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Are Immigrants in Sweden choosing other Universities than Natives?

Comparing the composition of students at Lund and Malmö University

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Abstract

The purpose with this study is to look into whether there is a difference in the reputation/status of the university immigrants and native Swedes choose. The composition of students at two universities is compared, Malmö University and Lund University. The objective is to investigate whether there are more immigrants, first- and/or second generation, studying at Malmö University compared to Lund University. Several different control variables are used to control for possible pre-market differences between the two groups in order to see if there are differences in the choice of university and whether those differences can be explained.

To collect data questionnaire was handed out at lectures and eight different programs that are taught at both universities, i.e. 16 programs in total, are included in the study. A large sample of totally 851 observations was collected for the study. To analyze the data a linear probability model was used.

The main finding of this thesis is that the difference between Lund University and Malmö University for first generation immigrants cannot be explained. For second generation immigrants, the gap between Lund and Malmö University seems to be explained mostly by the minimum grades of admission, but also parents' education, living in home municipality and the share of pupils with parents with foreign background in compulsory school seems to have some impact on the probability that a student at Lund University is an immigrant.

Contents

1. Introduction

In the Swedish labor market there are differences between those who are native Swedes, i.e. born in Sweden with Swedish parents, and those who have immigrated or have parents who have immigrated to Sweden. Immigrants, first- and second generation, tend to have lower income and higher unemployment than native Swedes (Rapport Integration, 2003). These differences are a highly debated subject and the opinions and research results about what causes the differences diverge. Some argue that the differences are caused by discrimination in the labor market while others state that it is because of differences in pre-market factors, i.e. factors that cause differences in productivity before entering the labor market (see for example Neal & Johnson, 1996; Nordin & Rooth, 2002; Borjas, 1993). Examples of such factors are; quality of education, parental education, in which neighborhood an individual are brought up in and a person's friends and schoolmates. Initial differences, observed or unobserved, between first- and second generation immigrants and native Swedes might also be reinforced if these differences affect the investment in higher education.

Also, the fact that there are existing ethnic differences in the labor market may affect the choice of education, since immigrants may have different expectations of their future labor market outcome than native Swede have. If the differences in the labor market are reflected in the choice of university, the income and employment gaps could either be reinforced or evened out depending on in which direction it affects the choice of the individual. The immigrant may either decide to invest in less education since they will not receive as high wage as a Swedes anyway, or he/she may decide to invest in more education to compensate for an expected inferior position in the labor market.

Hence, the education is extremely important for the future income, and schooling is thus one of the far most common variables to explain differences in income between different groups, e.g. men and women or immigrants and natives. However, there are not many studies investigating the schooling variable more closely to see if differences in quality or status of the school affect the income gaps (Gartell & Regnér, 2005). If there is a systematic difference between for example natives and immigrants in which school they attend or which university they choose, that could have serious consequences for the labor market outcome of the two groups.

Therefore the intention with this study is to look into if there is a difference in the reputation/status of the university immigrants and native Swedes choose. This is done by compar-

ing the composition of students in two Swedish universities that are quite different from each other in several aspects. The objective is to investigate whether there are more immigrants, first- and/or second generation, studying at Malmö University compared to Lund University. Several different control variables will be used to control for possible pre-market differences between the two groups in order to see if there are differences in the choice of university and whether those differences can be explained.

The contribution of this study is first; that, in the author's knowledge, no similar study has been made in Sweden and second; the dataset collected.

There were no data available of the students' background so data had to be collected by the author. A questionnaire was handed out at lectures and eight different programs that are taught at both universities, i.e. 16 programs in total, are included in the study. A large sample of totally 851 observations were collected and used in the study. To analyze the data a linear probability model was used.

The outline of the thesis is as follows: in the first section two theories that are fundamental for the rest of the study are presented, human capital theory and signaling theory. In the second section, previous research in the same or similar field are presented and discussed. Next in chapter 4, the method, choice of universities for the study and collection of data is discussed. In chapter 5, the empirical results are presented and in the last section the results are discussed and conclusions are presented.

2. Theory

2.1 Human capital theory

According to standard human capital theory the investments in education will be undertaken if the expected present value of the future returns exceeds the cost of the investment. If there is discrimination in the labor market immigrants will expect their future wages to be lower than native Swedes. In additions to that, if immigrants for some reason also have lower skills, that will affect the future earnings as well as the schooling outcome. Having a higher risk of getting unemployed will also affect future earnings since the time in the labor market would be shorter. It could also force the immigrant to take a less qualified job and he/she will thus not be able to reap of the benefits of having a higher education. That would most probably affect the decision to invest in education (Bosworth, 1996 pp. 221-229).

To make the investment in education still profitable the immigrant can chose to lower the initial cost. In Sweden that could for example be avoiding taking study loans, maybe by not moving out from the parent's home. It could also be by choosing a shorter education or a part time education which enables the student to work at the same time. Another way is to com-

pensate for the lower return and choose a longer education or an education where there is a high demand, and thus is more likely to give a job after graduation or a high wage. (Ibid)

This implies that immigrant students should be less likely to take study loans and to move away from home compared to native Swedes. In this case, since Malmö has a larger share of immigrant citizens, compared to Lund, it should thus be a higher rate of immigrants at Malmö University compared Lund. However, because the commuting possibilities are very good, it should not be of too great importance in which city you are born. However, even though it is easy to commute, it comes with an extra cost to by train tickets. Then perhaps if the same education is offered in both universities the immigrant might want to choose the university in his/her hometown.

2.2 Signaling

An employment decision could for the employer be seen as an investment under uncertainty since there is imperfect information in the labor market about the worker's productivity. An employer who meets an applicant will be faced with some observable characteristics of the applicant and assign a subjective probability distribution of his productivity given these data. The probability distribution depends on the employer's previous experience of applicants with certain attributes. All individuals are endowed with certain fixed attributes, such as sex, race and age. These attributes are observable and not possible for the individual to change. Then the individual can choose attributes to signal something that is not observable, for example education to signal productivity. The signal is not necessarily years of education it could also be which university attended, type of education, grades etc. (Spence, 1973)

All signals come with a cost and the cost of the signal is negatively related to the productivity of the individual. This is a crucial assumption for the signaling model. (Spence, 1973) The cost can be both monetary, such as tuition fees and alternative cost for education, and psychological, i.e. the effort the individual has to spend to achieve the educational level. If the cost exceeds the wage premium, the individual will not acquire the education (Ibid). The education will not increase the individual's productivity in the sense that the marginal product will increase with education; instead the education only has a signaling effect which allows the individual to get the high salary job. If there are two groups in the economy with different attributes, for example ethnicity or sex, they can end up in different equilibriums even if they have the same productivity if they for some reason, at some point in time chose different levels of education. This lower equilibrium could be a reason for statistical discrimination in the labor market. Then signaling becomes an important tool for an individual in the disadvantaged group with high productivity to get a high salary job. (Spence, 1973)

Lang & Manove (2008) use a model of statistical discrimination and educational sorting to show that statistical discrimination of blacks is present in the US labor market. Since ability is unobservable for the employer, blacks achieve more education than whites in order to signal high ability, conditional on cognitive test scores. Signaling to avoid being (statistically) discriminated becomes even more important when there is search friction in the labor market. (Lang & Manove, 2008)

Since it in general is more difficult to be admitted to a program at Lund University, having graduated from a program at Lund University should thus be a better signal of productivity than having graduated from Malmö University.

Hence, when choosing between Lund University and Malmö University, an immigrant should be more willing to choose Lund University in order to signal high productivity and avoid being statistically discriminated.

3. Previous research

Various studies have shown evidence on discrimination of immigrants in the Swedish labor market. The employment gap between immigrants and native born Swedes have increased throughout the business cycle from 1987-2003, for both men and women. In general there is no difference in the average level of education between immigrants and natives but when comparing men and women with the same educational level, same age and the same marital status, the employment gap between immigrants and natives increases with (higher) education, which is quite remarkable. The employment probability increases with the level of education but it increases more for native born than for foreign born individuals, meaning that the gap does not disappear with higher education (Rapport Integration, 2003). The situation in the labor market is not only dependent of whether an individual is employed or not, it is also a question of whether the type of job is matching the level and type of education. Immigrants tend to have less qualified jobs than Swedes with respect to their education. The labor market is segregated both in which type of job and how qualified the job is. Around 40-60 percent of foreign born individuals with an academic education have a job that is matching their education, compared to 80 percent of those born in Sweden. The labor market outcomes are dependent on how long time the individuals have been in Sweden (Ibid) Other studies have shown that individuals with a foreign sounding name gets a fifty percent lower callback rate than individuals with Swedish sounding names, using fictitious, identical, job applications, indicating that there is discrimination in the labor market that is not caused by differences in skills (Carlsson & Rooth, 2007).

