European Higher Education Area avoided inactivity by converting their human capital into early employment. In contrast, highly educated migrants from other parts of the world tended to first obtain Swedish educational credentials before entering the labor market. Strategies based on self-employment were not related to education regardless of migrant origin and resulted in much lower earnings. Our findings show that differences in the transferability of human capital can produce diverse incorporation outcomes by shaping which strategies migrants adopt to navigate the context of reception.

Keywords
Sweden, sequence analysis, incorporation strategies

Introduction

The labor-market incorporation of migrants is central to political and academic debates alike (Brubaker 2001; Joppke 2007). It is used as a benchmark for migrant integration or assimilation (Waters and Jiménez 2005; Heath, Rothon and Kilpi 2008; Alba and Foner 2014) and figures prominently as a policy goal for European governments (European Commission 2020). Because human capital — particularly the skills acquired through education — is so essential to one's standing in the labor market (Becker 1964; Ganzeboom and Treiman 1996; Chiswick and Miller 2008), much of the discussion revolves around how to enable migrants to make use of their educational credentials in the labor market of the host country (European Commission 2020). At its core, it is a discussion about the transferability of human capital across borders.

However, the human capital signaled by migrants' educational credentials is not easily transferable between countries of origin and host countries. As a result, there is a gap between migrants from different countries of origin (as well as between migrants and natives) when it comes to labor-market returns to education in terms of income and employment (Chapman and Iredale 1993; Kogan 2006; Adsera and Chiswick 2007; Chiswick and Miller 2009; Sanromá, Ramos and Simón 2015; Zwysen 2019). These differences in human capital transferability are explained in the literature as resulting from linguistic, institutional, and cultural barriers (Sanromá, Ramos and Simón 2015). Of these, institutional explanations have received increased attention in recent literature documenting the range of institutional arrangements regulating how credentials can be used in the labor market (Andersson and Osman 2008; Tibajev and Hellgren 2019; Zwysen 2019). The literature also shows that differences in returns to human capital by migrant origin decrease with time since arrival, suggesting that migrants manage to mitigate or overcome whatever barriers to using their credentials in the host society they face (Sanromá, Ramos, and

Simón 2015; Zwysen 2019). Studying what migrants do to overcome these barriers — their incorporation strategies — can provide insights into the incorporation process and policy-relevant information about how to improve migrants' standing in the labor market. Although there are qualitative accounts about policies and institutions that constitute barriers to migrants using their educational credentials (e.g., Andersson and Osman 2008) and about how migrants navigate various kinds of constraints to their incorporation (e.g., Jones 2019), systematic quantitative descriptions (as proposed by Abbott 1992) of what migrants *actually do* to achieve labor-market incorporation are scarce. Particularly rare are large-scale systematic descriptions of how the strategies that migrants adopt to achieve labor-market incorporation relate to the origins of their educational credentials. As a result, we know little about the migrant labor-market activities that underlie the statistical differences in returns to human capital reported by the literature.

This study analyses the sequences of labor-market activities embedded in the labor-market careers of migrants who arrived in Sweden in 2000 and who were observed over the following nine years. We use sequence analysis applied to longitudinal administrative register data. Sequence analysis is a suite of techniques for describing and classifying sequences of discrete states (e.g., working, attending education) based on the duration, sequencing, and timing of each state. From the resulting typology of sequences, which in the literature are called *cumulative mobility patterns* (Fuller and Martin 2012; Barbiano di Belgiojoso 2017), we infer what incorporation strategies migrants adopt. We then examine the association between having tertiary educational qualifications and the type of incorporation strategy used, and whether such associations vary by institutional similarity between the migrant's country of origin and host country, when other relevant factors such as cultural and linguistic similarity, gender, and intermarriage to natives are accounted for as control variables. For this, we have used a multinomial logistic regression to model the probability of each sequence type. Because internationally comparative data relating to migrant labor-market careers are rare, we resort to exploring the variation between migrants of different origins within the same host country, a design common in the literature about human capital transferability (e.g., Chiswick and Miller 2008, 2009). Key to this analysis is the fact that the features of the Swedish context of reception can be either favorable or unfavorable to migrants and their educational credentials depending on their country of origin, resulting in distinctly different "rules of the game" for different groups. We answer the following questions about incorporation strategies and their relationship to educational credentials:

Q1: What is the association between a migrant's tertiary educational credentials (or the lack thereof) and the type of incorporation strategy they adopt?

Q2: Does the relationship between tertiary educational credentials and incorporation strategies differ along with institutional similarity between the country of origin and Sweden?

In doing so, we provide evidence about which migrants (of which origins) face barriers to using their credentials in Sweden and how these barriers are overcome. The answers to the above questions bring us closer to understanding the patterns of individual labor-market activity underlying the statistical relationships reported in the literature on the transferability of human capital.

After a brief description of the Swedish context, we review theories and empirical evidence on the transferability of human capital in Sweden and elsewhere, with a focus on institutional factors. Then, we argue that the quantitative methods common in the literature can only provide limited evidence about which incorporation strategies underlie the statistical relationships being reported. Cumulative mobility patterns, we argue, offer a complementary, and sometimes superior, alternative when it comes to studying incorporation strategies. After providing a review of the burgeoning literature using sequence analysis and cumulative mobility patterns to study migrant labor-market outcomes, we proceed to describing our methodology before finally presenting our results and conclusions.

The Swedish Context of Reception

Over the past 50 years, Sweden has experienced intense migrant flows which have, to a substantial degree, consisted of refugees and their family members (Hilson 2007; Lemaître 2007). In 2000, the year of arrival for the migrants in this study, migration to Sweden was prominently due to the conflict in Iraq, followed by inter-Nordic migration from neighboring countries, conflict-related migration from the Balkans, and increasing labor migration from the EU.

Sweden was known for its tolerant and egalitarian multicultural welfare model (Schierup and Ålund 2011), under which both citizens and noncitizens were granted political and social rights to a largely equal extent (Sainsbury 2006; Hilson 2007). However, the first decade of this millennium saw the erosion of this egalitarian model (Schierup and Ålund 2011), with an increase in antimigrant attitudes and ethnic nationalism (Rydgren 2017). Non-Western migrants suffer from socioeconomic and ethnic residential segregation (Andersson, Turner, and Holmqvist 2010), and from discrimination in the labor market (Rydgren 2004; Carlsson 2010).

As in other Western countries (Joppke 2007), Swedish integration policies have increasingly become labor-market-oriented, emphasizing above all the employability of migrants (Joyce 2015). Sweden has long had a large native–migrant employment gap (Kogan 2006; Lemaître 2007; O.E.C.D. 2014), and the task of increasing migrant employment is made even more challenging by the high educational threshold for access to work in an economy where skilled occupations dominate (Kogan 2006). This emphasis on skills and employability means that human capital is likely to be central to labor-market incorporation in Sweden.

Human Capital, Institutions, and Migrant Labor-Market Incorporation

One can explain the variation in migrant employment rates and income levels as outcomes of the different strategies that migrants adopt in response to the conditions they encounter in the host country. What migrants do in the labor market "is largely a function of the social, financial, and *human-cultural capital* of immigrant families and how these resources are used by individuals within and apart from the existing structure of ethnic networks and *institutions*" (Nee and Sanders 2001, 388 [emphasis added]). Of these resources, human capital is key to a person's labor-market outcomes and is mainly acquired through formal education (Becker 1964). Therefore, education plays a key role in explaining variations in migrant labor-market outcomes (see e.g., Chiswick and Miller 2009).

However, educational qualifications are not always easily transferrable across international borders, and migrants often face a reduced income and employment pay-off from their education compared to the native-born, with such penalties varying by migrant origin (see Chapman and Iredale 1993; Hartog 2000; Chiswick and Miller 2009, 2010; Nieto, Matano, and Ramos 2015 for evidence from different countries). Evidence for these barriers to human capital transferability comes from both cross-country comparative studies (e.g., Adsera and Chiswick 2007) and within-country comparisons between migrants of different origins (e.g., Chapman and Iredale 1993; Chiswick and Miller 2009; Sanromá, Ramos, and Simón 2015). Of these, institutional barriers are key to understanding the transferability of human capital across borders.

