

An Analysis of Factors Affecting Entrepreneurship among Immigrants in Sweden

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Abstract

This study examines the dynamics of immigrant entrepreneurship in Sweden, considering the nation's rich history of diverse immigration flows. It explores how various factors—immigration background, gender, age, geographical location, length of stay and reasons for immigration—impact immigrants' propensity to become entrepreneurs and their employment rate. Utilizing a blend of qualitative research and quantitative data analysis, the study highlights the critical role of self-employment in economic integration for immigrants, particularly in overcoming labor market barriers such as discrimination and unrecognized qualifications. It delves into the influence of ethnic enclaves and societal factors on entrepreneurial decisions. This research not only contributes to academic discourse on immigration and entrepreneurship in Sweden but also provides valuable insights for policymakers, business organizations and social actors aiming to foster economic integration among immigrants.

Keywords: Immigrant entrepreneurship • Sweden • Economic integration • Self-Employment • Immigration background • Gender and entrepreneurship • Age and business • Geographic location • Labor immigration • Refugee immigration • Ethnic enclaves • Labor market integration • Economic migrants • Cultural barriers • Entrepreneurial ambitions

Introduction

Sweden has long been a destination for immigrants. In recent decades, the immigration flows to Sweden have been a mixture of labor immigration, refugee immigration and family reunification [1]. This rich diversity of individuals has changed the Swedish social, cultural and economic landscape. Entrepreneurship has historically been an important channel of economic integration for immigrants [2] for many immigrants; self-employment can be an opportunity to overcome obstacles in the labor market, such as discrimination or lack of recognition of foreign qualifications [3]. Immigrant entrepreneurship can also help create new market niches, stimulate economic growth and promote innovation [4].

Background

Immigration to Sweden has deep historical roots, with several waves of migration shaping the nation's demographics and culture. From the 1950s to the early 1970s, Sweden experienced extensive labor immigration, mainly from neighboring countries and southern Europe. This early wave of immigration was largely a response to the growing demand for labor during the economic boom that Sweden experienced [1].

From the mid-1970s onwards, when labor immigration declined due to economic and political changes, refugee immigration and family reunification became the dominant forms of migration to Sweden. War, conflict and economic instability in many parts of the world from the Balkans to the Middle East and Africa, led to an increased arrival of asylum seekers [3].

In addition to these larger immigration flows, Sweden has also become home to a diversity of international students, highly qualified professionals

and other migrants seeking better economic opportunities and quality of life. Entrepreneurship among immigrants in Sweden has received increased attention both in academic circles and among politicians. This is partly due to the fact that immigrants, especially those from non-European countries, often face challenges in gaining access to the Swedish labor market [5]. Self-employment offers an alternative route to financial independence and may be particularly attractive to individuals with foreign education or work experience that does not directly translate to the Swedish context [4].

Several studies have highlighted the role that ethnic enclaves play in promoting or limiting immigrant entrepreneurship. For example, denser ethnic networks can offer resources and support for new firms, but can also limit the growth potential of the firm to a particular ethnic or cultural group [6].

In summary, Sweden's rich immigration history offers a unique context for exploring the dynamics of immigrant entrepreneurship. Given the various factors that can influence an individual's decision to start a business - from personal characteristics to societal and economic conditions - it is of the utmost importance to deeply understand these drivers in order to create a more inclusive economic environment.

Purpose

This study aims to shed light on these questions by drawing on current research and quantitative analysis of relevant data sources. The aim of this research is not only to contribute to the academic literature on immigration and entrepreneurship in Sweden, but also to provide insights that can be useful to decision-makers, business organizations and social actors working to promote the economic integration of immigrants [7].

Questions

Considering the large immigration background in Sweden and the potential role of entrepreneurship in immigrants' economic integration, important questions arise about the factors that influence immigrants' propensity to become entrepreneurs. These questions are:

How do immigration background, gender, age and geographical location affect the employment rate in Sweden?

Immigration background can provide an understanding of the unique experiences, skills and networks that immigrants bring with them, which influence their propensity to become entrepreneurs. For example, individuals

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from cultures with a strong entrepreneurial spirit may be more likely to start their own businesses [1].

Gender can also play a role in entrepreneurship. Although Sweden is known for its focus on gender equality, cultural and structural barriers can still affect female immigrants' opportunities to start businesses, compared to their male counterparts [3].

Age can be an indicator of experience, risk appetite and available resources. Younger individuals may not have the same capital or experience to draw on, but may be more inclined to take risks, while older individuals may have larger networks and resources but may be more risk averse [7].

Geographic location, such as living in urban vs. rural areas, can affect the availability of resources, market opportunities and networks for potential immigrant entrepreneurs. Urbanization can, for example, offer greater market opportunities and a broader customer base [7].

How does length of stay in Sweden and reason for immigration affect the employment rate among immigrants?

Residence time in a new country can affect an individual's social and professional networks, cultural understanding and access to resources - all important factors for successful entrepreneurship. Longer length of stay may indicate greater integration, better understanding of the local market and greater access to networks and resources, increasing the likelihood of entrepreneurship [8].

The reasons for migration can also influence entrepreneurial ambitions. For example, economic migrants, who move for better job opportunities, may be more likely to start businesses compared to refugees who may prioritize security and stability [4] However, refugees who encounter obstacles in the formal labor market may turn to self-employment as an alternative route to economic independence.

Methodology

Data source and collection

This study is based on data from Statistics Sweden (SCB), Sweden's national statistical institute. Statistics Sweden is known for providing reliable and comprehensive statistics covering a variety of topics, including socio-economic and demographic data on immigration and entrepreneurship [1] the data used was collected directly from Statistics Sweden's databases, which guarantees a high degree of reliability and precision in the analyzed results.

Variables

Several key variables are used in this analysis. These include immigration background, gender, age, geographical location, length of stay in Sweden and the reasons for migration. These variables were chosen based on their potential relevance for explaining entrepreneurial tendencies among immigrants in Sweden [3].

Analysis

To answer the research questions, the statistics from Statistics Sweden will be used. The analysis enables assessment of how independent variables (such as immigration background, gender and age) affect a dependent variable, in this case the propensity to become an entrepreneur. This method was chosen because it provides an in-depth understanding of the relationships between the variables and their impact on entrepreneurial behavior among immigrants.

Literature Review

Immigration and entrepreneurship are not new topics in the academic world, but the combination of the two, especially in a Swedish context, offers fresh perspectives. The following is a review of the selected literature:

Hammarstedt M [1] explored self-employment among immigrants in

Sweden. The study identified variations in entrepreneurship depending on immigration background and other socio-economic factors. The results indicated that immigration background has a significant impact on the likelihood of self-employment, which strengthens the relevance of the first research question of this study.

Portes A and Jensen L [2] concentrated on ethnic businesses in Miami, both before and after the Mariel boatlift. Although based in the US, it provides insights into how sudden waves of immigration can affect ethnic entrepreneurship. They found that ethnic enclaves can play an important role in immigrant business start-ups.

Andersson L, et al. [3] used a multilevel approach to explore the relationship between ethnic origin, local labor markets and self-employment in Sweden. The results indicated that geographic location and local labor market conditions can influence the likelihood of self-employment among different ethnic groups.

Reher DS and Silvestre J [9] examined internal migration patterns among immigrants in Spain, which may be relevant for understanding how length of stay and reasons for migration affect entrepreneurship. They stated that previous experiences from the country of origin and reasons for migration can influence the integration process, including economic integration.

A gap in the current literature appears to be a lack of in-depth research that directly combines both length of stay and reasons for migration with entrepreneurship in Sweden [8] looked at the effect of ethnic enclaves on the economic performance of refugees, but exploration of how these factors interact with others, such as length of stay and reasons for migration, appears to be limited.

Further studies, such as Guerra G, et al. [6] contributed further evidence on the importance of immigration background and ethnic concentration in relation to self-employment. These studies indicate that both the individual's background and the surrounding society can influence the propensity to become an entrepreneur.

Conclusion

The literature review shows that immigration and entrepreneurship are complexly connected, with several factors at play. But there seems to be a gap when it comes to combining specific aspects, such as length of stay and reasons for migration, with entrepreneurship in a Swedish context.

Previous research

In an exploration of the landscape of entrepreneurship in Sweden, Hammarstedt M [1] pointed out that the background of immigration can have a significant impact on individuals' decisions to engage in business activities. Using a quantitative method, the researcher identified that immigration background, among other factors, can affect an individual's likelihood of becoming an entrepreneur.

This view is also reflected in the work of Portes A and Jensen L [2] who investigated ethnic business patterns in Miami. Through their work, it emerged that ethnic enclaves can act as catalysts for entrepreneurship among newly arrived immigrants. In a similar vein, Andersson L, et al. [3] investigated the relationship between ethnic origin and local labor markets in Sweden. Using a multilevel analysis, they found that geographic and labor market conditions can be decisive for independent entrepreneurship among different ethnic groups.

Furthermore, Reher DS and Silvestre J [9] point to the importance of immigrants' migration patterns, especially in a country like Spain, which has seen an increase in immigration in recent years. Using micro data, they have pointed out those immigrants' past experiences and reasons for migration can have a profound impact on their integration process.

Andersson H [10] emphasized the effects of ethnic enclaves on the economic performance of refugees in Sweden. Through his analysis of a specific Swedish resettlement policy, it was found that the presence of ethnic enclaves can play a decisive role in how successfully refugees can engage in economic activities.

This research is complemented by the work of Tavassoli S and Trippel M [5] who compared entrepreneurship levels between immigrants and native Swedes. Through a multilevel analysis, they concluded that certain immigrant backgrounds can act as driving forces for entrepreneurship in Sweden. Similarly the attention of Guerra G, et al. [6] the power of cultural identity when it comes to entrepreneurship in Switzerland.

Reflecting on these studies, it becomes clear that immigration and entrepreneurship are closely intertwined concepts, with a range of factors at play, from ethnic concentration to geographic and labor market conditions.

Research on immigration and entrepreneurship in Sweden has taken up several central themes over the years. Hammarstedt M [1] particularly emphasized how immigration background can influence individuals' decisions to engage in business activities. Through a quantitative analysis, Hammarstedt identified that certain immigrant groups showed a higher propensity for entrepreneurship compared to others.

This theme was reinforced by Andersson L, et al. [3] who investigated how ethnic origin and local labor market interact to shape the entrepreneurial landscape in Sweden. Their multilevel analysis highlighted that while some ethnic groups flourished in some regions, others encountered obstacles, highlighting the central role that geographic location can play in immigrant entrepreneurship.

In an international comparison Portes A and Jensen L [2] addressed how ethnic enclaves in Miami functioned as promoters of entrepreneurship among newcomers. This idea of supportive enclaves was also reflected in Guerra G, et al. [6] work that found that in Switzerland, the concentration of immigrants with a common cultural identity promoted entrepreneurship.

This enclave hypothesis is further discussed by Sanders JM and Nee V [4] who explored the limits of ethnic solidarity in the enclave economy. They highlighted that while enclaves can offer initial support and resources for immigrants, in some cases it can also limit growth opportunities or create internal competition.

Andersson H [10] took a different angle by examining how Swedish resettlement policies, specifically for refugees, affected their economic performance. The results suggest that the presence, or absence, of ethnic enclaves can have a major impact on an individual's ability to succeed as an entrepreneur.

