In scholarly and policy discussions, the socioeconomic integration of migrants takes center stage, particularly noteworthy given the significant influx of migrants to Sweden in recent decades. In Migration Trajectories and Education, I emphasize the pivotal role of migrants' educational trajectories and attainment in shaping their integration pathways. Consisting of three scientific articles and an extended introduction, the thesis explores the factors influencing educational attainment and enrollment trajectories among adult migrants in Sweden, examining their geographical manifestations.

By employing statistical methods to analyze longitudinal individual-level register data, the thesis illuminates the strengths and weaknesses associated with utilizing register data on migrants' education. It also reveals education as a key determinant influencing migrants' initial residential patterns, with highly educated migrants predominantly gravitating towards metropolitan areas upon arrival. Moreover, the thesis underscores the significance of adult education as a crucial component in the labor market integration process of refugees. It elucidates that refugees pursue diverse educational pathways, influenced by both individual background characteristics and structural factors.
Migration Trajectories and Education
Measurement, Spatial Patterns and Integration Pathways of Adult Migrants

Samaneh Khaef

Academic dissertation for the Degree of Doctor of Philosophy in Geography with Emphasis on Human Geography at Stockholm University to be publicly defended on Friday 26 April 2024 at 13.00 in De Geersalen, Geovetenskapens hus, Svante Arrhenius väg 14.

Abstract
Following the substantial influx of migrants to Sweden in recent decades, the socioeconomic integration processes of migrants have become a key focus for scholars and policymakers. In this thesis, I acknowledge the multifaceted role of education for both individuals and society, and aim to describe, explain, and examine the determinants and geographical manifestation of educational attainment and educational enrollment trajectories of adult migrants in Sweden, employing quantitative analyses and longitudinal register data. This thesis consists of an overarching introduction and three scientific articles, building upon empirical studies and a wide-ranging body of theories and conceptual frameworks, including human capital and neoclassical theories, the aspirations-capabilities framework, and the concept of lifelong learning, reflecting different conventions and assumptions relevant to this thesis.

Paper I examines the sources of educational information for migrants upon arrival and the time to registration of migrants' education over a ten-year follow-up period. The paper shows that the Swedish Employment Service and a survey of foreign-born individuals are the primary sources providing self-reported information about migrants' education upon arrival. Using event history analysis, I show that registration of migrants' education improves with longer residency in Sweden, particularly two years after arrival, with variations among migrant groups. The majority of refugees and family migrants have their education registered after two years, while for Nordic migrants, length of residency has little impact on registration of their education.

Paper II, drawing upon neoclassical migration theories and the aspirations-capabilities framework, characterizes migrants' initial settlement patterns across the urban hierarchy, considering their educational attainment, alongside region of origin, migration purpose, and stage in the life course. The findings reveal that education strongly influences the spatial settlement patterns of migrants, with higher- and medium-educated migrants being more likely to reside in metropolitan areas. The results also show that rural settlement is particularly common among Nordic and African migrants, resettled refugees, older migrants, and families with young children.

Paper III uses sequence analysis to examine the educational enrollment trajectories of refugees. Five typical pathways are identified: exclusion, short language courses and early career, mixed career, long participation in municipal adult education and late career, and emigration. The results show that refugees from vulnerable backgrounds, including women, older, lower educated refugees, and those originating from less developed countries, often face marginalization and exclusion in Sweden, while those from less vulnerable backgrounds are more likely to follow an early career path.

The thesis increases awareness of the advantages and disadvantages associated with using register data on migrants' education. It also demonstrates that migrants' educational attainment is a strong determinant affecting their initial spatial sorting patterns. Furthermore, it shows that refugees follow different educational enrollment pathways with varying labor market outcomes depending on their pre-migration educational level, gender, age, place of living in Sweden, presence of children in the family, use of parental leave, as well as structural factors.

Keywords: Educational attainment, Educational enrollment, Trajectories, Socioeconomic integration, Migrants, Refugees, Sweden, Longitudinal data analyses, Register data, Educational registers.

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Migration Trajectories and Education
Measurement, Spatial Patterns and Integration Pathways of Adult Migrants

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To my beloved son, Adrian, who has shown me the beauty of growing up again and has been my endless source of inspiration.
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Stockholm, March 2024
List of Papers

This dissertation consists of three papers, which are referred to in the text by Roman numerals

**Paper I**


**Paper II**


**Paper III**


**Co-authored paper**

Paper II was co-authored with Karen Haandrikman from the Department of Human Geography at Stockholm University. Samaneh is the first author of the paper and played a leading role in the drafting the initial idea, developing the theoretical framework, formulating the study design, and conducting the empirical parts, including spatial analysis. Both authors contributed to writing, analyzing, and interpreting the results, as well as providing concluding remarks. Additionally, both authors participated in the revision process and approved the final version.
## Contents

Acknowledgements ........................................................................................................... i

List of Papers ....................................................................................................................... v

Contents .............................................................................................................................. vi

1. Introduction ......................................................................................................................... 1
   Research aim and research questions ............................................................................. 5
   Contributions ..................................................................................................................... 6
   Structure of the thesis ....................................................................................................... 7

2. Introducing the Swedish context ...................................................................................... 9
   Immigration patterns over time ....................................................................................... 9
   The introduction programs .............................................................................................. 13
   The Swedish adult educational system ........................................................................... 15
   Educational composition of the adult population ........................................................... 19

3. Theoretical and conceptual frameworks ........................................................................... 28
   Human capital theory: A critical reflection ...................................................................... 28
   Educational aspirations among migrants ......................................................................... 31
   Lifelong learning and adult education ............................................................................ 33
   Education and residential settlement: The neoclassical theory ...................................... 35
   The aspirations-capabilities framework ......................................................................... 37

4. Methodology, data, and methods ..................................................................................... 40
   Methodology .................................................................................................................... 40
   Swedish register data ...................................................................................................... 41
   Methods for longitudinal analysis .................................................................................. 45
   Ethical considerations ...................................................................................................... 48
   Positionality ..................................................................................................................... 49

5. Summary of papers ........................................................................................................... 51

6. Concluding discussion ...................................................................................................... 57
   Policy implications and recommendations ..................................................................... 60
   Limitations and further research .................................................................................... 64

Sammanfattning på svenska ............................................................................................... 67

References ............................................................................................................................ 71

Appendix: Identification of geographical clusters of migrants by education ................. 95
List of figures

Figure 1. Total number of migrants arriving in Sweden in the period 2004-2022 by grounds for settlement ................................................................. 12

Figure 2. The educational system in Sweden ............................................. 17

Figure 3. Highest completed educational level of the adult population, age 25-64, 1990-2021 ................................................................................. 20

Figure 4. Highest completed educational level of Swedish and foreign-born individuals aged 25-64 in 2021 ......................................................... 21

Figure 5. Highest completed educational level, excluding migrants with missing information on education, for migrants aged 25-64 in Sweden in 2021, by ground for settlement....................................................... 23

Figure 6. Highest completed education level, excluding migrants with missing information on education, among the 10 largest groups of foreign-born individuals aged 25-64 in 2021 ......................................................... 24

Figure 7. Individualized neighborhoods classified into clusters based on the proportion of newly arrived immigrants with different levels of education among the 500 nearest newly arrived immigrants, who entered Sweden in 2008-2011 ................................................................. 26

Figure 8. Ternary plot of the proportion of immigrants with different levels of education across the 500 nearest newly arrived migrant neighbors, by cluster type ........................................................................................................ 96
1. Introduction

Education holds significant values for both individuals and society. On the individual level, education has a profound positive influence on an individual’s labor market status, including their employment, wages, and occupation (e.g., see Bhuller et al., 2014; Heckman et al., 2018; Tamborini & Sakamoto, 2015). Beyond economic benefits, scholarship has also highlighted the broader advantages of education for individuals, including improvements in their mental and physical health, crime prevention, and increased tolerance of different political viewpoints (Lance, 2011; Sampson & Laub, 2003; Schuller et al., 2004). At the societal level, education is widely recognized as a valuable commodity in contemporary society, which is often referred to as a "knowledge society" (Bindé, 2005). Education equips individuals with the knowledge and skills necessary to participate in the workforce, and contributes to productive industries, innovation, and entrepreneurship. Furthermore, education plays a crucial role in shaping and transmitting shared values, strengthening social capital, and promoting a sense of belonging, ultimately enhancing social cohesion within society (Camilleri & Camilleri, 2016; Nicaise, 2012; OECD, 2012). Thus, the values of education extend far beyond individuals to benefit the society as a whole.

Given the multitude of impacts of education on individuals and society, it is reasonable to argue that for migrants, who face substantial difficulties in establishing themselves in a new country, education represents a valuable asset to their integration pathway. Integration—a multifaceted process where migrants and the host society engage in mutual accommodation—is crucial for fostering a sense of belonging. Participation in host country schooling equips migrants with crucial skills, including proficiency in the host country’s language, local knowledge, and expertise, all of which can enhance migrants’ economic prospects. Additionally, through interactions with their fellow students and teachers in a learning context, migrants have the opportunity to improve their social networks and self-confidence, and acquire the social norms of the host society, all of which facilitate their daily integration process (Boeren, 2019; Söhn, 2016). Thus, education emerges as a key factor for enhancing migrants’ overall integration into a new country, which is paramount for fostering social cohesion and ensuring economic viability for both migrants and the host society (Dumont & Liebig, 2014; Portes & Vickstrom, 2011). Conversely, the challenges faced by migrants in their integration processes, which impede their socioeconomic progress, result in significant societal and economic costs. These challenges not only impact the migrants...
individually but also impose substantial burdens on the receiving country (Ruist, 2015).

Over the past 50 years, Sweden has experienced a significant influx of migrants, with a notable increase of individuals from non-European backgrounds and of refugees. Considering the substantial diversity in demographics, socio-economic, and educational composition among migrants to Sweden in the last 20 years (Åslund et al., 2017; Bevelander & Irastorza, 2014), it is reasonable to deduce that their integration pathways are intricate and diverse. Against this backdrop this thesis will explore migrants’ educational attainment and enrollment trajectories, acknowledging the multifaceted role of education as an essential determinant of the integration process.

As an integral component of integration, migrants’ place of residence plays a crucial role, serving both as a determinant and as an outcome of the integration process. In this regard, the neoclassical theory (Harris & Todaro, 1970; Sjaastad, 1962; Todaro, 1969) is a classic theoretical framework proposed to explain the destination choices of migrants, on the basis of utility maximization. According to this framework, individuals who are presumed to be rational actors, select a particular geographic location to optimize the economic returns on their human capital. The diversity in migrants’ human capital and differences in economic conditions across regions lead to diverse residential patterns, driven by the opportunities offered by different destinations. Within this economic theoretical framework, higher educated migrants are often attracted to and destined to settle particularly in large cities and metropolitan areas that offer ample of job opportunities aligned with their education and skills (Buch et al., 2014; Glaeser et al., 2001).

Although the conceptualization of migration as a response to economic and human capital disparities has made a significant contribution to understanding the migration process and its determinants, it carries some limitations. Specifically, viewing migration as a rational decision-making process primarily driven by economic considerations overlooks the profound influence of social structures, networks, and cultural schemas that extend beyond economic factors in shaping migration decisions (Donato & Gabaccia, 2015; Hadler, 2006; Ryan, 2004). Additionally, the neoclassical framework formulates migration as a result of free choice, driven uniformly by economic improvement and personal investment in human capital (Hunt, 2004; Massey et al., 1993). However, contemporary migrants are diverse, and a significant proportion of them are family migrants who may not prioritize labor market and economic opportunities in the choice of their destination (De Jong, 2010; Donato & Gabaccia, 2015). The settlement patterns of migrants are not solely determined by their personal choices; structural barriers, including cultural prejudice, discrimination, and limited access to economic, political, and social resources (Ahmed & Hammarstedt, 2008; Andersen et al., 2016), may impede certain migrant groups from realizing their preferred settlement choices. This is evident in the
case of refugees, whose settlement patterns are often influenced by dispersal policies that may not allow them to settle in their preferred destinations.

Having acknowledged the role of both choice and constraints that shape the settlement of migrants, Carling’s aspirations-capabilities framework (2002) provides a more nuanced perspective. Carling argues that an individual’s mobility is driven by both the desire or aspiration to move and the ability or capability to fulfill that aspiration. By integrating the aspirations-capabilities framework with neoclassical theory, which emphasizes the significance of education in determining migrants’ settlement choices, I argue that highly educated migrants often aspire to live in areas that offer the greatest potential for them to fully utilize their educational qualifications and expertise, contributing to both personal and professional growth. However, due to various constraints, some of them may be unable to realize their aspirations and preferences and may need to compromise on their settlement choices.

Empirical studies have provided valuable evidence supporting the significance of human capital in interregional mobility (e.g., Bjerke & Mellander, 2017; Kooiman et al., 2018). Nevertheless, it is not well researched whether this regularity applies to the initial settlement patterns of migrants. The few existing studies also have limitations as they typically focus on a particular category, such as EU migrants (Tanis, 2020) or labor migrants (Scott et al., 2005). Yet migrants, depending on their reasons for migration and their region of origin may have varying levels of resources and different preferences that shape their residential choices. Solely focusing on a particular migrant category could yield incomplete evidence, supporting either choices or constraints, but not both.

Regarding Carling’s framework, it is important to clarify that in this thesis, I am not measuring aspirations and capabilities. I use this framework as a means to understand and explain the settlement patterns of migrants, recognizing factors beyond merely economic considerations that shape these patterns. When elucidating these patterns, it is crucial to acknowledge that labor market opportunities, while significant, are not the sole determining factors of these patterns, as outlined by neoclassical theory. Individual aspirations along with various barriers and constraints collectively play a crucial role, resulting in intricate settlement patterns. The combination of neoclassical theory with an aspirations-capabilities framework offers a holistic perspective for understanding the underlying mechanisms that shape migrants’ settlement patterns.

The diverse socioeconomic and educational backgrounds of recent migrants in Sweden, notably comprising a substantial proportion of refugees and family migrants, highlight the importance of researching the initial settlement of migrants. Since migrants’ initial settlement represents their first point of contact and exposure to the host country, understanding where they initially reside is crucial for examining their long-term integration (e.g., Andersson et al., 2019, Wimark et al., 2019 regarding the relationship between migrants’
initial settlement and their later income and employment outcomes in Sweden).

Besides migrants’ place of living, another vital aspect of the integration pathway of migrants is their labor market outcomes, where education plays a pivotal role. However, concerning international migrants, studies consistently demonstrate their difficulties in the labor market, primarily stemming from the devaluation of migrants’ education obtained in their country of origin (Basilio et al., 2017; Nordin, 2011; Nordlund et al., 2015; Tibajev & Hellgren, 2019). Nevertheless, while extensive research has focused on the educational trajectories and attainment of the descendants of migrants (e.g., Engzell, 2019; Grönqvist & Niknami, 2017; Jonsson & Rudolphi, 2011; Koehler & Schneider, 2019; Raabe, 2019; van de Werfhorst & Heath, 2019), relatively little attention has been devoted to adult migrants.

This literature gap may stem from the assumption that adult migrants probably obtained their education before migrating, leading them to prioritize careers over pursuing additional education. However, challenges in the transnational transition of education and a lack of local human capital may impede migrants’ labor market establishment (e.g., see Brell et al., 2020; Damelang & Abraham, 2016; Desiderio, 2016; Irastorza & Bevelander, 2017; van Tubergen, 2022). Migrants generally have high educational aspirations in order to overcome or mitigate barriers hindering their ability to secure good employment, to achieve upward social mobility, and to gain social recognition.

In line with the concept of lifelong learning, which emphasizes the ongoing educational journey of individuals, and taking into account both the devaluation of migrants’ education obtained before migration and local skill shortages, migrants’ integration into the labor market does not follow a direct path but rather involves navigating through various educational stages before they finally enter the workforce. Nonetheless, as argued by Borselli and van Meijl (2020), debates often focus on the expected outcomes of integration, with a limited understanding of the dynamics of integration pathways and the active role of migrants impacting these pathways. Thus, it is essential to explore the pathways migrants undertake before potentially establishing themselves in the destination country’s labor market. This understanding is vital for the development of integration policies that effectively address the diversity of the integration process.

The comprehensive examination of migrants’ educational enrollment trajectories and educational attainment requires a longitudinal approach and rich data. This thesis uses Swedish register data, which provides a wealth of longitudinal information, including the educational attainment and enrollment of both Swedish-born and foreign-born individuals over time. Having access, particularly shortly after arrival, to data on migrants’ educational attainment, which is quite unusual (e.g., see Zorlu & Mulder 2008), makes it possible to typify migrants’ initial settlement according to their educational attainment as well as the educational enrollment pathways they pursue over time. However,
it is essential to acknowledge that for a large proportion of migrants, information about their educational attainment is lacking, particularly upon arrival (Saarela & Weber, 2017) and the accuracy and validity of data regarding the education acquired by migrants outside of Sweden remain uncertain (Careja & Bevelander, 2018), despite its frequent use in various studies. These issues pose a significant challenge to engaging in integration discussions that rely on highly accurate and precise knowledge about migrants’ educational attainment. Therefore, understanding the sources of information acquisition regarding migrants’ educational attainment upon arrival and their coverage in register data is a prerequisite for conducting accurate and advanced analyses of their educational trajectories and settlement patterns in Sweden.

This thesis addresses the aforementioned challenges by presenting a comprehensive introduction and a cohesive collection of three papers.