By governing economic activity, institutions determine the formal and informal rules of the game — what it is possible to do in order to achieve any given labor-market outcome (Brinton and Nee 1998; Alba and Nee 2009). Differences between country-of-origin and host-country institutions restrict how migrants can leverage their human capital in the labor market (Sanromá, Ramos, and Simón 2015). Institutional dissimilarity, particularly regarding institutions surrounding educational credential systems (Andersson and Osman 2008; Tibajev and Hellgren 2019; Zwysen 2019) is one of the many factors that constitute barriers to the transferability of human capital (the others being cultural and linguistic dissimilarities, see Sanromá, Ramos, and Simón 2015). Credentials tell employers about the skills and productivity level a worker has, and thus must be intelligible to be useful in the labor market (Chiswick and Miller 2009; Tibajev and Hellgren 2019). Degrees issued in more dissimilar institutional contexts are less intelligible, and thus less useful. Additionally, measures to reduce institutional dissimilarity, when implemented unevenly, may in and of themselves lead to differences in the transferability of human capital. For example, in response to cross-country differences in the institutions regulating higher education and educational credentials, the EU created a framework for standardization and educational credential recognition that leaves most non-EU migrants uncovered (European Commission 2018). The Bologna Process, named after the

Bologna Accord launched in 1999, would culminate in the establishment of the European Higher Education Area (EHEA). Although the EHEA was only completed in 2010, the standardization of educational credentials among its member countries started with the Bologna Accord.[1] Credentials across the EU became more standardized starting already with the 1997 Lisbon Recognition Convention and, beginning in 1999, diploma supplements — detailed descriptions of the study components and learning outcomes achieved while completing a degree — were gradually introduced by most signatories of the convention. All these features made tertiary educational credentials issued by member states of the EHEA, which also included some non-EU states,[2] much more intelligible within the block. These arrangements reduced the dissimilarity in the institutions surrounding educational credentials, but only for migrants from within the EHEA. Migrants with credentials from outside the EHEA, on the other hand, were not covered by these measures.

While our focus is on institutional dissimilarity, previous studies have shown that cultural and linguistic dissimilarity also matter. Labor-market outcomes are worse for migrants from countries perceived as more culturally dissimilar to the host country (Rosholm, Scott, and Husted 2006; Hainmueller and Hopkins 2014; Dahl 2022; Raux 2023) and countries with a dominant language that is considered more dissimilar to the dominant language in the host country (Beenstock, Chiswick, and Repetto 2001; Chiswick and Miller 2012; Helgertz 2013). Therefore, any analysis of the role of institutional dissimilarity must account for these other factors when using statistical models.

Additionally, gendered structures and norms (Florian, Flippen, and Parrado 2023) conspire with race to create a "double disadvantage" that reduces migrant women's rate of participation in the labor market (Donato, Piya, and Jacobs 2014). Even in Sweden, migrant women's engagement in the labor market is lower than that of native dual-earner households (Grönlund and Fairbrother 2022). Since gender plays such a central role in the labor-market outcomes of migrants, we account for it by using a control variable in our models.

Migrant Strategies for Overcoming Barriers to Human Capital Transferability

To overcome barriers to using their human capital, migrants adopt various strategies, such as acquiring host-country credentials or becoming self-employed. Attending

[1] For the sake of brevity, we use EHEA to refer to the group of countries signatories of in the Bologna Accord as of 2000, even though the EHEA was only launched under its current name in 2010.

[2] As of 2000, when our study follow-up starts, the then non-EU states in what would become the EHEA were Poland, Romania, Hungary, Estonia, Lithuania, Latvia, Slovenia, Bulgaria, the Czech Republic, and Slovakia.

education in the host country can improve a migrant's labor-market prospects both because host-country credentials are more intelligible to host-country employers and because the skills acquired in this way are more compatible with the demands of the host country's labor market (Kanas and van Tubergen 2009). Obtaining host-country educational credentials has been shown to reduce the deficit in labor-market returns to migrant education in Germany (Zwysen 2019), the Netherlands (Kanas and van Tubergen 2009), and Sweden (Duvander 2001). Consequently, one would expect that migrants whose human capital is not readily transferable would resort to acquiring host-country educational credentials.

Another strategy for overcoming barriers to credential portability is self-employment. Scholars consider self-employment a viable means to enter the labor market for migrants whose human capital is not easily transferable to the host country (Nee and Sanders 2001). In Scandinavian countries, self-employment is reported to be a way to escape marginalization (Blume et al. 2009), albeit one that leads to substantially lower earnings than those obtained from other kinds of work (Hjerm 2004). Educational credentials and their origin do not seem to matter for a migrant's likelihood of becoming self-employed (Nee and Sanders 2001; Blume et al. 2009). Consequently, self-employment is a strategy that is available to migrants regardless of whether their human capital is transferable to the host society or not.

Any study of migrants' incorporation strategies needs to identify these strategies in the data. As pointed out by others (Fuller and Martin 2012; Fuller 2015), much of the research conducted on this topic focuses on *single summary indicators*: "snapshot" measures of employment, income, or occupational status observed at certain points during the migrant's labor-market career. Studies based on single summary indicators, even those using longitudinal data (e.g., Adsera and Chiswick 2007; Helgertz 2013; Zwysen 2019), focus on using regression models (e.g., OLS and panel econometrics) to estimate the effects of education on a given indicator of incorporation, such as income or employment status. However, labor-market incorporation is a shorthand term for a complex process that may involve the acquisition of educational qualifications, the accumulation of startup capital for entrepreneurship, searching for a job, and other activities leading to employment or self-employment (Nee and Sanders 2001; Fuller and Martin 2012). Therefore, incorporation strategies may involve activities other than work, which are only problematic if they do not lead to future employment or self-employment. Even relatively long spells outside the labor market may be a positive sign if spent on human capital acquisition. The focus on single summary indicators, such as the conditional mean of income or the conditional probability of employment, fails to distinguish between migrants who spend time outside the labor market in preparation for entry and those for whom inactivity is the outcome. Single summary indicators are unable to account for the length or frequency of spells inside and outside the labor market, or for the timing and order in which they occur and, therefore, tell us little about incorporation strategies. In contrast, *cumulative mobility patterns* (Fuller 2015; Barbiano di Belgiojoso 2017) are patterns of order, timing, and length of engagement in different

activities contained within labor-market careers and, therefore, can tell us about such strategies.

While there are studies that examine the cumulative mobility patterns of migrants (e.g., Kogan 2007; Fuller and Martin 2012; Barbiano di Belgiojoso 2017; Klaesson and Wixe 2023), few of them directly explore migrants' strategies for overcoming barriers to credential portability. Of these, Fuller and Martin (2012) find only weak evidence that a foreign education is associated with trajectories of long job searches or human capital upgrading in the Canadian context. These previous studies using cumulative mobility patterns follow migrants for relatively short periods of six years or less (e.g., Kogan 2007; Fuller and Martin 2012), even though some migrants take longer than this to achieve labor-market incorporation (Zwysen 2019). Moreover, some studies in this literature focus only on working migrants and are unable to capture incorporation strategies that involve activities other than work (e.g., Barbiano di Belgiojoso 2017). Additionally, some studies in this literature analyze migrants who had been in the country for different lengths of time at the start of the observation window (e.g., Kogan 2007; Klaesson and Wixe 2023), misaligning the timing of different activities and potentially missing the cumulative mobility patterns contained within labor-market sequences. Lastly, many previous sequence analysis studies have relied on survey data and retrospective labor-market histories and are subject to recall bias (e.g., Fuller and Martin 2012; Barbiano di Belgiojoso 2017). Our methodology, described in the next section, overcomes these issues.

Data and Methods

Swedish Administrative Register Data

We used data for all registered migrants aged between 18 and 54 years old who arrived in Sweden in 2000 and whose labor-market activities could be observed for nine years (i.e., between 2001 and 2009). Data comes from administrative records compiled by Statistics Sweden. Information on income, country of birth, residence permits, educational degrees, student status, household composition, place of residence, parental leave benefits, and other social allowances were collected from the administrative registers held by different authorities, including the Tax Agency, the Social Insurance Agency, the Migration Agency, and from diverse higher education institutions, and linked cross-sectionally and longitudinally using Swedish social security numbers. Every migrant legally residing in Sweden for one year or longer is in this database. Although we have only covered the population of documented migrants, this is not a significant drawback because the undocumented population in our study period (estimated to be between 10,000 and 50,000 according to Envall et al. 2010) amounted to at most 3 percent of the registered foreign-born population (Statistics Sweden 2019b).

