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First- & Second-generation immigrants in Sweden

- A study on self-employment



Authors: Carina Tran
Sandra Morad
Supervisor: Lina Aldén
Examiner: Mats Hammarstedt
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Abstract

This paper analyses the probability that first- and second-generation immigrants in Sweden enter the self-employment market, and the propensity of being self-employed in certain industry levels. Furthermore, whether the motives and characteristics for choosing self-employment differ between generations by including control variables. To solve this thesis question, a cross-sectional sampling from the European Social Survey database between the years 2010 to 2018 and the Linear Probability Model was used. The result in this study indicated that the propensity to become self-employed is not significant between the analysed generations. Concluding that first- and second-generation immigrants have an equal amount of activeness in self-employment and that all characteristics have an effect on their propensity to become self-employed. The generations being self-employed in the low-barrier industry is dependent on their educational level. It was found that females had the highest probability of being self-employed in comparison to males. However, a drawback of this study was the sample size which was significantly small and also the multiple variables that were insignificant.

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Keywords

Self-employment, first-generation immigrants, second-generation immigrants



Table of content

1. Introduction	3
2. Immigrants in Sweden	5
3. Theoretical framework	7
3.1 Occupational choice & Push and pull	7
3.2 Disadvantage theory	7
3.3 Home-country self-employment hypothesis	8
3.4 Intergenerational transmission of skills	8
3.5 Ethnic enclaves	9
3.6 Summary of hypotheses	9
4. Literature review	10
5. Data	13
5.1 Descriptive statistics	14
6. Empirical framework	17
7. Result	20
8. Discussion	25
9. Conclusion	28
10. Reference list	31

1. Introduction

According to previous research, immigrants who work for themselves are overrepresented in several countries (Borjas, 1986; Fairlier and Meyer, 1996; Clark and Drinkwater, 2000; Hammarstedt, 2001). Immigrants who arrived in Sweden in the mid-1970s have a considerable over-representation in self-employment, which is due to disadvantages in the labour market that are considered as push and pull factors (Klinthäll and Urban, 2014). Self-employment became the only option, limiting the employment options for the children of the first-generation immigrants. Wage employment does not offer the same kind of benefits that self-employment may do for immigrants of both first- and second-generation. The longer immigrants spend in the host country, the more likely they are to enter self-employment due to the disadvantages (Borjas, 1986). This can be seen by looking at how beneficial self-employment can be for different immigrants in terms of flexible hours, simple solution to unemployment, avoidance of disadvantages such as discrimination. Additionally, because of their home nation's high self-employment rates, immigrants are equipped with intergenerational skills that will help them succeed in the host country. Because of these disadvantages, immigrants are more likely to create many enterprises in ethnic enclaves where they have a large co-ethnic network (Fairlier and Meyer, 1996).

According to previous research by Abada et al. (2013), parents with a high level of education have a greater chance of encouraging their offspring to acquire the same degree of education in the host nation. This may urge them to pursue self-employment as an entrepreneurial goal, but first-generation immigrants may be more motivated to do so due to other variables such as pay and prejudice. The inability to use their home country education in the host country is another reason why immigrant fathers are forced into self-employment. This is because a foreign education outside of Europe may not be of the same calibre as the host country's education (Abada et al., 2013). As a result, due to the foreign-obtained degree, it is difficult to obtain paid employment (Ram et al., 2008). This could account for the overrepresentation of first-generation immigrants in the self-employment sector (Fairlier and Meyer, 1996). The educational level and industry in which an individual works can influence whether or not they enter a low-barrier or high-barrier industry, as well as why they do so. Personal services, miscellaneous services, and other low-barrier sectors are examples of low-barrier industries (Lofstrom and Bates, 2013). According to the authors, the majority of people who start enterprises in low-barrier industries have a lower level of education and



wages. While the high-barrier businesses are primarily held by those with a higher education and greater wages (Lofstrom and Bates, 2013).

More recent studies have shown that unemployment rates have decreased slightly as a result of being pushed and pulled into self-employment (Andersson and Hammarstedt, 2011). This is crucial to consider when studying first- and second-generation immigrants, as well as how they integrate into the host country's labour market. Although first-generation immigrants have a weaker network in the new country's labour market, they can nevertheless influence the decision of their ethnic community's second-generation to be self-employed. There have been a few studies that have looked at second-generation immigrants, but they have mostly focused on the benefits of having a wage job, which could explain why self-employed people differ from first-generation immigrants. While also recognizing that the first-generation immigrant may have an impact on the second-generation immigrant's decision to enter the labour market (Borjas, 1992), this study will track the impact of the push and pull forces on their decisions. The talents and incomes of successive generations are inextricably linked, resulting in skill disparities for many generations to come (Borjas, 1992).

As a result, the purpose of this article is to investigate the likelihood of first- and second-generation immigrants in Sweden being self-employed, as well as if the motivation for doing so differs between generations. Individuals who were born outside of Sweden and moved to Sweden are considered first-generation immigrants. Second-generation immigrants are people who were born in Sweden but whose parents were born elsewhere. It is important to note that we don't research actual parents and children. An estimation will be applied using a number of variables from the ESS database (European Social Survey database) to determine whether there are differences in the propensity to be self-employed for first- and second-generation immigrants, as well as whether the first-generation has a higher chance of being self-employed than the second-generation when controlling for the control variables (age, gender, education etc).

The second question that this study will address is if generations tend to be self-employed in the same industry and if there are any differences in tendency to be self-employed in high or low barrier industries. Finally, the third issue is to identify what qualities lead them to choose to be self-employed, and whether this is attributable to age, gender, educational level, marital status, number of children, or geographic location.

The remains of this paper will first of all present immigrants in Sweden. Secondly, a theoretical framework in regards to first- and second-generation immigrants, their propensity to be in self-employment, will be presented. Thirdly, the previous research on the chosen



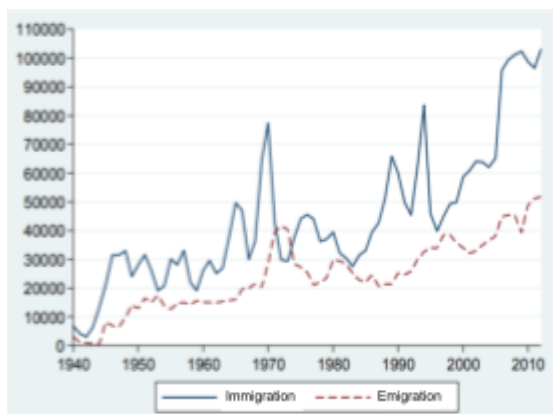
topic will be introduced. Fourthly, a collection and analysis of relevant data and descriptive statistics are presented. Then the empirical method will be described in the next section where the focus will be put on the statistical method. Lastly, the presentation and discussion of the result, and then the conclusion.