Research aim and research questions

In this thesis, the focus is on incorporating education into the examination of the socioeconomic integration process of migrants in Sweden, recognizing the multifaceted role of education both for individuals and the receiving society. The overarching aim of this thesis is to describe, explain, and examine the determinants and the geographical manifestation of educational attainment and educational enrollment trajectories of adult migrants in Sweden. This dissertation encompasses an evaluation of the quality of register data on migrants’ educational attainment and an examination of the coverage trajectories of the register following migrants’ arrival (Paper I), an examination of the initial residential settlement patterns of migrants by educational attainment (Paper II), and an exploration of trajectories of post-migration educational enrollment and labor market integration (Paper III). More specifically, this thesis aims to answer the following research questions:

- What are the sources of information on immigrants’ educational attainment upon arrival and how does coverage of immigrants’ educational attainment improve with increased residency in Sweden?
- To what extent are the initial settlement patterns of migrants in Sweden typified and characterized by educational attainment, and how do they reflect reasons for migration, region of origin and stage in the life course?
- How diverse are the educational enrollment pathways pursued by adult refugees in Sweden, and what are the underlying determinants of these pathways?
Contributions

The current thesis adds three contributions to the existing body of studies. The first relates to studying the quality and coverage of register data on educational attainment of migrant population. Swedish register data is widely recognized as being of high quality and comprehensive as they cover the full population and contain a diverse array of information including educational information for all the registered population, even on education obtained prior to migration. However, with respect to migrants, and particularly newly arrived migrants who obtained their education outside Sweden, the accuracy and reliability of the educational registers have been assessed to be less clear (Saarela & Weber, 2017). Furthermore, unlike the established population, whose educational information is obtained from several sources in Sweden, the sources of information on educational attainment for newly arrived immigrants is unclear. Despite the educational attainment of migrants based on register data being used in several studies (see e.g., Åslund & Rooth, 2007; Dahlstedt & Bevelander, 2010; Manhica et al., 2019; Nordlund et al., 2015), the quality of this data has not been thoroughly addressed. A lack of knowledge about the coverage and quality of the educational registers for the migrant population is therefore the key motivation for the first paper in this dissertation.

Therefore, in Paper I, I conduct a comprehensive study of the educational registers for large cohorts of migrants, including an examination of sources of information acquisition on educational attainment upon their arrival and coverage of educational attainment information in the register over an extended period of residence following their arrival. Here I address a diverse group of migrants, including students, labor migrants, EU migrants, Nordic migrants, refugees, and family migrants, to analyze variations in coverage of the educational attainment in register data over time after migrants’ arrival. The results of this paper lay the groundwork for my subsequent papers, in which I utilize the educational attainment information of migrants from register data with some caution. I also provide recommendations for researchers using Swedish educational registers.

The second contribution pertains to the examination of the geographical manifestation of migrants’ educational attainment with regard to their initial settlement patterns, while also considering migrants’ region of origin, purpose of migration, and stage in the life course. Here, I seek to contribute to existing literature that either is limited by focusing only on locational determinants that attract migrants to specific areas, without addressing the background characteristics of migrants, or has examined the characteristics of migrants in relation to their spatial distribution, typically focusing on a particular category of migrants. In Paper II, I therefore account for the diversity of migrants associated with variations in their educational composition, rather than focusing on a specific group, in order to understand the extent of initial spatial sorting according to migrants’ educational attainment.
The third contribution of this dissertation relates to the study of adult migrants, specifically their post-migration educational enrollment trajectories from a longitudinal perspective, which to the best of my knowledge, has not been extensively explored. Regarding adult migrants in Sweden, significant emphasis is often placed on their integration into the Swedish labor market (e.g., see Duvander, 2001; Nordlund et al., 2015). Studies consistently demonstrate that migrants face substantial difficulties in establishing themselves in the labor market compared to the non-migrant population, which is partly attributed to the challenges related to the transnational transition of their education. The focus of Paper III is on adult refugees, a group constituting a substantial portion of the overall migrant population in Sweden and facing greater challenges in transferring their pre-migration human capital and accessing the labor market than other groups of migrants. Having acknowledged the importance of destination-specific human capital in improving the labor market integration of migrants, in Paper III, I contribute to the existing body of studies by using register data on educational enrollment. These data contain details about various types of education, including language courses, rather than solely focusing on the highest completed level of education. Employing a longitudinal approach to these data allows for an examination of the diversity of educational pathways followed by refugees before potential labor market establishment.

Structure of the thesis

This thesis has two main components, an extended introduction (called a “kappa” in Swedish) and three papers. Although each paper stands independently, they are interrelated and collectively contribute to addressing the overarching aim of this thesis.

This kappa is structured as follows. Chapter 2 describes the Swedish context as the setting for this doctoral thesis. In this chapter, I outline the history of migration to Sweden, discuss the introduction programs offered to refugees, and explore the challenges encountered by migrants in the Swedish labor market. Furthermore, I provide a comprehensive depiction of the Swedish educational system as faced by recent adult migrants. This is followed by an analysis of the educational composition of the adult population in Sweden, distinguishing between foreign-born and Swedish-born individuals, and a spatial analysis of educational clusters of foreign-born individuals. Chapter 3 critically addresses the theories and debates relevant to this thesis. It starts with critical discussions about human capital theory in relation to the transnational transition of migrants’ education and skills. Then I discuss the theories and concepts pertaining to the educational aspirations of the migrant population, as well as
the notion of lifelong learning in relation to the acquisition of post-migration education. This chapter contributes to a better understanding of the complex relationships between education and migration and provides insights into the factors that shape the trajectories of post-migration educational participation. Then I reflect on the neoclassical economic theory that was primarily devised in response to the destination choice of labor migrants, elucidating the role of individual human capital in settlement choice. I argue that the main limitation of these economic theories is that they view migrants as rational individuals whose settlement patterns are uniformly and solely determined by their choices and preferences, overlooking the settlement patterns of other migrant groups that may be more affected by constraints. While acknowledging the importance of human capital in determining migrants’ settlement patterns, as postulated by neoclassical theory, I also delve into the aspirations-capabilities framework to enhance understanding of the mechanisms behind the spatial sorting of migrants.

In chapter 4, I introduce the methodology and the Swedish register data employed in this thesis, and highlight both their strengths and limitations. Following that, I present and discuss the two main methods of longitudinal analysis used in this thesis: event history analysis and sequence analysis. I reflect on ethical considerations and end the chapter with positionality. In chapter 5, I provide summaries of the three papers that compile this thesis. Chapter 6 encompasses the overall conclusions, where the results of the three papers are discussed in light of the thesis’ overarching aim. I set out the contributions to the field, policy implications, and present the groundwork for future research.
2. Introducing the Swedish context

This section presents Sweden as the spatial context of my doctoral research. It begins with a general overview of immigration patterns to Sweden over the past few decades, followed by a reflection on Swedish introduction programs. Next, I discuss the Swedish adult educational system and conclude the chapter by comparing the educational composition of adult migrants compared to Swedish-born adults and presenting a geographical analysis of educational clusters of foreign-born individuals.

Immigration patterns over time

Prior to 1930, Sweden was an emigration country, and foreign-born individuals represented only 1% of the total population. Following the Second World War (WWII), Sweden transformed into an immigration country, experiencing a substantial flow of labor migrants and refugees, mostly from neighboring countries. While many of these refugees returned to their country of origin, or emigrated to other countries, by the late 1940s, a sizable proportion remained in Sweden (Åslund et al., 2017).

Immigration patterns to Sweden can be classified into five distinct periods from the early 1930s to the present day. The first period, from 1933-1945, was entirely shaped by the influx of refugees, driven by Nazi Germany’s persecution of Jews and political opponents during the tumultuous events of WWII. Prior to the outbreak of WWII, the number of refugees in Sweden was only around 5,000, which increased to 200,000 refugees, including Finnish children and evacuees in the country by the end of the war (Byström & Frohnert, 2017).

During the second period, from 1945 to the early 1970s, labor migrants dominated immigration inflows. This period was characterized by the effects of widespread destruction caused by WWII in various parts of Europe, and this, together with Sweden’s neutral position during both World Wars, meant the country enjoyed a favorable economic position by 1945. The subsequent post-war reconstruction efforts across Europe led to an increasing demand for Swedish industrial products that exceeded the capacity of the domestic workforce. Thus, the Swedish authorities initiated the Common Nordic Labor Market agreement in 1954 to expedite labor immigration and increase the labor

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1 “Etableringsprogrammet” in Swedish
supply. Under this agreement, citizens from other Nordic countries were exempted from the need to obtain a work visa when immigrating to Sweden. This led to substantial immigration flows from Denmark, Norway, and Finland (Bengtsson et al., 2005).

However, as the labor migration flows from other Nordic countries were insufficient to meet the growing labor demand in Sweden, further migration policies were introduced, allowing citizens from other European countries to immigrate to Sweden and to apply for work permits. These policies sparked a significant influx of labor migrants from Italy, Greece, Yugoslavia, Austria, and Turkey, where migrants were recruited to work in various industries and factories in Sweden (Bengtsson et al., 2005; Lemaître, 2007). Nevertheless, concerns arose regarding the potential impact of the increasing number of labor migrants on the country’s wage solidarity policy. Consequently, new immigration regulations and policies were enacted in the late 1960s, requiring non-Nordic immigrants to obtain work permits before entering Sweden and urging them to leave after the end of their employment contract (Bengtsson et al., 2005; Helgertz, 2010). This shift toward stricter immigration policies led to a significant reduction in labor migration from non-Nordic countries.

The third period, from 1972 until 1994, was marked by refugee and family reunification immigration. In this period, following the 1973 oil crisis and the severe economic downturn, labor immigration recruitment programs were significantly restricted. Instead, the main group of migrants were political refugees (Byström & Frohnert, 2017). Throughout the 1970s, the majority of immigrants seeking asylum originated mainly from Latin America (Chile) and the Middle East (Turkey, Syria, Lebanon, Iran and Iraq). Following significant events such as the Iran Islamic revolution in 1979, the collapse of the former Soviet Union in 1991, and the Balkan wars in 1991-1992, Sweden experienced a surge of refugees from these regions (Åslund et al., 2017; Bevelander & Irastorza, 2014).

The fourth period, from 1995 until 2016, was associated with Sweden joining the European Union in 1995 which opened up labor migration and student migration of EU citizens, a group that expanded after the EU enlargements in the 2000s. The period has been marked by a strong economic recovery that returned Sweden to a top position in terms of GDP per person. However, the existing gap in the employment rate between migrants, especially refugees, and Swedish-born individuals widened dramatically (Byström & Frohnert, 2017). In 2008, the Swedish government liberalized its labor migration policy by implementing a demand-driven regulatory model for non-EU migrants. This model abolished the labor market test, which was a restriction on labor migration from non-EU countries to jobs with skill shortages. This model also shifted the responsibility for selecting labor migrants to individual employers. As a result, there was a notable increase in the number of non-EU labor migrants (Emilsson, 2014; Irastorza & Emilsson, 2020).
In the fifth period, starting from 2016 onwards, Sweden has experienced significant changes in its migration policies, marked by a shift toward more restrictive regulations. On June 21, 2016, in response to the substantial influx of refugees in 2015, the parliament passed legislation introducing a significant change regarding the granting of temporary residence permits instead of permanent ones to asylum seekers. Additionally, the legislation affected the rules for family reunification for certain groups. The new legislation came into force on July 20, 2016 (Ministry of Justice, 2016) and was deemed a necessary step by the Swedish government to “gain breathing space (andrum in Swedish) for the Swedish reception of refugees” (Ministry of Justice, 2016, p.22).

The current government has announced a series of policy changes aimed at reducing irregular migration and improving the life conditions for those legally residing in Sweden. These changes include efforts to combat labor immigration fraud and abuse, to expedite the deportation of individuals lacking valid grounds for protection or a legal right to stay, to impose stricter conditions for low-skilled labor immigration, to enhance conditions for highly skilled labor migrants, and to implement increased measures for revoking residence permits (Government Offices of Sweden, 2023). In line with these stricter policies, in 2021, an amendment to the Aliens Act introduced stricter self-sufficiency and maintenance requirements for those seeking permanent residence or family reunification. One new requirement mandates that applicants must support themselves financially through employment or self-employment. Under this amendment, family members are not granted a residence permit automatically, and permits only become possible after the person has held a temporary residence permit for at least three years, provided that specific requirements, including a maintenance requirement, are met (Ministry of Justice, 2020/21:SfU28). Notably, starting from November 1st, 2023, labor migrants are subject to an increased maintenance requirement, rising from SEK 13,000 to SEK 27,360 per month. The government’s rationale behind this adjustment is to enhance the position of labor migrants in the job market and counteract wage competition (Swedish Migration Agency, 2023).

As a result of the changes in immigration policies and regulations over time, as well as wars, political instability, human rights violations and conflicts in other countries, there has been a significant change in the patterns characterizing immigration into Sweden. Figure 1 shows the total number of migrants (excluding citizens from the Nordic countries) between 2004 and 2022 based on grounds for settlement. In 2004, the largest group of migrants consisted of individuals migrating to Sweden to reunify with family. This group was followed by those seeking asylum, although their numbers were nearly half the size of the family reunion group. Over time, the number of migrants arriving as asylum seekers has gradually increased and notably in 2016, there was a significant surge. In this period, infamously known as the refugee crisis, the conflicts in the Middle East, Western Asia, and Africa resulted in a record-breaking surge of asylum seekers to the EU, with Sweden
being the largest per capita recipient of refugees among OECD countries (OECD, 2017). Starting from 2010, there has been a decrease in the number of migrants entering Sweden for study purposes, while the number of labor migrants has increased. This change may be attributed to the introduction of tuition fees for non-EU students in Swedish universities after 2010, which led to a decrease in the total number of international students in Sweden (Bryntesson & Börjesson, 2019). The increase in labor migrants to Sweden may also be a result of the demand-driven regulatory policy implemented in 2008.

Figure 1. Total number of migrants arriving in Sweden in the period 2004-2022 by grounds for settlement²

Note: Author’s calculations, using Statistics Sweden data (2023)

² Information about grounds for settlement is based on the type of visa and residence permit issued by the Swedish Migration Agency, who categorize grounds for settlement into work, asylum, family reunification, study or other. The category “other” includes a variety of migrants. These include migrants originating from outside the EU entering Sweden for less common reasons such as being adopted children or having sufficient means. Furthermore, these include migrants from the EU, who do not require a residence permit (Statistics Sweden, 2022a).
The introduction programs

The considerable influx of refugees and their families, particularly during the third phase of immigration to Sweden (1972-1994) and the refugee crisis in 2015 raised concerns about the potential accompanying economic impacts on the welfare state. Consequently, the labor market integration of refugees has emerged as a top priority on Sweden’s political agenda (EU, 2020). To ease refugees’ integration into the labor market, the government has implemented introduction programs since the early 1980s. In the late 1990s, these programs were institutionalized to improve and facilitate the integration of newly arrived migrants into Swedish society (Qi et al., 2021). The target groups for the introduction programs are individuals aged 20-64 who have granted residence permits based on asylum, a person in need of protection, or a relative of either. A pivotal component of the introduction programs consists of Swedish language courses for immigrants, commonly referred to as SFI (Swedish Public Employment Service, 2023). This is an important component of the introduction programs as many immigrants arrive without knowledge of the Swedish language, which limits their access to the labor market.

SFI is a subsidized language program designed for adult immigrants who lack basic Swedish language skills (Ahlgren & Rydell, 2020). The content of SFI courses is primarily oriented toward employment, offering opportunities to develop vocabulary relevant to the workplace (Wiesbrock, 2011). In addition to SFI courses, skills assessment, civic orientation courses, education, vocational training, internships, and matching activities have been integral components of the introduction program. Refugees who engage in the activities arranged by the introduction programs are eligible to receive an establishment allowance as well as housing benefits (Swedish Public Employment Service, 2023). Prompted by the high unemployment rates among migrants, particularly refugees, the introduction programs underwent a major reform in 2010, with the Swedish Public Employment Service taking over responsibility for these programs, aiming to standardize services across all municipalities. As a result of the reform, funding per individual increased by 25% and the duration of the new introduction program was shortened to two years instead of three-four years, in order to avoid keeping migrants out of the labor market for too long and to expedite their integration. The 2010 reform had a significant positive impact on refugees’ income immediately upon completion of the introduction program, and this effect intensified over time (Qi et al. 2021).

While the Swedish Public Employment Service holds primary responsibility for refugees’ labor market integration, the labor market integration support is decentralized and involves a diverse array of independent actors. These actors, from both the public and private sectors, include non-profit

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3 Svenska för invandrare
organizations, corporations, municipalities, various state agencies, trade unions, and educational institutions (Blasko, 2023; Diedrich, 2017; Qvist, 2017). In addition to the introduction programs offered by the Swedish Public Employment Service, these actors provide various employment initiatives, such as fast-track programs tailored for migrants with specific professions, labor market training, internships, mentorship programs, matching services, specialized intensive language courses for academics, and civic orientation courses. This diversity of initiatives contributes to the creation of numerous potential pathways, enhancing participants’ connections to employers and workplaces and providing a wide range of opportunities. However, with a plethora of actors and pathways available, many find it challenging to identify the initiatives that best align with their unique needs and circumstances (Blasko, 2023).

Besides the complexity of the involved agencies, refugees’ labor market pathways are also influenced by geography, as different regions offer varying types of initiatives. For example, evidence has shown that the combination of SFI with vocational training has a more positive impact on the labor market outcomes of refugees compared to SFI only (Swedish Public Employment Service, 2017a). However, due to a lack of coordination within and between municipalities, as well as among language course and vocational training providers, this combination has only been made available in certain regions, such as Stockholm (Swedish Public Employment Service, 2017b).