It is also important to note Reher DS and Silvestre J [9] contribution which focused on the internal migration patterns of immigrants. While their study was based on Spanish data, it raised relevant questions about how immigrants' mobility within a host country can affect their integration and entrepreneurial success.

Finally, Vogiazides L and Mondani H [7] presented a fascinating insight into how geographical conditions can act as a trajectory towards integration for refugees in Sweden, directly affecting their economic outcomes and potential to engage in entrepreneurship.

Theoretical framework

Entrepreneurship among immigrants in Sweden is a complex phenomenon that has been explored from different perspectives. Several factors, such as immigration background, gender, age, geographic location, length of stay and reason for migration, are assumed to influence this process [6,7].

Ethnic enclaves: One of the prominent theories in this field is the theory of ethnic enclaves [2,4] discuss how immigrants in densely populated ethnic areas can develop particular forms of entrepreneurship. These areas offer sheltered markets, networks and resources, which may contribute to immigrants' propensity to engage in entrepreneurial activities [2].

- **Migration capital:** Immigrants often bring with them unique skills, knowledge and networks from their countries of origin, which can be referred to as migration capital [6] these can influence their inclination and ability to engage in entrepreneurship.
- **Integration and geography:** Geographic location and integration

play a decisive role in immigrants' business potential. According to Vogiazides L and Mondani H [7] geographic location has a direct impact on immigrants' opportunities to start and run successful businesses, especially in terms of access to resources and labor market opportunities.

- **Gender, age and their impact on entrepreneurship:** Although gender and age are not main themes in the selected sources, it is known from other research that these demographic variables influence entrepreneurship. These variables can affect access to resources and networks as well as risk propensity.
- **Length of stay and entrepreneurship:** Length of stay in Sweden is assumed to affect entrepreneurship among immigrants. Longer length of stay can be linked to the accumulation of necessary resources and networks to start a business [6].
- **Statistics Sweden variables:** The theoretical framework will also integrate the specific variables from Statistics Sweden data to highlight additional factors that may influence the propensity of immigrants to engage in entrepreneurship.

By bringing together these theories and concepts, this framework creates a basis for analysis and interpretation of data, which provides the opportunity to test which factors best explain entrepreneurship among immigrants in Sweden.

Results

In the following section, the central results from this study are presented, where the article explored the decisive factors that influence entrepreneurship among immigrants in Sweden. Through a careful analysis of collected data, in the light of previous research and the theoretical framework, this part provides an insight into the underlying patterns and trends related to immigrant entrepreneurship in Sweden (Table 1).

Table 1 summarizes the studies that have investigated factors that affect entrepreneurship among immigrants in Sweden. The table shows the factors that were the focus of each study, as well as the main results from each study.

Table 1. Studies that have investigated factors affecting entrepreneurship among immigrants in Sweden.

Author(S)	Factors Under Investigation	Main Results
Klinthäll M, et al. [31]	Immigration background, gender, age, level of education	Immigrants from Asia and the Middle East are more likely to start businesses in Sweden than immigrants from Europe and North America. The study found that women and individuals with higher education levels are less likely to start a business.
Landstrom	Geographical location	The study found that immigrants living in larger cities in Sweden have greater opportunities for starting and running businesses compared to those in smaller cities or rural areas.
Sidebäck G, et al.	Reasons for immigration	Those who immigrated for economic reasons are more likely to start a business than those who immigrated for humanitarian reasons.
Heathers	Length of stay in Sweden	People who have lived in Sweden for a longer time are more inclined to start a business.
Alden and Hammerstedt	Social networks	People with strong social networks have greater opportunities to start and run businesses.
Strömbäck	Human capital (level of education and professional experience)	Higher education and professional experience are positively correlated with entrepreneurship among immigrants.

Source: Own illustration

Within Swedish society, entrepreneurship among immigrants is affected by a number of different factors. A review of previous research results provides significant insights regarding the most salient factors.

Among the most prominent studies, Delmar F and Davidsson P [11] highlight how immigration background plays a decisive role in entrepreneurship. They found that immigrants from Asia and the Middle East tend to be more entrepreneurial compared to those from Norway and the United States. Furthermore, gender and level of education have also been identified as important variables, with women and those with higher education found to be less likely to pursue an entrepreneurial path.

In terms of geographic location, Baycan-Levent T and Nijkamp P [12] emphasizes the importance of city size. Their research showed that immigrants living in larger cities in Sweden have a greater tendency to start and run businesses compared to those in smaller cities or in the countryside.

The reasons why individuals choose to immigrate may also play a role in their entrepreneurial ambitions [13] found that individuals who immigrate for economic reasons are more likely to start businesses than those who immigrate for humanitarian reasons.

The impact of length of stay has also been explored, with Knocke W [14] finding that the longer an immigrant has lived in Sweden, the greater their propensity to start a business.

Kerr WR and Mandorff M [15] focused on the effects of social networks and found that those with stronger social networks have better conditions to start and run businesses, highlighting the importance of societal and community support in entrepreneurial endeavours.

Finally, when it comes to human capital, Bakar R, et al. [16] on how both educational level and professional experience play a central role. Higher levels of education and more extensive work experience were strongly positively correlated with entrepreneurship among immigrants. By bringing these results together, it becomes clear that entrepreneurship among immigrants in Sweden is a multidimensional phenomenon, influenced by both individual and structural factors (Figure 1).

Based on data from Statistics Sweden's Labor Force Surveys (AKU) and STATIV/RTB, a fascinating picture of how the Swedish population in the age group 20–64 has changed over a decade with regard to migration and origin is depicted. The graph which uses 2010 as a reference point (index 100), illustrates the relative changes of different demographic groups since then.

When examining the numbers, it is clear that any change in the index above 100 indicates an increase in the specific population group compared to 2010, while a value below 100 indicates a decrease. This gives an insight into whether the number of refugees and their dependents has increased or decreased in relation to the base year. In the same way, one can understand the relative changes of other foreign-born persons, those who have chosen to move to Sweden for reasons other than seeking protection.

Although the exact data is not presented, this indexing also indicates any changes in the native-born population. The native-born population gives us indications of the country's natural population growth, potentially influenced by factors such as birth rates and internal migration within Sweden. Interestingly, the data also highlights a gender dimension. By comparing changes between men and women, one can draw conclusion about potential differences in migration patterns between the sexes. Such differences may arise from a variety of reasons, ranging from work opportunities to socio-cultural factors. In summary, this graphic provides an overall picture of Sweden's demographic changes over a decade, which is of central importance for understanding the wider social, economic and cultural dynamics in the country (Figure 2).

Sweden's demographic landscape has undergone significant changes over the past decade, which is highlighted by data from Statistics Sweden. One of the most prominent insights concerns the proportion of refugees with refugee relatives in the 20–64 age range in relation to the entire population of Sweden between 2010 and 2019.

A specific trend that stands out is the age structure among refugees and

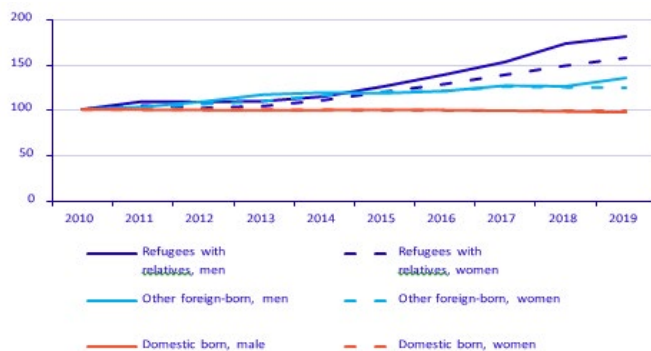


Figure 1. Population aged 20–64, categorized by refugees with refugee relatives, other foreign-born, domestic-born, and gender, 2010–2019 (indexed to 2010 = 100). Source: Statistics Sweden (SCB), labor force surveys.

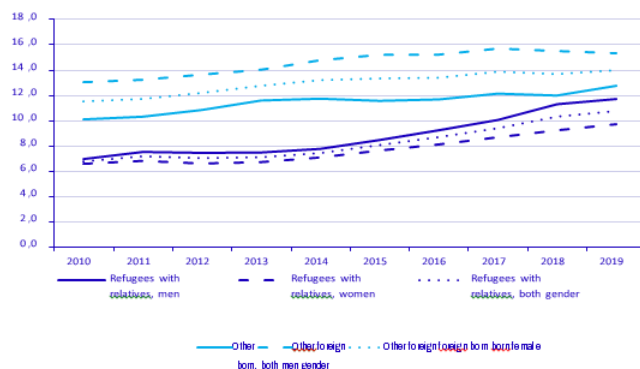


Figure 2. Percentage of refugees with refugee relatives and other foreign-born aged 20–64 in Sweden's total population, 2010–2019. Source: Statistics Sweden, Labor force surveys.

their relatives. This group differs from both domestically born and other foreign born. Among refugee immigrants, the proportion of individuals in the younger age groups, i.e. 20–24 years, 25–34 years and 35–44 years, was significantly higher compared to the native-born. What is interesting, however, is that this trend reverses for the older age groups, 45–54 years and 55–64 years, where the native-born had a greater representation.

Furthermore, when comparing refugee immigrants with other foreign-born, further distinct patterns are discovered. The young dominance among refugee immigrants is particularly clear, with a greater proportion of individuals in the two youngest age groups. After the age of 35, however, the other foreign-born group has a larger proportion, which indicates that refugees and their relatives are generally younger than both the domestic-born population and other foreign-born groups.

This analysis of the age structure provides important insights. The younger age profile among refugee immigrants can have a number of implications, from labor market participation to integration and educational needs. These patterns should be carefully considered in policymaking and future research to ensure that adequate resources and support are provided to this young and potentially highly productive, segment of the population (Figure 3).

In 2019, the population statistics from Statistics Sweden showed interesting demographic patterns regarding the age and gender distribution among refugees and their relatives in the 20–64 age range.

A consistent pattern in this population group was that there were consistently more men than women across all age groups. This difference was particularly evident in the 20–24 age groups, with a markedly higher number of men, where the numbers amounted to 51,000 men compared to 30,000 women. However, such large differences were not as prominent in other age groups.

The most significant age group, both among men and women, was those between 25 and 34 years old. This group had the highest number of

individuals, a total of 181,000 individuals. After this peak in the age group 25-34 years, there was a clear trend of successive decrease in the number of individuals for each successive age group. For example, in the 55-64 age group, the oldest group observed, there were only 92,000 individuals. This figure is particularly noteworthy when compared to the 25-34 age group, as it represents approximately half the size of that group.

Collectively, these data reveal a significant youthfulness among refugees and their relatives in Sweden in 2019. The substantial number of individuals in the 25-34 age group and the consistent male overrepresentation across all age groups are key observations with potential implications for various societal sectors, including labor market strategies, integration and educational initiatives (Figure 4).

Based on the 2019 data from Statistics Sweden on refugees and their relatives in Sweden, a detailed picture of the distribution based on the region of birth for people in the 20-64 age group emerges.