2. Immigrants in Sweden

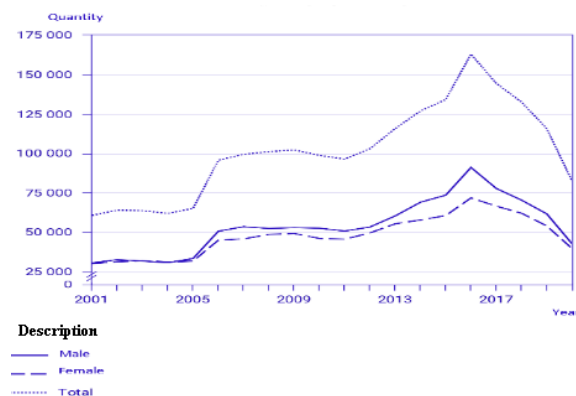
Factors such as migration have had a significant impact on the economic and social structure in recent years (Andersson and Hammarstedt, 2015). Sweden has evolved from being a destination for emigration to becoming noted for its immigration levels. After World War II, the rate of immigration began to rise in the late 1940's. As a result of the influx of war refugees from Nordic nations as well as Central and Eastern Europe, Sweden's economy and industry grew. They were also shown to have a higher level of education than native-born people (Gerdes and Wadensjö, 2013). They not only excelled in the educational field, but they also made significant contributions to the labour market.

During these times, the employment rate was relatively high, and they had a lower unemployment rate than Swedish natives. However, the number of immigrants from all over the world has increased in Sweden throughout the years. As a result of the Islamic revolution and the Iran-Iraq war in 1980, particularly immigration from the Middle East (Andersson and Hammarstedt, 2015). As a result, the composition of the immigration group changed, and the Swedish labour market altered as well. This resulted in a higher unemployment rate than in the 1950s' and 1960s', and they also became overrepresented in the low-wage group due to their difficulty entering the labour market (Andersson and Hammarstedt, 2011).

Diagram 1: Immigration & Emigration in Sweden between 1940-2010 **Diagram 2:** Amount of immigrants from year 2000



Source: SCB, 2021



Source: SCB, 2021



However, as seen in diagram 1, Sweden's immigration rose from 1940 to 2010. Immigration is represented by the blue straight line, whereas emigration is represented by the red straight line. With migrants from both European and non-European nations, immigration has steadily increased. It is notably evident in the years 1970, 1995, and 2005, when immigration grew at an exponential rate. Non-European immigrants from Latin America and Asia accounted for the majority of the rise in the 1970s. Continuing, the civil conflict in the former Yugoslavia was the primary cause of the exponential surge in migration to Sweden in the 1990s. Following that, the conflict in Afghanistan resulted in a massive influx of immigrants in the early 2000s (Andersson and Hammarstedt, 2014).

The later years of migration in Sweden are depicted in Diagram 2. In 2015-2016, immigration spiked dramatically, leading to the so-called "refugee crisis." In 2015, Sweden welcomed over 163 000 asylum seekers; however, due to tighter border controls between Turkey, Greece, and Europe, the number of immigrants quickly fell in late 2015 and early 2016. (Mucf.se, 2019).

Table 1 displays data from the authors Andersson and Hammarstedt investigation on origin regions (2014). Immigration in Sweden has evolved over time as a result of macroeconomic changes and changes in the region of origin. From 1950 to 1980, Sweden was dominated by immigrants from the Nordic nations. However, whereas immigration from Nordic nations has dropped over time, immigration from non-European countries has increased. Non-European immigrants accounted for almost 12% of foreign-born immigrants in 1980, but accounted for around 59 percent in 2018, owing to the refugee crisis in 2015-2016.

Table 1: The proportion of foreign-born in Sweden distributed by region of origin 1950-2018.

Region of origin	1950	1960	1970	1980	1990	2000	2012	2015	2018
Scandinavia	50.1	58.1	59.7	40.3	27.9	27.9	17.4	16.3	14.6
European	43.2	37.0	34.9	33.8	32.1	32.9	34.2	24.3	26.1
Non-European	6.7	4.9	5.4	11.8	27.6	39.2	48.4	59.4	59.3
Total	100	100	100	100	100	100	100	100	100

Source: Andersson and Hammarstedt, 2014; SCB, 2021.



According to OECD statistics, Sweden has a lower unemployment rate than the rest of Europe. In comparison to the rest of Europe, Sweden has a greater rate of immigrants and youth unemployment (OECD, 2021).

3. Theoretical framework

3.1 Occupational choice & Push and pull

The employment choice of immigrants must be examined in order to comprehend their motivations to become self-employed. The core premise of this theory is to compare the projected benefits of self-employment to those of a different occupation, for instance wage work. Factors such as high unemployment rates, language obstacles, education levels, and prejudice, according to Fairlier and Meyer (1996), may encourage immigrants to enter the self-employment sector. However, the incentives of entering self-employment may differ between generations. Some factors are push factors, where immigrants have no other choice than to enter self-employment due to disadvantages in the labour market, while pull factors encourage immigrants to choose the path of self-employment. One form of a pull factor that increases incentives to enter self-employment because of an opportunity (Abada et al., 2013), is when the predicted benefits from self-employment are more than what wage-employment can provide.

3.2 Disadvantage theory

The disadvantage theory is a push factor for first-generation immigrants, which explains how disadvantages in the labour market forces immigrants who are not born in the host-country to enter self-employment (Fairlier and Meyer, 1996). This theory explains why the disadvantage theory forces first-generation immigrants to choose to be self-employed. Due to the many different obstacles and disadvantages that first generation immigrants come in contact with when they arrive in the host country, entrepreneurship is considered the only way that first generation immigrants can bring in some form of income for everyday expenses (Fregetto, 2004). When they reach the host country, they come into contact with human capital that they do not have available. These human capitals are crucial to gaining access to a regular wage job, they are structural barriers such as lack of language skills and levels of education. Subsequently, there are also disadvantages for the immigrant's mobility in the labour market, such as discrimination and poverty. This is because immigrants have no insight into the culture of the host country. They therefore have no knowledge of the labour market. As a



result, first-generation immigrants find themselves in a dilemma where they either opt out of the labour market altogether and are unemployed, or they choose to open their own companies with the help of their previous experience from their home country. Hence, this theory is considered a push factor where the immigrant has no selectable alternatives, it is a choice of survival. Due to these factors a high representation of first-generation immigrants in the self-employment market is expected (Light, 1972).

3.3 Home-country self-employment hypothesis

Another idea proposed by Lights (1984) is that migrants' motivation for self-employment is linked to the substantial self-employment sector in their native country. This hypothesis explains why immigrants choose to work for themselves in their new country, and that is because they have acquired entrepreneurial abilities. These abilities are pull components that would benefit these individuals more in self-employment than in wage employment (Lights, 1984). With an increase in entrepreneurial skills among immigrants, the likelihood of becoming self-employed rises as well. This is primarily due to the abilities that persuade immigrants to pursue self-employment (Andersson and Hammarstedt, 2011). Self-employment in the home country might influence immigrants' willingness to work for themselves in the new nation in a variety of ways. One of the most crucial considerations is relative incomes. What's more, their preferences and cheaper start-up expenses are essential because immigrants are more effective in self-employment than they are in wage employment (Hammarstedt and Shukur, 2009; Yuengert, 1995).