Against this backdrop, despite the implementation of numerous programs aimed at enhancing the integration of migrants into the Swedish labor market, the employment rates for both immigrant men and women have demonstrated a gradual decline since the 1980s. This trend has been attributed to changes in the Swedish labor market and the composition of the migrant population (Bevelander, 2000; Helgertz, 2010). Prior to the 1970s, migrants in Sweden were predominantly engaged in the manufacturing and the industrial sector. Since then, the economy has undergone a major transformation, with a decline in the industrial sector and the emergence of a service-oriented economy that places greater emphasis on general competence and country-specific human capital, such as proficiency in the Swedish language (Lundh, 2004; Scott, 1999). Faced with these structural changes, immigrants have encountered significant obstacles to entering the labor market. Furthermore, devaluation and difficulties in the transnational transfer of education, particularly for non-EU migrants, as well as language barriers, offer another explanation for the challenges migrants encounter when trying to access the Swedish labor market (Bevelander, 2020, 2011; Nordin, 2011; Nordlund et al., 2015).
The Swedish adult educational system

The Swedish education system is comprehensive, encompassing both compulsory and non-compulsory education. Schools in Sweden are predominantly state-financed and free. The compulsory school consists of a preschool class and nine grades, referred to as “grundskola” in Swedish, and offers 10 years of foundational and essential education to all children aged six to 16. After completing grundskola, the majority of students proceed to the optional three-year upper secondary school, also known as the “gymnasium”, where they can choose from 18 national programs. The gymnasium is open to all students up to the age of 20 (Swedish National Agency for Education, 2013). Individuals who are unable to complete their upper secondary education in the gymnasium before turning 20, as well as those who intend to pursue upper secondary education over the age of 20, can attend adult education as a supplementary form of learning. Students interested in higher education can continue their education by enrolling in a university or higher vocational education program after completing the gymnasium.

Sweden has a well-established tradition of institutionalized adult education, dating back to the 19th century. Nevertheless, it was not until 1968 that the formal structure of Swedish adult education became a prominent component of Swedish educational policies (Fejes et al., 2016). The primary focus of Swedish adult education is on second chance education, aiming to promote social and cultural inclusion while enhancing knowledge and skills for individuals who had previously lacked access to education (Nordlund et al., 2013; Rubenson, 2001). The adult educational system in Sweden aligns with the Nordic model, which places significant emphasis on lifelong learning and active participation of citizens across the life course (Kuusipalo et al., 2021). While the Swedish adult education system has changed over time, the foundational principle remains constant: all individuals should play an active role in enhancing their knowledge and skills through a variety of opportunities, including educational institutions, work, and daily life (Thunborg & Bron, 2019).

Swedish adult education aims to improve educational attainment, addressing not only individuals with limited education but also adults seeking to advance their learning. To achieve this goal, a variety of adult education options are available, overseen and administered by different institutions. One notable example is the Folk High School (Folkhögskola), started in 1868, representing a milestone in the institutionalization of adult education in Sweden. Folk High Schools, which are adult education colleges, supported by public resources from the state and regions, offer a wide array of courses, with the most prominent being general and special courses. General courses are designed for individuals without primary or secondary school education, making them
eligible for enrollment in college or university. Special courses provide education in specific subjects.

Another form of formal adult education is municipal adult education, known as Komvux\(^4\), which has a long tradition in Sweden. Following the significant shortages in the skilled labor force after WWII, the government established opportunities for adults to enroll in evening courses in 1953, with the option to take examinations for compulsory and/or upper secondary level school qualifications. In 1968, formal adult education was institutionalized as municipal adult education (Fejes et al., 2016; Kuusipalo et al., 2021). Komvux, organized and funded by municipalities, offers adults who have not completed primary or secondary education a second opportunity to acquire the knowledge and skills necessary for active participation in society and the labor market. This education has undergone several changes over the years. Up to the end of the 1970s, educational policies within Komvux were relatively centralized, and teaching and learning methods were regulated by national curricula and syllabi. However, in the 1980s, a new governance strategy emerged, highlighting decentralization and deregulation (Loeb, 2007; Prokou, 2008). This strategy involved transferring the responsibility for education funding from the state to municipalities, making them the primary body responsible for Komvux. In the mid-1990s, Sweden experienced a substantial increase in unemployment rates, particularly impacting individuals with limited education. In addressing this issue, vocational training courses\(^5\) ranging from one to three years were incorporated into the Komvux curriculum to enhance individuals’ skills and align them with the demands of the labor market (Nordlund et al., 2015).

In 1995, in an effort to combat unemployment and inequality, the Swedish government established a parliamentary committee (Prop. 1995/96: 222) to implement a national program known as the Adult Education Initiative, kunskapslyftet, which ran from 1997 to 2002 (Loeb, 2007; Prokou, 2008). This initiative primarily focused on adults facing unemployment, particularly those who either entirely or partially lacked three-year upper secondary school competencies. Nevertheless, it also addressed the educational needs of employed individuals with lower levels of education (Rubenson, 2001). Following this initiative that encouraged the involvement of new providers to expand adult educational programs, around 110,000 new adult education opportunities, mainly at upper secondary level were introduced over a five-year period, with approximately 15% of the workforce actively participating in adult education (Rubenson, 2001).

Another significant alteration in the Komvux curriculum was the introduction of SFI courses, aimed at enhancing the ability of adult migrants to read, write, and communicate in Swedish. SFI courses are individualized and

\(^4\) Short for “Kommunal Vuxenutbildning”

\(^5\) “Kvalificerad Yrkesutbildning” in Swedish
designed in accordance with participants’ educational backgrounds and specific needs. In the mid-1960s, private study associations began to initiate SFI courses as a pilot program, and by 1986, SFI had become a permanent program with the aim of enhancing students’ linguistic skills for active participation in daily life activities (Ahlgren & Rydell, 2020; Lindberg & Sandwall, 2007).

Komvux attendees can study courses equivalent to primary and secondary school levels, supplement their prior education to qualify for admission to colleges or universities, learn the Swedish language, and acquire vocational training tailored to the Swedish labor market. The organization and administration of Komvux is typically overseen by municipalities, although external private providers like Folk High Schools can also conduct some of the adult learning courses. Regardless of the organizer, it is the duty of each municipality to ensure the quality of Komvux programs. Nowadays, Komvux is the most common form of formal adult education in Sweden and is regulated by the Education Act (2010) and the Adult Education Regulation (2011) and follows its own national curriculum (Muhrman & Andersson, 2022). Influenced by the Swedish trade union confederation, over time Komvux has become more directed toward adults who are outside of the labor market, and those lacking primary education (Fejes et al., 2016). All adults, including migrants and Swedish-born individuals, who lack primary or upper secondary education or the competence to complete and pass these levels have the legal right to enroll in these courses at Komvux, free of charge. Figure 2 illustrates the educational system in Sweden and corresponding educational levels.

![Figure 2. The educational system in Sweden](image-url)
Against this backdrop, the Swedish adult education system stands out for its diversity, encompassing a wide array of programs, including primary, upper secondary, vocational, and language courses. These programs are organized and funded by a combination of public and private institutions, collectively enhancing individual development, and benefiting the public good. According to the 2012 OECD Survey of Adult Skills (PIAAC), approximately 3.5 million adults in Sweden were engaged in some form of adult education within the past year, accounting for 72% of the total adult population (Statistics Sweden, 2014, p.9). This participation rate surpasses that of many other OECD countries, underscoring Sweden’s successful responsiveness to the diverse educational needs of its population.

Nonetheless, the successful implementation of adult education programs and realization of their objectives can be challenging, depending on the existing capacity, and local and educational resources. These challenges are particularly prominent in the context of migrant inflows, especially for refugees, as their substantial numbers combined with limited local resources may pose significant barriers to accessing adult education programs tailored to migrants’ specific needs. Additionally, the results of the PIAAC survey showed that individual characteristics have a strong impact on the probability of participating in adult education. In all OECD countries, on average, the participation rates of migrants are lower than those of non-migrant individuals. This trend is similar in Sweden; the total study participation rate among those born in Sweden was 74% compared to 62% for foreign-born individuals (OECD, 2018; Statistics Sweden, 2014).

Although migrants may have greater aspirations to engage in adult education and obtain local skills compared to non-migrants, they may also encounter more obstacles to participation. Both Swedish-born and foreign-born adults experience various barriers, both financial and non-financial, although the extent of these barriers may differ. The need to prioritize work and income is the main obstacle to participating in adult education, especially for newly arrived migrants. Other obstacles to participation in adult education include family reasons, time constraints due to family or work responsibilities, a lack of information about available educational opportunities, experiences of discrimination, and specific program requirements that may not align with migrants’ needs (OECD, 2018).

Kuusipalo et al. (2021) argue that despite the high rate of adult education participation in Sweden, it appears that individuals from the most vulnerable groups are less likely to engage in adult education or were not included in the PIAAC survey. While Sweden is known for its commitment to equality, the emphasis on raising the overall educational level of the population, rather than

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6 This encompasses all forms of education, including formal education such as Komvux, and non-formal and informal education such as distance education, on-the-job training, seminars, or workshops (refer to Statistics Sweden, 2014, for definitions of these types of education).
prioritizing basic education, might exacerbate challenges faced by migrants, including the lack of recognition of foreign education. Furthermore, uncertainty about future employment prospects, combined with the understanding that education does not guarantee immediate entry into the labor market for migrants, may have a detrimental effect on migrants’ motivation to enroll in extended education programs in Sweden (Kuusipalo et al., 2021).

As a result, the primary focus of adult education in Sweden may inadvertently create additional obstacles for migrants seeking successful integration into society and the labor market. Given the current growth of migrant populations in Sweden, the active participation of migrants in adult education has become a crucial mechanism for addressing the devaluation of their origin-specific education, bridging local skills gaps, and equipping them with essential knowledge for entering the labor market. Additionally, engaging migrants in adult education helps them navigate the intricacies of social and cultural life. Thus, participation of migrants in education has been recognized as one of the most effective means of promoting the integration of migrants into both the labor market and society (Dahlstedt & Fejes, 2019). In this regard, Kuusipalo et al. (2021) contend that placing greater emphasis on providing basic education, including literacy studies in adult education, may be essential to enhance the social inclusion of migrants, particularly those with lower educational attainment.

Educational composition of the adult population

This section explores the educational composition of the adult population in Sweden, encompassing both foreign-born and Swedish-born individuals, and highlights differences and variations in educational attainment among these groups. It ends with a discussion about the geographical clusters of the foreign-born population, cohorts 2008-2011, by education in Sweden.

Figure 3 illustrates the highest educational level attained by the adult population in the period 1990-2021 and reveals notable shifts in the population’s educational attainment over time. In the earlier periods, the average overall level of education of the population was lower. In the early 1990s, approximately one-third of individuals aged 25-64 had, at most, a primary or lower secondary education, while only 23% had obtained a tertiary education. However, there has been a significant upward trend in the overall educational attainment since then. Starting from 1996, the proportion of individuals with tertiary education has surpassed the proportion of those with primary or lower secondary education. In 2021, adult individuals with tertiary education represented the largest group, accounting for 45% of the total adult population, followed by those with upper secondary education at 42%, while a small
proportion of the population, approximately one-tenth, possessed at most a primary or lower secondary education.

Figure 3. Highest completed educational level of the adult population, age 25-64, 1990-2021
Note: Author’s calculations, using Statistics Sweden data (2021a)

The increase in the population’s average educational levels, as shown in Figure 3, can be attributed to various factors, including educational expansion, decentralization, and migration. In 1977, Sweden initiated a significant transformation of its higher education system with the goal of increasing the population’s educational attainment. This transformation involved creating new institutions and upgrading professional programs. In the mid-1940s, Sweden had only two universities, two university colleges\(^7\), and a limited number of institutions for professional training. However, during the late 1970s, in line with the country’s educational expansion, the number of higher education institutions experienced a substantial increase, with the establishment of 17 new university colleges (Andersson et al., 2004; Chudnovskaya & Kolk, 2017). According to the Swedish Council for Higher Education (2022), there are currently 50 universities and university colleges in Sweden.

\(^7\) A university, which is generally bigger and more research-oriented than a university college, can in general grant degrees at the doctoral level, while a university college must be granted permission in order to do so (Swedish Council for Higher Education, 2022).
In parallel with the expansion of higher education institutions, a decade later, in 1987, the Swedish government introduced a significant decentralization initiative. This initiative aimed to make higher education more accessible for people in less densely populated areas, with the ultimate goal of improving education levels and employment prospects across regions. This approach also aimed to reduce education-related internal migration. This decentralization policy had several significant consequences, including a noticeable impact on the average productivity of workers, signifying regional economic influence (Andersson et al., 2004). Nielsen & Hennerdal (2019) demonstrated an overall rise in the proportion of tertiary-educated individuals across all regions of Sweden in the period from 1990 to 2012, implying the success of Sweden’s governmental policy at increasing the proportion of the population with tertiary education across the country. Their study also revealed that the level of segregation among the population with tertiary education uniformly decreased at all geographical scales, while maintaining consistent patterns of segregation in metropolitan areas.

In addition to educational expansion policies, demographic changes, including migration, have also contributed to altering the educational composition of the population in Sweden (Statistics Sweden, 2022b). The heterogeneous nature of the current migrant population, originating from different parts of the world with varying socioeconomic backgrounds, plays an important role in reshaping the overall educational composition of the population. Figure 4 shows the educational attainment in 2021 for the adult population, distinguishing between Swedish-born and foreign-born individuals.

![Figure 4. Highest completed educational level of Swedish and foreign-born individuals aged 25-64 in 2021](image)

Note: Author’s calculations, using Statistics Sweden data (2021a)
Figure 4 shows that there is a substantial difference in the distribution of Swedish-born and foreign-born individuals across the educational spectrum. In 2021, among the entire working-age foreign-born population, 42% had completed tertiary education, followed by upper secondary (32%) and primary education (17%), resembling a stepwise pattern. In contrast, Swedish-born working age individuals were almost equally distributed in tertiary and upper secondary education, 46%, and 45% respectively, while the proportion of those with primary and lower secondary education as compared to foreign-born was quite small, 8%. However, despite these differences, comparing these groups, i.e., which group is better educated, should be done with caution due to the large proportion of missing information among migrants as compared to Swedish-born individuals (8% versus 1% in 2021).

Educational information for each registered individual in Sweden, collected and recorded in the Swedish Educational Register (UREG)\textsuperscript{8}, is reported by Statistics Sweden on December 31\textsuperscript{9} of each year. However, due to a lag in registration, for some migrants their educational information may not be recorded upon arrival and may be missing. Furthermore, UREG only covers formal education based on the SUN\textsuperscript{9} classification, in accordance with the International Standard Classification of Education. Thus, any informal education, such as apprenticeships, short courses, and vocational or labor market-related training, is not recognized or registered in UREG. Additionally, information collected through UREG may be coded incorrectly, leading to missing values (Statistics Sweden, 2018a). Foreign-born individuals who received their education in a country with a different system than Sweden are particularly at risk of having educational credentials that do not align with SUN standards, which will result in a missing value.

Another major challenge in comparing the educational levels of foreign-born and Swedish-born individuals is the difference in the sources of information acquisition for these groups. The highest educational attainment of individuals in UREG is obtained from different sources of varying quality, falling mainly into three categories: administrative sources, a survey of foreign-born individuals, and different register databases (Statistics Sweden, 2016a). For migrants who received their education in a country outside of Sweden, the primary source used when collecting and registering their educational attainment is the survey of foreign-born individuals. However, the non-response rate for this survey is quite high, and the information collected is self-reported. Given the lower coverage of educational information among the migrant population and the disparity in the quality of information sources, it is challenging to conclusively determine which group, foreign-born or Swedish-born, has a higher level of education.

\textsuperscript{8} “Utbildningsregistret" in Swedish
\textsuperscript{9} “Svensk Utbildningsnomenklatur” in Swedish
Migrants are a heterogeneous group, thus their distribution across the educational spectrum may conceal the differences within the group of migrants. Figure 5 presents the educational composition for different groups of adult migrants in 2021 and reveals a notable difference. Specifically, approximately 27% of those with residence permits based on asylum have the lowest level of education, representing the highest proportion compared to other groups of groups. Conversely, migrants who entered Sweden for work or study have the highest educational attainment. This group is followed by family migrants, as well as migrants with other reasons, including EU and Nordic migrants, who also have relatively high levels of education. However, family migrants have a higher proportion of individuals with lower levels of education compared to migrants with other reasons.

![Figure 5. Highest completed educational level, excluding migrants with missing information on education, for migrants aged 25-64 in Sweden in 2021, by ground for settlement](image)

Considering the differences in educational systems across the world, the educational backgrounds of migrants may vary by country of origin. Figure 6 depicts the educational levels of the 10 most common migrant groups. Iranian migrants stand out as the most highly educated, with more than half (54%) having completed tertiary education, and less than 10% having only primary or lower secondary education. Migrants from Poland, Finland, Bosnia & Herzegovina are also highly educated, with only a small percentage having primary or lower secondary education. In contrast, a significant percentage of migrants from countries such as Somalia, Afghanistan, and Turkey, from
where many refugees originate, have completed lower levels of education only (45% for those being born in Somalia, 31% for Afghanistan, and 33% for Turkey). Of the two largest migrant populations, Iraqi and Syrian migrants, a significant proportion have lower levels of education as well (26% and 34% respectively), although considerable proportions have completed upper secondary education (32% and 30% respectively).