3.1 Post- or Pre-Market factors?

There are numerous studies that finds that there are differences between immigrants and natives in the Swedish labor market and the amount of literature on what is causing the disparities between different ethnical groups in the labor market is vast. Some authors argue that it is caused by discrimination while some others mean that it is differences in human capital or premarket factors that cause the disparities.

Neal & Johnson (1996) investigate the differences between blacks and whites in the US labor market and they address the problem of using in schooling as a measure of productivity. They argue that it is a noisy measure and endogenous because it is a choice of the individual and could thus be contaminated by the current discrimination in the labor market. They find that although there is some evidence of discrimination in the labor market, much of the wage differences between blacks and whites are determined by a large skill gap between the two groups. Instead they use a cognitive test score as a measure of productivity skills and they suggest that the differences could be caused by premarket factors such as obstacles for black children to acquire productive skills.

Nordin & Rooth (2002) investigates the Swedish labor market and test whether the income- and employment-gap between second generation immigrants and native Swedes is affected when adding a cognitive test score, the Swedish Military Enlistment test (SME). They find that adding the SME test score to the wage equation, the difference in wage between the two groups is almost eliminated. The employment gap, though, is only reduced by 20% when adding the test score. Immigrants tend to have lower test scores than natives, although the return to the test score seems to be similar. They explain that with either a biased test or differences in premarket factors. There is some support for the assumption that immigrants in Sweden invest more in education conditional on their cognitive test score especially for those with both parents born outside Europe. This indicates that these individuals are trying to signal high productivity.

However, Nekby, Wilhelmsson & Özcan (2008) also investigates the Swedish market, following a cohort graduating 1988 and their labor market outcome in 1995 and in 2002. They find that immigrants with host country education (Swedish education), especially European and Non-European, are more likely to be unemployed, in education or in labor market programs than in employment, compared to natives and Nordic immigrants. However, the difference is mainly driven by those with compulsory and secondary schooling, for those with post-secondary and university education there is no employment gap. They conclude the employment gap for those with maximum secondary education cannot be explained with family back-

ground, socioeconomic status, proficiency in the Swedish language, marital status etc. However, host country university education "evens out the playing field" between immigrants and natives in Sweden (Nekby, et al., 2008).

The studies presented above show that although the situation in the labor market is complex, there seem to be differences in human capital between immigrants and native Swedes. These differences could be caused by various different factors, both pre-market factors such as parents' education, socioeconomic status, neighborhood, peers and early schooling, or by post-market factors such as expectations on the labor market and signaling. In the next sections previous findings of differences between immigrants and natives that could cause differences in skills and human capital will be presented.

3.2 Pre-market discrimination and Swedish-specific skills

One often used explanation for differences between immigrants and natives is lack of language skills. However, Nekby et al. (2008) control for proficiency in the Swedish language and that do not explain any labor market disparities which somewhat reject that explanation. Lack of so-called Swedish-specific skills could also be an obstacle for immigrants to achieve the same productive skills as native Swedes. Several studies have shown that having one Swedish parent as a significantly positive effect on both educational attainment and labor market outcomes. (Tasiran & Tezic, 2007; Nekby et al., 2008) Having one Swedish born parent should imply that the individual have easier access to the Swedish specific skills and social capital. Also the length of stay in Sweden is crucial for employment and whether the job is equivalent to the level of education. (Rapport integration, 2003).

3.3 Intergenerational mobility

Parental and socioeconomic factors are also common explanations for disparities in education and skills. The parent's education has been proved to be a very important determinant for the level of education of the offspring. The fortune of the child depends on the endowments inherited from their parents such as genetics, family environment and knowledge, skills and connections of the family. It also depends on the parents' propensity to invest in their children's human and non-human capital. The propensity to invest also depends on the anticipated "market luck" of the child and the rate of return on the investment. (Becker, 1993 pp. 230-232) The intergenerational mobility of human capital thus preserves inequalities in income and might even reinforce them over generations. For minorities that are discriminated in the society, the discrimination will not only reduce their income but also the effect of their family background on income. (Becker, 1993 pp.201-203)

Borjas (1993) investigates the intergenerational mobility of immigrants in the US in 1940-1970. He finds a significant relationship between the earnings of the first- and the second generation. The same source-country characteristics that are crucial determinants of the labor market outcomes of immigrants will also influence the outcome of their children. Although the results show some support for assimilation towards a host country mean over generations, the wages of the second generation of immigrants depends on the wage of the national origin group and by opportunities available in the home of their ancestors. (Borjas, 1993)

Tasiran & Tezic (2001; 2007) investigates the intergenerational mobility and the early labor market outcomes for second generation immigrants and native Swedes using a longitudinal survey (LINDA) with information for the years 1991-1996. They find strong support for the importance of parental education and income as a determinant of the child's continuation to post-compulsory education as well as its early labor market success (Tasiran & Tezic, 2001).

3.4 Social capital and ethnic externalities

Bethoui (2007) discusses the impact of geographical origin on the level of social capital and the effects on the labor market. Social capital is defined as "resources embedded in one's social networks". (Bethoui, 2007 p. 385) The size of the social capital depends on the quantity, the quality and the range of positions reachable within a person's network. (Ibid) She finds that the distribution of social capital is uneven and individuals with large amounts of other types of capital seem to have larger amounts of social capital as well. Further she finds that immigrants tend to have a social capital deficit because they belong to networks that constrain their access to valuable social resources. Since social capital, and human capital, is rewarded with higher wages and better jobs the inferior position of immigrants on the Swedish labor market could be explained by the deficit in social capital. However, despite the deficit, immigrants and native Swedes seem to have similar return to the social capital. (Behtoui, 2007)

Borjas (1992) shows that ethnic capital works as an externality in addition to parent´s input in their children´s human capital. They define ethnic capital as the average human capital level of the group and find that if an individual belongs to a group with low ethnic capital that will retard the convergence of the group to the majority´s level of human capital. The reason for this is that the individuals in that group will not be exposed to "mainstream role models" to the same extent as individuals in groups with a higher average human capital.

3.5 Peer effects

Another factor that has been proven to affect the choices and outcomes of schooling is peer effects. People tend to do as their friends do. If a person's educational outcome, for example,

is affected by the presence of another individual in the classroom that is regarded as a peer effect. (Epple & Romano, 2011)

Sund (2009) finds support for that there are peer effects present in the Swedish high schools. He uses a rich data set which enables him to control for selection and simultaneity problems and finds positive but non-linear peer effects. A low performing student is positively affected by having high performing peers but a high performing student is not affected by having low performing peers. (Sund, 2009)

This implies that the result from high school depends on which school the individual attended. If a student attended a "good" school, then he/she is more likely to graduate with good grades.

Immigrant often live segregated from Swedes, especially in the main cities in Sweden, and often in neighborhoods with a low socioeconomic status (Rapport integration, 2003).

Nordin (2011) investigates the effect of ethnic segregation on human capital outcome. There is a general negative effect of having a large share of first- generation immigrants in the school as well as a negative effect on Swedish skills for second generation immigrants. However there seem to be positive peer effect among second generation immigrant men. The results show that there are ethnic externalities in the Swedish schools but the effects are somewhat ambiguous and go in different directions and affects both immigrants and natives.

Social and ethnic capital as well as peers and parents thus seem to affect school outcomes and this could then have a strong influence on the choice of education.

3.6 Different treatment in compulsory school

Both the general and the Swedish-specific skill level are influenced by how much host country education the individual receives but also the quality of the schooling. The schooling that immigrants receive could be of lower quality either because immigrants are treated differently in the schools or because they often live in segregated, in not so good neighborhoods and go to schools that are not as good as schools in other neighborhoods.

Several studies have been investigating how immigrant children are treated in school. In a public report about discrimination in Sweden, the authors find that in the Swedish schooling system, teachers´ attitudes towards children with a foreign background and their parents differ from their attitudes towards Swedish children and parents. Many children report that they have experienced racialist attitudes and actions from both personnel and other students.(SOU 2005:56, p. 46) Also sociologic studies finds that immigrant children are treated different than native children in Swedish compulsory school (Runfors, 2003)

The unequal treatment in compulsory school could cause differences in grades which would then limit immigrants' possibilities to further studies. It is also possible that it affects these children culturally and psychologically. That, however, is outside the range of this study.

The different treatment could also create or strengthen expectations of discrimination; both in future school environment and in the future labor market, which would affect the investment decision in education.

3.7 Choice of university

In the Swedish labor market there has been a high demand for individuals with educations in health, technology science and pedagogic while humanists have had a harder time finding a job. These trends are expected to continue also the next few years (Rapport integration, 2003).

Nekby et al. (2008) finds that at the university level, Non-Europeans and Europeans are more likely to choose health care but less likely to choose education/pedagogy, natural science and services and the vice versa for Swedish and immigrants from Nordic countries (Nekby et al., 2008) The Swedish Integration Board[1] (Rapport integration, 2003) find that educations in science, technology and health is more common among immigrants and pedagogic educations are more common among native-born Swedes (Rapport Integration, 2003). Tasiran & Tezic (2001) however, find that when it comes to the type of education, the only thing that seemed to matter were sex. Males, both immigrants and natives, were more likely to choose technical science.