The vast majority of these individuals, 386,000 people or 62% of the total group, originated in Asia. This shows that in 2019, Asia was the dominant source region for refugee immigration to Sweden. The top countries of birth among this Asia group were Syria, Iraq and Iran. Furthermore, there is a significant gender gap among the refugee immigrants from Asia, with 66,000 more men than women. This difference helps to explain the general gender imbalance among refugee immigrants, since gender differences from other parts of the world have been marginal.

After Asia, Africa was the second most common part of the world of birth, with 113,000 people. The largest countries of birth in this group were Somalia, Eritrea and Ethiopia. Closely behind Africa as the next most common region of birth came Europe with 101,000 refugee immigrants., where a large proportion originated from the countries of the former Yugoslavia.

Another significant group, though smaller, consisted of 20,000 individuals from South America, with Chile being the most common country of origin. Finally, the category 'Other' accounted for an additional 5,200 people.

This information provides a comprehensive overview of geographic origin patterns of refugee immigration to Sweden in 2019. The dominant role played by Asia, particularly countries like Syria, Iraq and Iran, reflects the global geopolitical dynamics and conflicts, such as wars and civil unrest, driving people to seek protection abroad. In addition, the distribution of countries of birth within each continent highlights the specific circumstances and events that have influenced migration flows to Sweden (Figure 5).

In 2019, an analysis of the length of stay for refugees with relatives in Sweden showed clear patterns of recent immigration, as well as of length of stay.

In the 20-64 age group, the largest subgroup consisted of individuals with a length of stay ranging from 0 to 9 years. With 305,000 individuals, this group constituted almost half of the total population of refugees and their dependents in this age category. This suggests a significant wave of immigration over the past decade.

The next group consisted of those who had lived in Sweden for 10-19 years, which amounted to 113,000 people. Following this group, there were individuals with a length of stay of 20-29 years, which included 143,000 people. This marks individuals who likely immigrated during the 1990s and early 2000s, a period that saw several major global migration events.

Finally, a smaller group, numbering 64,000 individuals, had resided in Sweden for 30 years or more, indicating an immigration to Sweden during the late 1980s or earlier. These individuals, who arrived in the late 1980s or earlier, have spent a significant part, if not most, of their adult lives in Sweden.

This data provides insights into the various waves of refugee immigration to Sweden, with the large proportion of individuals residing for less than a decade indicating a recent peak in immigration. Understanding these patterns is crucial for informing policy decisions, integration programs and other services, as each group may have unique needs and experiences based on their duration in the country (Figure 6).

In 2019, an analysis of the employment rate among refugees and their relatives in Sweden, based on data from Statistics Sweden's Labor Force Surveys, showed that gender and age played an important role in employment.

Clear differences emerged between men and women in terms of employment rates and this pattern was consistent across all age groups.

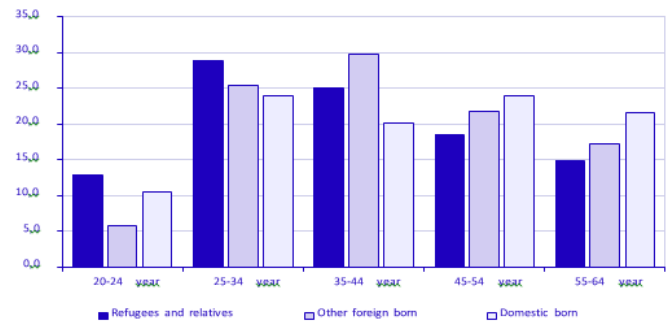


Figure 3. Percentage distribution of the population aged 20-64 by population group and age, 2019. Source: Statistics Sweden, labor force surveys.

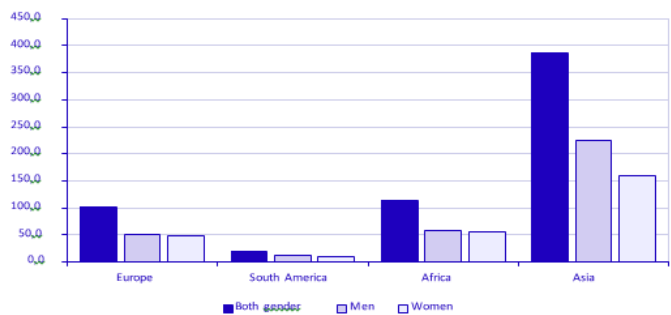


Figure 4. Number of refugees and refugee relatives aged 20-64, categorized by gender and region of birth, 2019 (in thousands). Source: Statistics Sweden (SCB), labor force surveys.

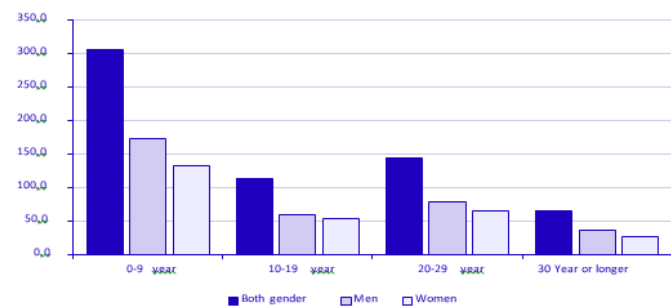


Figure 5. Number of refugees and refugee relatives aged 20-64, categorized by gender and length of stay, 2019 (in thousands). Source: Statistics Sweden (SCB), labor force surveys.

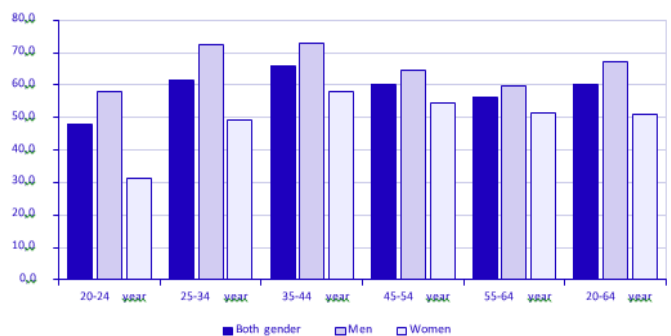


Figure 6. Employment rate among refugees and refugee relatives aged 20-64, categorized by gender and age, 2019 (in percentage). Source: Statistics Sweden (SCB), labor force surveys.

The most prominent gender differences were noted in the 20-24 age groups, possibly reflecting cultural, educational, or other socio-economic factors that particularly affect employment in this age group. Furthermore, the analysis indicated that the employment rate was highest among those aged 35-44, with women having an employment rate of 58.0 percent and men had an employment rate of 73.1 percent. This peak in employment for this age group may indicate a period when refugees and their relatives have had sufficient time to adapt to the Swedish labor market.

It is also interesting that men's employment rate was almost as high within the age group 25-34 years, which may indicate that male refugee immigrants in this age group either have an easier time finding work or that they prioritize work higher compared to other activities, such as continuing education. This information is valuable as it offers insights into how different demographic groups of refugees and refugee relatives perform in the Swedish labor market. With such information, policy makers and officials can create more targeted strategies for labor market integration, training and support programs (Figure 7).

Diagram 7 highlights the employment rate among refugees and their relatives in the age group 20-64 in 2019, with a specific focus on gender and country of birth. The employment rate showed significant variations depending on the region of birth. Refugee immigrants born in Europe and South America had a markedly higher employment rate compared to those born in Africa and Asia. More specifically, the employment rate among people born in Europe was 80.0 percent and those born in South America had an employment rate of 81.0 percent. What is notable is that the gender-related differences were minimal in these groups, suggesting a more even distribution of work opportunities between men and women from these regions.

However, conditions were slightly different for refugee immigrants from Asia and Africa. In these groups, gender differences in employment were more evident. For men born in Africa, the employment rate was 64.2 percent, while among women in the same group it was significantly lower, at 41.9 percent. For refugee immigrants born in Asia, the employment rate for men was 63.5 percent, while for women it was 43.4 percent.

This analysis indicates that although there is a generally higher employment rate for refugee immigrants from Europe and South America compared to Asia and Africa, there are also significant gender differences within the latter groups. Men from Africa and Asia have a significantly higher employment rate compared to women from the same regions. This may raise questions about the integration process, labor market structures, education and cultural or socio-economic factors that may affect the employment opportunities of different groups. It also gives an indication of where possible interventions may be needed to improve labor market integration, especially for women from Asia and Africa (Figure 8).

The employment rate among refugees and their relatives in Sweden has a clear connection to how long the individual has lived in the country. Specifically, for those who have recently arrived, with a length of stay of 0 to 9 years, the employment rate is significantly lower. Women in this category of refugees and relatives have a particularly low employment rate, with only 29.8 percent employed, compared to 56.1 percent of men. This difference can be due to several factors, including adaptation challenges in a new country, language barriers, or difficulties in translating qualifications and experience from the home country to the Swedish labor market.

Interestingly, the data show an increase in the employment rate over time, which suggests a successful gradual integration into the labor market. When we look at those with a length of stay of 20-29 years, the employment rate appears to be stabilizing. In addition, gender differences become less prominent the longer the individual has lived in Sweden. For those with a length of stay of 30 years or more, the employment rate is about the same for both men and women, around 80 percent. This suggests that, over time, both male and female refugees and relatives reach a higher and more even degree of integration in the labor market.

The employment rate among refugees and their relatives in Sweden highlights an important aspect of the integration process. It is clear that time in Sweden plays a decisive role when it comes to integrating into the labor market. Finally, when looking at those with the longest stay in the country, it is

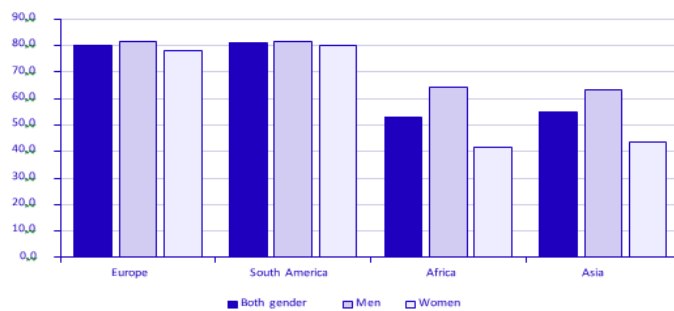


Figure 7. Employment rate among refugees and refugee relatives aged 20-64, categorized by gender and region of birth, 2019 (in percent). Source: Statistics Sweden (SCB), labor force surveys.

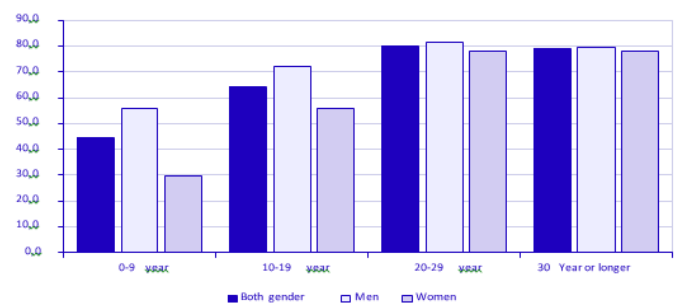


Figure 8. Employment rate among refugees and refugee relatives aged 20-64, categorized by gender and length of stay, 2019 (in percentage). Source: Statistics Sweden (SCB), labor force surveys.