![Figure 6. Highest completed education level, excluding migrants with missing information on education, among the 10 largest groups of foreign-born individuals aged 25-64 in 2021](image)

- Tertiary education
- Upper secondary education <= 3 years
- Primary or lower secondary education <= 9 years

Considering the diverse educational attainment of migrant population, I investigate the geographical distribution of foreign-born individuals aged 18 and older who immigrated to Sweden between 2008 and 2011. This analysis is based on migrants’ educational level\textsuperscript{10}, utilizing geocoded register data to delineate individualized neighborhoods. A two-step cluster analysis was employed to identify five distinct neighborhood clusters, each significantly distinguished by the educational levels of migrants, revealing varied spatial patterns (refer to Appendix 1 for neighborhood labeling details). The results are presented in Figure 7.

Clusters designated as elite and semi-elite, marked by a higher proportion of highly educated migrants, are primarily found in metropolitan regions and major urban centers. Conversely, neighborhoods categorized as low, medium, and mixed education levels are predominantly located in rural areas and small

\textsuperscript{10} This is from earlier version of Paper II, which was taken out in the revision process.

24
cities, highlighting the emergence of new destinations in settlement of migrants. Notably, the limited number of neighborhoods classified as low and medium educated within metropolitan areas are observed to be distanced from urban centers. These are specifically located in neighborhoods identified as vulnerable or distressed by the Swedish Police Authority (2021), including Tensta and Rinkeby in Stockholm; Rosengård and Sofielund in Malmö; and Biskopsgården, Hammarkullen, and Hjällbo in Gothenburg. Furthermore, the distribution of these clusters exhibits notable variations between cities. For instance, Stockholm presents a ring-shaped distribution pattern, with low educated cluster predominantly located on the city’s outskirts, while elite and semi-elite clusters are concentrated in the central areas. In contrast, the spatial divide between elite and low educated clusters in Malmö and Gothenburg is less marked. In Malmö, specifically, the low educated cluster is located in the city center. These intercity differences likely reflect the spatial and socioeconomic dynamics within each city.
Figure 7. Individualized neighborhoods classified into clusters based on the proportion of newly arrived immigrants with different levels of education among the 500 nearest newly arrived immigrants, who entered Sweden in 2008-2011.

Note: Author’s calculations, using Swedish register data. This map was generated using the individualized neighborhood method. This method, also known as individual-centered or bespoke neighborhoods, utilizes coordinates of individuals’ places of residence to construct neighborhoods. To understand how foreign-born individuals are
spatially sorted by their educational attainment in Sweden, I calculated individualized neighborhoods using the “geocontext” Python script (Hennerdal, 2019). This script calculates neighborhood characteristics based on the number of closest neighbors using geocoded grids. The neighborhood is constructed by expanding a buffer around each populated grid cell until a researcher-defined number of closest neighbors (the k-level) is achieved. Each individual has the same number of neighbors, while the geographical size of the neighborhood, determined by population density, varies. To create individualized neighborhoods, a k-level of 500 closest neighbors was chosen, given that 99 percent of all populated grid cells in the analyses have a population of less than 500. In this analysis, I used the closest neighbors, defined as immigrants arriving in Sweden during the period 2008-2011. Following this, a two-step cluster method was employed to group neighborhoods based on the proportion of immigrants with low, medium, and high levels of education, leading to the identification of five clusters.
3. Theoretical and conceptual frameworks

This thesis consists of three papers that share a focus on adult migrants and their educational attainment and enrollment trajectories. In this section, I draw upon a wide-ranging body of theories, arguments, and conceptual frameworks that reflect different conventions and assumptions relevant to this thesis. The theoretical frameworks and arguments discussed in the following complement each other by addressing specific aspects related to the overarching aim of this thesis, even though they are presented under different headings.

I begin by discussing human capital theory and its underlying assumptions regarding the economic advantages of education, including a discussion of its shortcomings and limitations, especially in relation to the challenges associated with the transnational transition of education. Following this, I delve into the concept of educational aspirations, seeking to uncover the motivations driving migrants’ desires to access opportunities in destination countries. Then, I discuss the notion of lifelong learning in the context of adult migrants. Given the economic benefits of education as emphasized by human capital theory, along with the challenges associated with foreign educational qualifications, and the high educational aspirations among migrants, I emphasize the importance of post-migration education for achieving upward mobility and social recognition.

To elucidate the geographical manifestations of education, I discuss neoclassical theory on migration by considering human capital and regional disparities. After discussing the limitations of this economic theory, I introduce the aspirations-capabilities framework to understand the mechanisms shaping individuals’ migration decisions.

Human capital theory: A critical reflection

The human capital theory, developed in 1964 by Gary Becker, is a theoretical framework explicating the economic advantages of an individual’s human capital. According to Becker (1964), education, productivity, employment, and earnings are framed in a linear continuum. As individuals gain more education, they acquire greater problem-solving abilities, which makes them more productive and enhances their employment and earning prospects. Human capital theory has been extensively utilized in the field of the economics of education, yet it faces significant challenges when applied to international
migrants. Numerous studies have demonstrated that migrants’ disadvantaged positions in the labor market of host countries cannot be solely attributed to their human capital, but rather to the devaluation of their human capital when moving to other countries (Basilio et al., 2017; Damelang et al., 2020; Nordin, 2011; Tibajev & Hellgren, 2019).

The primary reason for the devaluation of migrants’ human capital is the lack of transferability of their skills and education obtained prior to migration. As educational systems across the world vary substantially, the educational credentials acquired by migrants prior to immigration may not be of equivalent quality to those acquired in the host country, and therefore may not be transferable to the host country (Lancee & Bol, 2017; Tibajev & Hellgren, 2019). Furthermore, migrants’ human capital often comprises a considerable amount of region-specific skills that may not align with the requirements of the host country. This lack of transferability gives rise to a mismatch between migrants’ pre-migration qualifications and the labor market demands in the host country. Furthermore, lower economic returns for foreign qualifications contribute to variations in wages between migrant and non-migrant populations (Friedberg, 2000).

The challenge of transferability is especially pronounced among humanitarian migrants, who, due to the forced relocation, lack the chance to align their education with the job market of the host country. In contrast, groups such as labor migrants, who voluntarily move to seek specific job opportunities, have the advantage of acquiring skills and qualifications prior to migration that match the requirements of their chosen destination. As a result, refugees are at a higher risk of possessing educational qualifications that are rarely applicable and transferable to the host country (e.g., Åslund et al., 2017; Bevelander & Pendakur, 2009; Brell et al., 2020; Desiderio, 2016; Dustmann et al., 2017; Kanas & Steinmetz, 2021; Lundborg, 2013; Manhica et al., 2018). Another factor impairing migrants’ labor market integration is the language barrier, which greatly impedes migrants’ access to job opportunities and hinders effective communication with employers and colleagues (e.g., Auer, 2018; Brell et al., 2020; Eriksson & Rooth, 2022; Ghorashi, 2020).

Human capital theory also overlooks the reality that certain forms of human capital, such as language proficiency, communication skills, and knowledge of local behavioral norms and codes are acquired through social interaction (Urciuoli, 2008). In addition, Siebers (2018) argues that job applicants and employees are evaluated not only based on their human capital and productivity, but also on their personal characteristics and the manner in which they perform their tasks, which together are called “soft skills”; and social processes are integral for the acquisition of such skills. However, individuals with a migration background, especially those from non-Western countries, often encounter significant difficulties in presenting their soft skills.

Another limitation of Becker’s theory (1964) is its failure to consider the significance of social capital in labor market outcomes. According to Lin
(2001, p. 25), social capital pertains to “resources embedded in a social structure that are accessed and/or mobilized in purposive actions.” Broadly speaking, social capital refers to information and resources that individuals generate, circulate, and mobilize through interaction in a network (Dunwoodie et al., 2020). According to Bourdieu (1986) and Granovetter (1983), to achieve career advancement, it is more beneficial to establish a broader range of weak ties with influential individuals outside of one’s immediate social environment, than to rely on a narrow group of strong network ties within the same environment. Recognizing the significance of social networks, it is inferred that migrants who predominantly rely on strong network ties may face challenges in advancing their careers, as their access to a diverse array of job opportunities may be limited. Furthermore, the human capital theory explains an individual’s labor market prospects by examining their own characteristics, without fully accounting for structural obstacles, such as discrimination. As demonstrated in various studies, individuals, particularly migrants, are sometimes evaluated based on institutional factors unrelated to productivity, but that are influenced by stereotypical thinking and discriminatory practices (see e.g., Bursell et al., 2021; Bursell, 2012).

By reflecting on the limitations of the human capital theory, I do not claim to dismiss its utility in comprehending the labor market integration of migrants. Rather, I acknowledge this theory’s primary emphasis on the potential economic benefits of education. However, I argue that relying solely on the inherent value of human capital may not effectively enhance our knowledge about the labor market prospects for migrants and it is crucial to distinguish between the origin versus destination-specific human capital. The latter equips migrants with locally relevant skills, language proficiency, and the ability to build social capital. This, in turn, fosters migrants’ social networks and provides valuable learning opportunities, offering insights into the cultural and social norms of the host country. In contrast, the former is often undervalued. Furthermore, to attain a more comprehensive understanding of migrants’ experience in the labor market, it is imperative to adopt a holistic approach. This approach should not exclusively rely on the straightforward association between education and the labor market outcomes, as posited by human capital theory, but should also consider the broader social context, structural barriers, and discrimination, all of which create unequal opportunities and outcomes among different groups of individuals.
Educational aspirations among migrants

It has been nearly a century since the discussion of educational aspirations began in sociology (Haller, 1968; Lewin, 1939). In sociology, educational aspirations are defined as “orientations composed of specific beliefs about one’s future trajectory through the educational system” (Morgan, 2007, pp. 1528–1529). Aspirations reflect the intricate interplay between individuals’ personal attributes and their social circumstances, either facilitating or impeding the realization of their goals. Therefore, achieving one’s aspirations involves more than just personal attributes, but also entails understanding of the opportunities and limitations that are imposed by social contexts (Bourdieu, 1977).

There are traditionally two distinctions in research on aspirations: idealistic and realistic (Haller, 1968; Lewin, 1939). Idealistic aspirations refer to an individual’s desires or goals, such as their preferred field of study. In contrast, realistic aspirations consider the resources, opportunities, and limitations that may impact the individual’s ability to achieve their goals, thus reflecting their predictions about their actual achievements in the future. Realistic aspirations are also referred to as expectations which “best express what youths are actually striving for” (Wicht, 2016, p. 1827). Within this dichotomy, the inability to obtain higher education is not necessarily due to a lack of aspiration, but instead may be a result of differences in resources, opportunities, obstacles, as well as socialization, transited values and beliefs about the most proper social positions and outcomes (Spenner & Featherman, 1978). Even though migrants may be confronted with obstacles such as limited resources and language barriers, empirical research has shown that they possess high levels of educational aspiration (see Jackson et al., 2012 and Jonsson & Rudolphi, 2011 for Sweden, Van de Werfhorst & Van Tubergen, 2007 for the Netherlands, and McCulloch, 2017 for the UK). Scholars have discussed several reasons that may explain the relatively high educational aspirations among migrants, of which immigrant optimism, blocked opportunities, and information bias are the most common.

First, the notion of immigrant optimism is grounded in the assumption that first-generation migrants are typically selective individuals, who anticipate greater economic benefits from migration (Chiswick, 1999). Thus, migrants often possess greater educational qualifications and skills compared to the general population (Kao & Tienda, 1995). Although first-generation migrants often experience unfulfilled upward social mobility and are often situated in the lowest societal strata in the host country, they nonetheless uphold and transmit their educational aspirations to their children. Consequently, the younger generation is anticipated to attain socioeconomic success in the host country and fulfill their parents’ aspirations, where education plays a critical and pragmatic role in facilitating their socioeconomic attainment (Heath et. al., 2008; Salikutluk, 2016). Empirical studies in the United States and Europe
have revealed that immigrant optimism is the primary determinant shaping the educational aspirations of minority students (Fernández-Reino, 2016 in the UK; Raleigh & Kao, 2010 in the US; Salikutluk, 2016 in Germany).

In a comprehensive study, Butler and Hamnett (2011) addressed the value of education among ethnic minorities in contemporary Britain. Their findings highlight the substantial importance of education among respondents from diverse ethnic backgrounds, with education commonly regarded as a gift from parents to their children. Respondents viewed education as a passport to securing good employment opportunities and gaining social recognition. Interestingly, even respondents with limited educational attainment articulated strong aspirations for education as a means of achieving upward social mobility. They believed that by investing in their children’s education, the children could overcome the challenges they themselves had faced, many of which they attributed to a lack of education. This underscores the powerful role of education as a means of achieving social upward mobility.

However, migration is not only a personal decision but is impacted by other factors including family and social networks (Donato & Gabaccia, 2015; Massey, 1999; Portes & Sensenbrenner, 1993). As an example, the migration of women from gender-traditional societies, migrating for family reunification, may not be driven by aspirations for better opportunities and economic gain (De Jong, 2010). Another counterargument to the immigrant optimism perspective relates to the so-called welfare magnet hypothesis (Borjas, 1999). According to this hypothesis, countries such as Sweden, well-known for their welfare system, with relatively compressed wage distributions, may not be the most appealing destinations for individuals competing for high-status positions in the labor market. This welfare magnet hypothesis raises doubts about whether migrants to such countries are necessarily economically highly motivated. Furthermore, contemporary migration patterns exhibit considerable heterogeneity, wherein a substantial number of migrants are refugees who have been impelled to relocate owing to coercive factors rather than being driven by economic incentives. Hence, it is overly simplistic to relate the high educational aspirations among migrants solely to immigrant optimism. Instead, blocked opportunities may contribute to the explanation of high educational aspiration among migrant population.

The blocked opportunities notion suggests that migrants’ high educational aspirations arise from structural and social barriers that impede their educational and labor market achievements. Consequently, the pursuit of education is considered a crucial strategy to improve migrants’ career prospects and navigate potential obstacles (Jackson, 2012; Kristen et al., 2008; Nekby et al., 2008; Neumeyer et al., 2022). As stated by Neumeyer et al. (2022, p. 261), “Under specific conditions, educational aspirations and expectations may thus partially compensate for immigrant disadvantages.”

The third reason contributing to migrants’ high aspirations for education is information bias, originating from cultural or linguistic barriers that may
constrain migrants’ understanding of how institutions and the job market work in host countries. Consequently, migrants may possess unrealistic expectations about their educational and employment prospects (Kao & Tienda, 1998). Attaining proficiency in the local language and establishing interpersonal connections with non-migrants facilitate migrants’ access to accurate information, thereby reducing their information bias (Gil-Hernández & Gra- cia, 2018).

In addition to immigrant optimism, blocked opportunities, and information bias, Esser (2006) highlights another factor to explain the high educational aspirations among migrants: the necessity of integrating into host societies and gaining access to opportunities otherwise unavailable to them. He points out four dimensions of integration, namely, structural, cultural, social, and emotional. With respect to structural integration, education is seen as an effective way to acquire a certain position or status in society. The cultural dimension suggests that education introduces immigrants to the cultural norms, values, and traditions of the host society, fostering their active involvement in the community’s cultural life. Education can empower migrants to develop the skills necessary for effective communication and the establishment of relationships and social networks, alongside ethnic networks, all of which facilitate their social integration. Finally, education can provide individuals with a sense of identity and social recognition. Referring to Esser’s integration dimensions, Hadjar and Scharf (2019) asserted that the high educational aspirations among the migrant population stem from the pivotal role education plays in fostering integration, especially in the labor market.

Lifelong learning and adult education

The notion of lifelong learning is gaining popularity in several EU countries, reflecting both individual aspirations for continuous learning and governmental efforts to enhance the education of the population (Prokou, 2008). Lifelong learning extends beyond economic considerations, aiming to foster individuals’ tolerance for diverse cultures and promote social cohesion. Furthermore, it encourages active citizenship through community participation and political engagement, emphasizing its broader societal impact (Green, 2011). However, Field (2011) argues that, despite some countries incorporating social cohesion into their lifelong learning policies, the predominant emphasis in many countries remains economic, closely linked to improving employability. This implies that lifelong learning in many countries is primarily about involving and empowering the least educated individuals to enhance their employment prospects rather than having a broader impact on society as a whole (Field, 2011).
Initial education, i.e., the formal education that a person receives during the early years of school, has significant value from a lifelong learning perspective, as it establishes an individual’s motivation, aspirations, and ability to effectively engage in lifelong learning (Gillies, 2005; Hargreaves, 2004). Relating to adult migrants, whose initial education is primarily obtained in another country, lifelong learning may have a different meaning. I argue that the purpose of lifelong learning for migrants extends beyond just keeping up with societal trends, and includes catching up with the destination country’s labor market demand, skills, and language. Therefore, it serves as a means to integrate migrants and alleviate some of their social and economic disadvantages.

Feminist scholars also have played a notable role in advancing critical discussions regarding the notion of lifelong learning. The feminist perspective suggests that gender invisibility, a product of patriarchal norms, creates substantial barriers for women to participate in education. Women are often trapped in low-paying jobs that are undervalued in public discussions about building a learning society (Field, 2011). Lifelong learning, therefore, is as a means of empowering women by equipping them with the skills and knowledge necessary to overcome gender-based discrimination, enhance their economic prospects, and engage more in society. With respect to women migrants, who, due to their migrant status and gender identity, often face a double disadvantage in the labor market (Ayres et al., 2013), lifelong learning can break down gender norms and enhance their education and skills, promoting greater participation in both society and the labor market.

A key component of lifelong learning is adult education, which provides opportunities for adult individuals to acquire new knowledge and skills throughout their lives. Through adult education, individuals can access learning opportunities tailored to their circumstances, including their prior educational experiences, personal interests, and professional goals. Adult education programs can also provide support for individuals who may face barriers to learning, such as those with low literacy or those from disadvantaged backgrounds. In this respect, Sweden, Finland, and Denmark, countries with Nordic welfare state models, place a high degree of emphasis on the active participation of all residents. The Nordic model is comprehensive and by offering a wide range of adult educational programs, has been successful in achieving high participation in adult learning (Green et al., 2006; Rubenson, 2006).