The demand for individuals with certain educations is of course one reason to differences in wages but the type of education could also serve as a signal. In markets with a high supply of well educated labor, employer can sort between applicants by which type of education they have. Choosing an education that is considered to be of high quality or difficult is then a way of signaling high productivity. This reasoning is applicable also on which university an individual has attended.

Gartell & Regnér (2005) investigates the relationship between university and income in Sweden and compares it between men and women. They mean that differences in quality, signaling and different regional labor market are possible explanations of differences between different universities. They find that the choice of university does have importance for the future income and there is a difference between men and women. There is a strong relationship between income and regional labor market for women but not for men which suggests that there is a stronger relationship between regional labor market and choice of university for women than for men. The relationship between choice of university and income is stronger for

[1] The Swedish Integration Board was phased out in 2007 and do not exist anymore.

specific educations such as health care and teacher than for general educations such as social science. For some universities there is a relationship in the bottom of the income scale which suggests that there is probably the entrance in the labor market that is affected. For other universities, however, there is a difference throughout the income scale which suggests that the choice of university affects the future income as well. However, the authors do not find any statistically significant difference between Malmö and Lund.

4. Method

4.1 Malmö and Lund

The two universities investigated in this study are chosen for several reasons. They are located in two cities very close to each other with very good commuting possibilities. It is very common to live in Lund and work in Malmö, and vice versa, which means that the universities are located in the same regional labor market. The two cities have quite different characteristics. Malmö is larger than Lund, has a higher density of immigrants in the population and a lower density of highly educated in the population compared to Lund (Statistics Sweden, 2010). However, because of the close distance between them and good commuting possibilities this should not affect the choice of university very much.

Instead what are probably more important for the choice are the different characteristics of the universities. Lund University is one of the oldest in Sweden. It is well recognized and highly ranked in several different surveys (see for example Handelskammaren, 2009; Fokus, 2008). Malmö University opened much more recently, 1998, and is smaller than Lund University. It now has 24000 students while Lund has 47000 students (Lund University, 2011; Malmö University, 2011). Lund University has the title “universitet” whereas Malmö University has not and is thus named “högskola”. The difference in the title implies that Malmö University does not have the right to examine PhD. students and has less professors and research than Lund University (Swedish National Agency for Higher Education, 2011). This does not really say anything about any difference in quality of the educations but it does indicate that there is a difference in status between the two universities.

Choosing these two universities makes it possible to explore the difference in composition in students in two universities where the only substantial difference is the difference in status and reputation. These differences imply that it is more difficult to be admitted to Lund University than Malmö, the minimum grades of admission is higher at Lund University for almost every program.

4.2 Data

The survey data that is used in this study was collected by handing out a questionnaire among students admitted to their program during fall semester 2010. The students are therefore on their second semester which means that eventual early dropouts are not in the sample. The questionnaire consists of 11 questions, see the full version in Appendix I. First they are asked about age, sex, which program they attend, where they live, which compulsory school they went to and whether they take study loans. Then they are asked about their parents' level of education and if they and/or their parents are born abroad. In the last question they are asked to rank a few different alternatives in how important they were for the choice of university.

To start with, a pilot survey was conducted to test the questionnaire in a class that was not included in the study. Thereafter a few adjustments of the questionnaire were made to avoid misinterpretations of the questions. However, as described in the next section, 4.3 Selection Biases, there were still some misunderstandings of some of the questions.

The educations chosen are those that are the same or very similar in both Malmö University and Lund University. It could be argued that some of the programs are not identical and should therefore not be compared but the key factor if they have been paired or not is whether it could be argued that they attract the same type of students. Therefore by reading the information about the programs in the information catalogue and the webpage from each university the programs were matched with each other. In total there are approximately 15 types of programs that could be considered similar and eight of them are included in this study.

Because the survey were done in the end of the spring semester, some of the educations did not have any more lectures, of very few, because the students had independent work such as thesis writing or study periods. That is the main reason to why the sample is limited to only eight programs, i.e. eight in each university. Another reason is the author's time restrictions since the collection of survey data is quite time demanding. However, those educations that were best matched together were included and still there is a variation in the different type of subjects. There are both educations in social sciences, business and medicine included in the sample, but unfortunately it was not possible to include technological educations since the degree after finishing the education were quite different in the two universities. In Lund, finishing a technological program gives a Master's degree whereas in Malmö the degree is Bachelor's degree and thus not comparable.

There were also in some cases students who were only taking a single course, and thus not admitted to the program. These students are also included in the sample. All in all, the

data collected consist of totally 851 observations from eight different programs in each university. Below we can see which programs included, the minimum grade of admission to each program and the number of observations collected from each of them.

One program, Social Work, was also taught at Campus Helsingborg which is a part of Lund University but located in another city. It is included since the program has different minimum grades of admission Campus Helsingborg but still belongs to Lund University and would work as the same signal.

Table 4.2.1 Educations included in the sample

University	Program	MGA*	Obs.
Lunds University	B.Sc. in Business and Economics (Ekonomie kandidatprogram)	20.20	96
Malmö University	B. Sc in Business and Information Technology: Technology and Management (Ekonomi och IT: Teknik, ekonomi och ledarskap, TELMah)	16.50	5
Lunds University	B.Sc. In Social Work (Socionomprogrammet Lund)	19.48	65
Lunds University (Campus Helsingborg)	B.Sc. In Social Work (Socionomprogrammet Helsingborg)	18.10	56
Malmö University	B.Sc. In Social Work (Socionomprogrammet, inriktning funktionshinder och åldrande)	16.48	21
Lunds University	B. Sc. In Crimonology (Kandidatprogram i kriminologi)	19.7	48
Malmö University	B. Sc. In Crimonology (Kriminologiprogrammet)	18.3	25
Lunds University	B.Sc. In Informationsystems (Systemvetenskapligt kandidatprogram - design av informationssystem)	11.69	28
Malmö University	B.Sc. In Informationsystems (Affärssystem: Teknik, ekonomi och ledarskap, TELMah)	15.45	2
Lunds University	B.Sc. In Nursing (Sjuksköterskeprogrammet)	19.6	70
Malmö University	B.Sc. In Nursing (Sjuksköterskeprogrammet)	18.55	79
Lunds University	M.Sc. In Medicin (Läkarprogrammet)	22.5	83
Malmö University	M.Sc. In Dentistry (Tandläkarutbildning)	21.6	54
Lunds University	B.Sc. In European Studies (Kandidatprogram inom Europastudier med humanistisk profil)	17.70	23
Malmö University	B.Sc. In European Studies (International Program for European Studies)	17.50	5
Lunds University	B.Sc. In Political Science (Politices kandidatprogrammet)	17.32	57
Malmö University	B.Sc. In Political Science (Offentlig organisation och ledning)	11.04	13
Lunds University	Single course outside a program	.	79
Malmö University	Single course outside a program	.	42
		Total:	851

* Minimum grades of admission
Source: VHS, The Swedish National Agency for Higher Education Services

4.3 Selection Biases

There are some problems with the data used that should be pointed out. First of all there is a selection of those who are already admitted to a program and thus the study says nothing about whether immigrants are choosing to study at all to a higher or lower extent than Swedes or if they apply but are not admitted. However, the objective of this study is to see whether immigrants, who choose to study, chose another university than Swedes even after controlling

for minimum grades of admission. Therefore this kind of selection bias is not a problem in this study.

The main problem with this dataset is the non-response bias. The questionnaire was handed out during or right after a lecture in most of the educations. In some cases there were no more lectures with full class, instead the teacher was asked to help with handing it out and collect the questionnaires during seminars or group lectures. Some of the lectures in which the questionnaire was handed out were not mandatory, which meant that there were many students missing. In some classes it were only a few percent missing, and which were not a very big problem since the sample was in most cases large enough to still be considered random. However, in some classes a large share of the class was missing, the worst case only 14 out of 80 students were there. This means that there is a selection bias in which students attend the lecture. It is difficult to say how that would affect the result. A student who was very keen on study that particular program would most probably attend the lectures more. Also a student with a high ability could either attend fewer lectures than a student with low ability since the high ability student could manage the studies on his/her own. Or it could be the other way around, if a student is having a hard time to understand the lectures, he/she would most probably not attend them to the same extent as a student who easily understands the lectures. If for example, immigrants have a lower ability, caused by pre-market factors, this selection bias could be a big problem for the results.

In the mandatory classes, and in the two cases when the teacher helped to hand out the questionnaires, this type of non-response bias was not a very big problem.

In some lectures it was not allowed to do the survey during lecture time so it was done right after the lecture was finished or during the break. This meant that some students chose to go home instead of staying after the lecture to answer the questions. This created another type of selection bias where only the students who wanted to answer the questions participated in the survey. In this case it is also difficult to say how it will affect the results but perhaps students who has have a different background than most other students, for example immigrants or students whose parents do not have any education, find the questions more sensitive and chose not to answer.