Because our goal is to study the incorporation of long-term foreign residents, we have limited our analysis to those who remained in Sweden for nine years. Therefore,

our sample differs in composition from the stock of migrants in any given year. A total of 36,935 foreign-born people whose parents and grandparents were also not born in Sweden registered as residents for the first time in 2000. After excluding those who migrated under the age of 18 or over the age of 54 ($N = 10{,}268$), those with no residence and employment data ($N = 175$), and those who were not continuously in the country between 2000 and 2009 ($N = 10{,}176$),[3] we were left with 16,316 eligible individuals. Further elimination of records missing key predictor variables (mostly education, $N = 3{,}526$) left us with 12,790 records, amounting to a missing data rate of 21.54 percent among the eligible sample.[4] Although the results presented here are based only on the complete cases, sensitivity analyses using multiple imputation yield comparable results.[5]

Table 1 presents the characteristics of our sample. The largest origin groups were, in decreasing size: "Africa, Middle East, and Central Asia"; "Eastern Europe and Russia"; and "Nordic and EU15," which altogether constituted nearly 85 percent of all cases. Roughly 26 percent of the sample came from countries that were members of the EHEA as of 2000.[6] More than half of the sample (51.5%) held a tertiary degree when arriving. Most of the migrants in our sample came to Sweden due to humanitarian reasons or family ties (23.8% and 54.4%, respectively). In addition, female migrants were somewhat overrepresented in our data, at roughly 55 percent. Most migrants in our data arrived in the three metropolitan areas and other cities,

[3] Selecting only migrants who remained in the country for nine years could lead to bias. We experimented with follow-up periods of lengths from five to 10 years and, while the sample composition in terms of all the covariates observed did not change, analyses of follow-up periods shorter than nine years could not identify all types of labor market sequence because some important transitions happen mostly in the later years (see the online Supplemental Appendix D).

[4] A total of 48.6% (7,943 cases) of the eligible sample had missing values for education. Because Statistics Sweden collects education data from newly arrived migrants via survey during their first year in Sweden, we could recover education data from the records pertaining to one calendar year after arrival. This procedure recovered 4,864 cases, amounting to 61.2% of all the cases that were missing education. The risk of conflating premigration degrees and degrees obtained in Sweden is minimal because most recovered cases (4,595) had educational degrees that take longer than one year to complete. Sensitivity analyses using only education recorded in the first year yielded comparable results but with less statistical power.

[5] We conducted sensitivity analysis using multiple imputation by chained equations. Following Allison (2001), our imputation models included all variables in our multinomial logit model, were estimated separately by migrant origin to account for group-specific patterns of missing data, and used 100 imputations. The results using multiple imputation did not differ from the one using complete-case analysis.

[6] A table showing which countries belong in each origin group and which countries were members of the EHEA in 2000 can be found in the online Supplemental Appendix A.

Table 1. Descriptive Statistics of the Sample (Migrants in Sweden, 2000–2009; $N = 12{,}790$).

Categorical variables	Count (%)
Origin	
Nordic and EU15	2,363 (18.5)
Other high-income countries	286 (2.2)
Eastern Europe and Russia	3,213 (25.1)
Africa, Middle East, and Central Asia	5,241 (41.0)
Asia and Pacific (excl. high-income countries)	1,036 (8.1)
Latin America and Caribbean	651 (5.1)
Language group	
Germanic	1,706 (13.3)
Latin	5,235 (40.9)
Non-Latin	5,849 (45.7)
Origin country EHEA member?[a]	
Yes	3,339 (26.1)
No	9,451 (73.9)
Education	
Less than tertiary education	6,201 (48.5)
Tertiary education or above	6,589 (51.5)
Admission category	
Work	1,869 (14.6)
Study	274 (2.1)
Family	6,962 (54.4)
Humanitarian	3,685 (28.8)
Sex	
Male	5,784 (45.2)
Female	7,006 (54.8)
Port of entry	
Metropolitan areas and surroundings	6,127 (47.9)
Other cities and surroundings	5,975 (46.7)
Rural and sparsely populated areas	688 (5.4)
Spouse origin	
No spouse	6,204 (48.5)
Swedish spouse	1,322 (10.3)
Immigrant spouse	5,264 (41.2)
Continuous variables	M (SD)
Age at arrival	31.3 (8.06)
Log cultural dissimilarity	3.19 (0.998)

Notes: All variables measured in the year of arrival (2000).
[a]European Higher Education Area.
Source: Swedish Population Registers, see *Data and Methods* for details.

totaling almost 95 percent of the cases. Age at arrival was, on average, in the early thirties (a mean of 31.3), and most people in our data were single when arriving (about 48%) or had a migrant spouse (nearly 41%).

Dependent Variable: A Typology of Labor-Market Sequences

Our dependent variable is a typology of labor-market sequences of the kind used in the literature to identify cumulative mobility patterns (e.g., Barbiano di Belgiojoso 2017). A total of 12,790 nine-year-long sequences consisting of annual activity states (*employed*, *self-employed*, *study*, *parental leave*, or *inactive*)[7] were clustered using a combination of hierarchical clustering and partition around medoids (Studer 2015) on a dissimilarity matrix obtained via the optimal matching algorithm (Studer and Ritschard 2016). Figure 1 describes the resulting five-fold typology.[8] The first column from the left shows the sequence of labor-market activity states for each individual migrant via index plots, where annual activity states (e.g., employment, study) are color-coded. These sequences are ordered by their representativeness within that cluster (i.e., by silhouette width, Rousseeuw and Kaufman 2005) from top to bottom. The second column uses state distribution plots to show the proportion of each activity across all sequences for every year observed. The third column displays the mean years spent in each activity state (using a bar plot), along with the average values for the index of integrative potential (Ritschard 2023). The integrative potential of a sequence measures how likely a person is to enter a state of work (i.e., employment or self-employment) and to remain in that state. It is a measure of how rapid and stable one's entry into work is, reflecting the idea that work stability is desirable. This index is normalized to fit between 0 (never working) and 1 (working every year). It gives more weight to states closer to the end of the sequence, reflecting the idea that sequences leading

[7] Migrants were considered *employed* if their largest source of income was salary from work as an employee in a company that was not their own (thus excluding people employed in their own ventures). Migrants were considered *self-employed* when listed in the registers as owning a company or when reporting income from their own company as their largest source of income (including the absolute value of losses from owning said company). Migrants with at least 40% of their income from parental leave benefits were reclassified into *parental leave* regardless of their initial classification. Likewise, migrants registered as enrolled in postsecondary education were reassigned to *studying*. Lastly, migrants who had no income from any kind of work, or who were employed, self-employed, or students but whose main source of income was a pension (including early retirement pension) or unemployment or welfare benefits were re-classified as *inactive*. Note that we do not use the more commonly adopted indicator of employment estimated from the Labor Force Survey (AKU in Swedish) because the AKU's methodology changed several times over the study period (Statistics Sweden 2019a) and our analysis requires a definition that is consistent over time.

[8] These were selected using the average silhouette width (ASW) indicator and guidelines provided by Rousseew and Kaufman (2005). The ASW for the chosen solution was 0.34, indicating a moderate structure in the data. A more detailed description of the sequence analysis and clustering method can be found in Appendix B, and extended versions of Table 1 showing the sample composition by cluster in Appendix C, both in the online supplement.

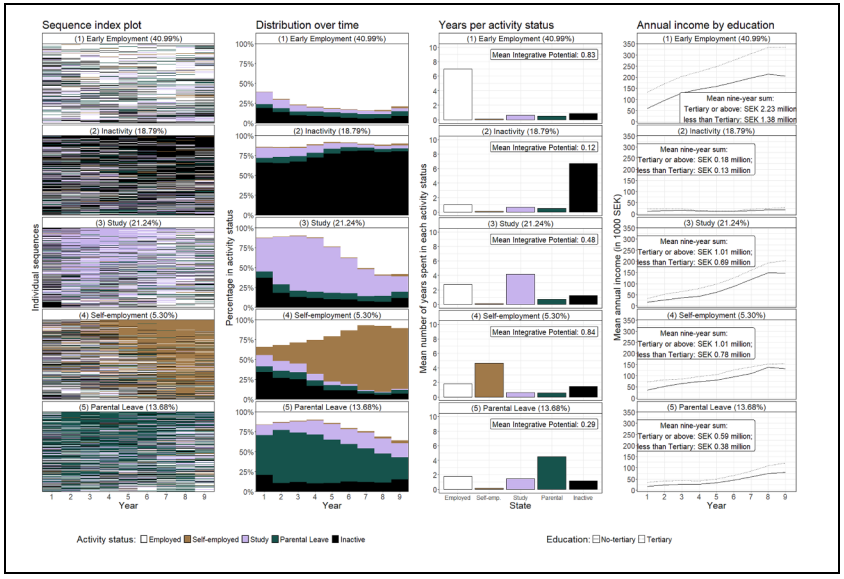


Figure 1. Labor-market sequences of migrants arriving in 2000 in Sweden, recorded from 2001 to 2009, income deflated as of 2009 ($N = 12{,}790$).

to work are better than sequences leading away from work.[9] The fourth and last column shows the mean annual income by educational level (in 1000 SEK) using a line plot, along with the mean total income over the entire period.[10] Altogether, these plots describe each cluster in terms of sequencing, timing, convergence, and length of time spent in each activity state, in addition to the economic rewards and stability associated with each sequence type.