In the Nordic model, despite the diversity of adult education opportunities, individuals may lack motivation to participate in lengthy programs due to uncertainty about future employment prospects (Kuusipalo et al., 2021). For migrants, financial constraints are the primary obstacle to their participation in adult educational programs (Støren & Børing, 2018), potentially leading them to prioritize immediate employment over pursuing studies. A diminished intention to attend adult education programs may present a challenge in encouraging migrants to acquire local skills and knowledge. This situation may lead
to a vicious cycle where migrants prioritize employment, encounter difficulties in obtaining locally recognized education and skills, and subsequently find themselves in low-paying and unstable occupations. This cycle perpetuates migrants’ economic struggles and reduces their ability to invest in education and career development. Consequently, migrants’ marginalized positions in society may worsen.

In summary, addressing both the social and economic dimensions of lifelong learning, engaging adult migrants in post-migration education—where they acquire local skills, enhance language proficiency, and build social networks—is, in my view, a valuable avenue for their economic and social integration.

Education and residential settlement: The neoclassical theory

The decision to migrate is a complex and intricate phenomenon, closely intertwined with various socioeconomic and political factors. Multiple fields of study, each with overlapping or distinct approaches, have explored migration theories, examining the root causes of migration and the factors influencing migrants’ destination choices, with education playing an important role.

The neoclassical theory, developed during the industrial era (Harris & Todaro, 1970; Sjaastad, 1962), is the oldest framework aimed at explaining individuals’ decisions regarding relocation and destination choice by considering economic determinants such as wages and employment opportunities. Originally developed to understand patterns of internal migration in both prosperous and less affluent nations, this theory has subsequently been broadened to illuminate the settlement patterns of international migrants. Neoclassical theory is generally defined by two fundamental principles: regional-level equilibrium and micro-level rational decision-making (Samers & Collyer, 2017). Regional-level equilibrium suggests that internal migration is primarily driven by a tendency toward economic balance, with migrants favoring regions that offer higher wages, better employment opportunities, and better overall economic conditions. Such migration flows will eventually lead to a balanced situation where wages increase in origin regions and decrease in destination regions, resulting in a stabilization of migration flows. The assumption of rational decision-making asserts that individuals seek to maximize their utility by carefully weighing the costs and benefits associated with migration, making rational choices among various options (Hadler, 2006).

Within this economic framework, an individual’s human capital, including education and skills, plays a crucial role in shaping destination choices. The human capital interpretation of neoclassical theory suggests that those with
higher levels of human capital have greater opportunities for employment in a new country and are more inclined to choose migration as a means of enhancing their economic prospects (Massey et al., 1993). However, migration involves substantial costs and risks, encompassing learning a new language, adapting to a different culture, integrating into the labor market, and coping with the psychological impact of leaving old ties behind and forming new social networks. Considering these challenges, migrants tend to lean toward destinations that promise greater returns on their human capital (Borjas, 1990).

The incorporation of the human capital approach into the rational decision-making principles of neoclassical theory marks a significant advancement in understanding the migration patterns, as macroeconomic factors are not equally valued, and individuals make decisions with the goal of maximizing their utility, considering the characteristics of the location and their personal preferences. Thus, migration becomes a selective process influenced by economic factors, disparities in human capital, and regional variations in pay-to-skills ratios, all of which collectively shape the educational and skills profile of international migrants (Borjas, 1989).

According to neoclassical theory, labor migrants are generally characterized as “tending, on average, to be more able, ambitious, aggressive, entrepreneurial, or otherwise more favorably selected than similar individuals who choose to remain in their country of origin” (Chiswick, 1999, p. 181). Thus, following neoclassical theory, labor migrants form a selective group, characterized by a higher level of education compared to individuals who stay behind, and are drawn to regions offering improved economic conditions. However, empirical studies have demonstrated that even refugees, who are compelled to relocate rather than being driven by economic factors, also exhibit educational selectivity (e.g., Feliciano, 2005). In a recent study, Spörlein and Kristen (2019) examined the degree of educational selectivity in various Western European destinations among different origin groups, ranging from recent refugees to labor migrants. They found minor and relatively insignificant differences in educational selectivity between refugees and labor migrants. These findings, in my view, raise the question of whether the settlement patterns of refugees converge with or diverge from those of labor migrants. Haberfeld et al. (2019) examined whether neoclassical theory could explain the internal mobility and destination preferences of refugees who migrated to Sweden between 1990 and 1993. Their study revealed a strong association between refugees’ education levels and their choice of destination, with highly educated refugees being more likely to move to areas with a wide range of employment opportunities than those who were less educated.

One limitation of neoclassical theory is their exclusive focus on economic factors (Samers & Collyer, 2017). While the promise of improved economic conditions is a significant motive for migration and destination choices, the evidence of the “immobility paradox”, where individuals may choose not to migrate despite substantial wage and unemployment disparities, emphasizes
the need to consider factors beyond purely economic ones (Arango, 2004; de Haas, 2009; Faist, 2000). Similarly, some countries experience significant immigrant inflows even when not offering the most favorable economic conditions. These phenomena challenge the predominant assumption of neoclassical theory that economic incentives are the primary driving force behind migration patterns (Arango, 2004; de Haas, 2009). Thus, to gain a more comprehensive understanding of current international migration patterns, it is crucial to develop theoretical frameworks that extend beyond the traditional economic rationality and can encompass non-economic factors such as political circumstances, personal connections through family and friends, and individual motivations (Bailey et al., 2004; Haug, 2008; Kofman, 2004; Lundholm, 2007).

Furthermore, while neoclassical theory suggests that migrants’ settlement patterns result from rational individual choices, the reality is that not all migrants have the freedom to exercise their preferences and select their desired destinations. Migration patterns are influenced by both choices and constraints, such as dispersal policies and discriminatory practices, which can limit the ability of certain groups to realize their preferences. In this context, the aspirations-capabilities framework provides a comprehensive approach to elucidate migration settlement patterns by considering the interplay between individual choices and prevailing constraints.

The aspirations-capabilities framework

The aspirations-capabilities framework was first introduced by Carling (2002) to explain the rise of “involuntary immobility” in Cape Verde. According to this framework, individuals may aspire to migrate, but their ability to do so may be constrained by various factors such as immigration policies. Aspiration refers to the “desire” or “wish” to migrate, while “capability” or “ability” is the realization of aspiration (Carling, 2002). In this regard, Carling’s (2002) aspirations-capability framework, in my view, shares similarities with the research of Haller (1968) and Lewin (1939) on aspirations. Both frameworks acknowledge the parallel relationship between idealistic desires and wishes and the realistic considerations that influence an individual’s ability to achieve their aspirations.

Carling’s framework challenges the conventional notion of migration as a single decision and proposes a two-step process. The first step involves understanding the circumstances that lead individuals to develop their migration aspirations, while the second step involves identifying the factors that impact their ability to fulfill those aspirations. In later years, de Haas (2011, 2014) combined Carling’s framework with Sen’s (1999) theory of human
development in an expanded aspirations-capabilities framework, which offers a more profound insight into how migrants exercise agency within larger contexts of constraints and opportunities, and how capabilities influence migration aspirations. The framework suggests that there are individuals in the country of origin who possess aspirations for migration over non-migration. Some have the ability to fulfill their migration aspirations, and some do not. According to Carling and Schewel (2018), mobility aspirations stem from the belief that migration is more desirable than staying. However, Schewel (2020) argues that immobility can result from both structural impediments that limit an individual’s capability to move, as well as from aspirations to remain in one place, with or without the corresponding capability.

Building upon the aspiration-capabilities framework, de Haas (2021) established its connection to earlier migration theories. In contrast to previous migration theories that assume individuals respond uniformly to external stimuli in predictable ways, de Haas argues that this new approach considers individuals’ general life preferences and subjective perceptions of opportunities and life elsewhere. Drawing on fieldwork experiences from the south-Moroccan Todgha valley in 2003 and 2006, de Haas observed that despite improvements in local living standards, income, and education, more people were expressing a desire to leave the valley. He asserted that this trend could not be explained by neoclassical approach; instead, it was propelled by an increase in people’s general life aspirations that had surpassed their current living conditions. Consequently, there is a growing migration desire that is not easily explained by economic factors alone. According to de Haas (2021, p. 2), the aspiration-capability framework defines human mobility as “people’s capability (freedom) to choose where to live – including the option to stay – instead of a more or less automated, passive and ‘cause-and-effect’ response to a set of static push and pull factors.” This framework has proven useful in understanding the intricacies of human mobility, particularly in contexts where migration results from a blend of structural and individual factors.

The aspiration to migrate is influenced by the emigration environment at the macro level, encompassing the social, economic, and political context experienced by community members. These macro-level factors interact with individual characteristics at the micro level to shape a person’s aspirations for migration. Similarly, an individual’s ability or capacity to migrate is influenced by factors at both the macro level, including all relevant policies that may either enable or constrain migration, as well as the micro level—individual-level variables—that jointly determine an individual’s ability to overcome barriers and realize their migration aspirations (Carling, 2002). Therefore, it is important to note that aspirations do not necessarily result in mobility; both mobility and immobility involve distinct processes of realization (Carling & Schewel, 2018).

De Haas (2021) describes two dimensions of migration aspirations, instrumental and intrinsic. The instrumental dimension views migration as a
functional or utilitarian means of achieving a specific goal, such as higher income or education, and has received much attention in research. Conversely, the intrinsic dimension emphasizes the value that individuals place on migration itself, such as the enjoyment and fulfillment derived from exploring new societies. People’s aspirations for mobility are influenced by their perceptions of the opportunities available to them in different geographic locations. These perceptions can either facilitate or impede the movement of different social groups along specific pathways, giving rise to migration patterns that are highly specialized, socially differentiated, and specific to particular geographic regions.

Although this framework was initially developed to address involuntary immobility, in my thesis, I employ it to understand post-migration journeys—specifically, to examine the initial settlement patterns of migrants. This approach enables a comprehensive analysis of how migrants navigate their lives in a new country, considering both their aspirations and the constraints they encounter. It is important to clarify that I do not quantify and measure migrants’ aspirations; instead, I employ this framework as an interpretive approach. This means that while I acknowledge the role of individuals’ education attainment in shaping their settlement choices, as suggested by neoclassical theories, I depart from a rigid economic framework that attributes migrants’ settlement patterns exclusively to personal decisions and economic factors. Instead, I explain how migrants’ settlement patterns evolve around both choice and constraints. Combining neoclassical theories and the aspirations-capabilities framework provides a more nuanced understanding of the intricate mechanisms behind the residential settlement patterns of diverse groups of migrants.
4. Methodology, data, and methods

The longstanding tradition of national population registration in Sweden provides a unique opportunity for conducting this thesis. This chapter outlines the methodology applied in the current study, followed by a description of the Swedish register data, emphasizing its advantages and limitations. Furthermore, the chapter introduces the two statistical methods used for longitudinal data analysis—event history analysis and sequence analysis—and discusses the ethical considerations. This chapter concludes by reflecting on positional- ity.

Methodology

This thesis investigates the intricate role of migrants’ educational attainment and enrollment as fundamental factors influencing integration processes. Specifically, it aims to examine the determinants and geographical manifestation of educational attainment and educational enrollment pathways of adult migrants. To accomplish this, in this thesis I adopt a positivist epistemological stance, which relies on empirical evidence and quantitative methods to study, analyze, and comprehend the complex interplay of migration and education. Positivist epistemology is grounded in the belief that there exists an objective reality independent of human perception, and that social phenomena and behaviors can be quantified and measured. By applying this methodology, we can systematically measure, observe, and study the objective reality to gain valuable knowledge (Bryman, 2016; Clark et al., 2021). Given that the focus of this thesis relates to overarching structures, a quantitative approach with both longitudinal (Papers I & III) and cross-sectional designs (Paper II) is considered the most appropriate.

A quantitative approach enables researchers to identify observable phenomena, regularities, and large-scale patterns, thus enabling the generalization of findings and prediction of future outcomes. In contrast, qualitative methodology offers insights into people’s experiences, thoughts, and feelings through words, stories, and in-depth discussions. While qualitative methodology is valuable for exploring the “how” and “why” of situations and for providing rich insights into complex topics like human behavior, culture, and social interactions (Clark et al., 2021), it may not be suitable when studying large samples, as done in all the studies within this thesis. In the context of this thesis,
quantitative methodology is more appropriate as it aims to measure and quantify aspects of migration and education. A quantitative approach facilitates the study of trends, patterns, and relationships between variables, providing precise and measurable results to answer questions such as “how much” or “how many”. Consequently, a quantitative methodology aligns well with the aim of this thesis, facilitating a thorough exploration of multiple aspects, including measuring the extent of registration of migrants’ educational information, examining spatial patterns in the initial sorting of migrants based on educational attainment, and identifying the pathways of educational enrollment – all of which inherently involve quantitative analyses. Moreover, the quantitative approach allows for the measurement of determinants influencing each of the three topics studied in the papers in this thesis.

Having access to Swedish register data provides an excellent opportunity for me to apply a quantitative approach in addressing the various research questions in this thesis. Register data contain a wide array of longitudinal, individual-level information that, alongside advancements in longitudinal analysis methods, presents a significant opportunity to embrace a longitudinal perspective. While not explicitly employing a life course perspective, the concept of an individual’s life pathways interconnected across various domains (Elder, 1994) has significantly influenced the analytical strategy of the third paper. In Paper III, I adopt a longitudinal approach regarding migrants’ educational enrollment trajectories, considering their connections to other facets of life, including emigration and employment. This approach gives a holistic understanding of transitions between different types of education as well as between education, employment, and emigration. This comprehensive perspective illuminates the complex dynamics of education and labor market integration within the post-migration life trajectories of migrants. A similar approach is adopted in Paper I, where migrants are tracked longitudinally to examine the change in coverage of their educational information over the years. In Paper II, however, a cross-sectional approach is employed, focusing on the residential settlement of migrants shortly after arrival.

Swedish register data

All three papers in this thesis are based on longitudinal full-population Swedish register data collected by national public authorities and accessible through Statistics Sweden’s Microdata Online Access (MONA) system. This thesis uses data from the “Migrant Trajectories” dataset, covering the entire population legally residing in Sweden from 1990 to 2016. The dataset comprises various databases including the longitudinal integrated database for health insurance and labor market studies (LISA), the longitudinal database
for integration studies (STATIV), the register of the total population (RTB), and the Multigenerational register (Flergen). All individuals are assigned an anonymized ID enabling researchers to merge different databases and to obtain a comprehensive and wide-ranging understanding of various aspects of individuals’ lives.

LISA, initially launched in response to rising sick leave rates, compiles socioeconomic data for individuals aged 16 and older, who are registered in Sweden as of December 31st each year since 1990. It draws information from various sources, including the UREG, the Swedish Social Insurance Agency, and the Swedish Public Employment Service, and encompasses a wide array of information including highest completed educational level, unemployment benefits, disposable income, social welfare payments, sick leave, and disability pension (Ludvigsson et al., 2019; Statistics Sweden, 2016c). For this thesis, the most relevant registers in LISA were those obtained from the UREG and the Labor Market Register, which includes information on the highest completed level of education (Sun2000niva), the source of educational information (Källkod), educational enrollment (StudDelt) and employment status (SyssStat).

The STATIV database contains information regarding the grounds for settlement and country of origin, which are based on data derived from the Swedish Migration Agency (Statistics Sweden, 2018b). This database facilitates a distinction between different categories of migrants based on grounds for settlement, including labor, study, family reunification, asylum, and other reasons. In addition, STATIV provides information on the housing policy that refugees were subject to in the year of arrival, allowing for the separation of three groups: (1) refugees with assigned housing, (2) refugees with self-arranged housing, and (3) quota (or resettled) refugees. The first two categories are based on refugees’ mode of settlement, with the first referring to refugees who were assigned to a municipality by the Swedish authorities, whereas the second category refers to refugees who chose their place of residence, which was a possible option after 1994 (see Andersson & Solid 2003; Åslund, 2000; Dahlberg & Valeyatheepillay, 2018). Quota refugees do not apply for asylum at the Swedish Migration Agency directly but are resettled from refugee camps to a municipality assigned by Swedish authorities. The differentiation between different categories of migrants and refugees is relevant to all papers in this thesis.

Another strength of the STATIV database is its provision of details on SFI courses, including enrollment, grades achieved, and reasons for discontinuation. This, coupled with other educational registers in LISA, enables a comprehensive depiction of the diverse educational enrollment trajectories followed by refugees. From the RTB register, the year of birth, gender, year of

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11 Since 2010, it has included individuals aged 15 years and older.
first immigration and emigration, and from Flergen, family composition including civil status and number of children in households, if any, are used.

Although analyses in this dissertation are carried out for large cohorts of migrants, defined as foreign-born individuals, the samples are selected based on the specific research questions and vary by papers. In Paper I, the focus is on the extent of registration of educational information for migrants from their arrival up to 10 years afterwards. The sample is limited to cohorts of migrants who arrived between 2000 and 2006 and were aged 18 to 65 at the time of immigration. In Paper II, all migrants arriving in the period 2000-2014 were included. Building on the results of Paper I, this paper specifically addresses migrants for whom educational information was registered two years after arrival. In Paper III, an additional restriction was imposed. Here, the focus is on refugees and accompanying adult family migrants who arrived in the period 2000-2006. Furthermore, in Papers II and III, the samples are restricted to migrants older than 25 at the time of arrival, assuming they had completed their education before migration and were not of school age.