Also some students only answered on some of the questions or misinterpreted some of the questions which created a partial non-response bias, and missing values in the data. There were especially two questions that were misinterpreted in the questionnaire. One was the question of which lower secondary school (högstadieskola) you attended. Many students answered which upper secondary school (gymnasium) they attended. The reason why the students were asked which lower secondary school is because it is compulsory in Sweden while

upper secondary school is voluntary. Also, the pupil is free to choose which (upper secondary) school to attend and thus the choice of upper secondary school is endogenous. There has been a reform in the Swedish schooling system that enables parents to choose which compulsory school they want their children to attend, which makes also the compulsory school choice somewhat endogenous (Söderström & Uusitalo, 2005). But compared to the choice of upper secondary school it is more exogenous since the student himself/herself can chose which upper secondary school to attend, as well as which type of program to study.

The other question that was misinterpreted was the last question in which the respondent was supposed to rank some different alternative reason why they chose that particular university. Many only ticked in on or a few of the boxes which created a large amount of missing values.

These last types of partial non-responses are probably not affecting the results very much and could be considered random.

4.4 Analytical model

To analyze the data two models have been used. The main model was a linear probability model. The dependent variable is whether an individual is an immigrant or not. The objective is to test whether there are more immigrants in Malmö University than in Lund University but since the minimum grades of admission is used as an explanatory variables it is not possible to use the university as the dependent variable – which in some sense might seem more logical. That is because we want to control whether immigrants choose particular programs, and whether the minimum grade of admission are lower for the programs that immigrants invests in. If we had the university as the dependent variable we instead estimate minimum grades of admission differences and course size differences between the universities. Therefore the equation had to be turned around and use immigrant as the dependent variable and university, minimum grade of admission, and several other variables as explanatory variables.

$$Immig = \alpha + \beta_0 Univ + \beta_1 \sum_{m=1}^{7} Program_m + \beta_2 MGA + \gamma X + \epsilon$$

Immig is a binary variable taking the value 1 if immigrant and 0 otherwise, α is the intercept and $Univ$ is a dummy variable for which university. $\sum_{m=1}^{7} Program_m$ is the sum of dummy variables for every program except one which is used as the reference program. MGA is the minimum grades of admission and X is a vector of several other control variables used. ε is the random error term.

The estimates would then be interpreted as for example if $D_{university}$, taking the value 1 if Lund and 0 if Malmö, has a coefficient with the value -0.2 then it is 20 percentage points less likely that an individual who attends Lund University is an immigrant than an individual that attends Malmö University.

This implies that the model has a binary dependent variable. Using a linear probability model, such as the OLS, to estimate a binary variable creates estimates that are not BLUE, best linear unbiased estimates. The estimates will be inefficient, meaning that another specification could find estimates that fit the data better (Park, 2009). Using a probit or logit model instead would give more efficient estimates. However, OLS is very useful for exploratory analysis since it gives a good guide which variables are significant and the OLS gives a reasonable direct estimate of the sample-average marginal effect on the probability that y=1 as x changes. Also the OLS makes it possible to correct for heteroskedasticity. In the sample used in this study, heteroskedasticity does not seem to be a big problem but when using OLS, the robust standard errors are used to be sure that the inference is correct. The most appealing feature of the OLS is that the interpretation of the results is quite straightforward (Cameron & Trivedi, 2005).

Angrist and Pischke (2009) argue that the difference in estimates of marginal effects between linear and nonlinear models is small and almost negligible, at least with probabilities close to 0.5. To avoid making things more complicated than they are, they suggest using OLS since it is standardized and easy to interpret (Angrist & Pischke, 2009).

Both models are used but because of the easy interpretation of the OLS model, that model is used as the main analytical tool in this study. The results are though confirmed by the results of the binary dependent models. As presented in Appendix II, the marginal effect of OLS, Probit and Logit estimates are almost exactly the same and it is the same variables that are significant. So to make the analysis consistent and easy to follow, only the OLS-estimates are presented in section 5, Empirical Results.

4.5 Descriptive statistics

This section gives an idea of how the sample looks like by showing some descriptive statistics of the sample.

Starting with comparing the two universities we can see that the students at Malmö University are slightly older on average, see table 5.1.1. There are a little bit more women and more immigrants[2], both first- and second generation at Malmö University. Students with both parents born abroad are twice as many at Malmö University. Looking at the parents' education

[2] Immigrants here and in the rest of the text refer to both 1st and 2nd generation immigrants with at least one parent born abroad. If another specification is used, that will be specified in the text.

we can see that there are more students with both parents having a post secondary education at Lund University but at Malmö there are more students having either a father or a mother with post secondary education. In total, having at least one parent with post secondary education is more common among students at Lund University, about 82% compared to 69% among students at Malmö University.

When it comes to study loans there are more students at Lund University that receive full or partial study loans compared to Malmö. There are also more common that students who study at Malmö University still live in the municipality where they grew up. Living in home municipality means that you still live in the same municipality as you went to secondary school in. It does not say anything about whether you also study in that municipality. For example a person who comes from Malmö and lives in Malmö could in fact study in Lund.

It is also more common for students at Malmö University to have studied at some university before attending Malmö University. That could be correlated with the fact that the students are slightly older at Malmö University. The reason why the question of whether they had studied in any other university before was of interest, is because in some cases it could be easier to be admitted to a program at another university and then be transferred to the university you prefer than to be admitted to the popular university directly. It could also be possible to use the points taken at the university before to complement you application or to be admitted in another quota to the program of interest. Therefore, because it in general is more difficult to be admitted to the programs at Lund University, it was assumed that it should be more common to have studied at another university before attending Lund University. However, this assumption was obviously wrong.

Table 4.5.1 Descriptive Statistics (851 obs.)[3]	**Lund University**	**Malmö University**
Average age	22.3	23.5
Male	37%	28%
Female	62%	72%
Born outside Sweden	11%	18%
Both parent born outside Sweden	13%	26%
Father born outside Sweden	7%	7%
Mother born outside Sweden	4%	4%
Both parents with post-secondary education	60%	38%
Father post-secondary education	6%	11%
Mother post-secondary education	16%	20%
No study loan	34%	44%
Full study loan	60%	52%
Partial study loan	6%	4%
Living in home municipality	20%	34%
Other university before	34%	41%

[3] The table should be interpreted as for example at Lund University, 37% of the students are male and 69% of the students are female whereas at Malmö University 28% of the students are male and 72% are female. In those cases the percentages does not add up to 100%, there are missing values.

It is also interesting to see if there are any obvious differences between native Swedes and immigrants, see table 4.5.2. Comparing the two groups in the sample we can see that there are no differences when it comes to age or sex. There are, as we already know, more immigrants studying at Malmö University than Lund.

In this table we can also see which programs are more popular among Swedes compared to immigrants. Criminology and Medicine are relatively more popular among immigrants whereas Social Work and Nursing is relatively more popular among Swedes.

There are more Swedish students who have two parents with a post secondary education but there are more immigrants who have only a father with post secondary education. In total more native Swedes have at least one parent with a post secondary education, 81% compared to 68% of the immigrants.

It is more common that an immigrant does not take any study loan at all and it is also more common that an immigrant lives in his/her home municipality.

Table 4.5.2 Descriptive Statistics (851 obs.)	**Swedish**	**1st and 2nd generation immigrant**
Average age	22.7	22.7
Male	32%	33%
Female	67%	67%
Malmö University	26%	37%
Lund University	69%	54%
Lund University (Campus Helsingborg)	5%	10%
Business and Administration	12%	11%
Medicin	15%	19%
European Studies	3%	4%
Information/Business System	4%	3%
Criminology	8%	21%
Social Work	15%	10%
Nurse	19%	14%
Political Science	9%	7%
Single course	15%	12%
Both parents with post-secondary education	57%	41%
Father post-secondary education	6%	10%
Mother post-secondary education	18%	17%
No study loan	33%	49%
Full study loan	62%	46%
Partial study loan	5%	5%
Living in home municipality	20%	38%
Other university before	36%	35%

4.6 Regression analysis

There seem to be some differences between the universities and between immigrants and native Swedes and in this section we will see if there are significant differences between the groups and if that could explain the differences in choice of university.

In the analysis, a few different samples have been used. In the first regression the full sample with all 851 observations is used. Thereafter the different programs are control for which implies that only those admitted to a full program are included in the sample. That means that for those regressions, a sample consisting of 725 observations has been used. Then more variables for why the students chose the education are added and because of a large amount of missing values that sample will consist of 650 observations. The last sample used is only of 253 observations. The reason for that is that two new variables are added that indicate socioeconomic status and ethnic segregation of compulsory school. Because of time restrictions and a large amount of missing values, the sample is reduced to only 253 observations.

The analyzing starts with running OLS regressions with only the University dummy variable and then adding more variables and trying different specifications of the immigrant variable.