Cluster *(1), Early employment*, was the most common outcome, comprising 40.99 percent of our sample and shown in the first row of Figure 1. It consists of early employment and long spells of employment. More than 50 percent of those in this cluster started working during the first year, and by the sixth year, about 75

[9] The formula for the index is: $I_{integr}(x) = \frac{\sum_{i=1}^{l} is.pos(x_i) i^{\omega}}{\sum_{i=1}^{l} i^{\omega}}$. In this formula, $is.pos(x_i)$ takes the value of 1 when the ith state of the sequence is a work state and 0 otherwise. The exponent ω is the weight factor given to later states within the sequence. If $\omega = 0$ the index's formula becomes equivalent to the proportion of work states in the entire sequence, with no distinction between earlier and later states. We use $\omega = 1$ following Ritschard (2023), so that sequences leading to states of work have higher values in the index.

[10] Income is pretax, pretransfers, and adjusted for inflation using the consumer price index for 2009 (the final year of observation) as a baseline. The average income for that year was SEK 266,300.

percent of all cluster members were employed. The predominant state in all these sequences was employment, with migrants in this group spending an average of seven years in that state. This cluster also spent on average one year in each of the study, parental leave, and inactive states, while self-employment was almost absent. Employment in this cluster was stable, with an integrative potential of 0.83. Mean annual income increased over time, climbing well over the average of SEK 266,300 toward the end for migrants with tertiary education and reaching about SEK 200,000 for those without. The average cumulative earnings for the period were also the highest among all clusters for both education groups.

Cluster *(2), Inactivity*, shown in the second row of Figure 1, comprises 18.79 percent of the sample. With a predominance of long spells of inactivity, this cluster starts with most members already being inactive, and the proportion in that state stabilizes at about 75 percent by year six. Migrants in this cluster were inactive for an average of seven years, and their integrative potential was the lowest, showing that their spells of employment or self-employment were short-lived. Annual income was consistently lower than SEK 50,000 throughout the study period regardless of education, substantially below the national average. Furthermore, average cumulative earnings for this cluster add up to a mere SEK 180,000 after nine years, even for migrants with tertiary education. In other words, more educated migrants in this cluster took nine years to earn less than what less educated migrants in cluster (1), *Early employment* earned in their ninth year alone.

Cluster *(3), Study*, pictured in the third row of Figure 1 and characterized by movement out of education and into employment, was the second most common, at 21.24 percent of the sample. The average migrant in this group studied for four years, with the highest proportion in education between years three and four. The average length of time in employment was about three years, concentrated toward the end of the sequence. Employment and self-employment in this cluster were moderately stable, particularly during the early years, also shown by it having the third highest integrative potential of all the clusters, at 0.48. Annual income increased sharply for this cluster, starting at about SEK 37,500 and approaching SEK 200,000 in the last year for migrants with postsecondary education. This "catching up" effect means that migrants with postsecondary education in this cluster had the third-highest cumulative earnings across all five clusters. This cluster suggests an incorporation strategy based on the acquisition of host-country educational credentials and deferred economic rewards.

Cluster *(4), Self-employment*, in the fourth row of Figure 1, is the smallest, at only 5.30 percent of the sample. It shows distinct mobility from employment and inactivity to self-employment. Starting at less than 10 percent, the proportion of self-employed increases steadily, eventually climbing to over 80 percent toward the end of the period. Migrants in this cluster were self-employed for an average of five years, with employment being the most common complementary state. With most sequences reaching steady self-employment, this cluster had the most employment stability, with an integrative potential of 0.84. Migrants in this cluster

experienced an increase in income, from an average of SEK 75,000 in the first year to about SEK 150,000 for the most educated. It had the second-highest cumulative earnings across all five clusters. However, their earnings finished below the national average, showing that strategies based on self-employment, while stable, lead to incorporation into lower-income work.

Lastly, Cluster *(5), Parental leave*, in the fifth row of Figure 1, features spells of parental leave lasting on average five years and comprises 13.68 percent of the sample. About 70 percent of migrants in this cluster started already in parental leave, with that percentage declining over time after reaching its peak during the second year. The most dominant complementary states were employment and study, each occurring on average for about two years. Any spells of work were erratic and unstable, as shown by an integrative potential of 0.29. While the defining characteristic of this group was the experience of parental leave, there was substantial heterogeneity in terms of timing and order. The index plot shows that, for some migrants, parental leave continued for extended periods, while for others, there were repeated movements in and out of that state. Their mean income started at about SEK 35,000 and increased over time, but was still below half the national average after nine years. Cumulative earnings over the nine-year period were the second lowest for all five clusters. The vast majority in this cluster were women.

These five types of labor-market sequence are each centered on a different activity (employment, study, self-employment, parental leave, and inactive) but show distinct *cumulative mobility patterns* of progression (e.g., from study to employment) and oscillation (e.g., in and out of parental leave) between activities. The stability of employment and self-employment varies markedly across clusters. As a result, each cluster displays a distinctive income progression and differs in terms of cumulative earnings. More importantly, these clusters suggest different underlying incorporation strategies. Since human capital is central to migrant incorporation strategies, we next look at how it relates to our typology of labor-market outcomes.

Modeling Strategy and Predictor Variables of Interest

Our analysis focuses on examining if, and if so how, the association between education and type of incorporation strategy differs between migrants from institutionally similar (EHEA) and institutionally dissimilar (non-EHEA) origins. In our data, education was measured on arrival and coded into a binary variable indicating whether the person had any form of tertiary degree (i.e., postsecondary undergraduate, graduate, or vocational). We assume that the degrees recorded at the time of arrival were obtained in the migrant's country of origin. The EHEA variable singles out countries that by 2000 were part of the European cross-national arrangement to facilitate the cross-border portability of higher education degrees (European Commission 2018).

We estimated a model that contains an interaction between the EHEA variable and education, allowing the education coefficient to differ between migrants whose origin countries were or were not part of the EHEA. The model specification was chosen

after contrasting it with competing specifications assuming no interaction, and assuming interactions with other aspects of the country of origin (i.e., broad geographical region, cultural dissimilarity, and linguistic dissimilarity). The choice of model specification relied on the Bayesian Information Criteria and, when applicable, Wald's χ^2 tests.[11]

We used a battery of control variables in our analysis. Starting with the possible confounders of institutional dissimilarity, we took account of the migrant's country of origin's presumed cultural and linguistic dissimilarity to Sweden. We controlled for cultural dissimilarity by using the distance between the country of origin and Sweden in the Inglehart tradition and self-preservation cultural values scale from the World Values Survey (Haerpfer et al. 2022). This index is commonly used to study migrants in Sweden (e.g., Dribe and Lundh 2011). In our data, this index ranges between 0.530 and 4.38, with larger numbers denoting countries with cultural values more dissimilar to Sweden. We used the natural log of this variable in our models because of its skewed distribution. When considering linguistic dissimilarity, we used the most commonly spoken language in a country (in our case according to the CIA factbook, Central Intelligence Agency 2022) to classify migrant origin into three groups of decreasing linguistic similarity to Sweden (i.e., Germanic, Latin, and non-Latin). This approach is analogous to that of Helgertz (2013) in a study of linguistic similarity and the labor-market outcomes of migrants in Sweden.

Another important set of controls is related to gender and family configuration, which could correlate with both education at the time of arrival and migrants' subsequent labor-market outcomes. Here, we controlled for the registered sex of the subjects, male or female, as a proxy for gender. We also controlled for marital status and nativity status (Swedish-born or not) of the spouse because marital status and intermarriage matter for labor-market outcomes (Tammaru et al. 2010). The origin-of-spouse variable has three categories: single, married or cohabiting with a Sweden-born spouse, and married or cohabiting with a migrant spouse.