3.4 Intergenerational transmission of skills

Intergenerational skill transmission may be one reason why immigrants from certain countries have a higher rate of self-employment. The outcome of this theory influences the second-generation into being self-employed in the host country where the family has an important role in the transmission of skills (Hundley, 2006). From their parents, the second-generation will have to learn self-employment skills or any specific human capital, such as networks or business management. They can later, implement these skills to either take over the company, start a business or inherit the parents' network. The first-generation will then have an impact on the second-generation immigrants in acquiring informal business experience, and then in turn increase the propensity of second-generation to be self-employed (Hundley, 2006; Laband and Lentz, 1983). Continuing, another research shows that the self-employment skill inherited from previous generations could result in the transmission of



skills throughout the generations (Hout and Rosen, 2000). Therefore, contributing to a higher probability of the next generation choosing the self-employment path since they have been exposed to it.

If the first-generation achieves greater financial success, they are more likely to pass on their riches to the second-generation. As a result, the second-generation of a successful self-employed first-generation may have a higher likelihood of being self-employed than others. This could function as a pull factor for them and enhance their chances of becoming self-employed (Evans and Jovanovic, 1989). This, in turn, can answer the question of whether future generations are more likely to be self-employed, and what industry they choose to work in, which is related to the sort of human capital that is passed down to the next generation. This is why intergenerational skill transmission is so crucial.

3.5 Ethnic enclaves

Ethnic enclaves, according to Borjas (1989), are a group of immigrants who arrived from the same nation, speak the same non-Native language, and dwell in the same municipality. Immigrants in ethnic enclaves have both positive and negative aspects. Immigrants who live in the municipality have access to information that locals do not. As a result, immigrants have an advantage in the area and can provide products and services to ethnic enclaves that natives cannot. As a result, they could only cater for co-ethnics living in the same municipality if they were self-employed (Borjas, 2016), resulting in a protected market (Aldrich et al., 1985; Light 1972). There is an untapped source of labour in the ethnic enclave that self-employed people can tap into. Self-employed people are more likely to hire co-ethnics in the enclaves, which lowers unemployment and enhances the skills and wages of co-ethnics. The employed can therefore gain a better understanding of the market, allowing co-ethnics to become self-employed as well (Kim, 1999). This implies that ethnic enclaves are a factor that attracts immigrants to work for themselves (Clark and Drinkwater, 2000). However, in a small market like this, this implies more competition. Large enclaves result in a large network, which means that there is a lot of competition. Ethnic enclaves also imply that certain low-income areas can make it difficult for self-employed individuals to succeed (Light, 1979).

3.6 Summary of hypotheses

All of the presented hypotheses have an impact on the likelihood that an immigrant will opt to work for themselves, albeit some have a stronger impact than others. To begin with, the disadvantage theory is the primary factor for first-generations to enter self-employment. As



previously mentioned this is due to the fact that the first-generation immigrants are pushed into self-employment because of the lack of options (Fregetto, 2014). However, the home-country hypothesis will further support the decision since most of the first-generation immigrants have previous knowledge of the market from their home-country (Light, 1984). Second-generation immigrants on the other hand are more pulled into this market based on intergenerational transmissions of skills where this immigrant group gets passed on knowledge from their parents (Hundley, 2006). Meaning that second-generations are more likely to choose the path of self-employment rather than being forced into it. Although first-generation immigrants are more likely to be pushed into self-employment, there are also those who are pulled into the market after settling in. The notion comes into play in the labour market when an immigrant is subjected to a lot of prejudice and/or wage disparities (Fairlier and Meyer, 1996). This is also true of the occupational choice theory, which occurs when the return on self-employment is significantly larger than the return on wage employment (Fairlier and Meyer, 1996).

Ethnic enclaves, however, are seen as more influential on the first-generation immigrants for choosing self-employment. This could be due to the high concentration of ethnics in the same area, where all have the exact same opportunities with the exact same and limited amount of knowledge about the labour market. Looking at the disadvantage theory that was previously discussed, it could be said that based on all the disadvantages a first-generation immigrant has upon arrival in the host-country the choice of self-employment in ethnics enclaves is a superior choice to unemployment. In these areas the immigrant has a large group of individuals without any jobs that can be tapped into. However, living in an ethnic enclave has less of an impact on second-generation immigrants. This is due to the fact that the second-generation is born into the new country, meaning that the latter generation is equipped with the right education to the same degree as the natives. Implying that residing in a ethnic enclave or not has no impact on the supplement of education, all have the same opportunities. If choosing to be self-employed the second-generation may be able to lead more profitable businesses in high-barrier markets with the help of their education, acting as a pull factor.

4. Literature review

The differences in self-employment between first-generation immigrants and natives have been extensively researched. Borjas (1986) was one of the researchers who looked into the



size of the incentives for immigrants to become self-employed. The researchers next used US census data from the 1970s and 1980s to assess how large the incentives for self-employment were among natives. Immigrants had higher rates of self-employment than native-born men, according to the study.

Hammarstedt (2001) investigated the variation in self-employment among immigrants in Sweden using data from the Swedish National Board of Health and Welfare between 1985 and 1990. Borjas (1986) was the first to point out the overrepresentation of immigrants in the self-employment sector. Borjas' finding has been confirmed by researchers both in Sweden and abroad (Hammarstedt, 2001; Andersson and Hammarstedt, 2015; Le, 2000; Clark and Drinkwater, 2008; Abada et al., 2013; Klinthäll and Urban, 2014). Hammarstedt (2001) discovered that the amount of time spent in the immigrant country had a positive link with self-employment among immigrants. This is mostly due to the fact that an immigrant requires time, the correct expertise, and the ability to appraise the labour market in order to start a business. This is relative to the home-country theory which Yuengert (1995) studied in the United States. Yuengert (1995) found that first-generation immigrants that come from countries with a higher percentage rate of self-employment have a higher probability of choosing to enter self-employment in the host country. This was mostly due to the fact that first-generation immigrants tend to be less risk averse because of previous experiences of self-employment in their country of origin. In the beginning of the study Hammarstedt and Shukur (2009) did not find any evidence of the home-country hypothesis in self-employment for first-generation immigrants in Sweden. However, after further research and by using the quantile regression method, evidence of the home-country hypothesis was in the end found. This led them to the conclusion that home-country tradition is an important factor that may impact immigrants' decision to work for themselves in Sweden (Hammarstedt and Shukur, 2009). The following element may be a factor that pulls individuals to self-employment, since it may be viewed as a means out of unemployment (Dana, 2007). Although looking at the study of Fairlier and Meyer (1996) there is no relation between entering self-employment and the home-country hypothesis for the first-generation immigrants in the US. Contradicting what the previous researches found, Fairlier and Meyer (1996) found a connection between the incentives of self-employment and immigrant groups with a higher earning differential. Suggesting that self-employment is not seen as a way out of unemployment due to discrimination or other factors. It is instead a way for immigrants who previously had more advantages to choose a path that includes higher relative returns.