Four different specifications on the immigrant-variable are used. Specification 1 is both first- and second generation immigrants, with at least one parent born abroad; spec. 2 is only first- generation immigrant, i.e. those who are born abroad with parents who are also born abroad; specification 3 is second generation immigrants with at least one parent born abroad, i.e. those who are born in Sweden but have a mother or a father or both parents that are born abroad; and specification 4 is second generation immigrants with both parent born abroad.

The dependent immigrant variable is a dummy variable taking the value one if immigrant and zero otherwise. With this model, we do not try to *explain why* a person is an immigrant or not, which is the usual way to use an OLS regression, since that is obviously not determined by any of the variables used as explanatory variables. Instead we are interested in to see if there is a difference in the *probability of being and immigrant* if an individual is studying at a certain university. Then we try to explain that difference with the other explanatory variables.

5. Empirical result

In this chapter the results from the regression analysis will be presented. First a regression model with only University as an explanatory is presented in order to see the "raw gap" between the universities when it comes to share of immigrants and natives.

5.1 Comparing Malmö and Lund University

Table 5.1.1 Regression model 1

Specification	**1**	**2**	**3**	**4**
Lund university	-0.122***	-0.068**	-0.080**	-0.071***
Campus Helsingborg	0.044	-0.036	0.070	-0.025
No. Observations	*851*	*851*	*737*	*737*
R2	*0.02*	*0.01*	*0.01*	*0.01*

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

Starting with the full sample which is all programs plus all the students only taking a single course, dummy-variable of which university the individual attend is regressed on the dependent variable immigrants.

A variable for if they study at Campus Helsingborg is included as well since even though Campus Helsingborg belongs to Lund University, it might affect the results since it is in another city and has other MGAs.

The first specification gives a negative coefficient of about -0.12 and is significant on a 5% level. This means that if you are studying at Lund University it is 12 percentage points lower probability that you are a first- or second generation immigrant, compared to if you studied at Malmö University. Similar if you study at Campus Helsingborg, it is 4 percentage points higher probability that you are an immigrant. However, that coefficient is not significantly different from zero.

If only looking at the first generation immigrants in specification 2 the absolute value of the coefficient is about half the size of the coefficient in the first specification, only -0.068, meaning that it is about 7 percentage points lower probability that you are a first generation immigrant if you are studying at Lund University.

When using the specification for only first generation immigrants, those who are born in Sweden are defined as natives, or non-immigrants. That means that the reference group will include both those with Swedish and those with foreign born parents. This definition is used in order to see if it is whether you are born in Sweden or not that makes a difference. However, when testing for the second generation immigrants the sample full sample was reduced to 737 observations since the first generation immigrants are excluded from the sample.

For second generation immigrants the coefficient is slightly smaller than for first generation, -0.80 for specification 3 and -0.71 for specification 4. This means that a student at Lund University is 8 percentage points less likely to be a second generation immigrant with at least one parent born abroad and about 7 percentage points less likely to be a second generation immigrant with both parents born abroad. Since specification 3 is just a broader definition of second generation immigrants and thus includes specification 4 as well as those with only one parent with foreign background. Therefore it was quite expected that that coefficient in specification 4 would be smaller than specification 3. The coefficients are significantly different from zero in all four specifications on a 5% level. The coefficients for Campus Helsingborg are not significant in any of the specifications.

As we can see, the R^2-values are very low, which is quite understandable since only two explanatory variables are used.

5.2 First and Second Generation Immigrants

In the next regression specification 1 is used as dependent variable, i.e. both first- and second generation immigrant. Starting out with the variables for the university, Lund and Helsingborg, and then continuing with adding explanatory variables we try to see if they can explain the initial differences.

Because the programs are used as explanatory variables, those taking a single course are excluded and the sample has thus decreased to 725 observations.

Table 5.2.1 Regression model 2. Dependent variable: Immigrant (1st and 2nd generation) (725 obs.)
Explanatory variables:

Lund University	**-0.119*** **	**-0.147*** **	**-0.142** **	**-0.141** **	**-0.115** **	**-0.115** **	**-0.112***	**-0.110***	**-0.098**	**-0.098**
Campus Helsingborg	0.038	-0.038	-0.036	-0.024	-0.004	-0-004	-0.002	-0.001	-0.07	-0.007
Programs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA			-0.003	-0.004	-0.001	0.004	0.002	0.006	0.009	0.009
Age				-0.000	-0.001	-0.002	-0.002	-0.001	0.000	0.000
Male				-0.004	-0.006	-0.006	-0.006	-0.005	-0.009	-0.009
Both parents with a post-secondary edu.					-0.127***	-0.175***	-0.163***	-0.149***	-0.144***	-0.143***
Mother with a post-secondary edu.						-0.119**	-0.107*	-0.094*	-0.078	-0.079
Father with a post-secondary edu.							0.047	0.057	0.068	0.068
Full study loan								-0.115***	-0.073*	-0.073*
Partial study loan								-0.071	-0.032	-0.032
Living in home municipality									0.157***	0.156***
Studied in another university before										0.001
R2	0.02	0.03	0.03	0.03	0.05	0.06	0.06	0.07	0.09	0.09

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

First we can see that there is almost 12 percentage points lower probability that the individual is an immigrant if he/she is studying at Lund University. When controlling for the different programs, the coefficient actually becomes even smaller,-0.147. This means that conditional on the different programs, the probability that a student at Lund University is an immigrant is even lower. To see if the estimates in the two specifications differ a t-test was ran. According to that, the difference between the coefficients in the two regressions is not significant different from zero.

Also when adding the programs the coefficient for Helsingborg becomes negative but it is still not significant. There is only one program in Helsingborg in the sample, Social Work, which has a positive sign. This means that if you are studying Social Work at Lund University you are more likely to be an immigrant but if you study it at Campus Helsingborg, the probability decreases.

When controlling for the programs a dummy for each of the eight programs is used and one of them is used as a reference and the seven other is added into the regression. The reference program is BSc. In Political Science which is a random choice. The coefficients of the programs only say whether if it is more or less likely that you are an immigrant if you attend a certain program compared to if you attend Political Science. Therefore the coefficients for the programs are not presented in the table. They are also not significant in any of the cases. However, the signs of them indicate that it is less likely that you are an immigrant if you study Nursing or Political Science, compared if you study any other program.

In next step, the variable for minimum grades of admission, *MGA,* is added. The coefficient for *MGA* is negative, very small and not significant on a 10% level. This means that the *MGA* does not explain any of the differences between the universities, which was unexpected.

Next, *Age* and *Male* are added but they are insignificant and very small.

Adding *Both parents with a post secondary education* is quite interesting. It is highly significant and negative, -0.13. This implies that if both your parents have a post secondary education, you are 13 percentage points less likely to be an immigrant. Also it seems to explain some of the difference between the universities. The coefficient for Lund University decreases from -0.141 in the previous regression to -0.115. Also, if you study at Lund University, conditional on your parents´ education, you are 12 percentage points less likely to be an immigrant.

Adding also a variable for those with a mother with post-secondary education makes the coefficient for those with two parents with education even larger, -0.175. The coefficient for *Mother with post-secondary education* is also negative and significant, -0.119. So it seems that if you have either both two parents with education or a mother with education, you are less likely to be an immigrant. Also, having a father with education is positive, but not significant.

We continue with adding study loans, full or partial, as explanatory variables. The coefficient for *Full study loan* is significant and negative implying that it is 12 percentage points less likely that you are an immigrant if you take full study loan. This, however, does not seem to affect the gap between Lund and Malmö University.

Next variable included is whether you live in your home municipality or not. This means that if you still live in the same municipality as the one you went to compulsory school in, the variable take the value one and zero otherwise. This does not necessarily mean that you live in the same municipality as in which you are studying. Even though it is very often the case that you live in the same municipality as the university, some people live in Malmö and study in Lund or vice versa. The coefficient is highly significant and seems to explain some of the differences between the universities since the coefficient for Lund University decreases to -0.098 and is no longer significant on a 10% level. (It is not far from it though; it would be significant on an 11.5% significance level.) A t-test was run here to see if this difference between this last regression and the regression when not including *Living in home municipality* were significant, which it was not.

The coefficient for taking full study loan seems to have been capturing some of the variation explained by the livening in home municipality. The coefficient increases to -0.073 when including the home municipality variable.

The last variable added is the variable for whether the individual has studied in any other university before. The coefficient is very small, insignificant and does not seem to affect any other results.

A probit and a logit model of the same equation were also estimated because of the inefficiency in the OLS model when using a binary dependent variable. The marginal effects were almost exactly the same as in the OLS model and the same variables were significant. Therefore those estimates are only presented in Appendix II.

To sum up shortly we can see that there seem to be some differences between immigrants and native Swedes in the choice of university. If an individual is living in his/her home municipality, he/she is more likely to be an immigrant but if he/she is taking full study loan and has two parents with post secondary education, he/she is less likely to be an immigrant. Conditional on these variables, if the individual is studying at Lund University, he/she is less likely to be an immigrant.