Lastly, we controlled for other known confounders of the relationship between education and labor-market outcomes. Firstly, we controlled for the place of first settlement, which matters for access to job opportunities upon arrival (Hedberg and Haandrikman 2014; Vogiazides and Mondani 2020; Klaesson and Wixe 2023). The typology used consists of: Metropolitan Areas (Stockholm, Malmö, and Gothenburg, all with population $\geq$ 200,000, and their satellite municipalities); Cities and Surroundings (municipalities with population $\geq$ 15,000 residents in their main settlement, along with their satellite municipalities); and Rural and Sparsely Populated (municipalities with population $<$ 15,000 in their largest settlement along with their satellite municipalities and settlements). Secondly, we controlled for the residence permit held on arrival because these reflect premigration arrangements

[11] A detailed description of our model selection and goodness of fit statistics for our chosen model and for the alternatives is available in the online Supplemental Appendix E.

about what labor-market activities the migrant would engage in (and for how long). The categories in this variable are: Work (residence permit on the grounds of employment or business activity),[12] Study (residence due to enrollment in education), Family (residence permit due to family ties), and Humanitarian (residence permit due to asylum and humanitarian grounds). Lastly, we controlled for age at migration using both first-order and second-order terms due to its role in determining educational and labor-market outcomes.

Results

Our models show that the association between education and labor-market sequences differs between EHEA and non-EHEA migrants (i.e., that there is an interaction effect). Figure 2 shows average marginal effects (AMEs) estimated using our multinomial logistic model. For each sequence cluster, the AMEs show the expected average difference in the probability of belonging to that cluster between people with and without tertiary education, separately for EHEA and non-EHEA. AMEs are helpful when interpreting multinomial logistic regression models because, unlike odds ratios, they are not dependent on the choice of baseline category for the outcome variable, and because they can be estimated for every category of the outcome.

Because our model includes an interaction term between education and country of origin's membership in the EHEA, the AMEs for education are different for migrants from EHEA member and nonmember countries. Firstly, having a tertiary education is only positively associated with being in *cluster (1) Early employment* if the migrant comes from an EHEA member country. Those migrants are 5.7 percent more likely (AME = 0.057) to be in that cluster when they have a tertiary degree than otherwise. The same association is neither positive nor statistically significant for migrants from non-EHEA countries. Secondly, migrants with tertiary education have a lower probability of being in *cluster (2) Inactivity* regardless of country of origin's EHEA membership. The association is stronger for nonmember countries (8.1% less likely, AME = −0.081) than for member countries (3.2% less likely, AME = 0.032). Thirdly, the probability of being in *(3) Study* is higher for migrants with tertiary education, but only if their countries of origin were not part of the EHEA. Those migrants were 8.9 percent (AME = 0.089) more likely to belong to *(3) Study* if they had a tertiary degree. Finally, the AMEs for migrants from both EHEA member and nonmember countries are small and not statistically significant when it comes to *(4) Self-employment* and *(5) Parental leave*.

The average marginal effects of the control variables in our model can be seen in Table 2. Focusing on the complementary explanations for human capital transferability, we see that linguistic similarity is unrelated to *(1) Early employment*, but that

[12] This includes the right to work and conduct business in Sweden due to EU or Nordic citizenship.

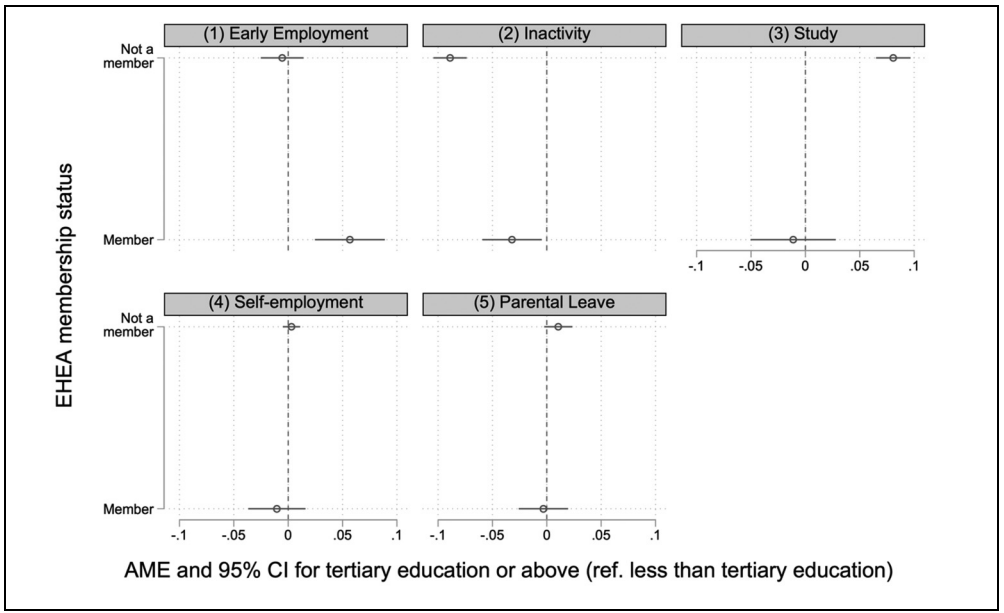


Figure 2. The interaction between education and institutional similarity (average marginal effects of education on cluster membership probability, evaluated separately by the EHEA membership status of the migrant's country of origin).
EHEA = European Higher Education Area.

migrants from countries where the dominant language is most dissimilar to Swedish (i.e., non-Latin) are 5 percent more likely to engage in *(3) Study*. Likewise, while cultural dissimilarity is not associated with *(1) Early employment*, it is positively associated with *(3) Study*. Moreover, cultural dissimilarity is negatively associated with *(5) Parental Leave*. Turning to gender, we see that women are less likely than men to be in *(1) Early employment* or *(4) Self-employment*, while being more likely to be in *(3) Study* or *(5) Parental leave*. Regarding marital status and spousal origin, having a Swedish spouse is associated with lower rates of *(2) Inactivity* and higher rates of *(5) Parental leave* but not with lower rates of *(1) Early employment*. In contrast, having a migrant spouse is associated with lower rates of *(1) Early employment* and *(3) Study*, and with higher rates of *(5) Parental leave*. Notably, the association between having a spouse and *(5) Parental leave* is stronger when the spouse is a migrant than when the spouse is native. All of these associations are in addition to the interaction between education and EHEA status described above. The remaining control variables are not discussed here for the sake of brevity.

In summary, our data shows that, when it comes to long-term labor-market incorporation trajectories, the role played by education differs by country membership in the EHEA. Migrants from EHEA member states seem to benefit more from a tertiary education when securing early entry into the labor force. For migrants from non-EHEA countries, having a tertiary education is associated with delayed entry into the labor force preceded by study. Both EHEA and non-EHEA groups seem to avoid prolonged inactivity when they have a tertiary degree. In contrast, education does not seem to matter in relation to avoiding long-term or recurring parental leave. Likewise, self-employment is not contingent upon education, regardless of migrant origin. These results were obtained while controlling for geographical region of origin, migrant admission category, cultural and linguistic dissimilarity, sex, age, port of entry, and spousal nativity.

Discussion and Conclusions

Classic host societies are undergoing a major "transition to diversity" which requires policies that support migrant incorporation into the labor market (Alba and Foner 2016). Enabling migrants to use their educational qualifications to find work in the host country has been central to some of these strategies (European Commission 2020). In Western countries, migrants of non-Western origin experience lower returns from education in terms of income and employment (Duvander 2001; Chiswick and Miller 2008; Sanromá, Ramos, and Simón 2015), but these gaps decline with time spent in the host country (Chiswick and Miller 2009; Sanromá, Ramos, and Simón 2015). Scholars have theorized that institutional barriers — in addition to linguistic and cultural factors — reduce the transferability of human capital (Chiswick and Miller 2012; Sanromá, Ramos, and Simón 2015), and that migrants overcome such barriers by acquiring a host-country education (Duvander

Table 2. Average Marginal Effects of Noninteracting Variables from Multinomial Logistic Regression Predicting Type of Labor-Market Incorporation (Migrants in Sweden, 2000–2009; $N = 12{,}790$).