To further explain the decision to be self-employed, Abada et al. (2013) used three



significant elements in their research. Expected earnings differentials (section 3.2), labour market challenges (section 3.1), and ethnic enclaves were among these considerations (section 3.5). Because of high unemployment rates, Abada et al. (2013) concluded that Canadian immigrant dads were more likely to be driven into self-employment. Nonetheless, dads born in Canada were unaffected by high unemployment rates. Instead, they had a bigger predicted wages difference effect, which drove the dads who were born in Canada into the workforce. The authors also found that the incentives to enter self-employment were unrelated to living in ethnic enclaves in Canada.

The Statistics Sweden data, show that second-generation immigrants were just as likely as young people with Swedish-born parents to work for their parents in their family enterprises (Klinthäll and Urban, 2014). This could be related to intergenerational skill transmission, in which parents pass on their entrepreneurial talents to their children. Therefore, the likelihood of the second-generation being self-employed rises (Andersson and Hammarstedt, 2011). Second-generation immigrants, according to Busetta (2018), have a better educational attainment than natives. More so since they will have the same employment prospects as Canadian nationals (Busetta, 2018). This immigrant group has different motivations for starting their own business than their parents. One motivation is that they are more likely to acquire country-specific talents naturally because they are born in the new country (Borjas, 2016). As a result, second-generation immigrants enter the market for a variety of reasons, including entrepreneurial goals, self-determination, or simply the desire to have control over their daily lives (Abada et al., 2013). Another factor contributing to the proclivity for self-employment among second-generation Americans in the United States could be cultural (Marcén, 2014). The inclination is influenced by the origin of the second-generation. If the self-employment rate in the nation of origin is high, it will have a substantial impact on second-generation immigrants. Because of these cultural factors, the author discovered that the children tend to follow in their parents' footsteps.

There is reason to believe that second-generation immigrants tend to feel more part of the society and culture of the new country compared to that of their parents. This is due to the fact that they are born in the new country. Kasinitz et al., (2008) found that second-generation immigrants in the US feel as though they are more “American” than their parents, however, they are not “American” enough in relation to natives Americans. For this reason second-generation immigrants are found to detach themselves from their parents, meaning that they tend to move away from ethnic enclaves when possible. Kasinitz et al., (2009) concluded that, for those with a Chinese home-country, ethnic enclaves do not have an impact



on second-generation to enter self-employment. Instead it was found that Chinese first-generation immigrants are the ones who keep living in the ethnic populated areas.

When studying the difference between the first- and second-generation presence in the low- contra high-barrier industries in Sweden, Efendic et al. (2015) came to the conclusion that both generations tend to be active in different industry sectors. In which the second-generation are more likely to have a more extensive representation in the high-barrier industries. This result shows that children of immigrants are more likely to choose the same paths as natives. Whereas first-generation immigrants have a tendency to enter lower-barrier sectors. The authors thereby drew the conclusion that these tendencies might be the reason why companies of second-generation immigrants have a higher chance of growing at a more increased pace. They found that human capital is not a factor that affects the growth in smaller companies for immigrant groups. However, for larger and more developed businesses human capital, specifically post-secondary education, is the most important deciding factor for growth.

According to Marcén (2014) there is reason to believe that the likelihood of becoming self-employed varies by gender. The fact that second-generation males are not as risk-averse as women contributes to their proclivity for self-employment (Verheul et al., 2012). It is also because men can devote a lot more time to their businesses, as well as because men are expected to provide for their families (Hughes, 2006). Women are attracted to self-employment because of the flexibility it provides. They will be able to govern both their work hours and their home work hours as a result of this (Hughes, 2006). According to the authors, men are more likely than women to start their own business due to cultural and economic factors (Marcén, 2014).

The hypothesis for this study is whether the scale of the control variables (age, education, marital status, children, and region) for immigrants influences their likelihood of being self-employed.

This research will contribute to the study of first- and second-generation immigrants' chances of becoming self-employed. The study question has received only a limited amount of attention. From a broad perspective, the focus has mainly been on self-employment and not respective immigrant groups. Therefore, this study will continue to expand the research.



5. Data

This analysis is backed up by statistical data between 2010 and 2018 from the ESS database (European Social Survey database). The European Social Survey database is a cross-sectional sampling and all their samplings have a random probability due to the importance of comparability. A cross-section data is used because the data only include one time period, however, with multiple analysis units. In regards to the first- and second-generation immigrants data from the years 2010, 2012, 2014, 2016 and 2018 with information on age, gender, marital status, education, children and region was provided in this study. The ESS collects their sampling from September and continues in January the coming year. The entire sample size consists of 0.092 percent of Sweden's whole population. All the chosen respondents are above the age of 15 and are residents of private households. They use the face-to-face sampling method that is conducted by trained interviewers, this use of the method is used to ensure high accuracy. This data contains a lot of variables. Therefore, it is important to implement the variables relevant to the study. In sum, the sample sizes for the generations are not equally as large.

The sample sizes from 2010 to 2018 were 6,226 individuals. After filtering out Swedish natives and other irrelevant data, the sample size went down to 1908. The data set contained a large sample of first-generation immigrants, however, filtering of individuals who were not self-employed minimised the sample. First-generation immigrants went from being a sample of 1463 to 154, and second-generation immigrants were previously 445 and now 48 individuals therefore resulting in a total sample size of 202 individuals.

This study defines second-generation immigrants as born in Sweden with parents born outside of the country. The first-generation is interpreted as immigrants who are residents in Sweden but were born abroad. With the help of these interpretations, an implementation was used to filter away Swedish natives. When creating first- and second-generation immigrant variables, the first step was to find the individual's parents' birth country that is outside of Sweden. This individual that was born outside of Sweden but lived in Sweden was considered a first-generation immigrant. Then to find the second-generation immigrant, the parents of the individual need to be born outside of Sweden and the individual needs to be born in Sweden to be considered a second-generation immigrant. To be defined as self-employed the individual needs to be defined as such by the ESS database as self-employed in the analysed years. To be self-employed, the individuals need to have chosen “*self-employment*” as their occupation.



Furthermore, this study used the same method as the authors Lofstrom and Bates (2013) did where they categorised the industries into “low-barrier industries” and “high-barrier industries”. Industries like personal-, retail-, miscellaneous-, construction-, transportation- and retail services were categorised into low-barrier industries. While the high-barrier industries were industries like finance-, insurance-, professional-, real estate-, manufacturer-, wholesale-, business- and entertainment services.

A factor that caused the sample size to decrease was the age scale. Respondents under the age of 20 and over the age of 64 were left out to provide a relevant age group when estimating the dependent variable. This was mostly due to it being considered irrelevant to include younger people who may not be in the labour market yet, and also older people who are in retirement age.

5.1 Descriptive statistics

Table 2 is a summary statistic of the first- and second-generation immigrants observed in the sample. Table 2 gives the answer to the first thesis question, whether there are any differences in the self-employed rate between the first- and second-generation. As can be seen, there are no statistically significant differences between the generations, both have a self-employment rate of about 11 percent.