In the next section the dependent variable will be decomposed into first- and second generation immigrants.

5.3 First Generation Immigrants

In this section the same procedure and the same sample of 725 observations as in the previous section is used. The only difference is that the dependent variable is only first generation immigrants, i.e. those who are born abroad with non-Swedish parents.

Table 5.3.1 Regression model 3.
Dependent variable: 1st generation immigrant (725 obs.)
Explanatory variables:

Lund University	**-0.082*** **	**-0.118*** **	**-0.110** **	**-0.112** **	**-0.105** **	**-0.105** **	**-0.100***	**-0.099** **	**-0.098** **	**-0.098** **
Campus Helsingborg	-0.043	-0.109	-0.106	-0.094	-0.089	-0.089	-0.086	-0.086	-0.087	-0.087
Programs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA			-0.005	-0.005	-0.004	-0.000	-0.002	-0.002	-0.000	0.000
Age				0.000	0.000	-0.001	-0.000	0.000	0.000	0.000
Male				0.017	0.017	0.017	0.016	-0.017	0.019	-0.017
Both parents with a post-secondary edu					-0.033	-0.074**	-0.053	-0.042	-0.042	-0.042
Mother with a post-secondary edu						-0.102***	-0.080*	-0.069*	-0.067*	-0.068*
Father with a post-secondary edu							0.084	0.092	0.093	0.093
Full study loan								-0.084***	-0.080***	-0.080***
Partial study loan								-0.091*	-0.087*	-0.087*
Living in home municipality									0.016	0.016
Studied in another university before										0.001
R2	0.01	0.03	0.03	0.03	0.04	0.05	0.05	0.06	0.06	0.06

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

Here we can see that the coefficient for Lund University is negative as well, but smaller than in the previous section which is obvious since the probability of being a first generation immigrant must be smaller than the probability of being either a first- or a second generation immigrant. In the first regression it is 8 percentage points lower probability that you are a first generation immigrant if you study at Lund University, significant on a 1% level. . (4 percentage points lower prob. if you study at campus Helsingborg, but the coefficient is not significant.) When adding controls for the programs, the coefficient, once again, becomes even larger -0.118. This means that conditional on the different programs, first generation immigrants study at Lund University to an even smaller extent. This difference is not significant according to the t-test. The change in the coefficient for Lund University is larger here than in previous section when second generation immigrants were included as well. Also when adding minimum grades of admission, the coefficient for Lund university changes but in this case it becomes larger, -0.110. This implies that the MGA explains some of the differences between the universities but since it is not significantly different from zero we should not put too much emphasize on it.

The coefficient for university also decreases when adding a variable for those with two parents with education. That coefficient is not significant here either but it seems to be ex-

plaining some of the differences between Lund and Malmö. When continuing with adding the variable for those whose mother has an education, that coefficient is significant and negative. This implies that those who have a mother with a post-secondary education are 10 percentage points less likely to be a first generation immigrant.

Next the variables for full and partial study loan are added and both of them are negative and significant. That implies that first generation immigrants are less likely to take any study loans than native Swedes.

Living in the home municipality and whether the individual has studied at any other university before are not significant and do not seem to affect any other variable. This means that if an individual has a mother with a post-secondary education and is taking any study loan, he/she is less likely to be an immigrant. Conditional on that, it is still less likely for a student at Lund University to be an immigrant, compared to Malmö.

5.4 Second Generation Immigrants, with at least one parent born abroad

In this section the dependent variable is second generation immigrant, defined as those with at least one parent born abroad, i.e. mother, father or both. Otherwise the procedure is the same as before but the sample has been reduced because the first generation immigrants are excluded. It now consists of 634 observations.

Table 5.4.1 Regression model 4.
Dependent variable: 2st generation immigrant, at least one parent born abroad. (634 obs.)
Explanatory variables:

Lund University	**-0.071***	**-0.078***	**-0.062**	**-0.059**	**-0.037**	**-0.037**	**-0.036**	**-0.035**	**0.019**	**0.020**
Campus Helsingborg	0.066	0.014	0.020	0.024	0.043	0.044	0.044	0.051	0.045	0.045
Programs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA			-0.009	-0.010	-0.008	-0.007	-0.007	-0.005	0.002	0.002
Age				0.000	-0.001	-0.002	-0.002	-0.001	0.000	0.000
Sex				0.016	0.018	0.018	0.018	0.015	0.017	0.017
Both parents with a post-secondary edu					-0.108***	-0.124***	-0.120***	-0.114***	-0.114***	-0.114***
Mother with a post-secondary edu						-0.038	-0.034	-0.030	-0.021	-0.021
Father with a post-secondary edu							0.018	0.023	0.032	0.032
Full study loan								-0.061	-0.016	-0.016
Partial study loan								0.025	0.014	0.015
Living in home municipality									0.167***	0.167***
Studied in another university before										-0.006
R2	0.01	0.02	0.03	0.03	0.04	0.04	0.04	0.05	0.07	0.07

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

Here we can see that at first, there is a significant difference between the two universities. A student at Lund University is less likely to be an immigrant. However, when adding the MGA the coefficient for Lund University becomes insignificant. The coefficient for *MGA* is neg-

ative implying that the higher the minimum grades of admission, the lower the probability that a student is a second generation immigrant. However, the coefficient is not significant different from zero. The coefficient for Lund University (or Campus Helsingborg) is not significant at all when adding more explanatory variables and when adding both parents education, it almost becomes zero.

The only variables that are significant are the one for when both parents have education and the one for living in home municipality.

Hence, if an individual has two parents with post-secondary education he/she is less likely be a second generation immigrant with at least one parent born abroad, and if living in his/her home municipality he/she is more likely to. This is interesting because this means that the difference between the two universities we have seen before is now explained by the control variables, especially *MGA, Both parents education* and *Living in home municipality*.

5.5 Second Generation Immigrants, with both parents born abroad

The following regressions are made in the same way as the previous but now the dependent variable is second generation immigrants with both parents born abroad.

Table 5.5.1 Regression model 5.
Dependent variable: 2st generation immigrant, both parents born abroad. (634 obs.)
Explanatory variables:

Lund University	**-0.075*** **	**-0.091*** **	**-0.078**	**-0.076**	**-0.067**	**-0.067**	**-0.070**	**-0.071**	**-0.061**	**-0.063**
Campus Helsingborg	-0.028	-0.037	-0.033	-0.027	-0.019	-0.018	-0.021	-0.020	-0.023	-0.027
Programs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA			-0.008	-0.009	-0.008	-0.008	-0.007	-0.004	-0.002	-0.002
Age				-0.004*	-0.005**	-0.005*	-0.005*	-0.004*	-0.003	-0.002
Sex				0.019	0.020	0.020	0.019	0.017	0.018	0.019
Both parents with a post-secondary edu					-0.044*	-0.043	-0.056*	-0.052	-0.051	-0.050
Mother with a post-secondary edu						0.003	-0.010	-0.005	0.001	0.004
Father with a post-secondary edu							-0.056	-0.054	-0.049	-0.050
Full study loan								-0.045*	-0.017	-0.014
Partial study loan								-0.091**	-0.066*	-0.064
Living in home municipality									0.106***	0.103***
Studied in another university before										-0.038*
R2	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.05	0.07	0.08

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

In this case, there is also an initial difference between the universities. Students at Lund University are about 8-9 percentage points less likely to be a second generation immigrant, with both parents born abroad. These coefficients are actually larger than in the previous section which is a bit peculiar. It means that those with two parents born abroad are even less likely to study at Lund University compared to when including those with only one parent born abroad. This means that those with only one parent born abroad should be more likely to

study at Lund University. However, when adding minimum grades of admission the coefficient for Lund University becomes insignificant. The coefficient for *MGA* is negative and very small and not significantly different from zero so it does not give us much of an explanation.

Here, *Age* is significant, around -0.004, but it becomes insignificant when controlling *Living in home municipality. Full study loans* is negative and significant until *Living in home municipality* is added, it then becomes insignificant. *Partial study loans* are negative and significant until controlling for *Studied in another university before.* IT seems like the *Age* variable is capturing some of the variation in *Living in home* municipality and that the *Partial study loans* is capturing some of the variation in *Studied in another university before.* This indicates that an individual that is slightly younger than the others might also be living in the home municipality and an individual who are taking partial study loans might also have been studied in a university before. Also both parents' education is significant and negative, -0.043, until adding mother's and father's education. Then the coefficient becomes insignificant which implies that when having controlled for both, mother's and father's education there is no difference between second generation immigrants and native Swedes. In the previous section when those with one Swedish parent were included, the coefficient for both parents' education was significant all the time. This means that those with one parent born abroad must be less likely to have two parents with education compared to those with two parents born abroad or with two Swedish parents.