The use of register data in this dissertation offers several significant advantages. The primary advantage relates to the focus of this thesis: adult migrants and their educational attainment and enrollment trajectories. The rich longitudinal register data contains educational registers, collected by the UREG. Another essential source of information is data on participation in SFI courses, which offers valuable empirical insights into the impact of SFI on various aspects of migrants’ lives. Furthermore, register data includes information about enrollments in various types of education in Sweden. This, combined with information about participation in SFI courses, as well as employment and emigration, has been used in Paper III to elucidate the post-migration educational enrollment trajectories of refugees. This is important primarily from a policy perspective, as it can shed light on the diversity of pathways taken by refugees before entering the labor market and on how the characteristics of the refugees influence these dynamics.

The second advantage of using register data is that all legally residing individuals are encouraged to register their presence in the county to gain access to social services. This implies that register data are representative of nearly all of the country’s legal residents. Given that register data is already available, its completeness ensures the representativeness and diminishes the impact of selection bias stemming from non-response or loss to follow-up (attrition bias). Another advantage of register data relates to its long-term coverage, which makes it possible to conduct longitudinal and intergenerational analyses (Redfern, 1989; Thygesen & Ersbøll, 2014). Using register data, it is possible to track people over a long period and examine changes in their life dimensions that are registered annually. This long temporal coverage is especially relevant to this thesis, as it allows for an examination of time to registration of migrants’ education (Paper I) and pathways of post-migration educational enrollment (Paper III). The register data also includes information on individuals
who are no longer present in Sweden due to emigration or death, making it possible to investigate the factors behind such events (Redfern, 1989; Thygesen & Ersbøll, 2014). In Paper III, I have included all refugees, even those who left Sweden during the observation period to explore factors underpinning emigration.

Yet despite the richness of register data, there are some disadvantages that researchers should take into account when using them. One such disadvantage is the issue of over-coverage, where due to the lack of incentives, individuals fail to deregister when they emigrate from Sweden. As a result, there are more individuals registered as residents in Sweden than those who actually reside in the country (Monti et al., 2020). According to Statistics Sweden (2015), over-coverage has been estimated to be around 4-8% of the total foreign-born population in Sweden. Related to the focus of this thesis, over-coverage may contribute to the missing educational information in register data. Moreover, educational information acquired outside of Sweden may suffer from misclassification or low coverage. A recent study by Saarela and Weber (2017) showed that for a large proportion of Finnish migrants, educational information prior to immigration (particularly among recently arrived immigrants) was either missing or misclassified. However, misclassification issue had greatly diminished five years after arrival.

Another drawback relates to the quality of educational information acquired outside Sweden. In Sweden, information about the educational attainment of all the registered population is collected from a variety of sources, which have increased over time. However, for migrants, particularly newly arrived migrants who obtained education outside Sweden, the primary source of information acquisition is a survey of the foreign-born population. This survey has been sent to all immigrants aged 20-59 in the year after arrival, since 1999 (Statistics Sweden, 2016a). Nonetheless, the non-response rate from the survey is relatively high, particularly among EU and Nordic immigrants (Saarela & Weber, 2017; Zander, 2018). This is not particular to Sweden. In Denmark (Jensen & Rasmussen, 2011), the Netherlands (Linder, 2019) and Norway (Jentoft, 2014), the educational information for individuals who obtained their education abroad is often missing. Hence, Statistics Denmark conducted an extensive survey in 1999 to collect information about migrants’ educational attainment. However, the response rate was low (Mørkeberg, 2000). As migrants’ educational information is the key variable in this doctoral research, Paper I is dedicated to studying the quality and coverage of the educational attainment information in register data. This includes examining the source of information on the educational levels of migrants upon arrival and analyzing changes in the registration of education over time and among different migrant groups.

Furthermore, register data is primarily confined to events within the geographical boundaries of Sweden, and does not capture transnational life events outside of Sweden’s borders, such as migrants’ work experiences in their
home countries. However, foreign educational information is an exception, as it is collected through a self-reporting survey. Moreover, register data encompasses only objective information about legal residents who have registered within the country. Therefore, register data does not offer insight into the subjective aspects of individuals’ lives and their feelings. This is crucial to consider in relation to Paper II, where I employ the aspirations-capabilities framework as an interpretive framework to explain the settlement patterns of various migrant groups. Here I do not measure aspirations, since, unlike data collected through surveys or interviews (see e.g., Borselli & Meijl, 2021; Ester, 2023), register data lacks subjective information. In addition, register data does not include information about refugees and their year of immigration before they are granted a residence permit. Although many refugees stay in Sweden for a prolonged period before receiving a residence permit, their year of registration into the register data is used instead of their actual year of arrival.

Methods for longitudinal analysis

This thesis employs various temporal scales to address different research questions. In Papers I and III, a longitudinal approach is employed, following migrants over a 10-year period after arrival in Sweden. Here, two well-known methods for longitudinal analysis are used: event history analysis in Paper I and sequence analysis in Paper III.

Event history analysis examines the timing of the occurrence of a single event and the key underlying factors. In Paper I, I use event history analysis to examine the time to registration of educational attainment for migrants whose educational information was missing upon arrival. Paper III focuses on the educational enrollment pathways of refugees and their families, encompassing participation in various types of education, and in possible employment and emigration. To capture the diversity of these pathways, I employ the sequence analysis method.

To explore the association between refugees’ characteristics and their educational pathways (Paper III), as well as migrants’ backgrounds and their initial settlement patterns (Paper II), multinomial logistic regression has been employed. This statistical method is well-established and widely used across various domains to scrutinize the interplay between categorical dependent variables (with more than two categories) and multiple independent variables. In the following section, the two aforementioned methods for longitudinal analysis will be explained.
Event history analysis

Event history analysis, also known as survival analysis, encompasses various statistical techniques for analyzing the occurrence and timing of an event (Alison, 2010; Blossfeld et al., 2007; Vermunt, 2009). During the observation period, individuals are tracked to determine when they encounter a specific outcome or make a transition to the targeted event. This is because the probability of an event is not constant over time; rather, it fluctuates at particular periods or time points. Event history analysis is particularly well-suited for addressing questions such as “How long does it take until a certain event occurs?” In Paper I, this translates to “How long does it take until migrants’ educational attainment is registered?”

Event history analysis has two main strengths that have contributed to its popularity in longitudinal studies. Firstly, in longitudinal research, there may be cases where the events of interest are not experienced during the follow-up period (right censoring), and event history analysis is capable of handling such censored cases. In Paper I, migrants whose educational levels are not registered at the end of the observation period, those who emigrated from Sweden, or those who died during the observation period, are considered right censored. Secondly, event history analysis is capable of incorporating and analyzing time-varying life course events, such as education, employment, and marital status (Allison, 2010).

However, event history analysis has a notable limitation: it focuses on a single event at a specific point in time, often failing to consider the broader context of activities or transitions individuals undergo before reaching the event of interest. This limitation is especially significant in Paper III, which examines the trajectories of education and employment over a period. Despite the well-established positive association between obtaining local education and refugees’ career prospects in the host country, our understanding of the educational enrollment pathways undertaken by adult refugees before entering the labor market remains limited. Thus, in Paper III, I employ sequence analysis, which sheds light on the sequence of transitions between different educations and employments over time.

Sequence analysis

Considering the diverse adult educational opportunities in Sweden, Paper III aims to shed light on the educational enrollment paths of adult migrants following their arrival. To achieve this, I employ sequence analysis.

Sequence analysis is a statistical technique initially used in bioinformatics for the recognition, classification, and organization of DNA sequence data (Helske et al., 2015). However, in the mid-1980s, sequence analysis found its way to the social sciences through the study of Abbott and Forrest (1986), who demonstrated the usefulness of the sequence analysis method in studying, comparing, and clustering the longitudinal sequences of categorical states to
understand social phenomena or behaviors. Since then, it has been extensively utilized in social science research across various disciplines, such as human geography (e.g., Borg et al., 2022; Vogiazides & Chihaya, 2020), sociology (e.g., Brzinsky-Fay, 2007), and regional science (e.g., Rowe et al., 2017). The increasing use of the method can be attributed to a shift in research emphasis from singular mobility events, occurring at distinct moments in time, toward a comprehensive examination of the sequential states experienced by individuals over an extended duration.

Sequence analysis is a great exploratory method, providing an integral picture of individuals’ sequences over their life course, the most common transitions between different states and time spent in each state (Helske et al., 2015). Sequence analysis enables researchers to explore, describe and visualize the trajectories of individuals, in terms of the ordered series of states and transitions between states (Billari, 2001; Cornwell, 2015). The method makes it possible “to study a complex set of life-course trajectories as they actually take place, providing ideal-types of trajectories that can be interpreted and analyzed in a meaningful way” (Aassve et al., 2007, p. 371).

Another application of sequence analysis is clustering, which allows researchers to find typologies of entire trajectories of sequences by measuring the pairwise (dis)similarity of the sequences (Aisenbrey & Fasang, 2010; Billari, 2001). There are several methods to measure sequence dissimilarity, of which optimal matching method is the most well-known. It estimates the costs of inserting, deleting, or substituting elements in one sequence to be transformed to another. A greater cost implies greater dissimilarities between two sequences (Gabadinho et al., 2011). After computing similarity scores for all sequence pairs, various cluster analysis methods can be employed to delineate typical trajectories. These methods aim to create groupings of objects such that observations within each group are as similar as possible while also maintaining distinctions between different groups. In this thesis, in Paper III, the hierarchical agglomerative cluster analysis based on Ward’s algorithm with partition around the medoids is implemented using the Weighted Cluster R package (Studer, 2013). Using the Ward method, the number of clusters is predetermined, and cluster solutions are calculated across a range of cluster numbers. The optimal number of clusters is then determined by employing a variety of measures such as average silhouette width, Calinski-Harabasz, and pseudo-R², among others (see Studer, 2013).

While useful for identifying patterns, both the most common sequences and less frequent ones, the sequence analysis method has some drawbacks. One major limitation is that researchers need to consider the number of states included in the sequence analysis method beforehand, requiring extensive descriptive analyses before applying the method. In Paper III, where I examined various types of adult education programs using register data, I conducted several descriptive analyses to explore less common adult educational programs that were later merged with other types of education. Hence, numerous pre-
running tasks are necessary. Another limitation is that, with a large amount of data, running analyses and generating outputs takes a considerable amount of time. This limitation becomes particularly apparent when there is a need to alter the combination or number of states. In my view, another limitation is that, despite the extensive efforts and time-consuming analyses preceding the actual run, the final outputs remain highly descriptive. Consequently, in Paper III, to investigate the factors determining the educational pathways of refugees derived from sequence analysis, I employed multinomial logistic regression. Yet another limitation is that we cannot use time-varying independent variables to explain the pathways, such as changing marital status or number of children, but rather have to refer to averages over the time period.

**Ethical considerations**

This thesis is based on Swedish register data, which contains information about everyone legally residing in Sweden. Therefore, it is of the utmost importance to address ethical considerations and ensure the responsible and ethical use of personal information and simultaneously protect the privacy and confidentiality of the individuals whose information is being used. The handling of sensitive personal data, including information concerning race, ethnic background, and religion, is regulated by the European Union’s General Data Protection Regulation (GDPR) in Sweden. GDPR mandates that all sensitive personal data requires ethical approval from an ethical review board. In the context of this thesis, which utilizes data from the “Migrant Trajectories: Geographical mobilities, family careers, employment, education, and social insurance in Sweden 1990-2016” project, ethical approval (no 2017/1329-31) was obtained on October 9, 2017, from the Swedish Central Ethical Review Board. Following a confidentiality assessment, Statistics Sweden determined that the specified register data could be made available to Stockholm University for the stated research purpose (Statistics Sweden, 2018c).

Access to the data is via the MONA system, a microdata system managed and provided by Statistics Sweden. Register data, which contains confidential individual-level information, is not publicly accessible. Only authorized researchers with approved access can retrieve specific information related to each approved research project within the MONA system. Register data contain non-aggregated information referring to a single object (person, business, school, etc.) and non-aggregated data cannot be extracted by authorized users of register data. To protect individuals’ privacy and prevent direct identification, each individual in the register data is assigned an anonymized ID number, distinct from their actual identity. However, for smaller subgroups, such as foreign-born individuals from less common countries, there remains a risk of
identification. In such cases, information is provided in aggregated form. Ethnic background information is also considered sensitive under GDPR. In this thesis, country of birth is used as a proxy for ethnic groups to explore initial sorting patterns and educational trajectories of migrants. By adhering to ethical guidelines and utilizing anonymized and aggregated data, when necessary, this thesis ensures the responsible and ethical use of Swedish register data while preserving individuals’ privacy and confidentiality.

Positionality

Throughout this doctoral dissertation, I have delved into the integration process of migrants in Sweden through an educational lens. This perspective is deeply influenced by my personal experiences as a female migrant from Iran, where strong aspirations toward education is a common trend in many families. In my family, education was not only valued for its potential to enhance future economic opportunities but also cherished for its role in enriching individuals’ lives and encouraging critical thinking about a variety of topics.

Upon moving to Sweden, I noticed that among the migrants I had come to know, those with higher education predominantly favored living in metropolitan areas, especially Stockholm, believing that this choice would significantly enhance their career advancement. I received advice from some of my friends to stay in Stockholm even though life there might pose initial challenges, as the long-term rewards would be substantial. I also observed that many migrants, regardless of their previous qualifications, pursued another education in Sweden because most employers often express skepticism toward foreign education, particularly for individuals coming from outside the EU. However, some friends believed that, instead of acquiring additional degrees, mastering the Swedish language was crucial. I distinctly recall a conversation with an Iranian friend in Sweden who repeatedly emphasized: “Language, language, language... learn Swedish”. The message was clear: without proficiency in Swedish, you would remain as an “outsider”.

My husband and I initially resided in Norrtälje, where there were SFI courses available close to our apartment. However, we were advised to attend SFI courses in Stockholm as those were perceived to be of better quality. Both of us enrolled in SFI courses offered in different places within the same municipality, Stockholm; however, our experiences were notably different. He found the course structure and teachers satisfactory, while I was thoroughly disappointed and decided to discontinue after a month. For me, with a geographical interest, such significant differences within the same municipality were surprising and interesting, highlighting the crucial role that geography played in this matter.
By reflecting on my positionality, I do not claim to explain the underlying reasons for the findings of my papers. Instead, my intention is to emphasize that my research topics were not solely driven by data, a potential misconception. The topics and arguments presented in my thesis, while theoretically grounded, are also rooted in my experiences both before and after migration. These experiences have significantly influenced the direction of my research, providing a deeper understanding of the geographical implications of educational attainment, the experience and significance of SFI courses for migrants, and the challenges faced by non-EU migrants in navigating the Swedish labor market. Hence, while I have employed Swedish register data and quantitative methods in my thesis, my perspective is enriched by my personal experiences as a non-EU migrant. In this sense, I am deeply embedded in the narratives of migrants that extend beyond the numbers, and that shape the foundation of my thesis and the interpretation of results.
5. Summary of papers

Paper I

*Registration of immigrants’ educational attainment in Sweden: an analysis of sources and time to registration*

Sweden stands out among European countries for its rich longitudinal individual-level register data, which encompasses a wide range of socioeconomic, demographic, and geographical information. Notably, Swedish register data includes information about the educational attainment that migrants have obtained outside Sweden. This provides a unique opportunity for exploring various aspects of migrants’ educational trajectories. However, information about the educational attainment of migrants is typically missing at the time of their arrival. Given the importance of educational information in understanding the integration pathways of migrants, in Paper I, I address two questions: 1) What are the sources of information on immigrants’ educational attainment in their year of arrival? 2) To what extent does the share of missing information on immigrants’ educational attainment improve with longer residency in Sweden and how does this vary by migrant groups?

To address the first question, I analyze the sources of information about the educational attainment in the year of arrival for nearly 900,000 immigrants, who were aged 18-65 years old at the time of immigration and arrived in Sweden in the period 2000-2016. The results indicate that the primary sources providing information on migrants’ educational levels at the time of arrival are the survey of foreign-born individuals (71%) and information obtained through the Swedish Public Employment Service (24%). However, information collected from both of these sources is self-reported, raising doubts about its reliability, as migrants may not always provide accurate details about their actual educational accomplishments.

In relation to the second question, I examine the extent to which the proportion of missing information changes with increasing residency time in Sweden. I applied the event history analysis method to all migrants who arrived in Sweden between 2000 and 2006 and had missing educational information at time of arrival, with a 10-year follow-up period. The findings demonstrate a significant reduction in the proportion of missing educational information as migrants’ length of residency in Sweden increases. Within the first year after arrival, half of all migrants had their educational attainment registered, while this figure increased to 70% after two years. Furthermore, the results indicate variations in registration rates among different groups of
migrants. For the majority of refugees and family migrants, the proportion of missing educational information significantly decreased after two years, which may be attributed to their eligibility for the introduction program administered by the Swedish Public Employment Service. This program provides daily allowances and housing benefits. Notably, during the establishment program, many refugees also have their educational details registered.

On the contrary, for Nordic migrants, the length of residency hardly improves the registration of educational attainment, and for a significant proportion, their educational level remains unregistered, even after 10 years. One possible explanation is that short distances and free mobility facilitate migration between Sweden and other Nordic countries. These migrants are not registered by the migration agency since no residence permits are required. Consequently, their education is not recorded through this authority. Additionally, Nordic migrants have a high employment rate shortly after their arrival (Bevelander & Irastorza, 2014) and are less likely to actively seek employment through channels such as the Swedish Public Employment Service. Moreover, due to lower housing costs in Sweden and higher wages in Denmark, along with relatively strict Danish rules on marriage-based migration, some Nordic migrants choose to live in Sweden while commuting to work in Denmark (Kauppinen & Poutvaara, 2011; Matthiessen, 2004). As a result, their educational information is not registered in Sweden. Labor migrants represent the second-largest group with the highest rates of not having their education registered in all years, contrasting with significantly lower rates for refugees and family immigrants. This high rate of non-registration among labor migrants could be attributed to their entry into Sweden through employment, reducing the necessity for job searching through different channels including the Swedish Public Employment Service, where information about their educational qualifications could have been registered.