On the other hand, the second-generation immigrants in self-employment had a higher rate in the high-barrier industry at 33 per cent while the first-generation accounted for around 31 per cent. Additionally, when looking at table 2 one can see that the second-generation are less active in a low-barrier industry than the first-generation, this is valid for when looking at the first- and second-generation in self-employment as well as when looking at the first- and second-generation as a whole.

One specific pattern that can be seen in the table below is that the first-generation are more active in the low-barrier industry than the second-generation when observing the first- and second-generation in and out of self-employment.

Table 2: Amount of self-employed in first-and second-generation and industry

	First-generation	Second-generation	First-generation in self-employment	Second-generation in self-employment
Self-employed	0.105	0.108		



	(0.307)	(0.311)		
<i>N</i>	1463	445		
Low-barrier industry	0.351 (0.477)	0.321 (0.468)	0.474 (0.501)	0.438 (0.501)
Medium-barrier industry	0.330 (0.465)	0.349 (0.457)	0.214 (0.428)	0.229 (0.408)
High-barrier industry	0.319 (0.466)	0.330 (0.471)	0.312 (0.465)	0.333 (0.476)
<i>N</i>	1463	445	154	48

Mean coefficients; sd in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(Note: Estimates for the years 2010-2018 were included in the regression.)

Table 3 is a descriptive statistic for first-and second-generation immigrants, educational levels, marital status, gender, region and self-employed.

When comparing the self-employed to not self-employed in the first generation to see whether there are any differences. It can be seen that there are a few characteristics which differ, these are; age, gender, marital status, children and high education are characteristics that stand out slightly more than other characteristics. The self-employed are more likely to be older, female, highly educated and having children than for those not self-employed. Although they are less likely to be married. For the other characteristics, there are barely any differences. The same is true for the second-generation except for two characteristics that can be highlighted and these are marital status and children. Not self-employed first-generation are less likely to be married than self-employed although this is not true for the second-generation. As for having children, self-employed second-generation are less likely to have children than not self-employed where the opposite is true for the first-generation. Moreover, when comparing the differences of the two generations between each other, it can be seen that there are not many distinguishable differences between the two generations.

Table 3: Summary statistics of variables, First- and Second-generation in and out of self-employment



Variables	First-generation		Second-generation	
	Self-employed	Not Self-employed	Self-employed	Not Self-employed
Age	45.82 (11.08)	41.79 (12.62)	46.54 (11.25)	40.15 (13.16)
Female	0.607 (0.489)	0.466 (0.499)	0.667 (0.476)	0.456 (0.499)
High Education	0.519 (0.501)	0.488 (0.500)	0.521 (0.505)	0.476 (0.500)
Medium Education	0.377 (0.486)	0.406 (0.491)	0.438 (0.501)	0.458 (0.499)
Low Education	0.104 (0.306)	0.105 (0.307)	0.0417 (0.202)	0.0655 (0.248)
Married	0.0143 (0.120)	0.0381 (0.192)	0.0328 (0.175)	0.0163 (0.124)
Children	0.242 (0.431)	0.228 (0.419)	0.188 (0.394)	0.212 (0.409)
Northern Sweden	0.117 (0.322)	0.0886 (0.284)	0.188 (0.394)	0.0907 (0.288)
Southern Sweden	0.364 (0.483)	0.338 (0.473)	0.313 (0.468)	0.292 (0.455)
Eastern Sweden	0.370 (0.484)	0.396 (0.489)	0.354 (0.483)	0.426 (0.495)
<i>N</i>	154	1309	48	397

Mean coefficients; sd in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(Note: Estimates for the years 2010-2018 were included in the regression.)

6. Empirical framework

The method used in this study is quantitative with linear statistical methods and probability models. There will be an estimation of the probability to become self-employed by using the linear probability model, that will answer the thesis questions of this study. However, there are some main advantages and drawbacks when using a linear probability model. The linear probability model is easy to implement and interpret which makes it very appealing for many



researches including this study. The model's parameter estimates can be interpreted as the mean marginal effect of the outcome of the covariates, therefore making it easy to understand for many people reading. However, a drawback to take into consideration when implementing the model is that there could be certain implications with heteroscedasticity, non-normality, debatable r-squared values and the risk that the estimation lies outside of the scale 0 and 1. Another limitation with the model is when the sample size is too big, which could result in the sample distribution of the coefficient estimates and the predicted values being normal. This is causing errors since a big sample size can not be normal. However, the problem of heteroscedasticity can be solved when using robust standard errors in the analysis since this robust standard error decreases any incorrect interpretation of the result of analysis (Gujarati, 2003).

By implementing an estimation equation this study will measure the probability of being self-employed for the generation, and also including independent variables. A linear probability model will be applied that answers the studies first question of issue. It is the main question of whether the probability of being self-employed differs between the first- and second-generation immigrants (1). With this model, we can estimate the probability for each group to enter self-employment by converting variables into dummies with values of 0 and 1. When including independent variables for age we can control for the probability of entering self-employment by also looking at outside factors. The choice of the linear probability model is made since the outcome variable is binary. Therefore, this variable must be interpreted as a probability that an individual is self- employed, either first- or second-generation. To study if the probability to be self-employed differs between first- and second-generation immigrants, we estimate the following equation:

$$y_i = \alpha_0 + \alpha_1 \text{Secondgen}_i + \alpha_2 \text{Age}_i + \alpha_3 \text{Age}_i^2 + \alpha_4 \text{Female}_i + \alpha_5 \text{Education}_i + \alpha_6 \text{Married}_i + \alpha_7 \text{Children}_i + \alpha_8 \text{Region}_i + b_t + \varepsilon_i \quad (1)$$

Where y is a dummy that is equal to 1 if the individual is self-employed and 0 if they are not self-employed. This linear regression model will estimate both first- and second-generation immigrants.

To find out whether the second-generation has a higher or lower probability than the first-generation we include a dummy variable for second-generation, called `second_gen`. It is classified as 1 if the individual is a second-generation immigrant and 0 for first-generation.



Age and gender are included as control variables to control for other factors that can explain the probability to be self-employed differs between first- and second-generation. The variable age is a continuous variable between the age of 20 to 65. The variable age-squared was used in this equation because it allows for a non-linear relationship between the probability of being self-employed and age. Gender is, however, defined as 1 if the individual is female and 0 if male. Moreover, the education variable is included to see whether there are any differences between the first- and second-generation propensity to become self-employed if they have the same educational level. The variable determines which level of education an individual has by categorising them into low, medium and high education. The variable is then merged into three different dummy variables, where medium education, meaning that they have a high school degree, is only used as a reference category. Low education is given a value of 1 if a person is low educated, meaning that if they have an elementary education, and 0 if not. Whereas higher education is given 1 if the individual is highly educated, meaning that they have an education from university and 0 if not. Then there is the marital status variable. This explanatory variable is added to be able to compare if there is a difference between the two generations' probability to be self-employed if they are both married. The variable is provided with a value of 1 if the immigrant is either legally married and/or in a legally registered civil union, and 0 if not. Children are also included for the same reason as married, to be able to compare the difference in probability between the two generations if they both have children. This is done by constructing a dummy variable that is 1 if a parent has one or more children and otherwise 0 if they do not have any children. A control for the region is also included because their local labour market can vary depending on where you live, thus affecting the probability of being self-employed. Then lastly there is the annual fixed effect to control for the economy that can vary overtime and the error term. However, one specification will be estimated with control variables and one without to control the differences these characteristics have on the propensity to be self-employed.