The only variables that are significant in the last regression are whether the individual lives in his/her home municipality and whether he/she has studied in another university before. This means that if an individual lives in his/her home municipality he/she is 10 percentage points more likely, and if he/she has studied in another university before, he/she is 4 percentage points less likely, to be a second generation immigrant with both parent born abroad.

5.6 Regression, with interaction variables

In the next step of the analysis some new variables are added. The first sample with 725 observations was used, including both first- and second generation immigrants and the same explanatory variables up until the last nine variables are the same. The variables added are so called interaction variables and are a dummy-variable multiplied with another variable. In this case, where most of the explanatory variables are binary, the interaction variable of two binary variables will tell us for example if a man, who also lives in his home municipality, is more or less likely to be an immigrant.

Table 5.6.1 Regression model 6, with interaction variables.
Dependent variable: Immigrant (1st and 2nd generation) (725obs.)

Explanatory variables:

Lund University	**-0.099**	**-0.099**	**-0.098**	**-0.098**	**-0.099**	**-0.095**	**-0.099**	**-0.105***	**-0.092**
Campus Helsingborg	-0.008	-0.008	-0.007	-0.006	-0.008	-0.006	-0.008	-0.008	-0.018
Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA	0.008	0.009	0.008	0.009	0.009	0.005	0.010	0.012	0.007
Age	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Male	0.002	-0.009	-0.025	-0.017	-0.009	-0.007	-0.009	-0.012	-0.005
Both parents with a post-secondary edu	-0.142***	-0.143***	-0.143***	-0.144***	-0.143***	-0.143***	-0.143***	-0.141***	-0.109**
Mother with a post-secondary edu	-0.077	-0.078	-0.078	-0.078	-0.079	-0.078	-0.078	-0.049	-0.069
Father with a post-secondary edu	0.068	0.069	0.067	0.068	0.069	0.069	0.077	0.069	0.076
Full study loan	-0.082	-0.073*	-0.081*	-0.073*	-0.077*	-0.073*	-0.073*	-0.070*	-0.076*
Partial study loan	-0.042	-0.038	-0.033	-0.033	-0.037	-0.032	-0.032	-0.037	-0.033
Living in home municipality	0.155***	0.156***	0.156***	0.145***	0.165**	0.018	0.159***	0.179***	0.216***
Studied in another university before	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.001	0.002
Male*No studyloan	-0.032								
Male*Partial study loan		0.022							
Male*Full study loan			0.026						
Male* Living in home municipality				0.037					
Living in home municipality*No study loan					-0.016				
Living in home municipality*Minimum grades of admission						0.007			
Living in home municipality*Father with a post-secondary education							-0.037		
Living in home municipality*Mother with a post-secondary education								-0.138	
Living in home municipality*Both parents with a post-secondary education									-0.12
R2	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

As presented in the table above, nine different interaction variables are tested. The interactions including the sex were chosen in order to see if there were any differences in taking study loans or living in home municipalities between men and women. The thought was that female immigrants might be facing double discrimination, both gender and ethnicity, and that that might affect the willingness to invest in the education more for women than for men. The interaction with living in home municipality and study loans were added because it was assumed that if you are living at home with your parents you are both living in your home municipality and you are not taking study loans. The next interaction with living in home municipality and MGA was included in order to see that if an individual is living in the home community, does the MGA then matter. Also, those with one or two parents with education were believed to be more comfortable to move to another city to study, the last there interactions were included.

None of them, however, is significant and the coefficients of the other variables are not affected much at all. The only interaction variable that seem to have some impact on the difference between the two universities is Living in home municipality*Mother with a post-sec-

ondary education. When adding that variable the coefficient for Lund University increases from 0.099 to 0.105, and becomes significant at the 10 percent level.

5.7 Including variables for self-reported choice

In the last question of the questionnaire, the students are asked to rank five different alternatives in how important they were for their choice of university. The options were *Status of university, Parents recommended, Many friends study here, Close to home* and *Other*[4]. The options were ranked in five different categories of importance (see Appendix I) and coded in 1-5 with the highest value for the most important. Because of the high rate of missing values on this question, separate regressions have been estimated when including these variables since the sample will be different from the previous regressions. This sample consists of 650 observations for the first two specifications and 570 for the last two specifications (excl. first generation immigrants).

Below the results for the regression including all of the explanatory variables except the four new, and then the regression when including the new four variables, are presented for each of the four specifications of the dependent variable. Because the sample is different from the previous regressions, the results might differ even when the new variables are not included.

Table 5.7.1 Regression model 7, with self- reported choice variables

Specification:	**1**		**2**		**3**		**4**	
Lund University	**-0.092**	**-0.108**	**-0.090***	**-0.109****	**0.000**	**0.035**	-0.068	**-0.075**
Campus Helsingborg	-0.018	-0.030	-0.067	-0.096	0.059	0.019	-0.065	-0.077
Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Minimum grades for admission	0.007	0.004	-0.006	-0.011	0.005	0.001	0.004	0.002
Age	0.000	0.004	-0.002	0.001	0.004	0.004	-0.001	-0.002
Male	-0.005	0.024	0.005	-0.009	0.027	0.031	0.026	0.026
Both parents with a post-secondary education	-0.108**	-0.154***	-0.060*	-0.080**	-0.092**	-0.096**	-0.55*	-0.056*
Mother with a post-secondary edu	-0.069	-0.066	-0.053	-0.066	-0.009	-0.006	-0.007	0.006
Father with a post-secondary edu	0.076	0.056	0.084	0.041	0.078	0.072	-0.049	-0.049
Full study loan	-0.075	-0.073*	-0.060*	-0.056*	-0.041	-0.030	0.011	-0.005
Partial study loan	-0.034	-0.080	-0.126**	-0.112***	-0.003	0.001	-0.053	-0.050
Living in home municipality	0.217***	0.157***	0.012	0.016	0.182***	0.168***	0.122***	0.114***
Studied in another university before	0.002	0.002	0.000	-0.007	-0.006	-0.006	-0.032	-0.030
Status of university		0.057***		0.034**		0.046**		0.011
Parents recommended		0.067***		0.074***		0.010		0.005
Many friends study here		-0.035		-0.030*		-0.008		-0.003
Close to home		0.009		-0.016		0.018		0.012
No. Observations	650	650	650	650	570	570	570	570
R2	0.10	0.12	0.06	0.10	0.08	0.09	0.09	0.09

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

[4] *Other* is not included in the equation since it means different things for each individual and could thus not be quantified in the same way as the other variables.

Looking at the results for first- and second generation immigrants, two of the new variables are significant. Status of university is significant and positive implying that those reporting that the status of the university is one of the most important reasons for choosing university are 6 percentage points more likely to be an immigrant. Also parents' recommendation of a university seems to be more important for immigrants' choice of university. When adding the four new variables the coefficient for Lund university increases from -0.092 to -0.108 which means that when controlling for the self reported reasons for choosing a certain university the likelihood that a student at Lund University is an immigrant increases. This difference is not significant, though.

The same pattern can be observed for first generation immigrants but for them the variable *Many friends study here* is significant as well. The coefficient is negative and implies that where friends study is not very important for where first generation immigrants chose to study compared to native Swedes.

For second generation immigrants, the only significant variable is both parents educations and living in home municipality and for specification 3, the new variable *Status of university* is significant and positive. The coefficient for Lund University is zero and completely insignificant for specification 3, which differs from the previous regressions of spec. 3. For spec. 4 the coefficient is also insignificant but about the same size as in the previous regression on spec. 4. This indicates that when the sample changed, the observations for second generation immigrants with only one parent born abroad changed in a way that made the coefficients for Lund University become zero.

Interesting is also that even though *Living in home municipality* is highly significant in for specification 1, 4 and 5, the variable *Close to home* as a reason for choosing university is not significant at all. This could mean that these variables are correlated with each other but looking at a correlation matrix this does not seem to be a problem, *Close to home* is not very correlated to any of the other variables.

In the last question, students were asked to rank different options in how important they were for the student's choice of university. The last option was *Other* and the student was asked to specify that. A large majority of the students, who wrote something, wrote that the social life in a student city as Lund was one of the most important reason for choosing Lund. In Malmö, it was not as homogenous answer to that question, but the social life was almost never mention. Instead the supply of courses, subjects and/or teaching methods as well as being admitted to the program they wanted was described as the most important reasons for choosing Malmö.

5.8 Socioeconomic Status and Segregation of Compulsory School

In this step two new variables are added. The students were asked about which school and community they went to lower secondary school. Statistics Sweden (Statistics Sweden, 2009) has published statistics over the share of pupils that have parents with foreign background, and parents with post-secondary education for every compulsory school in Sweden. The share of parents with foreign background and post-secondary education indicates not only how it is in that particular school but also something about that neighborhood. Using that information two new variables that indicates segregation and socioeconomic status of the compulsory school an individual attended were added to the collected data set.