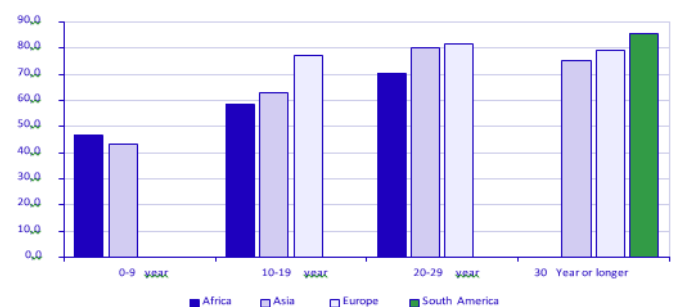


Figure 9. Employment rate among refugees and refugee relatives aged 20-64, categorized by region of birth and length of stay, 2019 (in percentage). Source: Statistics Sweden (SCB), labor force surveys.

clear that integration is reaching a point where origin or background becomes less relevant. An employment rate of around 80 percent for both men and women in this group indicates successful integration into the labor market, but have also achieved a level of stability similar to that of average Swedes (Figure 9).

When you examine diagram 9, it becomes clear how the employment rate for refugees and their relatives in the age range 20-64 years varies depending on varies depending on their region of birth and their length of stay in Sweden. One of the most prominent patterns is how the historical immigration context plays a decisive role in today's employment figures.

For example, individuals born in South America exhibit a relatively high employment rate. However, this high employment rate must be viewed in context, considering that the largest wave of refugee immigration from South America occurred during the 1980s. This means that these individuals have had several decades to integrate into Swedish society and the labor market, which may contribute to their current high employment rate.

In the same way the diagram shows a minimal representation of people born in Europe among those with a short residency period (0-9 years). This observation can be explained by the fact that refugee immigration from Europe has been limited in the last decade.

Another important insight is that for individuals born in Asia and Africa, the employment rate increases with their length of stay in Sweden. This trend points to the importance of time for integration and adaptation to the labor market. Furthermore, when considering those with a length of stay of 10-19 years, it appears that Europeans, individuals born in Europe, have a higher employment rate compared to those from Africa and Asia. However, when considering a length of stay of 20-29 years, the employment rate gap between individuals born in Europe and those in Asia narrows, while the African-born are still slightly behind in employment rates (Figure 10).

This analysis thus highlights how both geographic origin and the duration of immigration significantly influence the current employment status of refugees and their relatives in Sweden.

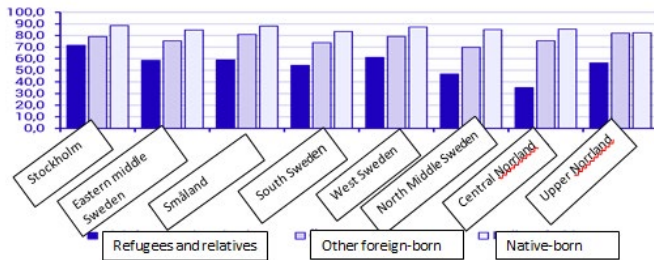


Figure 10. Employment rate among refugees and their relatives, other foreign-born, and domestic-born, categorized by national region, 2019 (in percentage). Source: Statistics Sweden SCB, labor force surveys.

In 2019 in Sweden, a diagram highlighted a clear variation in the employment rate among refugees and their relatives across different national regions. This variation was particularly noticeable for the refugee group compared to other population groups, such as other foreign-born and domestic-born.

The Stockholm region stood out as the region where the employment rate among refugees and their relatives was the highest. There, 71.6 percent of the refugees and their relatives achieved employment. The interesting thing about the Stockholm region was also that the difference in employment rate between refugee immigrants and other population groups was less prominent than in other parts of the country.

On the other hand, the regions Mellersta Norrland and North Central Sweden showed the lowest employment rates for refugee immigrants, with only 35.2 percent and 46.8 percent respectively being employed. These figures point to a marked difference in employment opportunities depending on geographical location. Additionally, it was worth noting that these specific regions had a relatively small percentage of residents who were categorized as refugee immigrants.

This pattern of regional differences in employment rates highlights the complex dynamics between migration, labor market and geographic location. While the Stockholm region, as Sweden's economic and cultural center, offers more work opportunities and networks, the more remote regions such as Mellersta Norrland and North Central Sweden may face challenges linked to the structure of the labor market, available jobs and potentially less integration resources. This insight highlights the importance of tailoring integration strategies and labor market initiatives based on the unique needs and conditions of each region in order to effectively support and integrate refugee immigrants.

The relationship between domestic and foreign born and self-employment in Sweden - A regression analysis

Introduction: In an era characterized by economic diversity and a growing emphasis on entrepreneurship, understanding the factors that influence the decision to start and run one's own business becomes increasingly critical. This study focuses on Sweden to examine the relationship between domestic and foreign-born individuals and their propensity to engage in self-employment. With a growing population of the foreign-born residents in Sweden in entrepreneurship between these two groups, as well as how other demographic factors such as gender and age may influence self-employment.

In order to carry out this survey, extensive data has been collected on the number of domestic and foreign-born individuals, divided by gender and age group, as well as the number of self-employed persons in various municipalities within the age group 20-65 years. Employing statistical tools, particularly regression analysis, possible significant relationships between these variables are investigated, with the aim of drawing conclusion that can contribute to improving support for entrepreneurship in Sweden.

Purpose: This study aims to explore how these demographic factors, such as place of birth, gender and age, affect entrepreneurship at the municipal level in Sweden. By utilizing data from Statistics Sweden (SCB) and applying regression analysis methods, this research seeks to identify and quantify potential relationships between these variables and entrepreneurship, as well as discuss the possible implications of these relationships for policy and practice in the field of entrepreneurship and economic integration in Sweden.

The research questions: In light of the changing demographic structure in Sweden and its potential to influence the landscape of entrepreneurship, the study aims to answer the following research questions:

1. How does place of birth (domestic vs. foreign-born) influence the prevalence of entrepreneurship in Sweden?

Examines the relationship between the number of domestic and foreign-born individuals and the number of self-employed persons in various municipalities within the age group 20-65 years.

2. Are there significant differences in entrepreneurship based on gender and age among domestic and foreign-born individuals?

Examines how gender and age interact with place of birth and entrepreneurship and whether any patterns or trends can be identified.

3. How does the level of entrepreneurship vary across different municipalities in Sweden concerning demographic factors such as place of birth, gender and age?

Examines regional differences and analyzes whether there are any municipalities or regions where entrepreneurship among domestic or foreign-born individuals is particularly prominent.

Data collection and methodology

In this study, data from Statistics Sweden (SCB) was used to analyze the relationship between domestic and foreign born and self-employment within the age group 20-65 in Sweden's municipalities.

Data source: Statistics Sweden was selected for its reliability and comprehensive statistics coverage in Sweden. Data was collected from several municipalities to provide a representative sample for the analysis.

Selection: The selection of data strove to be as representative as possible of the working population in Sweden. Data was collected from several different municipalities to ensure geographic and demographic diversity in the analysis. This included both larger cities and smaller municipalities in order to gain a broader understanding of the dynamics of entrepreneurship in different parts of Sweden. The selection process was also aimed at ensuring that all data collected was current and relevant to the research questions.

Variables

In order to effectively explore the research questions, a number of variables that are important to the purpose of the study were identified and defined. The variables are divided into dependent and independent variables based on their presumed relationships and roles in the dynamics explored.

Dependent variable: The dependent variable in this study is the number of self-employed individuals within each municipality in the age group 20-65 years. This is the variable that the study aims to explain and which is assumed to be dependent on the other independent variables. By analyzing the number of self-employed people in different municipalities, the study seeks to understand how place of birth, age and gender affect the occurrence of entrepreneurship.

Independent variables:

Birthplace

- ▶ **Domestically born:** Refers to individuals born in Sweden within the age group 20-65 years in each municipality.
- ▶ **Foreign Born:** Represents individuals born outside Sweden within the age group 20-65 years in each municipality.

Age: The age group 20-65 years has been chosen to represent the able-bodied population in each municipality.

Gender: The gender variable is of interest to understand how entrepreneurship differs between men and women in different municipalities.

Analysis method: Regression analysis was used to explore the relationship between the independent variables and the number of self-employed persons, enabling the identification of patterns or trends important for the growth of entrepreneurship in Sweden.

Categorical variables: Municipalities

The municipalities in Sweden are treated as categorical variables in this analysis. Each municipality is considered a unique region, potentially exhibiting differences in entrepreneurship. By analyzing each municipality individually, the study aims to uncover regional trends and variations in entrepreneurship.

Results and analysis

To thoroughly analyze the relationship between demographic factors and entrepreneurship across different municipalities, a multiple regression analysis was applied. This method was chosen to enable a simultaneous investigation of the relationship between several independent variables – place of birth (domestic compared to foreign born), sex and age – and the dependent variable, the number of self-employed persons in each municipality.

Multiple regression analysis

In order to carefully analyze the relationship between the various independent variables (place of birth, gender, age) and the number of self-employed persons in each municipality, a multiple regression analysis was used. Unlike a simple linear regression that only examines the relationship between a dependent and an independent variable, multiple regression allows for the simultaneous analysis of several independent variables. This approach is important for understanding how these variables jointly and individually affect entrepreneurship.

Specification of the regression model

Objectives of the regression model:

- To examine how a combination of place of birth, gender and age influences the rate of self-employment.
- To identify any significant relationships between these variables and the prevalence of self-employed individuals in the municipalities.

Model structure:

- The model included place of birth as a categorical variable, divided into domestic and foreign born.
- Gender and age were included as continuous variables in the model to provide a detailed understanding of their impact.
- The model also incorporated specific characteristics of each municipality to account for regional variations in entrepreneurship.

Analysis of results

- The results of the multiple regression analysis were examined to identify the most significant predictors of entrepreneurship.
- P-values and confidence intervals were analyzed to determine the statistical significance of each variable in the model.

- The R^2 value was assessed to gauge how well the model explains the variation in the number of self-employed individuals.

Regression for foreign born

Regression model: In this study, data from Statistics Sweden was used as independent variables to predict the number of self-employed persons. A regression analysis that includes age, gender, municipality and number of self-employed persons through a simple model:

The variables

- **Dependent variable:** The dependent variable is the number of self-employed individuals
- **Independent variables:** These include Age, Gender and Municipality (Table 2)

Table 2. Number of entrepreneurs by gender and age.

Sex	Age	Sum of Number of Entrepreneurs
0	20-65 years	13877
0 Total		13877
1	20-65 years	24351
1 Total		24351
Grand Total		38228

Source: Statistics Sweden (SCB). Own illustration

Overview of data

Total number of self-employed: 38,228.

Distribution by gender

- Women (represented as 0): 13,877 self-employed.
- Men (represented as 1): 24,351 self-employed.

Distribution in two specific municipalities

Municipality 127

Women: 253 self-employed.

Men: 645 self-employed.

Total: 898 self-employed.

Municipality 181

Women: 230 self-employed.

Men: 508 self-employed.

Total: 738 self-employed.

Interpretation of data

Gender differences: The data indicates a higher prevalence of self-employment among men (24,351) compared to women (13,877).