To estimate whether first- and second-generation immigrants become self-employed in different business lines, we study whether there are any differences in the probability of being self-employed in low-barrier industries between the first- and second-generation:

$$y_i = \alpha_0 + \alpha_1 Secondgen_i + \alpha_2 Age_i + \alpha_3 Age_i^2 + \alpha_4 Female_i + \alpha_5 Education_i + \alpha_6 Married_i + \alpha_7 Children_i + \alpha_8 Region_i + b_t + \varepsilon_i \quad (2)$$



where y is a dummy variable that is 1 if the individual is self-employed and active in a low-barrier industry, 0 if not. To find out whether the second-generation has a higher or lower probability than the first-generation we include a dummy variable for second-generation, called `second_gen`. It is classified as 1 if the individual is a second-generation immigrant and 0 for first-generation. We include the same control variables as in equation (1).

To study how the self-employment decision correlates with individual characteristics we estimate question (3). We estimate separate regressions for first and second-generation immigrants to assess if there differences in this regard between the two groups.

$$y_i = \alpha_0 + \alpha_1 Age_i + \alpha_2 Age_i^2 + \alpha_3 Female_i + \alpha_4 Education_i + \alpha_5 Married_i + \alpha_7 Region_i + b_t + \varepsilon_i \quad (3)$$

Variables that affect the probability of self-employment are included and consist of seven variables that are age, age squared, gender, education, marital status, children and region. A dummy for year, b_t is also added in the model as an annual fixed effect and lastly the error term.

The variable gender was made into a female dummy variable and is interpreted if they are a female or not. This variable is relevant to provide an indication of which gender has the highest probability for entering self-employment.

Educational levels were generated like the previous variables but into three different variables. Meaning that these variables will present the result of which educational level that is the most frequent for each generation in self-employment and also the effect the variables have on self-employment. One of the variables will be used as a reference in the regression analysis. The low educational level will most likely be used as the reference group.

A new variable was also generated from the data “*marital status*” to easier tell if the individuals were married or not. The variable for the number of children in a household will also be analysed if the household ever had children. Region was implemented in this study, where regions in Sweden were narrowed down into eight different regions and then further narrowed into south and eastern Sweden to be able to analyse the effect of self-employment. Region was made into eight small regions and then narrowed down the data further into four regions, north, south, east and west regions in Sweden. However, only southern and eastern Sweden will be analysed in this study since the majority of the immigrants are residents in these regions.



Each control variable affects the probability of becoming self-employed in definitive ways. Gender for example affects the probability greatly (Biehl et al., 2014). The propensity for self-employment among females is much lower than what it is for males. Thus, affirming that female candidates are more likely to have a lower probability. This is since females have lower expectations from their wage employment and also because they are more risk-averse than males. However, when looking at gender discrimination employers have more prejudices against females which drives them into self-employment. This is not the case for males where instead most employers favour male employees (Verheul et al., 2012). As for the age variables, the authors state that older individuals tend to have higher activity in self-employment than younger individuals. It makes it easier for people of older age to shift markets since they tend to have higher sources of capital that they can invest in their businesses. Secondly, older individuals may choose self-employment because they do not want to retire and also because they want adjustable working relations. Two other variables that affect the incentives of self-employment are marital status and children. Being married in self-employment increases the revenue of a household. The following results in a higher probability of married individuals transforming into the self-employment sector. A higher revenue also implies greater financial stability in a financial crisis. The probability is also high in the case where a partner is willing to assist in the business. Children are also a pushing factor for self-employment, especially in the case where a parent needs higher revenue and more flexible working hours. However, there are some drawbacks i.e that parents may become more risk-averse than previously. And also establishing a business may take up a lot of hours and it also increases the responsibility in comparison to wage employment. Last but not least education, where an individual with a high educational level is more accessible to the wage-employment market. Although, higher education is beneficial in self-employment where it creates opportunities for finding valuable business opportunities and also increasing the chance of having authoritative capabilities (Van der Sluis et al., 2008).

7. Result

Table 4 presents a linear probability model of equation (1) and equation (2), in which each equation answers one of the thesis questions. Column 1 represents the probability of being self-employed without taking into account any control variables. Column 2 shows the probability of being self-employed when taking control variables into account.



Furthermore, column 3 represents the probability of being in a low-barrier industry without taking any control variables into account. Column 4 shows the probability of being in a low-barrier industry when taking control variables into account.

Regarding our first research question, the estimate in column (1) indicates that there is no statistically significant difference in the probability to be self-employed between the two generations. This means that one looks at and compares individuals from the two generations without taking individual characteristics into account which could result in these two individuals being very different.

In column (2) we add controls for individual characteristics. Which means that when adding control variables and comparing the probability of becoming self-employed between the first- and second-generation one looks at individuals that are the same age, are married to the same extent, same gender, same level of education, have children to the same extent and they live in the same region. This means that one compares individuals from both generations who are very alike one another. Looking at the characteristics that are statistically significant and had slightly more of an impact than the others, such as being a female, age and being married. When taking these characteristics into account, it showed a slightly higher statistically significant probability for second-generation to be self-employed in comparison to first-generation. But, adding controls for individual characteristics does not alter the finding that there is no statistically significant difference. Age has a positive impact on the probability of both generations being self-employed in the sense that as an individual gets one year older, the probability increases with one percentage point compared to the previous age. Furthermore, looking at the statistically significant variable Married, one can see that when comparing married first- and second-generations to non-married first- and second-generations, those who are married have a 6.4 percentage points lower probability of being self-employed compared to those who are not married. Additionally, as previously mentioned, there is one more statistically significant variable which is the variable Female. For both generations, being female compared to not being a female showed 5.6 percentage point higher probability of being self-employed.

Turning the questions of when analysing the low-barrier industry looking at column (3) it was found that for second-generation immigrants, the probability of being self-employed in a low-barrier industry is lower compared to the first generation.

Looking at column (4), when taking control variables into account and comparing the two generations there is a very small difference in comparison to column (3). However, the statistic becomes statistically significant when adding control variables. The result is that if



you are a second-generation immigrant there is a 4.7 percentage points lower probability of being active in a low-barrier industry than if you were a first-generation immigrant.

Additionally, looking at the characteristics that are statistically significant and that had slightly more of an impact than the others, such as being a female, having a medium to high education, having children and living in southern Sweden. Firstly, looking at the variable female the result showed -11.4 percentage points. This means that when looking at being female in both generations, one has an 11.4 percentage points lower probability of being active in a low-barrier industry compared to not being female for both generations. Secondly, looking at the variables high education and medium education. The result is 11.3 percentage points lower probability of being active in a low-barrier industry when comparing individuals from both generations with high education to the reference category which in this case is individuals from both generations with low-educational level. The same is also true for medium education but with an 8.6 percentage points lower probability in relation to the reference category. Which in this case, is also individuals from both generations with low-educational level.