	(1) Early employment	(2) Inactivity	(3) Study	(4) Self-employment	(5) Parental leave
Covariates not included in the interaction term					
Origin	(ref. Nordics and EU15)				
Other high income	−0.091*	0.026	0.067*	0.041*	−0.043*
	(0.040)	(0.033)	(0.032)	(0.020)	(0.018)
Eastern Europe and Russia	−0.055	−0.029	0.056**	0.014	0.014
	(0.028)	(0.023)	(0.021)	(0.009)	(0.017)
Africa, Middle East, and Central Asia	−0.239***	0.040	0.048	0.041**	0.110***
	(0.032)	(0.028)	(0.025)	(0.014)	(0.023)
Asia and Pacific (excl. high income)	−0.039	−0.046	0.035	0.045**	0.004
	(0.035)	(0.027)	(0.024)	(0.016)	(0.019)
Latin America and Caribbean	−0.127***	−0.059*	0.144***	0.047*	−0.004
	(0.037)	(0.028)	(0.031)	(0.019)	(0.021)
Admission category	(ref. work)				
Study	−0.316***	0.113***	0.284***	−0.039***	−0.042*
	(0.029)	(0.032)	(0.033)	(0.010)	(0.019)
Family ties	−0.116***	0.025	0.019	0.010	0.061***
	(0.019)	(0.014)	(0.016)	(0.008)	(0.014)
Humanitarian	−0.192***	0.084***	0.051**	−0.007	0.063***
	(0.021)	(0.016)	(0.018)	(0.009)	(0.015)
Language group	(ref. Germanic)				
Latin	0.034	−0.048**	0.017	−0.013	0.011
	(0.020)	(0.018)	(0.018)	(0.009)	(0.018)
Non-Latin	−0.021	−0.024	0.053*	0.013	−0.021
	(0.024)	(0.022)	(0.022)	(0.013)	(0.020)
Cultural dissimilarity (log)	0.026	−0.041*	0.089***	−0.013	−0.061**
	(0.022)	(0.018)	(0.023)	(0.009)	(0.019)

(continued)

Table 2. (continued)

	(1) Early employment	(2) Inactivity	(3) Study	(4) Self-employment	(5) Parental leave
Sex	(ref. male)				
Female	−0.222***	−0.013	0.086***	−0.049***	0.198***
	(0.009)	(0.007)	(0.008)	(0.005)	(0.005)
Age at arrival[a]	0.002***	0.011***	−0.006***	0.000	−0.007***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
Port of entry	(ref. metropolitan areas and surroundings)				
Cities and surroundings	−0.021*	−0.016*	0.015*	−0.001	0.023***
	(0.009)	(0.007)	(0.007)	(0.004)	(0.006)
Rural and sparsely populated	−0.053**	0.017	−0.039*	0.046***	0.028*
	(0.018)	(0.015)	(0.016)	(0.012)	(0.013)
Marital status and spousal origin	(ref. no spouse)				
Swedish spouse	0.007	−0.027*	−0.018	0.006	0.032**
	(0.015)	(0.012)	(0.013)	(0.007)	(0.010)
Migrant spouse	−0.036***	−0.009	−0.023**	−0.004	0.072***
	(0.010)	(0.008)	(0.008)	(0.005)	(0.007)
Adjusted pseudo-R^2	0.151				
Observations	12,790				

Notes: Standard errors in parentheses.
Marginal effects are evaluated at the observed values. All covariates were measured on arrival to Sweden.
[a]Age is modeled as a quadratic term but a linear approximation is presented above.
* $p < .05$, ** $p < .01$, *** $p < .001$.
Source: Swedish Population Registers, see *Data and Methods* for details.

2001; Zwysen 2019). Focusing on *single summary indicators*, these accounts of what migrants do to enable them to use their human capital are often extrapolated from relationships between education and income or education and employment status, without examining what labor-market activities migrants engaged in over time. In contrast, we have analyzed *cumulative mobility patterns* observed in sequences of labor-market activity states, which can tell us about the series of activities performed by (and events experienced by) migrants during labor-market incorporation. This approach enables us to infer incorporation strategies from the data and study how other factors relate to these strategies. More than just confirming the differences in payoff from education reported in the literature, our approach shows that, depending on where migrants come from, education matters differently for *how* they achieve labor-market incorporation. Finally, by taking competing cultural and linguistic factors into account, we aimed to investigate the net role of institutional dissimilarity in moderating the role of education.

Supporting the literature on the transferability of human capital, our results show that the association between education and what migrants do to become incorporated into the labor market depends upon how similar the institutions governing the use of educational credentials are between the country of origin and the host country. At first glance, having a tertiary degree upon arrival is associated with a lower probability of long-term inactivity regardless of institutional similarity, net of linguistic and cultural confounding factors, and other important factors such as gender. However, how human capital helps migrants to avoid inactivity differs between institutionally similar and dissimilar countries. Only migrants from institutionally similar countries seem to use their human capital to achieve a swift entry into the labor market. In contrast, migrants with tertiary degrees from less institutionally similar countries tend to study before starting employment in the host country. For migrants from more institutionally similar countries, we find no relationship between educational level upon arrival and further education in the host country, suggesting that their incorporation strategies do not require the acquisition of host-country credentials. Due to their efforts to obtain a host-country education in order to overcome barriers to human capital transferability, migrants from less institutionally similar countries initially delay employment and forgo earnings, but manage to catch up over time. This would appear in a conventional analysis using single summary indicators as a deficit in returns from education that diminishes over time. Our analysis shows that, underlying these statistical patterns previously described in the literature, there are different sequences of labor-market activities, varying levels of employment stability, and unequal economic rewards derived from diverse incorporation strategies. Additionally, incorporation based on self-employment, a stable strategy for incorporation but with lower earnings, was not associated with educational credentials, regardless of migrant origin. This confirms the role of self-employment as a strategy for escaping labor-market exclusion that does not depend upon human capital (Nee and Sanders 2001; Blume et al. 2009), but does lead to much lower economic rewards (Hjerm 2004). Altogether, our analysis refines existing explanations

for unequal incorporation outcomes because it pinpoints how institutions shape the underlying incorporation *strategies* of migrants with different origins and educational levels.

Our results are also relevant to the New Institutionalist approach to economic action (Brinton and Nee 1998) adopted by New Assimilation Theory to explain the variety of migrant incorporation outcomes (Nee and Sanders 2001; Alba and Nee 2009; Alba and Foner 2016). Research in this field has traditionally emphasized the role of national models based on labor-market and welfare typologies (Alba and Foner 2014), often through cross-country comparisons, but there have been recent calls to study specific "social, political, and economic institutions that create barriers as well as bridges" (Alba and Foner 2014, S263). The role played by the EHEA in our findings suggests an explanation involving one such specific institution.

For policymakers willing to enable migrants to find work, our results highlight the importance of credential portability and a host-country education. Our findings support the underlying assumptions of recent integration policies, which are increasingly more focused on enabling migrants to use their credentials and to acquire new ones in the host country (European Commission 2020). We show that acquiring host-country degrees to find a job is a strategy adopted by many migrants, underscoring the importance of enabling such a strategy by providing access to a host-country education. Swedish migration policy has become more restrictive (Hagelund 2020), with expectations of employment and income levels figuring more prominently in, for example, family migration (Bech, Borevi, and Mouritsen 2017). These expectations may not be met if barriers to human capital transferability are not overcome.

Some relevant incidental findings of our analysis are that incorporation outcomes centered around parental leave are more common among migrant women and that migrant women with migrant spouses are more likely to have parental-leave-centered outcomes than single migrant women or migrant women with Swedish spouses. In our models, education did not matter for engagement in parental leave-centered incorporation, regardless of migrant origin. Altogether, these findings suggest that factors other than human capital transferability are at play for that type of incorporation outcome, and that those factors are gendered. However, our analysis did not examine whether the intersections between human capital, migrant origin, and incorporation outcomes could differ by gender. It is possible that the role of education would differ simultaneously for men and women and across different migrant origins. Given the primacy of gender in explaining labor-market outcomes, this merits further investigation. Unfortunately, we are unable to partition our models further by gender without running into technical issues because some combinations of variables have very small counts in our data, especially when it comes to the combination of educational levels and countries of origin. Future studies focusing on gender differences with larger datasets could shed more light on the gendered nature of strategies used to overcome barriers to human capital transferability.

There are limitations to our study. Firstly, in order to study long-term incorporation strategies, we had to ignore migrants who were in Sweden for shorter stays. Our

tests show that length of stay does not influence the sample composition (see Appendix D), but there is still the potential for selectivity by unobserved characteristics. Therefore, our results only apply to migrants settling in the country for the long term. Secondly, we used annual data, which may hide employment dynamics unfolding on a finer timescale. This includes shorter stays in the country or abroad, which are not documented in the registers. Thirdly, we could not use data on foreign credential recognition. The number of migrants who obtain formal recognition of their existing credentials has been relatively small over the years (Tibajev and Hellgren 2019), because the existence of these programs is not widely known (Joyce 2015; Mackay, Lindstöm, and Stjernström 2015). The system often awards qualifications at a lower level than that of the original credential (Andersson and Osman 2008), and migrants from outside the EU benefit less from (and are less likely to obtain) recognition (Andersson and Osman 2008; Tibajev and Hellgren 2019). Therefore, we would expect that including recognition would not affect the patterns observed in our study to any significant extent. Lastly, our register data does not include measures of language proficiency, which is a relevant control variable. Although we used language group as a proxy for the ease of language learning, as is praxis in studies using register data (Helgertz 2013), using a measure of language proficiency would be an improvement. As more data sources become available, these limitations can be addressed by future studies.