Regional differences: In both Municipality 127 and Municipality 181, there are more male self-employed than female. This pattern is consistent with the overall distribution. Municipality 127 has more self-employed persons (898) compared to Municipality 181 (738), which indicates a regional variation in the number of self-employed persons.

The data above shows the complete output of the regression analysis, including the coefficients, standard errors, t-statistics, p-values and confidence intervals. Let's analyze these values (Table 3).

Table 3. Analysis of the data.

	Coefficients	Standard Error	t State		
Interception	1414,167069	41.79631414	33.83473157		
Sex	24.21120101	58.55835816	0.413454232		
Number of Entrepreneurs	-0.670350229	0.140642006	-4.766358548		
P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
4.2503E-139	1332.075603	1496.258536	1332.075603	1496.258536	
0.679427465	-90.80232537	139.2247274	-90.80232537	139.2247274	
2.37732E-06	-0.946582924	-0.394117534	-0.946582924	-0.394117534	

Source: Statistics Sweden (SCB). Own illustration

Intercept (Point of intersection)

Coefficient: 1414.167069 – This is the expected mean of the dependent variable when all independent variables are zero.

Standard Error: 41.79631414 – This measures the standard deviation of the estimated coefficient.

t-Stat: 33.83473157 – This value shows how many standard deviations the coefficient is from zero.

P-value: 4.2503E-139 – A very small p-value indicates that the intercept is statistically significant.

Confidence interval: 1332.075603 to 1496.258536 – One can be 95% sure that the true value of the intercept lies within this interval.

Gender

Coefficient: 24.21120101 – This indicates that when we go from category 0 (females) to 1 (males), the dependent variable increases on average by 24.21 units.

P-value: 0.679427465 – A p-value greater than 0.05 indicates that there is no statistically significant relationship between gender and the dependent variable at a 95% confidence level.

Confidence Interval: -90.80232537 to 139.2247274 – Since the confidence interval includes zero, it confirms that there is no significant relationship between gender and the dependent variable.

Number of entrepreneurs

Coefficient: -0.670350229 – This means that for every unit increase in the number of entrepreneurs, the dependent variable decreases by 0.67 units.

P-value: 2.37732E-06 – This very low p-value indicates that there is a statistically significant negative relationship between number of entrepreneurs and the dependent variable.

Confidence Interval: -0.946582924 to -0.394117534 – One can be 95% confident that for each additional entrepreneur, the dependent variable decreases by somewhere between 0.946 and 0.394 units.

Conclusion

Based on the regression analysis, the following conclusion can be drawn:

- ▶ The intercept is statistically significant and indicates a basic level of the dependent variable.
- ▶ Gender does not have a statistically significant effect on the dependent variable in this model.
- ▶ Number of entrepreneurs has a significant negative effect on the dependent variable

Regression statistics:

1. **Multiple R (Correlation coefficient):** 0.194631488 - This value indicates the strength and direction of linear relationship between the independent variables and the dependent variable. A value close to 0 indicates a weak correlation.

2. **R square (Coefficient of determination):** 0.037881416 - Only approximately 3.79% of the variance in the dependent variable can be explained by the independent variables in the model. This is relatively low, indicating that the model does not explain much of the variance in the dependent variable.
3. **Adjusted r square:** 0.034546517 - When taking into account the number of independent variables in the model, the adjusted R square is still approximately 3.45%, confirming that the model does not have strong explanatory power.
4. **Standard error:** 702.4780775 - This is a measure of the spread of the observations around the regression line. The lower the value, the closer the data is to the regression line.
5. **Observations:** 580 - This is the total number of observations used in the analysis (Table 4).

ANOVA (Analysis of Variance): This table is used to assess the overall significance of the regression model.

1. **Df (Degrees of freedom):** Here we have 2 for regression (the number

Table 4. Summary output.

Regression Statistics					
Multiple R	0.194631488				
R Square	0.037881416				
Adjusted R Square	0.034546517				
Standard Error	702.4780775				
Observations	580				
ANOVA					
	d.f	SS	MS	F	Significance F
Regression	2	11210861.03	5605430,515	11.3590869	0.0000145028
Residual	577	284735334.3	493475,4494	-	-
Total	579	295946195.3	-	-	-

Source: Statistics Sweden (SCB). Own illustration

of independent variables) and 577 for the residual (total number of observations minus the number of independent variables minus one for the intercept).

2. **SS (Sum of squares):** The total value of 295,946,195.3 is the total variance in the data, with 11,210,861.03 being the portion explained by the model and 284,735,334.3 being the independent variance.
3. **MS (Mean square):** MS is SS divided by the corresponding df. For the regression, it is 5,605,430,515, indicating the average variance explained per independent variable.
4. **F (F-statistic):** 11.3590869 - This value is well above 1, indicating that the independent variables as a whole are statistically significant.
5. **Significance F:** 0.0000145028 - The P-value of the F-test is extremely small, strongly indicating that the model is statistically significant.

Conclusion

- ▶ The findings suggest that incorporating other relevant variables might provide a more comprehensive understanding of the factors influencing self-employment.
- ▶ The model as a whole is statistically significant according to the ANOVA table.
- ▶ However, the R-squared value indicates that the model does not explain a large portion of the variance in the dependent variable. This may mean that there are other unidentified variables that also affect the dependent variable, or that the relationship is not strongly linear.

- ▶ The adjusted R-squared is almost equal to the R-squared, indicating that the inclusion of more independent variables would not necessarily improve the explanatory power of the model.
- ▶ Given the low R-squared and the fact that gender was not a significant predictor, it may be worth exploring other models or including additional variables to better understand the dynamics of the dependent variable.

Analyzed results

When discussing the regression analysis of self-employment in Sweden with respect to gender, municipal influence and age, several important results emerge from the performed statistical model. The impact of each independent variable on the number of self-employed workers is considered, which the essay's dependent variable is:

Gender and entrepreneurship among the foreign-born

The analysis indicates that gender as a variable does not have a statistically significant effect on the occurrence of self-employment among foreign-born in Sweden. The coefficient for gender was positive, meaning that men (assuming male gender is coded as 1) would on average be associated with an increase in self-employment compared to women (coded as 0). However, the p-value for gender was high, meaning that this increase is not statistically significant and gender as a factor cannot be considered a reliable predictor of self-employment in this model.

Although gender was not found to be a significant predictor of self-employment in the general model, it is possible that its influence varies when looking specifically at the foreign-born. Cultural, social and economic factors can affect men's and women's experiences and opportunities to start businesses in different ways, especially among the foreign-born. It would be worthwhile to investigate whether there are support structures, networks and resources that are more accessible to one gender than the other and how this interacts with the nature of entrepreneurship in different cultural contexts.

The municipality's impact on business

In the current study, each municipality has been treated as a unique category. An interesting finding is that there is a statistically significant difference between the municipalities in terms of the number of self-employed people. This suggests that some municipalities may be more favorable to self-employment than others, which may depend on a number of factors, such as access to resources, economic climate, or support systems for entrepreneurs. The low p-value associated with the F-statistic from the ANOVA table underlines that these differences between municipalities are relevant and should be considered in policy development and support programs for entrepreneurs.

The variation in entrepreneurship between different municipalities indicates that local economic conditions, business climate and the availability of support services play a large role. For the foreign-born, these factors can be even more crucial, as integration into the local business community can be affected by language barriers, recognition of foreign qualifications and access to local networks. It is also possible that some municipalities have more successful programs to promote entrepreneurship among immigrants, which could be an important factor to explore further.

Age and business

The age variable was not included as a separate parameter in the data presented, but all individuals were within the age range of 20-65 years. Without specific age data, no concrete conclusion can be drawn about the impact of age on self-employment. However, age can be assumed to be an important

factor to consider in future research, as it can influence both the propensity to start a business and the success in entrepreneurship. Although age data were not specified in the given model, it is known that age can influence entrepreneurship. For the foreign-born, younger individuals may be less risk-averse and more open to entrepreneurship, while older individuals may have accumulated more resources and experiences valuable for entrepreneurship. Age-related factors such as family responsibilities and career stages may also play a role and should be considered when examining entrepreneurship among the foreign-born.

In summary, the performed regression analysis indicates that while gender does not seem to play a significant role for self-employment among foreign-born in Sweden, it is clear that there is a municipal influence that is worth exploring further. The influence of age on self-employment remains unclear due to the lack of detailed age data in the analysis. This analysis points to the importance of understanding local ecosystems and demographic factors to effectively support self-employment.

Summary for those born abroad

In a regression analysis of self-employment in Sweden, with particular focus on the situation of individuals born abroad, it appears that gender is not a significant factor. Although this difference indicated men might have a higher propensity for self-employment than women in the general model, this relationship was not statistically significant. This indicates that factors other than gender play a greater role in self-employment among the foreign-born.

The role of the municipality turns out to be significant, with some municipalities creating more favorable conditions for self-employment. This likely reflects variations in local economies, resource availability and the level of support provided to immigrants. Specifically for the foreign born, this can include challenges related to language barriers and networking. The insights into the impact of age on self-employment are limited, as the analysis only included a single age range (20-65 years). It is known that younger foreign-born may be more inclined to take risks and engage in entrepreneurship, while older ones may benefit from accumulated experience and resources. An in-depth analysis that differentiates between different age groups would give a more nuanced picture.

In summary, while gender does not significantly contribute to explaining self-employment among foreign-born individuals, municipal factors show a notable influence. The impact of age on self-employment needs further exploration, emphasizing the importance of considering local conditions and demographic factors in supporting self-employment, particularly among foreign-born populations.

Regression for domestic born

This study has used a regression model to examine the influence of gender and age on self-employment among the native-born in Sweden. The model includes gender and municipality as independent variables and although age is also included, it remains constant across all observations (20-65 years), thus its specific influence is not differentiated in predicting the number of self-employed individuals.

The variables

Dependent variable: Number of self-employed persons.

Independent variables: Gender and municipality. Age has been included in the model but is constant across all observations (20-65 years) and therefore its influence is not differentiated in the data presented (Tables 5 and 6).

Table 5. Sum of number of entrepreneurs.

Sum of Number of Entrepreneurs	Column Labels		
Row Labels	0	1	Grand Total
20-65 years	40689	68659	109348
Grand Total	40689	68659	109348
Age	0	1	Quantity
20-65 years	40689	68659	109348

Source: Statistics Sweden (SCB). Own illustration

Table 6. Independent variables.

Gender	Sum of Number of Entrepreneurs
1	68659
0	40689
Grand Total	109348

Source: Statistics Sweden (SCB). Own illustration

Independent variables

- Age (focused on the 20-65 age range)
- Gender (coded as 1 for men and 0 for women).
- Municipality (specified with code 980 as an example)

Data overview (Source: Statistics Sweden)

Total number of self-employed: The total number of self-employed in the age group 20-65 is 109,348. Age 20-65 years was selected to represent the working-age population.

Average number of self-employed persons: Since there is only one age group (20-65 years), the average number of self-employed persons is the same as the total number, which are 109,348 (Table 7).

Table 7. Municipality-specific data.

Municipality	980
Sex	Sum of Number of Entrepreneurs
1	1092
0	475
Grand Total	1567

Source: Statistics Sweden (SCB). Own illustration

Gender-specific distribution

- Female self-employed (code 0): 40,689.
- Male self-employed (code 1): 68,659.