The fifth statistically significant variable is children where those in both generations who have children are compared to those in both generations who do not have children. The result shows that those who have children have a 7.3 percentage points lower probability of being active in a low barrier industry compared to those who do not have children. Lastly, the variable southern Sweden is observed which shows that generations living in southern Sweden have a 6.2 percentage point lower probability of being active in a low-barrier industry in comparison to the reference category which in this case is generations living in northern Sweden.

When taking these characteristics into account, it showed a lower statistically significant probability for both generations to be self-employed in a low-barrier industry.

Table 4: Linear probability model

VARIABLES	Prob of Self-employment		Low-barrier industry	
	Column 1	Column 2	Column 3	Column 4
First-generation		Ref	Ref	Ref
Second-generation	0.004 (0.018)	0.009 (0.018)	-0.042 (0.027)	-0.047* (0.027)



Age		0.010**		-0.004
		(0.005)		(0.008)
Age ²		-0.000		0.000
		(0.000)		(0.000)
Married		-0.064*		-0.0099
		(0.0037)		(0.081)
Female		0.056***		-0.114***
		(0.016)		(0.025)
High Education		0.017		-0.133***
		(0.028)		(0.044)
Medium Education		0.013		-0.086*
		(0.028)		(0.045)
Children		-0.021		-0.073**
		(0.025)		(0.037)
Eastern Sweden		-0.007		-0.025
		(0.020)		(0.032)
Southern Sweden		0.003		-0.062***
		(0.021)		(0.032)
Constant	0.104***	-0.193**	0.363***	0.537***
	(0.010)	(0.085)	(0.0015)	(0.154)
Observations	1,463	1,463	1,463	1,463
R-squared	0.0000	0.023	0.002	0.034

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

(Note: Estimates for the years 2010-2018 were included in the regression)

Table 5 clearly shows that the control variables overall all point in the same direction meaning that the individual control variables have the same effect on the probability for both generations.

By observing table 5, which represents equation (3) that answers the third thesis question; to identify what qualities lead them to choose to be self-employed, and whether this is attributable to age, gender, educational level, marital status, number of children, or geographic location.



One can see that age is statistically significant for the first-generation but not for the second-generation. Age has a positive impact on the probability of first-generation immigrants being self-employed in the sense that as an individual gets one year older, the probability increases with one percentage point. This means that the older you get, the higher the probability of being self-employed. The same is also true for the second-generation but with 0.5 percentage points per unit of age however, since it is not statistically significant for the second-generation one cannot infer that this characteristic has an effect on the propensity of being self-employed.

Marital status has a negative effect on the first-generation, meaning that if the first-generation are married they are 6.6 percentage points less likely to be self-employed than if they were not married. The opposite is true for the second-generation with a 3.3 percentage points higher probability if they are married. Although, since this control variable is not statistically significant to the second-generation one cannot deduce that this has an effect on the propensity for second-generation to be self-employed.

Being female has a positive effect on the first-generation meaning that if the first-generation are female, they have a 5.6 percentage points higher probability of being self-employed than if they are not female. The same is also true for the second-generation but with 7.4 percentage point higher probability of being self-employed when being female than not being female. Since this control variable is statistically significant it can be attributed to the propensity to being self-employed for both generations. For both generations being female has a positive probability of choosing self-employment.

Even though education is not statistically significant to either generation one can still see that having a medium- or high education has a positive effect on the propensity of being self-employed for both generations in relation to the reference category which in this case is low-education. Moreover, it has a higher effect on the second-generation than the first-generation, this could imply that a higher education is more important to the second-generation although it is still not statistically significant for either generation.

As seen in table 5, having children compared to not having children has a negative effect of 12.1 percentage points on the probability for the second-generation to be self-employed. It also has a negative effect on the first-generation although unlike the second-generation it is not statistically significant for the first-generation.

We can also see that living in eastern Sweden compared to western Sweden has a negative effect on the propensity of being self-employed for both generations. On the other hand, living in southern Sweden compared to northern Sweden the opposite is true. Although



neither region can be attributed to the probability of being self-employed for neither generation, since eastern- and southern Sweden are not statistically significant

Table 5: Linear probability model

VARIABLES	Self-employment, ind. characteristics	
	First Generation	Second Generation
First generation		
Second generation		
Age	0.010** (0.005)	0.005 (0.008)
Age ²	-0.000 (0.000)	0.000 (0.000)
Married	-0.066* (0.036)	0.0328 (0.0405)
Female	0.056*** (0.016)	0.074** (0.029)
High Education	0.018 (0.028)	0.053 (0.053)
Medium Education	0.014 (0.028)	0.060 (0.053)
Children	-0.022 (0.025)	-0.121** (0.048)
Eastern Sweden	-0.007 (0.020)	-0.025 (0.037)
Southern Sweden	0.003 (0.021)	0.003 (0.039)
Constant	-0.187** (0.083)	-0.180 (0.139)
Observations	1,463	445
R-squared	0.022	0.060

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

(Note: Estimates for the years 2010-2018 were included in the regression)



8. Discussion

This study aimed to analyse whether there are significant differences in the probability of being self-employed between the first- and second-generation immigrants. Industry will also be analysed to be able to see if the generations are self-employed in different types of industries e.g. high- or low-barrier industries. This study will identify what qualities lead them to choose to be self-employed, and whether this is attributable to age, gender, educational level, marital status, number of children, or geographic location.

The main result of this thesis presented evidence that there is no statistically significant difference in being self-employed between the generations. However, it can be seen that the second-generation immigrants have a lower probability to be self-employed within a low-barrier industry in comparison to the first-generation immigrants. This suggests that they operate different types of businesses and become self-employed due to different reasons. One possible interpretation is that first-generation immigrants are more likely to be pushed into self-employment than second-gen immigration. The language barrier, poverty, unemployment, lack of skills in the new country or the discrimination in the labour market could be a challenging force that pushes them into this sector (Fairlier and Meyer, 1996). Furthermore, a foreign education outside of Europe may not be of the same calibre as the host country's education (Abada et al., 2013). As a result, due to the foreign-obtained degree, it is difficult to obtain paid employment (Ram et al., 2008). This could account for the overrepresentation of first-generation immigrants in the self-employment sector (Fairlier and Meyer, 1996). Due to the many different obstacles and disadvantages that first generation immigrants come in contact with when they arrive in the host country, entrepreneurship is considered the only way that first generation immigrants can bring in some form of income for everyday expenses (Fregetto, 2004).

The reason second-generation immigrants choose to enter self-employment could be due to pull factors, where the second- generations have better advantage in the country than for first-generation immigrants. The advantages the second- generation have in comparison to the first- generation is that for example the language barrier is miniscule to none. Another reason second-generation immigrants might enter self-employment could be because of entrepreneurial goals and the desire to have control over their daily lives (Abada et al., 2013)

The results from table 4 answers the first and second thesis question of this study. The result showed that second-generation immigrants have a lower probability of entering the low-barrier industry. This is true when taking and not taking control variables into account.