Acknowledgements

The authors would like to thank Benjamin Jarvis for providing a measure of cultural dissimilarity based on the World Values Survey.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Forskningsrådet om Hälsa, Arbetsliv och Välfärd, Vetenskapsrådet, Svenska Forskningsrådet Formas (Grant Nos. 2016-07105, 2022-01681, and 2021-00534).

ORCID iDs

Guilherme Kenji Chihaya https://orcid.org/0000-0002-5219-6784
Charlotta Hedberg https://orcid.org/0000-0001-7888-780X

Supplemental Material

Supplemental material for this article is available online.

References

Abbott, A. 1992. "From Causes to Events: Notes on Narrative Positivism." *Sociological Methods & Research* 20 (4): 428–55. https://doi.org/10.1177/00491241920200040.

Adsera, A., and B. R. Chiswick. 2007. "Are There Gender and Country of Origin Differences in Immigrant Labor Market Outcomes Across European Destinations?" *Journal of Population Economics* 20 (3): 495–526. https://doi.org/10.1007/s00148-006-0082-y.

Alba, R., and N. Foner. 2014. "Comparing Immigrant Integration in North America and Western Europe: How Much Do the Grand Narratives Tell Us?" *International Migration Review* 48 (S1): 263–91. https://doi.org/10.1111/imre.12134.

———. 2016. "Integration's Challenges and Opportunities in the Wealthy West." *Journal of Ethnic and Migration Studies* 42 (1): 3–22. https://doi.org/10.1080/1369183X.2015.1083770.

Alba, R. D., and V. Nee. 2009. *Remaking the American Mainstream*. Cambridge: Harvard University Press.

Allison, P. D. 2001. *Missing Data*. London: Sage.

Andersson, P., and A. Osman. 2008. "Recognition of Prior Learning as a Practice for Differential Inclusion and Exclusion of Immigrants in Sweden." *Adult Education Quarterly* 59 (1): 42–60. https://doi.org/10.1177/0741713608325173.

Andersson, R., L. M. Turner, and E. Holmqvist. 2010. *Contextualising Ethnic Residential Segregation in Sweden: Welfare, Housing and Migration-Related Policies*. Uppsala: Institute for Housing and Urban Research, Uppsala University.

Barbiano di Belgiojoso, E. 2017. "The Occupational (Im)Mobility of Migrants in Italy." *Journal of Ethnic and Migration Studies* 27 (3): 1–24. https://doi.org/10.1080/1369183X.2017.1414585.

Bech, E. C., K. Borevi, and P. Mouritsen. 2017. "A 'Civic Turn' in Scandinavian Family Migration Policies? Comparing Denmark, Norway and Sweden." *Comparative Migration Studies* 5 (1): 7. https://doi.org/10.1186/s40878-016-0046-7.

Becker, G. S. 1964. *Human Capital*. Chicago: University of Chicago Press.

Beenstock, M., B. R. Chiswick, and G. L. Repetto. 2001. "The Effect of Linguistic Distance and Country of Origin on Immigrant Language Skills: Application to Israel." *International Migration* 39 (3): 33–60. https://doi.org/10.1111/1468-2435.00155.

Blume, K., M. Ejrnæs, H. S. Nielsen, and A. Würtz. 2009. "Labor Market Transitions of Immigrants with Emphasis on Marginalization and Self-Employment." *Journal of Population Economics* 22 (4): 881–908. https://doi.org/10.1007/s00148-008-0191-x.

Brinton, M. C., and V. Nee, eds. 1998. *The New Institutionalism in Sociology*. New York: Russell Sage Foundation.

Brubaker, R. 2001. "The Return of Assimilation? Changing Perspectives on Immigration and Its Sequels in France, Germany, and the United States." *Ethnic and Racial Studies* 24 (4): 531–48. https://doi.org/10.1080/01419870120049770.

Carlsson, M. 2010. "Experimental Evidence of Discrimination in the Hiring of First- and Second-Generation Immigrants." *Labour (Committee. on Canadian Labour History)* 24 (3): 263–78. https://doi.org/10.1111/j.1467-9914.2010.00482.x.

Central Intelligence Agency. 2022. "The World Factbook".

Chapman, B. J., and R. R. Iredale. 1993. "Immigrant Qualifications: Recognition and Relative Wage Outcomes." *The International Migration Review* 27 (2): 359–87. https://doi.org/10.2307/2547129.

Chiswick, B. R., and P. W. Miller. 2008. "Why Is the Payoff to Schooling Smaller for Immigrants?" *Labour Economics* 15 (6): 1317–40. https://doi.org/10.1016/j.labeco.2008.01.001.

———. 2009. "The International Transferability of Immigrants' Human Capital." *Economics of Education Review* 28 (2): 162–69. https://doi.org/10.1016/j.econedurev.2008.07.002.

———. 2010. "The Effects of Educational-Occupational Mismatch on Immigrant Earnings in Australia, with International Comparisons." *International Migration Review* 44 (4): 869–98. https://doi.org/10.1111/j.1747-7379.2010.00829.x.

———. 2012. "Negative and Positive Assimilation, Skill Transferability, and Linguistic Distance." *Journal of Human Capital* 6 (1): 35–55. https://doi.org/10.1086/664794.

Dahl, M. 2022. "Alike but Different: How Cultural Distinctiveness Shapes Immigrant-Origin Minorities' Access to the Labour Market." *Journal of International Migration and Integration* 23 (4): 2269–87. https://doi.org/10.1007/s12134-021-00844-y.

Donato, K. M., B. Piya, and A. Jacobs. 2014. "The Double Disadvantage Reconsidered: Gender, Immigration, Marital Status, and Global Labor Force Participation in the 21st Century." *International Migration Review* 48 (1_suppl): 335–76. https://doi.org/10.1111/imre.12142.

Dribe, M., and C. Lundh. 2011. "Cultural Dissimilarity and Intermarriage: A Longitudinal Study of Immigrants in Sweden 1990–2005." *International Migration Review* 45 (2): 297–324. https://doi.org/10.1111/j.1747-7379.2011.00849.x.

Duvander, A.-Z. 2001. "Do Country-Specific Skills Lead to Improved Labor Market Positions?: An Analysis of Unemployment and Labor Market Returns to Education among Immigrants in Sweden." *Work and Occupations* 28 (2): 210–33. https://doi.org/10.1177/0730888401028002005.

Envall, E., S. Vestin, C. Björngren Caudra, A. Staaf, H. Ascher, and S. Khosravi. 2010. "Papperslösa" In *Social Rapport 10*, edited by D. Biterman, 268–87. Stockholm: Socialstyrelsen.

European Commission. 2018. *The European Higher Education Area in 2018: Bologna Process Implementation Report*. Luxembourg: Publications Office of the European Union.

———. 2020. "Action Plan on Integration and Inclusion 2021-2027." Retrieved April 22, 2024 (https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0758).

Florian, S., C. Flippen, and E. Parrado. 2023. "The Labor Force Trajectories of Immigrant Women in the United States: Intersecting Individual and Gendered Cohort Characteristics." *International Migration Review* 57 (1): 95–127. http://dx.doi.org/10.1177/01979183221076781.

Fuller, S. 2015. "Do Pathways Matter? Linking Early Immigrant Employment Sequences and Later Economic Outcomes: Evidence from Canada." *The International Migration Review* 49 (2): 355–405. https://doi.org/10.1111/imre.12094.

———, and T. F. Martin. 2012. "Predicting Immigrant Employment Sequences in the First Years of Settlement." *International Migration Review* 46 (1): 138–90. https://doi.org/10.1111/j.1747-7379.2012.00883.x.

Ganzeboom, H. B. G., and D. J. Treiman. 1996. "Internationally Comparable Measures of Occupational Status for the 1988 International Standard Classification of Occupations." *Social Science Research* 25 (3): 201–39. https://doi.org/10.1006/ssre.1996.0010.

Grönlund, A., and M. Fairbrother. 2022. "No Escape from Tradition? Source Country Culture and Gendered Employment Patterns among Immigrants in Sweden." *International Journal of Sociology* 52 (1): 49–77. https://doi.org/10.1080/00207659.2021.1978192.