Based on these findings, I recommend using information on migrants’ educational attainment at least two years after their arrival for any studies involving such data to ensure a 70% level of coverage. This approach is particularly relevant for refugees and family migrants, as information about their highest educational attainment to a large extent is registered within two years after arrival. Furthermore, since the results show that missing information on educational attainment of migrants does not imply a specific level of education, it is crucial not to replace missing values with any predetermined educational level, most notably lower education. Such replacements could result in biased results, either overestimating or underestimating the actual educational attainment of immigrants. To address the issue of self-reporting and improve the accuracy of educational attainment data, I propose attaching certified educational qualifications as supplementary documents in the surveys of foreign-born individuals or as part of the job search process.
Paper II

The initial residential patterns of immigrants across the urban hierarchy in Sweden: the role of educational attainment

The spatial sorting patterns of international migrants have been studied extensively, yet there are a number of shortcomings in the literature. Firstly, many studies predominantly emphasize locational factors shaping migrants’ settlement patterns, neglecting individual-level factors. Secondly, studies often focus on specific migrant categories, such as EU migrants or labor migrants. However, as put forward by the aspirations-capabilities framework, some migrants encounter constraints in realizing their residential preferences. Therefore, migrants may not all have equal opportunities to choose their place of residence, highlighting the importance of differentiating between various migrant categories to come to an improved understanding of how choice and constraints affect migrants’ spatial sorting patterns. Thirdly, the role of migrants’ educational level in their initial settlement patterns has been addressed by a few studies. However, these studies are hindered either by small sample size, relatively old cohorts, or a focus on specific migrant categories. Against this backdrop, in this paper, we aim to identify and characterize the initial residential patterns in Sweden across different migrant groups based on educational attainment, and with consideration of other individual characteristics such as the purpose of migration and region of origin. We address two questions: 1) To what extent are newly arrived migrants spatially sorted by educational attainment? 2) How do these spatial sorting patterns vary by purpose of migration and migrants’ origin?

The analyses encompass full cohorts of migrants, including all foreign-born individuals, excluding students, aged over 25 who entered Sweden between 2000 and 2014 and had a registered educational level two years after arrival. To examine how migrants are distributed across Sweden, we utilized the classification of municipalities by the Swedish Association of Local Authorities and Regions (2011) and regrouped all regions into four broader categories. Using multinomial logistic regression models, the results indicate that migrants’ educational attainment is a robust determinant of their initial residential patterns. Higher educated migrants, as well as those with medium education (though to a lesser extent), are more likely to settle in metropolitan areas, as compared to lower educated migrants. Therefore, the spatial sorting of highly educated migrants is predominantly a metropolitanized phenomenon. The study also revealed that Nordic and African migrants, resettled refugees, older migrants, and migrant families with younger children are most likely to live in sparsely populated areas.

In conclusion, we argue that the initial settlement of migrants in rural and sparsely populated areas may have both positive and negative effects on their integration. On the positive side, migrants in such areas may find employment...
in sectors facing labor shortages, such as tourism or the care sector, which typically do not require advanced education or skills, making them suitable entry positions for newly arrived migrants, especially those with lower levels of education. Additionally, given that rural and sparsely populated areas are smaller, the visibility of migrants may be higher, facilitating acceptance by the local community and faster integration.

However, on the downside, a concentration of lower educated migrants in such areas already suffering from economic depression, aging, and depopulation can have adverse effects on both the socioeconomic mobility of the migrants and the economic vitality of these regions. The lack of experience with larger migrant populations may also contribute to less welcoming attitudes toward migrants, thereby resulting in more integration challenges. Thus, new destinations that primarily attract lower educated migrants may become collecting grounds for disadvantaged migrants and contribute to the formation of ethnic enclaves outside of metropolitan areas. In summary, spatial polarization is exacerbated. Furthermore, we discuss whether these results can be further explained by considering other constraints, such as discrimination in the housing market and dispersal policies, which impede certain migrants from choosing their preferred residence.

**Paper III**

*Unveiling integration: educational enrollment pathways of adult refugees in Sweden*

Adult refugees often encounter significant disadvantages in the host country’s labor market, primarily due to a lack of local human capital, language barriers, and the limited transferability of their pre-migration education. Participation in adult education programs equips refugees with skills in demand in the labor market and the local language, facilitating their establishment and integration into the labor market. Considering the outstanding adult education system in Sweden, which offers a wide range of free and diverse courses to all adults, a nuanced understanding of the labor market integration of refugees requires an examination of the paths they undertake before establishing themselves in the labor market. There are studies that have explored migrants’ labor market trajectories while considering their engagement in education programs by using a longitudinal approach. These studies highlight the importance of acquiring country-specific education and skills for successful labor market integration. However, they often overlook the diversity of adult education types by gener-
refugees. Specifically, I seek to answer the following questions: What are the typical educational pathways that refugees follow after arrival? To what extent are the educational pathways of refugees influenced by their background characteristics as well as place of residence in Sweden and parental leave use?

To address these questions, I use information on enrollment in various educational programs from register data, enabling a comprehensive examination of the diverse types of education pursued by adult refugees, rather than focusing on the highest completed level of education. This study focuses on refugees—foreign-born individuals who are granted residence permits based on asylum—and their adult family members that were granted asylum based on family reunification, aged 25-55, who arrived in Sweden between 2000 and 2006. This allows for a 10-year follow-up of their educational enrollment, labor market participation, and possible emigration. For analyzing their educational enrollment trajectories, sequence analysis is employed and participation in various types of adult education, as well as employment or emigration are states of interest.

The results reveal that participation in education is a crucial aspect of the labor market integration pathways among refugees, with five typical patterns identified. More than a third of refugees (38%) follow an exclusion cluster, marked by inactivity in education and the labor market, despite prolonged participation in SFI courses. This trajectory suggests hampered integration, where refugees end up being inactive in both education and the labor market. In contrast, 23% of adult refugees experience an early career pathway, characterized by a brief involvement in SFI courses and an early transition to the labor market. Meanwhile, 22% of refugees end up in a mixed career pathway, characterized by nearly equal proportions of inactivity and employment by the end of the observation period. Another 13% follow a late career trajectory after dedicating a substantial amount of time to municipal adult education. A very small proportion of refugees choose to emigrate, leaving Sweden after a relatively short duration of participation in language courses and municipal adult education.

The results of the multinomial logit model further show that female refugees are more likely to follow an exclusion pathway, while their male counterparts have a higher likelihood of undertaking an early career path. This result suggests that women may gain less from participating in adult education and SFI programs and are at a higher risk of inactivity, whereas men are more successful in rapidly establishing themselves in the labor market. I argue that the gender disparities observed in educational pathways can be attributed to factors such as gender norms in origin countries and ethnic discrimination practices within the Public Employment Service. The results also show that refugees following an early career pathway are typically younger and have higher levels of education, while the exclusion pathway is often followed by older refugees and those with lower levels of education, indicating continued vulnerability in integration pathways of refugees in Sweden. Additionally, the
early career trajectory is disproportionately followed by refugees from more privileged regions, including the EU, the Balkan, the former Soviet Union, South and Latin America, and Asia (excluding the Middle East). Conversely, refugees from Afghanistan, Iraq, the Horn of Africa, and the Middle East are more commonly represented among those following the exclusion cluster, suggesting the possibility of employment discrimination against certain migrant groups.

The results further reveal a strong positive association between taking an extended parental leave shortly after arrival and the likelihood of ending up in exclusion pathways. The paper also finds that refugees who arrived with children or became parents shortly after arrival are less likely to pursue an early career pathway, possibly due to childcare responsibilities. Conversely, those who have children some years after arrival are more likely to enter the labor market soon after arrival. Furthermore, the likelihood of pursuing the late career pathway is higher among refugees with children, whether it is at the beginning or at later stages. These findings suggest that having children soon after migration might hinder (exclusion cluster) or postpone (late career cluster) refugees’ integration. The results also clearly demonstrate that refugees living in large cities, small towns, and rural areas, as opposed to metropolitan areas, are more likely to follow career pathways.

Building on these findings, this paper underscores that while participation in adult education is an essential component of the labor market integration process of refugees, not all refugees benefit equally from educational enrollment. Notably, substantial groups of refugees, even after extended participation in language courses, continue to face marginalization in the labor market. These findings underscore the importance of addressing structural barriers in the integration pathways of refugees. While SFI courses are a vital part of refugees’ introduction programs, this study reveals that enrolling in these courses does not guarantee labor market success. Refugees in the exclusion cluster, despite participating in SFI courses, often become inactive, possibly due to challenges such as inadequate teacher competence, grade-focused teaching, and insufficient support for lower educated and illiterate migrants. Furthermore, the quality of SFI courses may vary within and between municipalities, thereby impacting their effectiveness. Additionally, there is evidence showing that specific refugee groups, particularly women, face more significant integration challenges due to limited support from integration programs and receiving job offers that often do not align with their preferences, educational background, or previous work experience from their home countries. These barriers and challenges may play a role in explaining the exclusion path often taken by female refugees.
6. Concluding discussion

The overarching aim of this thesis is to describe, explain, and examine the determinants and the geographical manifestation of educational attainment and educational enrollment trajectories of adult migrants in Sweden. This chapter presents and discusses the conclusion and discusses the main findings of the three papers that compile this thesis and addresses the policy implications of the results. Subsequently, I reflect on the limitations of this thesis and provide recommendations for future research.

One of the key findings of this thesis is its contribution to deepening our understanding of the optimal utilization of register data for exploring the educational attainment and trajectories of migrants, while highlighting the advantages and limitations associated with educational registers. A distinctive aspect of Swedish register data is its provision of information about the educational attainment of the population, including migrants who obtained their education outside of Sweden. However, in my initial exploration of register data, I encountered a surprisingly high number of missing values regarding the educational level of migrants upon their arrival in Sweden. This represented a significant hurdle to utilizing register data for subsequent papers within this thesis and became the primary motivation behind conducting Paper I, which aimed at identifying the most effective way to use the educational registers by highlighting their imperfections in relation to migrants’ educational attainment information upon and after their arrival.

In Paper I, through a review of reports by Statistics Sweden on the collection and registration of the population’s educational level, I demonstrated that there can be various reasons for missing information regarding the educational level of migrants. Given the uncertainty about the specific level to which the missing values pertain, I argue that substituting missing values with a particular educational level heightens the risk of generating biased results. This underscores the need for caution in using the educational registers upon migrants’ arrival to avoid the generation of biased and inaccurate results, which could have policy implications.

To have better coverage of the educational registers for migrants, I have demonstrated that using information about migrants’ highest completed education two years after arrival, rather than upon arrival, results in a significant reduction in the proportion of missing values on migrants’ educational attainment information. It is important to note, however, that there are demographic variations in the extent of educational registration among migrants. Particularly for Nordic migrants, the length of residency is hardly associated with an
increase in the registration of their educational attainment. This may be because of their migration being temporal, not needing to have their education registered, or due to their residence in Sweden while working or living in neighboring countries. This may present challenges for researchers specifically focusing on Nordic migrants residing in Sweden and relying on their educational information.

In addition to the registration challenge, another noteworthy issue pertains to the quality of educational information. I have demonstrated that, in contrast to the educational information obtained in Sweden, which is typically collected from high-quality and reliable sources, for newly arrived migrants, the primary sources for obtaining information about their highest completed educational level are a survey of the foreign-born individuals and the Swedish Public Employment Agency. Information collected via these sources, however, is self-reported and may be imperfect or inaccurate. Overall, this thesis pinpointed challenges in the coverage and quality of the educational register and underscores the importance of using it with caution in relation to migrant population.

Another crucial finding from this thesis relates to the diversity in the settlement patterns of migrants, which becomes evident from the initial phase following their arrival. Emphasizing the significance of a migrant’s place of residence remains pivotal as it significantly impacts their integration, serving as both an outcome and a determinant in the integration process (Massey, 1990; Wessel et al., 2017). For newly arrived migrants, their initial place of residence holds even greater importance as it serves as their primary entry point into Swedish society, where they establish social networks and gain access to resources and opportunities, all of which profoundly influence their long-term integration prospects. Thus, in Paper II, I identified and characterized migrants’ initial settlement by emphasizing the significance of individual human capital in selecting a destination, drawing from neoclassical theory. Additionally, I recognized the interplay of choice and constraints within the aspirations-capabilities framework.

The results from Paper II underscore the significant role of education, which acts as a sorting mechanism that stratifies migrants into different geographical areas shortly after arrival. These diverse spatial patterns illustrate clear evidence of the initial spatial polarization of migrants across the urban hierarchy. The results indicate that higher educated migrants are more likely to initially reside in metropolitan areas, potentially seeking opportunities and resources matching their educational level, while those with lower education are more likely destined for small towns and sparsely populated areas. Accounting for other characteristics of migrants, I demonstrated that rural areas are mostly the initial destination of Nordic and African migrants, resettled refugees, older migrants, and migrant families with younger children, albeit for different reasons. Relying on the aspirations-capabilities framework, I argued that while migrants are geographically segmented based on their background
characteristics, the role of macro-level factors, including constraints and barriers such as discrimination, limited access to resources, and dispersal policies, should not be overlooked. These factors do not impact all migrants equally and are critical considerations for understanding the broader dynamics of migrants’ initial settlement. Incorporating macro-level constraints suggests that migrants’ settlement, while influenced by their aspirations to reside in specific areas, may also entail unequal opportunities for certain groups in realizing their preferred place of residence. Thus, refugees and African migrants in rural areas may be compelled to reside in these areas, probably due to barriers they face in metropolitan housing markets, while Nordic and European migrants, as a privileged group, may find rural areas aligning with their preferences and fulfilling their dream of living in a rural idyll (Hedberg & Haandrikman, 2014).

An additional important finding of this thesis is that the refugee population consists of diverse groups, and their background characteristics influence their post-migration outcomes, reflecting a continuation of (dis)advantage. This is demonstrated in Paper III, which examines refugees’ educational enrollment trajectories in Sweden. Specifically, the results of this study reveal that individuals belonging to the most vulnerable groups—such as women, older individuals, those with lower educational levels, and those originating from less developed countries—often find themselves on a pathway characterized by exclusion. In contrast, more privileged refugees, typically possessing higher levels of education, and who are younger, male, and originate from more developed countries, more often experience a rapid transition to the labor market after a relatively short period of education in Sweden. These findings underscore that not all refugees benefit equally from post-migration education, as their background characteristics stratify them into distinct pathways. Some refugees successfully integrate into the labor market, while others experience exclusion. These results challenge the common misconception, often perpetuated by social media and policymakers, that refugees are a homogeneous group, leading to a “one-size-fits-all” approach in formulating labor market integration policies (Van Riemsdijk & Axelsson, 2021). Opposing this misconception, Paper III clearly demonstrates diverse integration pathways, aligning with the varied characteristics of refugees.

Furthermore, these findings indicate that despite widespread discussions about the significance of language proficiency and destination-specific education and skills in promoting refugees’ integration into the labor market (see, for example, Auer, 2018; Basilio et al., 2017; Brell et al., 2020; Ghorashi, 2020; Månsson & Delander, 2017), engaging in education within the host country does not always pave the way to labor market integration. This lack of return on local human capital is evident among refugees who face exclusion even after prolonged involvement in language courses. Based on these results, I argue that the integration of refugees into the Swedish labor market is influenced not only by their aspirations but also by their ability to actualize these
aspirations. In this context, high educational aspirations among the refugee population, combined with blocked opportunities in the host society may propel refugees to participate in the Swedish educational system. Nevertheless, as elucidated in Paper III, the ability to benefit from this system varies among refugees, and broader macro-level factors significantly shape their access and opportunities.

Concluding, the findings of both Papers II and III emphasize the complexity of migrants’ experiences in Sweden, revealing evidence of emerging forms of stratification shortly after arrival and afterwards. Migrants’ pre-migration characteristics significantly influence their integration processes. This influence is observed in various spatial patterns—in their initial settlement and in the diverse labor market integration trajectories they undertake in Sweden. These dynamics may pose additional challenges to immigrant integration processes. Additionally, in Papers II and III, while not explicitly measuring structural factors such as discriminatory practices against specific migrant groups, I discussed how they contribute to the promotion and perpetuation of stratification of integration processes across migrants’ life courses.

Policy implications and recommendations

This doctoral thesis is primarily prepared for an academic audience and does not explicitly examine and address specific policies. However, the results point toward numerous policy implications within the areas of migration, education, and integration. Therefore, the importance of the findings in this thesis extends beyond the academic sphere, necessitating some policy recommendations and implications.