Even though the probability of second-generation being self-employed in a low-barrier industry compared to the first is lower when taking control variables into account, the difference is very small compared to when not taking control variables into account. One reason the first-generation immigrants are more active in the low-barrier industry within self-employment could be because of their unsuccessfulness to enter into the labour market. This is due to factors such as language barriers, educational levels and discrimination (Fairlier and Meyer, 1996). When looking at the statistically significant variable “high education” one could see that when looking at the generations with a high education in comparison to a low education, the generations showed a lower probability to be active in a low-barrier industry. This is in line with previous research and according to the authors Lofstrom and Bates (2013), the majority of people who start enterprises in low-barrier industries have a lower level of education and wages. While the high-barrier businesses are primarily held by those with a higher education and greater wages.

The propensity to be a self-employed parent in a low-barrier industry for both generations is lower when compared to those who are not parents and are self-employed in a low-barrier industry. This could be, according to previous research by Abada et al. (2013), because parents with a high level of education have a greater chance of encouraging their children to acquire the same degree of education in the host nation. This may urge them to pursue self-employment as an entrepreneurial goal.

When searching for answers for the third question of this thesis, the result from table 5 shows that the variables overall point in the same direction, concluding that individual variables have the same effect for both generations. Observing the variable “female”, which is statistically significant for both generations, one can see that it is positive for both generations although a little more for the second-generation. The reason why it is positive for both generations is because women enter the workforce of self-employment because of flexibility. By doing so they can control both their job hours and their work hours at home (Hughes, 2006). Therefore, pulling females into self-employment.

When examining the variable “children”, one can see that it has a negative impact for both generations in choosing self-employment. However, it is much more negative for the second-generation for which it is also statistically significant whilst not being so for the first-generation. The reason for this can be due to starting a business takes a lot of time and resources (Verheul et al., 2012). Since starting a new business takes much time and resources it can be disadvantageous to also be having children since they, much like a business take much time and resources. This can lead to immigrants having to make a choice of either



having children or starting a business. Why it affects the second-generation to a greater extent than the first-generation could be because the second-generation have better opportunities in the wage-employment market which does not require as much time as the self-employment industry. The reason why second-generation might have better opportunities in the wage market is because, as previously mentioned, there is an implication that a higher education level is more important for the second-generation immigrants and thus an individual with a high educational level is more accessible to the wage-employment market (Van der Sluis et al., 2008).

9. Conclusion

The purpose of this study is to determine whether there are differences in the propensity to be self-employed for first- and second-generation immigrants, as well as whether the first-generation has a higher chance of being self-employed than the second-generation when controlling for the control variables (age, gender, education etc).

The second issue is if generations tend to be self-employed in the same industry and if there are any differences in tendency to be self-employed in a low-barrier industry. Finally, the third issue is to identify what qualities lead them to choose to be self-employed, and whether this is attributable to age, gender, educational level, marital status, number of children, or geographic location.

What was found in the result was that the two generations do not have a significant difference in their propensity to become self-employed. This result differs from what the previous research states where instead first-generation immigrants are seen as having a high probability for self-employment (Borjas, 1986; Fairlier and Meyer, 1996; Clark and Drinkwater, 2000; Hammarstedt, 2001, Klinthäll and Urban, 2014). There are different reasons as to why the two generations choose to enter the self-employment sector. Our results point to that first- generation immigrants are more likely than second-generation immigration to be pushed into self-employment. We find that the reason could be due to push factors which are in line with previous research. For instance, according to Fairlier and Meyer (1996), factors such as high unemployment rates, language obstacles, education levels, and prejudice may push immigrants to enter the self-employment sector. Additionally, according to Fregetto (2004), there are many different obstacles and disadvantages that first generation immigrants come in contact with when they arrive in the host country, entrepreneurship is considered the only way that first generation immigrants can bring in some form of income



for everyday expenses.

Whilst for second generation the reason for entering the self-employment market could be due to pull factors. The second-generation immigrants have different motivations for starting their own business than first-generation immigrants. One motivation is that they enter the self-employment market for a variety of reasons, including entrepreneurial goals, self-determination, or simply the desire to have control over their daily lives (Abada et al., 2013). The data supports this claim as first-generation immigrants are more likely to be active in a low-barrier industry than the second-generation. This also answers our second thesis question if there are differences in the probability of being self-employed in low-barrier industries between first- and second-generation. The probability of being self-employed in low-barrier industries is higher for first-generation than for the second-generation. Indicating that there is a difference in the propensity of being self-employed in the low-barrier industry contra high-barrier industry. What can also be concluded is that industries are correlated with education. It was found that those who are active in a high-barrier industry tend to have a higher educational level, whereas those who are active in a low-barrier industry tend to have a low educational level. Furthermore, even if the first-generation have a high education from the native country it might not be of the same quality because a foreign education outside of Europe might not have the same quality of education as the host country (Abada et al., 2013). This result is equivalent to one of the previous research that Lofstrom and Bates (2013) wrote.

When looking at the result to answer our third thesis question to identify what qualities lead them to choose to be self-employed, and whether this is attributable to age, gender, educational level, marital status, number of children, or geographic location. The result showed that characteristics do affect the respective generations' propensity to be self-employed although it affects them differently. An example of this could be the variable children, where it negatively affects the second generation considerably more than the first. The conclusion from this is that there is a strongly negative correlation on variable children, meaning that having children decreases the probability for the second-generation to be self-employed. This is due to starting a business takes a lot of time and resources (Verheul et al., 2012). The same is true for children which is why second-generation might not have the time and resources to have children and have a business.

Moreover, in our sample, women are more likely to be self-employed than men in both generations which is not in line with previous literature as said by Hughes (2006), men can devote a lot more time to their businesses, as well as because men are expected to provide for their families. Although one reason as to why women are more likely to be self-employed in



our study, can be due to the fact that women are more attracted to self-employment because of the flexibility it provides. By being self-employed they can control both their work hours and their work hours at home (Hughest, 2006). Furthermore, one more probable reason for this outcome, can be that self-employed women are overrepresented in this study's relatively small sample size.

The conclusion one can make from this is that although there is no significant difference in the probability of being self-employed between the first- and second-generation, the reasons as to why the first-generation in contrast to the second-generation choose to enter the self-employment industry are different. However, this result is weak since our study is based on a significantly small sample size with few statistically significant estimates. Additionally, due to the nature of our sample it was not possible to correlate certain theories discussed in this study, such as ethnic enclaves, home-country theory and intergenerational transmission of skills.

A suggestion for future research on this topic is to expand the research with a larger sample size to obtain more statistically significant estimates. Moreover, by adding more control variables such as country of birth and more probability regressions could give the research more estimates and more topics to discuss. Furthermore, another suggestion for further research could be to distinguish the reason as to why women are more likely to be self-employed and if one of the reasons could be due to discrimination.

Given our results that indicate that second-generation have a higher probability of being self-employed, and are also more active in a high-barrier industry, policymakers should improve the labour market so that the first-generation could increase their propensity to be more active in a high-barrier industry.



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