Haerpfer, C., R. Inglehart, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin, and B. Puranen (eds.). 2022. *World Values Survey: Round Seven - Country-Pooled Datafile Version 5.0*. Madrid, Spain & Vienna, Austria: JD Systems Institute & WVSA Secretariat. https://doi.org/10.14281/18241.24.

Hagelund, A. 2020. "After the Refugee Crisis: Public Discourse and Policy Change in Denmark, Norway and Sweden." *Comparative Migration Studies* 8 (1): 13. https://doi.org/10.1186/s40878-019-0169-8.

Hainmueller, J., and D. J. Hopkins. 2014. "Public Attitudes Toward Immigration." *Annual Review of Political Science* 17: 225–49. https://doi.org/10.1146/annurev-polisci-102512-194818.

Hartog, J. 2000. "Over-Education and Earnings: Where Are We, Where Should We Go?" *Economics of Education Review* 19 (2): 131–47. https://doi.org/10.1016/S0272-7757(99)00050-3.

Heath, A. F., C. Rothon, and E. Kilpi. 2008. "The Second Generation in Western Europe: Education, Unemployment, and Occupational Attainment." *Annual Review of Sociology* 34 (1): 211–35. https://doi.org/10.1146/annurev.soc.34.040507.134728.

Hedberg, C., and K. Haandrikman. 2014. "Repopulation of the Swedish Countryside: Globalisation by International Migration." *Journal of Rural Studies* 34: 128–38. https://doi.org/10.1016/j.jrurstud.2014.01.005.

Helgertz, J. 2013. "Pre- to Post-Migration Occupational Mobility of First Generation Immigrants to Sweden from 1970–1990: Examining the Influence of Linguistic Distance." *Population Research and Policy Review* 32 (3): 437–67.

Hilson, M. 2007. *The Nordic Model: Scandinavia Since 1945*. London: Reaktion Books.

Hjerm, M. 2004. "Immigrant Entrepreneurship in the Swedish Welfare State." *Sociology* 38 (4): 739–56. https://doi.org/10.1177/0038038504045862.

Jones, J. 2019. "From Open Doors to Closed Gates: Intragenerational Reverse Incorporation in New Immigrant Destinations." *International Migration Review* 53 (4): 1002–31.

Joppke, C. 2007. "Transformation of Immigrant Integration: Civic Integration and Antidiscrimination in the Netherlands, France, and Germany." *World Politics* 59 (02): 243–73.

Joyce, P. 2015. *Integrationspolitik Och Arbetsmarknaden - Översikt Av Integrationsåtgärder I Sverige 1998-2014*. Stockholm: Delmi.

Kanas, A., and F. van Tubergen. 2009. "The Impact of Origin and Host Country Schooling on the Economic Performance of Immigrants." *Social Forces* 88 (2): 893–915. https://doi.org/10.1353/sof.0.0269.

Klaesson, J., and S. Wixe. 2023. "Place and Immigrant Labour Market Integration: A Sequence Analysis Approach." *European Urban and Regional Studies* 30 (4): 404–29. https://doi.org/10.1177/09697764231166358.

Kogan, I. 2006. "Labor Markets and Economic Incorporation among Recent Immigrants in Europe." *Social Forces* 85 (2): 697–721. https://doi.org/10.1353/sof.2007.0014.

———. 2007. "A Study of Immigrants' Employment Careers in West Germany Using the Sequence Analysis Technique." *Social Science Research* 36 (2): 491–511. https://doi.org/10.1016/j.ssresearch.2006.03.004.

Lemaître, G. 2007. "The Integration of Immigrants into the Labour Market: The Case of Sweden." *OECD Social, Employment and Migration Working Papers Nr* 48: 1–50.

Mackay, H., I.-M. Lindstöm, and O. Stjernström. 2015. "Sweden: Evaluation of, and Feedback from, Sweden's SKC Recognition System." In *The Diversity Value: How to Reinvent the European Approach to Immigration*, edited by L. Zanfrini, 277–88. Maidenhead: UK: McGraw-Hill.

Nee, V., and J. Sanders. 2001. "Understanding the Diversity of Immigrant Incorporation: A Forms-of-Capital Model." *Ethnic and Racial Studies* 24 (3): 386–411. https://doi.org/10.1016/j.ssresearch.2006.03.004.

Nieto, S., A. Matano, and R. Ramos. 2015. "Educational Mismatches in the EU: Immigrants vs Natives." *International Journal of Manpower* 36 (4): 540–61. https://doi.org/10.1108/IJM-11-2013-0260.

O.E.C.D. 2014. *OECD Factbook 2014: Economic, Environmental and Social Statistics*. Paris: OECD.

Raux, M. 2023. "Cultural Differences and Immigrants' Wages." *Labour Economics* 82: 102361. https://doi.org/10.1016/j.labeco.2023.102361.

Ritschard, G. 2023. "Measuring the Nature of Individual Sequences." *Sociological Methods & Research* 52 (4): 2016–49. https://doi.org/10.1177/00491241211036156.

Rosholm, M., K. Scott, and L. Husted. 2006. "The Times They Are A-Changin': Declining Immigrant Employment Opportunities in Scandinavia." *International Migration Review* 40 (2): 318–47. https://doi.org/10.1111/j.1747-7379.2006.00019.x.

Rousseeuw, P. J., and L. Kaufman. 2005. *Finding Groups in Data: An Introduction to Cluster Analysis*. Hoboken: Wiley.

Rydgren, J. 2004. "Mechanisms of Exclusion: Ethnic Discrimination in the Swedish Labour Market." *Journal of Ethnic and Migration Studies* 30 (4): 697–716. https://doi.org/10.1080/1369183042000245906.

———. 2017. "Radical Right-Wing Parties in Europe: What's populism got to do with it?." *Journal of Language and Politics* 16 (4): 485–96. https://doi.org/10.1075/jlp.17024.ryd.

Sainsbury, D. 2006. "Immigrants' Social Rights in Comparative Perspective: Welfare Regimes, Forms in Immigration and Immigration Policy Regimes." *Journal of European Social Policy* 16 (3): 229–44. https://doi.org/10.1177/0958928706065594.

Sanromá, E., R. Ramos, and H. Simón. 2015. "Portability of Human Capital and Immigrant Overeducation in Spain." *Population Research and Policy Review* 34 (2): 223–41. https://doi.org/10.1007/s11113-014-9340-y.

Schierup, C.-U., and A. Ålund. 2011. "The End of Swedish Exceptionalism? Citizenship, Neoliberalism and the Politics of Exclusion." *Race & Class* 53 (1): 45–64. https://doi.org/10.1177/0306396811406780.

Statistics Sweden. 2019a. "Bakgrundsfakta Arbetsmarknads- och utbildningsstatistiken".

———. 2019b. "Utrikes Födda i Sverige".

Studer, M. 2013. "WeightedCluster Library Manual: A Practical Guide to Creating Typologies of Trajectories in the Social Sciences with R." LIVES Working Papers 24: 1–32. https://doi.org/10.12682/LIVES.2296-1658.2013.24.

Studer, M., and G. Ritschard. 2016. "What Matters in Differences Between Life Trajectories: A Comparative Review of Sequence Dissimilarity Measures." *Journal of the Royal Statistical Society* 179 (2): 481–511. https://doi.org/10.1111/rssa.12125.

Tammaru, T., M. Strömgren, O. Stjernström, and U. Lindgren. 2010. "Learning Through Contact? The Effects on Earnings of Immigrant Exposure to the Native Population." *Environment & Planning A* 42 (12): 2938–55. https://doi.org/10.1068/a4396.

Tibajev, A., and C. Hellgren. 2019. "The Effects of Recognition of Foreign Education for Newly Arrived Immigrants." *European Sociological Review* 27: 127–16. https://doi.org/10.1093/esr/jcz011.

Vogiazides, L., and H. Mondani. 2020. "A Geographical Path to Integration? Exploring the Interplay Between Regional Context and Labour Market Integration among Refugees in Sweden." *Journal of Ethnic and Migration Studies* 46 (1): 23–45. https://doi.org/10.1080/1369183X.2019.1588717.

Waters, M. C., and T. R. Jiménez. 2005. "Assessing Immigrant Assimilation: New Empirical and Theoretical Challenges." *Annual Review of Sociology* 31 (1): 105–25. https://doi.org/10.1146/annurev.soc.29.010202.100026.

Zwysen, W. 2019. "Different Patterns of Labor Market Integration by Migration Motivation in Europe: The Role of Host Country Human Capital." *International Migration Review* 53 (1): 59–89. https://doi.org/10.1177/0197918318767929.