First, having acknowledged the multifaceted influence of education on individuals’ lives, addressing the issue of missing information regarding the educational attainment of migrants is crucial when examining their socioeconomic outcomes in Sweden. The labor market outcome of migrants, for instance, is a significant focus of policymakers, with education playing a pivotal role. However, due to the substantial prevalence of missing values on educational attainment information among migrants upon arrival, relying on such information and comparing migrants with Swedish-born individuals—whose education is extensively registered—may result in imprecise and inaccurate findings. The outcomes of Paper I thus hold significant importance not only for subsequent papers in this thesis but also for policymakers, who may rely on statistical figures that could be biased. Another example illustrating the policy implications of migrants’ educational information relates to vulnerable areas. Due to recent escalating crime rates in Sweden, the issue of vulnerable areas has gained significance. These areas are identified based on statistical
information on the population, including education (Swedish Police Authority, 2021). However, the substantial proportion of missing educational information among migrants, who form a significant portion of the population in such areas, emphasizes the need to enhance data accuracy, reliability, and coverage, which can be achieved by improving the registration rate of migrants. This involves efforts to encourage a higher number of migrants to register their educational information and establish measures ensuring the reliability of the information collected on their reported educational attainment information. Collaboration between local communities, educational institutions, and the Swedish migration authority is crucial to improve the accuracy and completeness of data and will aid both researchers and policymakers in developing targeted policies that rely on such information.

Second, with the emergence of new destinations in the initial settlement patterns of migrants in sparsely populated and rural areas, as observed in Paper II, I argue for two contrasting scenarios regarding the integration pathways of migrants living in these areas compared to metropolitan areas. On the one hand, the less competitive labor market in rural areas, often offering low-skilled and seasonal jobs (McAreavey & Argent 2018), could serve as a context with vital employment options for newly arrived migrants, particularly those with lower education levels. This is supported by some studies regarding the refugee population, indicating that refugees residing in rural parts of Sweden show a lower tendency toward persistent inactivity and have a higher probability of employment compared to those residing in metropolitan areas (Backman et al., 2021; Bevelander & Lundh, 2007). This finding is also supported by Paper III, where I found refugees who initially reside in non-metropolitan areas are more likely to follow career pathways. Additionally, due to shortages in local workforces, aging, depopulation, and the potential closure of schools in rural areas, migrants may serve as a remedy to rejuvenate aging rural communities (e.g., see Hedberg & Haandrikman, 2014), thus receiving a more welcoming reception from the local community in these areas. Consequently, migrants who reside in rural and sparsely populated areas can actively participate in the employment opportunities provided by these areas, which brings tangible benefits for both the local communities and the migrants themselves. Additionally, the smaller population sizes in rural areas may lead to migrants finding it easier to interact with the local community, establish social networks crucial for their integration in society, and enhance their language skills compared to metropolitan areas, where they might get lost in the larger population.

Recognizing these positive aspects, relevant policies should prioritize education and skills training programs tailored to the needs of migrants residing in rural areas. Building upon existing initiatives already in place, these policies could involve enhancing vocational training centers, expanding adult education programs, or strengthening partnerships with local industries to provide relevant skills and knowledge. Given that the results of Paper II show that
lower educated migrants, compared to their higher educated counterparts, are more likely to initially reside in rural areas, and that they predominantly tend to stay in such areas (see Haandrikman et al., 2023), we can conclude that their initial settlement may not be characterized as temporary but rather as a form of long-term settlement. Thus, improving local resources and facilitating migrants’ involvement in sectors experiencing workforce shortages would benefit both migrants and local communities alike.

Conversely, a different scenario arises in which the intensified right-wing populist discourse against migrants could lead to discrimination and a lack of interaction of migrants with the local population (e.g., see Arora-Jonsson & Larsson, 2021). Moreover, unlike metropolitan areas and larger cities, rural and sparsely populated areas have fewer ethnic communities available to assist newly arrived migrants navigating the intricate rural governance system, which involves various state entities, private organizations, and volunteer groups. Furthermore, the concentration of lower educated migrants in rural areas, many of which are already experiencing a depletion of human capital, could exacerbate challenges faced by these areas. Collectively, these conditions may hinder or slow down the integration processes of newly arrived migrants and create or exacerbate the regional economic and social disparities. Thus, I argue that the discussions on the integration of migrants in Sweden have to consider more sufficiently the spatial variations in the composition of the migrant population. The diversity of migrants across the urban hierarchy, as highlighted in Paper II, influences their experiences and integration trajectories, emphasizing the necessity for integration policies to be geographically differentiated to address the challenges encountered by both migrant and local communities in different places.

By engaging in this discussion on the integration of migrants in rural and sparsely populated areas, it is imperative to avoid oversimplifying to a simplistic urban-rural dichotomy. Instead, it is vital to acknowledge the diverse and multifaceted nature of rural areas. Each rural area has its unique characteristics, including centrality, population size, and distinct attributes. In some rural regions, the local population may have more familiarity with migration due to historical ties or geographic proximity to urban centers, resulting in varied dynamics compared to other rural settings. Thus, it is crucial to emphasize the necessity of integration policies that take into account the unique characteristics and diversity of rural areas.

Beyond variations in the labor market structure that may contribute to the spatial sorting of migrants by educational attainment across regions, the desire for a rural idyll and entrepreneurship can also influence the settlement patterns of specific groups of migrants, particularly those from Nordic and EU countries. In several rural regions in Sweden, there is a growing presence of migrant entrepreneurs who have relocated from abroad, seeking a new lifestyle (Carson & Carson, 2017a; Carson et al., 2017b). This group often establish their own businesses or engage in entrepreneurial activities, thereby fostering
tourism development and creating new job opportunities for both migrants and local residents. However, studies show that there are obstacles that hinder entrepreneurship activities in rural areas, such as limited communication with local stakeholders and a lack of established traditions of small-scale entrepreneurship and self-employment (Eimermann, 2016; Mattsson & Heldt Cassel, 2020), which need to be taken into account by relevant policies in order to support migrant entrepreneurs in such areas.

Third, this thesis has revealed that SFI and municipal adult education are two common forms of adult education often pursued by refugees, but which result in varying labor market outcomes. For some refugees, spending a long time on SFI courses does not result in employment, while others, after spending some time in SFI and municipal adult education, find pathways to a career. While certain aspects of these varying outcomes can be attributed to refugees’ individual characteristics, it is essential not to solely blame refugees for their inactivity in the labor market. The role of structural barriers, including discrimination and lack of support from relevant authorities must also be addressed to effectively promote the integration of refugees into the labor market. Refugees, particularly those with high skills, might experience discouragement from the Swedish Public Employment Service officers who “characterize refugees’ aspirations as overambitious and unrealistic” (Mozetič, 2020, p. 135). Furthermore, not all case officers in the Employment Service are familiar with the specific integration programs, qualification validation procedures, and labor market characteristics for different occupations. Thus, if case officers lack sufficient knowledge or optimism regarding refugees’ occupational aspirations, they may cause the refugees to pursue other accessible career options that may not necessarily align with the refugees’ educational background and previous work experiences (Mozetič, 2020; Thomsson & Hoflund, 2000).

Furthermore, while the responsibility for introduction programs has shifted from municipalities to the Swedish Employment Service since 2010, municipalities continue to play a crucial role in the integration process of refugees. They provide housing for refugees that are placed in their municipalities and are also primarily responsible for implementing SFI courses, adult education programs, subsidized employment, and intensified matching efforts within the introduction program framework. However, there is evidence showing variations in municipal activities (Kommunala insatser12) among regions in Sweden (see Engdahl et al., 2023). Thus, policymakers should focus on implementing measures and interventions to improve the effectiveness of integration programs in regions facing challenges such as budget constraints or other limiting factors.

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12 This refers to all interventions, initiatives, and actions taken by municipal authorities to support the integration of refugees and their family members into the job market.
Fourth, while the SFI courses form an essential part of introduction programs, studies show several challenges associated with these language courses, such as low teacher competence, an emphasis on achieving grades rather than fostering fluency in Swedish, and an inadequate approach to addressing the needs of lower educated and illiterate migrants (Bucken et al., 2018; Öbrink Hobzová, 2021). These challenges underscore the necessity for policymakers to regularly evaluate and assess the quality and outcomes of SFI courses. Identifying areas for improvement and making necessary adjustments to the structure of these courses is crucial to better meet the needs of refugees and improve their chances of successful integration into the labor market.

Moreover, although I have not specifically examined the types of occupation held by refugees, this remains an essential aspect for consideration, particularly for highly skilled refugees. Often, they may accept positions that do not align with their education and expertise solely to achieve financial independence. In such instances, being employed does not equate to successful integration into the labor market; instead, it reflects a loss of valuable human capital. Therefore, in addition to various programs like fast-track initiatives tailored for migrants with specific professions, labor market training, internships, mentorship programs, matching services, and specialized intensive language courses for foreign academics, as well as civic orientation courses aimed at enhancing the labor market integration of refugees, policymakers should prioritize not only expediting refugees’ entry into the labor market but also improving job quality. This can be achieved by simplifying the accreditation and recognition of foreign qualifications, along with streamlining the licensing process for regulated professions. This is crucial for effectively utilizing the education and skills of refugees, particularly in sectors facing staffing shortages, such as healthcare.

Limitations and further research

The results uncovered in this dissertation highlight various avenues for future research. In Paper I, I found that educational information for a large share of migrants is missing upon their arrival, but this decreases substantially with increasing time of residence in Sweden, especially two years after arrival. In this Paper, I have solely examined the source of educational information upon migrants’ arrival and have not explored the sources in subsequent years after their arrival. Considering concerns regarding the reliability of migrants’ educational information in their year of arrival, which is obtained from self-reported sources, it is imperative to expand this study by examining whether the sources of information change in parallel with increased registration following migrants’ arrival. Additionally, with the availability of longitudinal
data, it is critical to understand any changes in educational entries in the registers—whether to higher or lower educational levels—in relation to changes in data sources. These aspects address the quality and validity of educational registers for migrants, which are crucial for any studies utilizing these registers in relation to the migrant population.

In Paper II, I focused on micro-level factors—specifically, the characteristics of migrants—a dimension often overlooked in prior research that predominantly addressed macro-level determinants in analyzing migrants’ settlement patterns. Therefore, expanding this field of research to explore both level factors; micro and macro, and examine the interaction of these factors together would be a valuable contribution, offering a more nuanced understanding of the determinants that attract specific groups of migrants to particular locations. For example, it is essential to understand which regional factors, such as the proportion of co-ethnics, employment rate, and proportion of skilled labor forces, are most important for specific groups of migrants. Having this knowledge could serve as a solid foundation for formulating policies to attract and sustain migrants to areas that are specifically confronted with socioeconomic and demographic challenges.

Another limitation in Papers II and III pertains to the objective nature of register data. While register data is quite rich, providing information at the individual level, it does not allow for an examination of institutional contexts, including various barriers and constraints, which, beyond migrants’ characteristics, may play a role in shaping their initial settlement and educational enrollment trajectories. Therefore, future research could advance this line of study by identifying structural factors that affect the integration experiences of migrants.

In this thesis, through the analysis of migrants’ enrollment in various types of adult education (Paper III), I identified five distinct pathways. Since SFI courses were identified as the most common type of education undertaken by refugees and considering the substantial annual costs of language courses—amounting to over 29 million SEK annually (State budget bill for 2024, Ministry of Labor, 2023)—it is crucial to investigate the outcomes of SFI courses and to examine the trajectories of individuals who engage in such courses and their effects on their labor market integration. In international research, there is substantial evidence demonstrating that proficiency in the receiving country’s national language improves the labor market prospects of migrants (e.g., see Cheng et. al., 2021 for a recent overview). Surprisingly, this field of research has largely been overlooked in Sweden. Conducting such research has the potential to shed light on the effectiveness of SFI programs and ascertain whether participation and better performance in such courses is associated with improved prospects in the labor market.

Furthermore, the results of a study by Farchy and Liebig (2014) show that as municipalities have the primary responsibility for organizing SFI courses, local variations in quality may arise. However, these observations are
primarily derived from roundtable discussions rather than rigorous academic research. Building upon the findings of Paper III, future research could examine regional disparities in the impact of SFI programs on migrants’ subsequent labor market prospects. The outcomes of such studies can assist policymakers in optimizing resource allocation and creating evidence-based policies to enhance the quality and effectiveness of SFI courses, thereby supporting the language acquisition and labor market integration of immigrants.
Sammanfattning på svenska


Tillgången till registerdata har gjort det möjligt att analysera detta slags utmaningar. Dock visade det sig att det i många fall saknas uppgifter om migranter utbildning i registerdata. Dessutom saknas det i stor utsträckning studier av utbildningsinformationens noggrannhet och tillförlitligheten när det gäller migranter. Därför blev det viktigt för mig att veta vilka källorna är för migranters utbildningsinformation och vilken täckningsgrad dessa uppgifter har.

Denna avhandling består av en kappa och tre vetenskapliga artiklar. Den behandlar följande forskningsfrågor: 1) Vilken kvalitet har utbildningsregistret för migranter vid deras ankomst till Sverige, vilka informationskällor används, vilken är täckningsgraden och hur utvecklas täckningsgraden över
tiden för dem som bor kvar i Sverige? 2) I vilken utsträckning är migranternas initiala bosättningsmönster kopplade till utbildningsnivå och hur återspeglar deras bosättningsmönster typen av migranter, ursprungsregion och livsfas? 3) Vilka olika utbildningsvägar följer vuxna flyktingar i Sverige och vilka är de underliggande bestånningsfaktorerna för vilken utbildningsbana man följer?


I Artikel III undersökte jag de olika utbildningsvägar som vuxna flyktingar följer i Sverige. Genom att använda sekvensanalys fann jag fem huvudsakliga utbildningsbanor: (1) utanförskap, där många förblir arbetslösa trots att de tar svenska språkkurser, (2) korta språkkurser följt av tidigt inträde på arbetsmarknaden, (3) blandade, (4) långvarig deltagande i vuxenutbildning med sent inträde på arbetsmarknaden, och (5) lämnar Sverige. Sedan använde jag multinomial logistisk regression för att se hur flyktingars bakgrund påverkar vilken
Resultaten visade att äldre flyktingar, kvinnor, de med lägre utbildning och flyktingar från mindre utvecklade länder har svårare att hitta jobb och följer ofta utanförskapsbanan. Å andra sidan är yngre flyktingar, män, de med högre utbildning och flyktingar från europeiska länder mer benägna att börja arbeta tidigt. Resultaten visade också att män och flyktingar med högre utbildning är mer benägna att lämna Sverige. Att skaffa barn snart efter ankomsten och att ta en lång föräldräledighet gör det mindre troligt för flyktingar att börja arbeta tidigt.


En annan viktig upptäckt är att migranternas initiala bosättningsmönster varierar avsevärt beroende på deras utbildningsnivå. Migranter med lång och medellång utbildning är mer benägna att bo i storstadsområden jämfört med de med lägre utbildningsnivåer. Jag diskuterade om skillnader mellan regionala arbetsmarknader kan bidra till dessa mönster. Dessutom diskuterade jag vikten av att ta hänsyn till hinder av diskriminering och begränsad tillgång till resurser liksom till åtgärder som syftar till att fördela flyktingar mellan olika orter när man analyserar migranternas bosättningsmönster.

Detta antyder att förutom migranternas val att bo på specifika platser kan vissa grupper möta hinder som medför att de inte kan bo där de skulle vilja bo. Eftersom migrantgruppens sammansättning varierar mellan regioner, argumenterade jag för att migranter, särskilt de med lägre utbildningsnivåer som bor på landsbygden på grund av olikheter i arbetsmarknads- och samhällsförhållanden, kan ställas inför andra integrationsbanor jämfört med högutbildade migranter som bor i storstadsområden. Därför kan det vara viktigt av att skrådarsy integrationspolitiken för specifika platser.

En annan viktig upptäckt är att flyktingar följer olika utbildningsvägar beroende på bakgrund. Därför är det fel att uppfatta flyktingar som en homogen grupp. Det innebär också att integrationspolitiken behöver vara anpassningsbar och beakta de unika behoven hos olika flyktingar istället för att använda en ansats som bygger på "one-size-fits-all". Dessutom pekar resultaten på att inte alla flyktingar gynnas lika mycket av att skaffa en svensk utbildning. Vissa flyktingar som tillbringar lång tid på språkcurser, vilka anses vara viktiga för att hitta ett jobb, kan fortfarande hamna i arbetslöshet. Detta understryker betydelsen av strukturella faktorer, såsom diskriminering, som skapar
olika förutsättningar för olika grupper av migranter. Baserat på denna upptäckt argumenterade jag för att i diskussioner om integration bör fokus inte bara vara på flyktingarna själva utan också på rollen av strukturella faktorer.
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Appendix: Identification of geographical clusters of migrants by education

To categorize neighborhoods according to the educational levels of migrants—low, medium, and high—a two-step clustering method was applied. This method generates a silhouette score to assess the quality of the clusters and identify the most appropriate number of clusters. The analysis determined that a five-cluster solution achieved the highest silhouette score, indicating optimal cluster formation. Each cluster was labeled based on the predominant educational levels of migrants within that cluster.

To visually interpret the educational composition of each cluster, a ternary plot was utilized, as depicted in Figure 8. This triangular plot represents a three-part composition, where the sum of all parts is constant, effectively illustrating the proportion of low, medium, and highly educated migrants across the clusters. The placement of each cluster within the ternary plot offers insights into its educational composition.

According to ternary plot, the first cluster, designated as the “elite cluster”, encompasses neighborhoods with a significant proportion of highly educated migrants, alongside the lowest share of migrants with low and medium education levels. The second cluster, termed the “semi-elite cluster”, similarly consists of neighborhoods with a predominance of highly educated migrants, albeit to a lesser degree compared to the elite cluster. The third cluster, labeled “mixed”, features neighborhoods with a relatively even distribution of low, medium, and highly educated migrants. The fourth and fifth clusters, identified as “low-educated” and “medium-educated” respectively, are positioned towards the lower right and lower left corners of the ternary plot, indicating their distinct educational compositions.
Figure 8. Ternary plot of the proportion of immigrants with different levels of education across the 500 nearest newly arrived migrant neighbors, by cluster type.