Municipality-specific data (Example municipality 980):

- **Male self-employed:** 1,092.
- **Female self-employed:** 475.
- **Total in the municipality:** 1,567.

Interpretation of data

The analysis provides insights into the gender distribution and the extent of self-employment among individuals aged 20-65 years in Sweden. Here is a detailed interpretation:

Scope of self-employment

The total number of self-employed persons in the age group 20-65 is 109,348. This number represents the total labor force of self-employed persons active within the specified age group and includes both men and women.

Average self-employment

As the data encompasses only one age group, the average number of self-employed individuals is equivalent to the total count. This means that if you were to divide the total number of self-employed persons by the number of categories or segments (in this case only one, the age group 20-65 years), the average would be 109,348 self-employed persons.

Gender-specific distribution

This imbalance suggests potential gender-based differences in opportunities or propensities for self-employment. Of the total number of self-employed persons, 40,689 are women (about 37.2%) and 68,659 are men (about 62.8%). This distribution may indicate that men are more likely than women to run their own business, or that there are more opportunities or support systems that promote male self-employment.

Municipality

The example municipality (with the code 980) has a total of 1,567 self-employed persons, of which 1,092 are men and 475 are women. This continues the pattern that men are overrepresented as self-employed in this municipality. Each municipality will of course have its own unique conditions that affect self-employment.

Conclusion

The data confirms that self-employment is an important part of the labor market for people of working age in Sweden. The gender distribution points to possible inequalities that may require specific measures to support and encourage self-employment among women. Each municipality has its own socio-economic and cultural conditions. The example municipality shows that even at the local level there is an overrepresentation of male self-employed people.

Analysis of the data

The data from the regression table gives us an insight into how different factors affect the number of self-employed people. Here is a detailed breakdown of the coefficients, their standard errors, t-statistics and p-values: (Table 8).

Table 8. The regression analysis results provide valuable insights into the factors influencing self-employment among domestic-born individuals.

	Coefficients	Standard Error	t State	P-value
Interception	1431.361109	42.94250365	33.33203674	1.2943E-136
Sex	33.86965945	59.06443408	0.573435774	0.566573098
Number of Entrepreneurs	-0.351169154	0.081454871	-4.311211232	1.90933E-05
Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
1347.018431	1515.703788	1347.018431	1515.703788	
-82.13784248	149.8771614	-82.13784248	149.8771614	
-0.511153352	-0.191184957	-0.511153352	-0.191184957	

Source: Statistics Sweden (SCB). Own illustration

Intercept (Intersection point with the y-axis)

Coefficient: 1431.361109. This value represents the expected mean of the number of self-employed workers when all independent variables are zero. In practice, this can be interpreted as the basic number of self-employed persons that one would expect without the influence of the independent variables gender and number of self-employed persons.

Standard error: 42.94250365. This is a measure of the variance in the coefficient estimate and indicates the uncertainty around the estimate of the intercept.

t-stat: 33.33203674. This value indicates how many standard deviations the intercept estimate is from zero. A high value indicates that the intercept is statistically significant.

P-value: 1.2943E-136. A very low p-value indicates that we can reject the null hypothesis that the intercept is zero, which means that the intercept is statistically significant (Table 2)

Sex

Coefficient: 33.86965945. This suggests that if gender is changed from 0 to 1 (which can be assumed to represent a change from female to male if following conventional coding), the expected number of self-employed workers would increase by approximately 33.87, all else being equal.

P-value: 0.566573098. A p-value above 0.05 indicates that there is no statistically significant effect of gender on the number of self-employed workers at a conventional 5% significance level.

Confidence intervals: The intervals include both negative and positive values, further indicating that there is no statistically significant relationship between gender and the number of self-employed workers.

Number of entrepreneurs

Coefficient: -0.351169154. This negative coefficient suggests that for every unit increase in the number of entrepreneurs, the dependent variable (which could be some form of economic performance or growth) decreases by 0.35 units, all else being equal.

P-value: 1.90933E-05. This very low p-value indicates that there is a statistically significant negative relationship between the number of entrepreneurs and the dependent variable.

Confidence intervals: The intervals are both negative, confirming that there is a negative effect of the number of entrepreneurs on the dependent variable.

Conclusion

- ▶ The intercept is statistically significant and indicates the base level of the dependent variable.
- ▶ Gender is not a significant predictor of the number of self-employed persons in this model.
- ▶ There is a significant negative effect of the number of entrepreneurs on the dependent variable, which may indicate that as the number of entrepreneur's increases, there is a tendency to decrease the dependent variable, which may be related to market saturation or increased competition.
- ▶ The findings highlight the need for further research to understand the underlying causes of these patterns and to develop targeted policies to encourage self-employment across different demographics (Table 9).

Table 9. Summary output.s

Regression Statistics					
Multiple R	0.176655378				
R Square	0.031207123				
Adjusted R Square	0.027849088				
Standard Error	704.9104398				
Observations	580				
ANOVA					
	d.f	SS	MS	F	Significance F
Regression	2	9235629,221	4617814,611	9.293271142	0.000106568
Residual	577	286710566.1	496898.7281		
Total	579	295946195.3			

Source: Statistics Sweden. Own illustration

Regression statistics

1. **Multiple R (Multiple correlation coefficients):** The value 0.176655378 indicates the strength and direction of a linear relationship between the observed and predicted values of the dependent variable. A value close to 0 indicates a weak correlation.
2. **R square (Coefficient of determination):** The value 0.031207123 means that about 3.12% of the variance in the dependent variable can be explained by the independent variables in the model. This is relatively low, indicating that the model does not explain a large part of the variance in the dependent variable.
3. **Adjusted r square:** Takes into account the number of predictors in the model and adjusts the R Square accordingly. The value of 0.027849088 is also low, indicating that when accounting for the number of variables, the model still explains a small portion of the variance. This low value suggests that additional variables might be needed to better explain self-employment in this demographic.
4. **Standard error:** Average distance between the predicted values from the model and the actual values observed. A value of 704.9104398 indicates that there is significant spread in the data.
5. **Observations:** The number of data points used in the regression model is 580.

ANOVA (Analysis of variance)

- ▶ **DF (Degrees of Freedom):** The regression uses 2 independent variables and there are 577 residuals (total number of observations minus the number of independent variables minus one for the intercept).
- ▶ **SS (Sum of Squares):** Shows the total variation in the data. For Regression, SS shows how much of the total variation is explained by the model, while Residual SS shows the variation not explained by the model.
- ▶ **MS (Mean Square):** SS divided by df. For Regression and Residual, these values show the mean squared deviation of the model and the error term.
- ▶ **Q:** Statistical test to see if the model is better at explaining the variance in the dependent variable than a model with no independent variables at all. The value 9.293271142 indicates that the model is statistically significant.
- ▶ **Significance F:** The P-value for the F-test is 0.000106568, which is very low and suggests that the null hypothesis that the model has no explanatory power can be rejected. This means that the model significantly explains part of the variance in the dependent variable, even if the total amount of explained variance is low. The significance of the F-test suggests that the model has some predictive power, although additional variables may enhance its explanatory capability.

Conclusion

- ▶ The model as a whole is statistically significant but explains a small proportion of the variance in the dependent variable.
- ▶ The low R Square indicates that other factors not included in the model may be better at explaining the variance in the dependent variable.
- ▶ Additional data or variables may need to be included to improve the explanatory power of the model.

Analyzed results

The regression analysis has been carried out to investigate whether gender and the number of entrepreneurs have an impact on self-employment among natives born in Sweden. The regression shows an R Square value of approximately 0.03, which means that only 3% of the variance in self-

employment can be explained by the independent variables in the model. This suggests that other unknown factors may play a role and that the included variables do not fully capture the factors influencing self-employment.

Gender and entrepreneurship among the native-born

The regression indicates that gender as a variable (male compared to female) is not a significant predictor of self-employment among the native-born, as shown by the high p-value (above 0.05). This result suggests that there is no statistically significant difference in the prevalence of self-employment between men and women in this group. This may suggest that in Sweden, among the native-born, there is a similar propensity for both men and women to engage in self-employment or those factors other than gender are more important for this activity.

The municipality's impact on business

Total number of self-employed: Within the municipality there are a total of 1,567 individuals who are active as self-employed. This figure includes both men and women in the 20-65 age groups, giving an overview of the dynamics of the local business community.

Distribution by gender

Male self-employed: Of the total number of self-employed, 1,092 are men. This overrepresentation of male self-employed people in the municipality may point to various socio-economic factors or cultural norms that influence the nature of self-employment in the area.

Female self-employed: Female self-employed make up 475 of the total, which is lower compared to their male counterparts. This difference may highlight potential obstacles or lack of support structures that affect women's opportunities and willingness to engage in self-employment in the municipality.

This data provides a basic understanding of the nature of self-employment in municipality 980 and highlights the need to explore factors that influence this gender-based difference. However, the low p-value for the F-statistic from the ANOVA part of the output indicates that there is a statistically significant difference between the municipalities. This may suggest that there are certain municipality-specific factors that can affect self-employment, such as local economic conditions, availability of resources and business climate.

Age and business

Since all individuals in the data are within the same age group (20-65 years) and age was not treated as an independent variable in the model, we cannot draw any conclusion about the influence of age on self-employment from the current analysis. To explore age effects, one would need to include age as an independent variable or group the data into specific age ranges.

In summary, the regression analysis provides an insight into self-employment among the native-born in Sweden. The study indicates that gender does not play a statistically significant role in determining the frequency of self-employment in this group. On the other hand, when we consider the specific data collected for the municipality with the code 980, a clear gender-based difference in self-employment emerges. In this municipality, male self-employed persons are overrepresented compared to female ones, which suggests that there may be municipality-specific factors that influence self-employment. This municipality-specific trend points to the importance of including local factors in future studies to gain a more detailed understanding of the dynamics of self-employment. Furthermore, the influence of age could not be examined in this study, which highlights the need to include a more varied age distribution or treat age as a continuous variable in future analyses.

Summary for native-born in Sweden

This study has explored self-employment among the native-born in Sweden, with particular focus on the influence of gender, age and municipal factors. By using data from Statistics Sweden and a regression analysis model, the study aimed to identify patterns and trends in self-employment. The analysis shows that gender as a variable does not have a statistically significant effect on self-employment among the native-born. This result

suggests that differences in self-employment between men and women may not be as prominent as previously assumed, or that factors other than gender play a greater role. Despite this, in the example municipality with the code 980, a clear overrepresentation of male self-employed persons is observed. This local trend may indicate that municipality-specific factors may have a more important role in shaping self-employment than gender per se.

Data from municipality 980 shows a significant gender difference in self-employment, with a higher proportion of male self-employed. This suggests that there may be municipality-specific factors that influence self-employment. These factors may include local economic conditions, access to resources and networks and support structures that may be more accessible to men than women. The influence of age on self-employment could not be assessed in this study, as all data were focused on a specific age group (20-65 years). To gain a better understanding of the role of age, future research would need to include a more varied age distribution or treat age as a continuous variable.

The study emphasizes that self-employment is a complex phenomenon that can be influenced by a variety of factors. While gender was not found to be a significant factor at the national level, it may still play an important role at the local level, as in the example of municipality 980. This highlights the need for further research that takes into account local and regional differences, as well as a more comprehensive set of variables to understand the full spectrum of factors affecting self-employment in Sweden.

Summary and comparison

This summary and comparison aims to analyze and contrast the results from regressions of self-employment among foreign-born and domestic-born in Sweden. By examining the influence of variables such as gender, age and municipal factors, this comparison offers insights into how these groups differ in their self-employment.

Foreign-born

Gender: For the foreign-born, gender may play a more important role in self-employment because of cultural, social and economic factors that influence their experiences in the new country.

Municipal impact: Local conditions, such as integration services, language barriers and recognition of foreign qualifications, can have a significant impact on self-employment among the foreign-born.

Age: Age can affect self-employment among the foreign-born in different ways, depending on their time in the country, experience and resources.

Native-born in Sweden

Gender: The regression results showed that gender was not a significant factor for self-employment among the native-born. However, gender-specific factors at local levels, as observed in municipality 980, may point to a certain difference.

Municipal impact: The variation in self-employment between municipalities points to local economic conditions and support systems playing a role. In municipality 980, an overrepresentation of male self-employed workers was observed.

Age: The effect of age on self-employment could not be evaluated due to a lack of detailed age data.

Comparison between foreign and domestic born

Influence of gender: While gender was not found to be a significant factor for the native-born, it may be a more prominent factor for the foreign-born, especially when cultural and social aspects are taken into account.

Municipal factors: These factors can have a varying impact on foreign-born compared to domestic-born, as they can be affected by different factors in their respective municipalities.

Age: Age may play a more complex role for the foreign-born than for the native-born, depending on how long they have been in the country and their integration into the labor market.

In summary, the comparison between foreign-born and domestic-born in self-employment offers a unique insight into how different factors affect these two groups in different ways. While some trends may be common, such as municipal influencing factors, there are distinct differences, especially in the influence of gender and cultural aspects. This highlights the need for targeted strategies and policies to support self-employment in different demographic groups.

Termination

This comprehensive review of self-employment among foreign-born and native-born in Sweden has highlighted important aspects and differences in how different demographic and socio-economic factors affect entrepreneurship. By analyzing variables such as gender, age and municipal factors, the study has not only contributed to a deeper understanding of current trends in self-employment, but also pointed to areas where further research and policy action is needed.

Prominent in this analysis is the realization that self-employment is a complex and multifaceted activity, influenced by a variety of factors ranging from individual to societal levels. Particularly significant is the discovery of differences in how the foreign-born and native-born approach self-employment, which underscores the importance of purposeful and inclusive strategies that can address the unique challenges and opportunities within each group. For future research and policy development, it is important to recognize these differences and work towards creating an environment where everyone, regardless of background, has equal opportunities to run and develop their businesses. This means that everything from access to finance and training to supporting a positive business climate at both local and national level must be taken into account.

In conclusion, by continuing to explore and understand these dynamics, Sweden can strengthen its economic landscape and foster a culture of diversity and innovation in self-employment, which is critical to the country's continued economic health and social welfare.

The regression analysis in a larger context

This regression analysis of self-employment among foreign-born and native-born in Sweden provides important insights that extend beyond the numbers and into the core of society. By examining how factors such as gender, age and municipal conditions affect entrepreneurship, this study offers a deeper understanding of the socio-economic mechanisms that shape Swedish business life.

Broader socio-economic implications

Labor market dynamics: The study's results highlight how the labor market for entrepreneurship can differ depending on demographic factors. This is particularly relevant at a time when economic diversity and inclusion are becoming increasingly important.

Policy and social planning: The insights from this analysis can provide guidance for policy developers and social planners to create more inclusive and effective support systems that promote self-employment among different population groups.

Understanding cultural and demographic factors

Integration and diversity: For foreign-born entrepreneurs, there may be unique challenges and opportunities that are influenced by cultural background and the integration process. This analysis highlights the need to understand these dimensions to better support this growing segment of the workforce.

Equality in business: The differences in self-employment between men and women, especially in specific municipalities, point to the need to continue working towards equality in business.

Strengthening local economies

The role of municipalities: The results show that local factors can have

a significant impact on self-employment. This underlines the importance of municipalities developing tailored strategies to promote self-employment and economic growth.

Future research paths

In-depth analysis: This study opens up for further research that can include more variables and detailed data, which would provide an even richer understanding of the entrepreneurial landscape in Sweden.

Innovation and Growth: By understanding the driving forces behind self-employment, Sweden can continue to promote innovation and economic growth, which is crucial in an increasingly globalized world.

In conclusion, this regression analysis not only provides a snapshot of the state of self-employment in Sweden, but also offers valuable insights that can inform future decisions, policies and research. It is through such detailed and thought-provoking analyzes that we can work towards a more prosperous and inclusive society.

The relationship between employment rate and multiple independence

Variables in Sweden: An analytical survey

In this section, the article will explore the relationship between employment rate and a number of independent variables based on the data and analyzes presented earlier in the article. The article will examine how these variables, including length of stay in Sweden, reason for immigration, immigration background, gender, age and geographic location, interact and influence the employment rate among immigrants in Sweden. By analyzing these connections, you gain a more comprehensive understanding of the factors that affect the employment situation for immigrants and can draw important conclusion about integration in the labor market.

Length of stay in Sweden

A central factor that clearly affects the employment rate among immigrants in Sweden is the time they have spent in the country. This variable provides valuable insights into the understanding of labor market integration and how it develops over time.

The results of the analysis clearly show that length of stay in Sweden has a significant impact on the employment rate. The longer individuals have lived in Sweden, the higher the probability that they are employed. This observation confirms and deepens previous research that has found similar relationships [17].

There is a clear pattern where new arrivals, with a short stay (0-9 years), have a lower employment rate. Women in this category have a particularly challenging situation with only 29.8 percent being employed, compared to 56.1 percent of men. This difference can be explained by several factors, including adaptation challenges in a new country, language barriers and difficulties in translating qualifications and experience from the home country to the Swedish labor market.

Interestingly, over time the employment rate increases significantly. When looking at those with a length of stay of 20-29 years, the employment rate appears to be stabilizing. This observation indicates a gradual integration into the labor market over time. Furthermore, the gender differences become less prominent the longer the individual has lived in Sweden. For those with the longest periods of stay, the employment rate is about the same for both men and women, around 80 percent. This suggests that, over time, both male and female refugees and relatives reach a higher and more even degree of integration in the labor market.

The results of this analysis provide important insights into the integration process and clearly emphasize the critical importance of residence time. Integration into the Swedish labor market is a process that takes time and involves several steps. It is therefore essential to adapt and direct integration strategies depending on how long individuals have been in the country. In order to support new arrivals and improve their employment prospects, it is important to focus on reducing the obstacles and challenges they face during their first years in Sweden.

Reasons for immigration and its impact on the employment rate

Reason for immigration is another central variable that has been shown to have a significant impact on the employment rate among immigrants in Sweden. By analyzing and understanding why individuals choose to migrate to Sweden, you can shed light on the specific challenges and opportunities that different immigrant groups face. The results of my study confirm that reasons for immigration are a key factor in immigrants' labor market integration [18]. Immigrants who moved to Sweden for humanitarian reasons, such as refugees and relatives of refugees, had a significantly lower employment rate compared to those who came for other reasons, such as work or studies.

It is clear that those who come to study or work have a higher initial employment rate, while refugees and relatives of refugees face significantly greater challenges in finding work. This difference can be partly explained by differences in labor market preparation and opportunities. Those who come for work or study have often already secured jobs or study places before they arrive in Sweden, while refugees may lack these preparations. It is also worth noting that immigration background and reason for immigration are closely linked factors. Those who immigrated for work-related reasons tend to have a higher employment rate regardless of immigration background. On the other hand, refugees and relatives of refugees, regardless of their previous professional experience or education, often face difficulties in immediately joining the labor market.

This insight emphasizes the need for tailored support and integration programs that take into account the specific challenges that different immigrant groups may face depending on their reasons for immigration. Offering language training, vocational training and labor market-oriented resources is crucial to facilitate the integration of those who come for humanitarian reasons and thereby improve their employment prospects in Sweden.

Gender-related differences in employment rates

Gender plays a significant role in the context of employment rate among immigrants in Sweden. The results from a study and previous research [19] have clearly shown differences in employment rates between men and women. Generally speaking, men show higher employment rates compared to women within the immigrant groups. This gender difference pattern is also found among native-born Swedes, but is often more noticeable among immigrants. There are several factors that can explain these differences:

Language skills: Women who immigrate to Sweden can sometimes have lower language skills than men, which can limit their opportunities on the labor market. Improved language skills are essential for finding a job and integrating into society.

Education: Differences in education level can affect employment rates. Men sometimes have higher levels of education, which can open doors to highly skilled jobs and better wages.

Parenting and caring responsibilities: Women can often take on greater responsibility for children and family, which can affect their availability for work and their choice of working hours and occupations.

Discrimination and prejudice: Despite progress in gender equality work, there is still gender-related discrimination in the labor market. Women may face barriers and prejudices that affect their ability to find and keep jobs.

It is important to recognize and address these gender differences in employment rates to promote equality and inclusion in the labor market. It requires measures such as language education and vocational training for women, promoting workplaces with equality and fighting discrimination. The article emphasizes that a deeper analysis of gender differences within immigrant groups is necessary to create justice and equal opportunities for all immigrants, regardless of gender.

The influence of age on the employment rate

Age is an important variable when examining the employment rate among immigrants in Sweden. My study has found that age has a significant impact on the level of employment and this result is in line with previous research [19].

Youth unemployment: Immigrants aged 18 to 24 often have higher unemployment than older age groups. This may be due to a lack of work experience and limited access to highly qualified jobs. Youth unemployment is a known problem in many countries and it also affects the immigrant population.

Older workforce: Older immigrants, especially those over 50, may face challenges in the labor market. Age discrimination is a problem and older immigrants may find it difficult to find work or stay in the workforce for longer.

Age-related education: Age can also be related to education level. Younger immigrants have usually recently completed their education, while older immigrants may have older or foreign educational qualifications that are not fully recognized in Sweden.

In order to improve the employment rate of immigrants in all age groups, it is important to take into account these age-specific challenges. This may mean offering vocational training and education for young people, combating age discrimination in the labor market and offering opportunities for older immigrants to update their skills and adapt to the Swedish work environment. By adapting the labor market policy to the needs of different age groups, Sweden can work towards a more inclusive and fair labor market for immigrants of all ages.

Geographical location and employment rate

Immigrants in Sweden, which is evident from the article's results and previous research [19] here, the article will explore this connection in more detail:

Urban vs. rural: One of the most obvious observations is the difference between urban and rural areas. Larger cities such as Stockholm generally have higher employment rates for immigrants than more remote or less urbanized areas. This may be due to more work opportunities, a wider range of jobs and greater proximity to education and resources in the cities.

Regional variations: My results show that the employment rate varies significantly across different national regions in Sweden. For example, the Stockholm region has a higher employment rate among immigrants than regions such as Mellersta Norrland or Norra Mellansverige. This regional variation can be influenced by economic factors, availability of jobs and labor market structures.

Migration patterns: Immigrants tend to move to areas where they have family or established communities with similar cultural backgrounds. This can create concentrations of immigrants in certain regions, which in turn can affect employment rates. If there are few job opportunities in these areas, it can lead to higher unemployment among immigrants.

In order to improve the employment rate for immigrants in Sweden, it is important to develop strategies that take geographical variation into account. It may include promoting job opportunities in less urbanized areas, offering training and support to immigrants living in areas of high unemployment and promoting a more even regional distribution of labor and resources. By recognizing and addressing the geographical dimensions of unemployment and employment, Sweden can work towards a more balanced and fair labor market for all immigrants regardless of where they live.

Age and employment rate

Age is another important variable that affects the employment rate among immigrants in Sweden and its impact is multifaceted:

Youth unemployment: The article's findings show that younger immigrants, especially those aged 15-24, tend to have higher unemployment than older age groups. This is a trend that is well documented in the Swedish labor market in general. This may be due to a lack of work experience, limited access to education, or discrimination in the hiring process.

Intermediate areas: For immigrants in the 25-54 age groups, unemployment is generally lower than for the younger age groups. This may be partly due to the fact that those in this age group have had more time to integrate into the labor market and acquire relevant work experience.

Older Immigrants: The age group over 55 shows a different dynamic. Here, the length of stay in Sweden can be a significant factor. Those who have been in Sweden for a longer period of time may have better chances of finding work, while newer immigrants in this age group may encounter challenges entering the labor market due to age and potential lack of language skills.

To reduce age-related unemployment among immigrants, it is important to implement strategies that target different age groups. It may include special education and working life programs for young immigrants, promoting lifelong learning for older immigrants and combating age discrimination in the workplace. It is also relevant to take into account that unemployment is not a uniform experience across the ages and different age groups may require tailored support measures to improve their chances in the labor market.

Geographical location and employment rate

Geographical location is a significant factor that affects the employment rate among immigrants in Sweden. The results from my study indicate clear variations in the employment rate depending on national region. Here are some key observations:

The Stockholm region: The Stockholm region stands out as the region where the employment rate among refugees and their relatives is the highest. This can be explained by Stockholm's status as Sweden's economic and cultural center. Here there are more job opportunities, a larger business network and a higher proportion of highly qualified jobs. In addition, many support resources and integration programs are concentrated in this region.

Middle Norrland and North Central Sweden: On the other hand, Middle North and North Central Sweden show the lowest employment rates for refugee immigrants. These regions have a relatively low proportion of residents who are categorized as refugee immigrants and are at the same time more remote and less urbanized. These points to challenges linked to the structure of the labor market, available jobs and potentially less integration resources.

Regionally adapted regions: The results underline the importance of tailoring integration strategies and labor market initiatives based on the unique needs and conditions of each region. It is necessary to focus not only on the larger cities but also on supporting the labor market and integration in less urbanized areas.

Geographical differences in the labor market: This geographic variation emphasizes the complex dynamics between migration, the labor market and geographic location. Larger cities such as Stockholm tend to offer more job opportunities and better networks, while smaller cities and rural areas may encounter challenges linked to the structure of the labor market and the availability of jobs.

To improve the employment rate among immigrants, it is important to take into account these regional differences and adapt measures to meet the specific challenges in each area. This may include promoting local economic development, increasing educational and vocational training opportunities and supporting entrepreneurship in less urbanized regions.

Summary and Conclusion

In this section, several important variables that affect the employment rate among immigrants in Sweden have been explored [10]. Through analysis of data and previous research, a deeper understanding of how these variables, including length of stay in Sweden, reason for immigration, immigration background, gender, age and geographic location, work together to shape immigrants' employment situation has been obtained [19].

The results indicate that length of stay in Sweden is a central factor, where a longer time in the country is positively correlated with a higher employment rate [20]. Reasons for immigration have also been found to be significant, with immigrants' reasons for migration being an important variable affecting their labor market integration.

Additional factors such as immigration background, gender, age and geographic location also have a significant impact on the employment rate. It is important to note that these variables do not act in isolation, but rather interact in complex ways. Geographical location, in particular, highlights the

importance of considering regional differences in labor market policies and support measures [18].

In summary, the results indicate that the employment rate among immigrants in Sweden is a result of many factors working together. To promote more effective labor market integration, it is necessary to take into account these variables and their complex interactions. This increased understanding can be helpful to policy makers and researchers as they shape more precise and effective measures to support immigrants in their quest to become an integrated part of the Swedish workforce.

Results and Discussion

In light of the collected data and the previously conducted literature review [3] it becomes necessary to carefully review the various factors that can affect the employment rate among immigrants in Sweden. Several research works [21] have previously pointed to a number of determinants that can influence the employment prospects of immigrants. These include their length of stay in the country, their reasons for migration, their geographic location, as well as demographic factors such as gender and age.

Interpretation of the results in the light of the literature review

After reviewing the results in the light of the previously conducted literature review, some interesting observations emerge. Many of the findings in this study are consistent with previous research showing that length of stay in Sweden has a significant impact on the employment rate among immigrants [14]. Reason for immigration, previously identified as a key factor in immigrants' socio-economic integration, has also been confirmed in this study as an important variable.

When the results from the current study are considered based on the previous literature, several nuanced insights emerge. This study highlights that length of stay in Sweden plays a decisive role in the employment rate among immigrants, which supports the findings presented by Hjerm M [17]. Furthermore, earlier claims are confirmed that the reason for immigration, which is often about the underlying motives for why individuals choose to migrate, can function as a determining factor in immigrants' labor market integration.

Beyond these main points, the current study also provides a deeper understanding of how other factors such as gender, age and geographic location interact and affect the employment rate. This multidimensional consideration provides a more comprehensive picture than previous research. It is particularly relevant to note how geographical differences, with a particular emphasis on the Stockholm region compared to more distant areas such as Mellersta Norrland, emerge as significant factors in the integration process. This insight complements previous research by Andersson L, et al. [3] who pointed out that geographic and urbanizing factors can affect immigrants' work opportunities and socioeconomic status in Sweden.

Answers to the research questions

1. The length of stay in Sweden and reasons for immigration play a decisive role in the employment rate. The longer time immigrants have spent in Sweden, the higher the probability that they are employed.

The study's results indicate that length of stay in Sweden and the reasons behind immigration are central factors that affect immigrants' employment rate. It is clear that the employment rate increases the longer immigrants have stayed in the country. This insight underlines the importance of time for assimilation and adaptation to the Swedish labor market.

2. Regarding immigration background, gender, age and geographical location, the results show that these variables have a noticeable impact on the employment rate. Specifically, gender and geographic location appear to be of greatest importance, with women and those living in more remote regions generally having lower employment rates.

As regards the variables immigration background, gender, age and geographical location, these appear to be significant determinants of the employment rate in Sweden. Among these variables, gender and geographic location seem to have the most prominent impact. The results show a systematic difference between men and women, where women generally tend to have a lower employment rate. Geographically, it also appears that individuals living in more remote or less urbanized regions find it more difficult to achieve the same employment levels as those in larger cities.

Gaps in previous research

This study fills an important gap in the existing literature by combining several variables (immigration reason, length of stay, immigration background, gender, age and geographic location) to provide a more comprehensive picture of factors affecting the employment rate. While some previous studies have looked at some of these variables separately [22] this research offers an integrated view of how they interact.

The current study contributes significantly to elucidate and cover areas that have previously been insufficiently explored. Although previous research has touched on the importance of certain variables, such as reason for immigration or length of stay, with regard to the employment rate of immigrants in Sweden [22] it has rarely been in a combination presented here. By integrating several important variables – reason for immigration, length of stay, immigration background, gender, age and geographic location – this study offers a more nuanced and comprehensive picture of the situation. This enables a deeper understanding of the complex relationships and interactions between these factors. This research therefore highlights and highlights the importance of considering these variables not only in isolation, but also in relation to each other, in order to understand their collective impact on immigrant employment rates.

Limitations

As with all research, there are some limitations to this study. The data set could have limited the ability to draw broad generalizations, especially in regions with fewer immigrants. Furthermore, although this study covers a wide range of variables, there may be other undetected variables that may also have an impact on the employment rate. Despite the study's extensive and detailed analysis, the reader should be aware of some inherent limitations. First, although the data set is extensive, its composition and distribution may have influenced the results. Especially in regions where the immigrant population is small, the results can be distorted or give an incomplete picture. This, in turn, may limit the ability to draw generalized conclusion for the entire country or for specific subgroups of immigrants [23-30].

Second, although the study takes into account a wide range of variables, it should be noted that there is always a risk that there are additional variables that have not been included, but which may affect the employment rate. It could be, for example, socio-economic factors, level of education and network in Sweden or previous work experience, which may not always appear clearly in such analyses. Therefore, future research should perhaps also focus on these aspects to provide an even deeper understanding of the subject [31-39].

Conclusion

In the light of the scope and depth of the study carried out, certain central insights about the employment rate among immigrants in Sweden emerge. First, the importance of length of stay for the employment rate among immigrants is undeniable. A longer stay in Sweden was found to be closely linked to a higher employment rate, which reflects a progressive integration into the Swedish labor market. This reasoning is supported in previous work by Kloosterman and Rath, but this study contributes to elucidate this connection with greater precision.

Second, by examining reasons for immigration, this study has highlighted how the reasons behind an individual's decision to immigrate can influence their employment trajectories. This result is particularly relevant in the Swedish context, where different waves of immigration have been linked to different

global events and crises. Understanding this dynamic relationship helps clarify the particular challenges and opportunities each immigrant group may encounter. In addition, the study offers a valuable insight by simultaneously considering several variables such as immigration background, gender, age and geographical location. These factors, when combined, highlight a complex web of influencing factors that affect an individual's likelihood of being employed. Particularly prominent was the discovery of the importance of geographic location, which suggests that some regions in Sweden offer better opportunities for immigrants than others, possibly due to socio-economic dynamics or access to labor market resources Hjerm.

Finally, this study serves as an important reminder that isolated variables, while important, cannot provide a complete picture of immigrants' employment experiences. Instead, it is by intertwining these threads that one can begin to understand the rich tapestry of factors that shape the economic life of immigrants in Sweden. After careful analysis of the collected data, a clear pattern emerges regarding the factors that affect the employment rate among immigrants in Sweden. The study's main results clearly show that length of stay in Sweden plays a critical role in an individual's level of employment, where a longer length of stay correlates with a higher level of employment Knocke.

Reason for immigration, previously identified as a key variable, has been confirmed in this study as a tangible factor for socio-economic integration. Furthermore, the combination of immigration background, gender, age and geographic location has a decisive impact on the employment rate, again underscoring the importance of looking at the composite picture rather than isolated variables.

Recommendations

Given the results of this study, there is a clear need for further research that builds on these findings. Specifically, it would be worthwhile to explore the impact that additional socioeconomic factors, such as educational attainment and personal networks, may have on the employment rate among immigrants. Furthermore, from a policy perspective, policy makers should consider these results when formulating and implementing labor market policies. An understanding of the combined effects of these factors can help create more targeted and effective programs to support immigrants' integration into the labor market. Given the central role played by geographical location, particular focus should be placed on supporting those regions where the employment rate among immigrants is lower.

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Conflict of Interest

None.

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