The earliest data from Statistics Sweden is from 2009 and the students included in this sample should have graduated from compulsory school latest 2007. Thus the data could have changed during the years since these students graduated. These factors, however, do probably not change completely over the night so it could still be used as an indicator of how segregated a school or neighborhood is, or the socioeconomic status of a school or a neighborhood.

Because there were quite many students that wrote their upper secondary school instead of lower secondary school (which is compulsory) there were many missing values. Also, because of the time demanding job of matching the data from Statistics Sweden with this sample, the sample was limited to only including school in municipalities in the same size as Lund and larger, plus schools in municipalities with more than ten observations. This leaves us with a sample of 253 observations.

Table 5.8.1 Regression model 8, with two new variables. (253 obs.)

Specification:	**1**		**2**		**3**		**4**	
Lund University	**-0.115**	**-0.083**	**-0.059**	**-0.037**	**-0.082**	**-0.057**	**-0.052**	**-0.035**
Campus Helsingborg	-0.029	0.079	-0.206	-0.127	-0.071	0.131	-0.039	0.013
Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MGA	0.003	0.003	-0.022	-0.022	0.006	-0.003	0.013	0.004
Age	0.001	-0.001	0.005	0.003	-0.003	-0.004	-0.010**	-0.011**
Sex	0.006	0.023	-0.012	0.002	0.004	-0.013	0.070	0.056
Both parents with a post-secondary edu	-0.318***	-0.239***	-0.165**	-0.111*	-0.242***	-0.205**	-0.118*	-0.089
Mother with a post-secondary edu	-0.218**	-0.118	-0.155	-0.082	-0.134	-0.083	-0.074	-0.030
Father with a post-secondary edu	-0.179	-0.102	0.059	0.113	-0.200	-0.129	-0.018	-0.039
Full study loan	-0.063	-0.083	-0.060	-0.077	-0.031	-0.044	0.018	0.006
Partial study loan	-0.153	-0.198	-0.198***	-0.225***	-0.043	-0.083	-0.085	-0.112*
Living in home municipality	0.144**	0.032	0.018	-0.067	0.143*	0.065	0.091*	0.017*
Studied in another university before	-0.065	-0.048	-0.065	-0.051	-0.031	-0.026	-0.057	-0.051
Share of pupils in secondary school with parents with a foreign background		0.006***		0.005***		0.005**		0.005***
Share of pupils in secondary school with parents with a post secondary education		-0.002		-0.001		-0.001		-0.000
No. Observations	*253*	*253*	*253*	*253*	*216*	*216*	*216*	*216*
R2	*0.21*	*0.28*	*0.17*	*0.23*	*0.15*	*0.19*	*0.13*	*0.18*

* significant on a 10% significance level, ** 5% significance level, *** 1% significance level

Starting with the first specification, first- and second generation immigrants, the variable for share of parents with foreign background is positive and significant, which was quite expected. If an individual has attended a school with a high share of pupils with foreign background, it is 0.6 percentage points more likely that he/she is an immigrant him/herself. What is interesting here is rather how much of the variation between the universities it explains. When adding these two new variables the coefficient for Lund university decreases from -0.115 to -0.083. This means that when we control for how segregated the compulsory school is, a student at Lund University is more likely to be an immigrant compared to when we do not control for that. However, the difference is not significant, according to the t-test.

What is also interesting is that the variables for parents' education decreases and mother's education become insignificant. To make sure that there is not multicolloniarity a correlation matrix was made and both parents with education and share of educated parents in compulsory school is correlated with 0.27 which means that they are a correlated but it is not extremely high. Therefore, something that was previously explained by the parent's education seems to be captured by the two new variables. The same seem to happen with the variable for living in home municipality which becomes much smaller and insignificant.

The first generation immigrants seem to follow a similar pattern when adding the new variables, except for living in home municipality which is not significant in any of the regressions for first generations immigrants.

Also for second generation immigrants the pattern is similar. The coefficient for Lund University becomes closer to zero when adding the two new variables. They are not significant on a 10% significance level for any of the specifications of second generation immigrants. For specification 3, the coefficient for *Both parents with post-secondary education* is significant and negative, about -0.2, in both regressions. But for specification 4 it becomes insignificant when adding the two new variables.

The coefficient for Living in home municipality is positive and significant for both specification 3 and 4 in the first regression but becomes insignificant for specification3 when adding the two new variables. This means that something that was captured by the *Living in home municipality* is now captured by the share of pupils in compulsory school with foreign background, which is significant and positive, 0,005, for spec. 3 and 4.

For Specification 4 the coefficient for *age* is also significant and negative in both regressions, indicating that the second generation immigrants with two parents born abroad are slightly younger than Swedes. Also the coefficient for *Partial study loans* is significant but only in the regression with the two new variables included. This means that when controlling for

the share of pupils with foreign background the difference between native Swedes and second generation immigrants in taking partial study loans becomes significant.

6. Discussion and Conclusions

When looking at first- and second generation immigrants together, there are ethnic composition differences between Lund and Malmö University. A larger share of immigrants attends Malmö University than Lund University. When running separate regressions for first- and second generation immigrants, there are more first generation immigrants at Malmö University than Lund and the difference is significant in almost all the regressions. For second generation immigrants there is an initial difference between the universities but when adding the control variables, it becomes insignificant. The difference for first generation immigrants remains even after adding all the other control variables. Hence, there is a gap between Malmö and Lund University for first generation immigrants that we cannot explain.

Assuming that immigrants expect to be discriminated against in the labor market, then one way of compensating for that would be to signal high productivity by choosing a university that is considered difficult to get in to. In that case, Lund University would have been a more rational choice for immigrants. However, it seems to be more both first and second generation immigrants studying at Malmö University. If this is because immigrants of lower grades than Swedes and thus find it more difficult to be admitted to Lund University, this differences should be explained by the minimum grades of admission. For second generation immigrants this seems to be the case since most of the "gap" between Lund and Malmö disappears when adding MGA. Also some of the gap is explained for first generation immigrants but the gap does not disappear as it did for second generation. That indicates that there is something earlier in life that creates a difference in grades between second generation immigrants and native Swedes in upper secondary school.

However, contrary to what was expected, the minimum grades of admission were not significant in any case. The MGA of the courses that first- and second generation immigrants are admitted to are not different compared to the MGA of the courses that natives are admitted to. Since there was quite some variation in the MGA, both between the universities and between the different programs, a systematic difference between immigrants and Swedes among students at the university should have been possible to observe. On the other hand, since it is possible to find information about the minimum grades of admission from previous years, those with too low grades might be discouraged to even apply. Or it could be that the MGA is not the best way of measuring a possible difference in productivity caused by pre-market factors.

A few other explanation of why there are less immigrants studying at Lund University could be mentioned. Parental education is an important factor for an individual's education and thus the difference between the universities could be caused by differences in parents' education. Here we see that having two parents with a post-secondary education is less common for second generation immigrants, and it seems to make the difference between Lund and Malmö even smaller.

Other explanations could be peer effects, i.e. that individuals chose the same university as his/her friends. Since there are more second generation immigrants living in Malmö, this could explain why there are more immigrants studying at Malmö compared to Lund. Controlling for having a large share of immigrants in the compulsory school actually increases the likelihood that a student at Lund University is a first- or a second generation immigrant. This implies that there seem to be some ethnic externality or peer effects of having a large share of immigrants in the compulsory school, which makes it more likely that a student at Lund University is a first- or a second generation immigrant. Also, second generation immigrants seems to be more likely to live in their home municipality, which also affects decreases the likelihood that a student at Lund University is a second generation immigrant. This could also be an indication of the peer effects mentioned above.

For first generation immigrants the factors discussed above does not explain why it is less likely that a student at Lund University is a first generation immigrant, compared to Malmö. When looking at what is important for the choice of university we can see that the status of the university was more important for first generation immigrants, than for native Swedes. This would actually imply that first generation immigrants should be more rational in their choice of university but when controlling for these variables, the likelihood that a student at Lund University is a first generation immigrant decreases. This means that Malmö University for some reason is considered a more rational choice for first generation immigrants than Lund is. This leads us to the human capital theory that says that because of expected discrimination, immigrants would like to minimize the costs of the investment. First generation immigrants do not take study loans to the same extent as native Swedes, which makes cost minimization a possible explanation. But, the study loans do not explain the difference between the universities and thus we cannot draw that conclusion in this case.

This means that we can still not explain why there are more first generation immigrants at Malmö University with any of the theories and control variables used in this study. It could be that immigrants and Swedes have different opinions about which university has the higher status or that there is a lack of information for immigrants about the universities. If first generation immigrants are treated different from Swedes in compulsory school, for example, that

may perhaps affect their opinions and expectations about universities as well. Other factors not taken into account here might also affect the choice.

6.1 Conclusions

So for second generation immigrants, the gap between Lund and Malmö University seems to be explained mostly by the MGA, but also parental education, living in home municipality and the share of pupils with parents with foreign background in compulsory school seems to have some impact on the probability of a student at Lund University is a second generation immigrant.

However, the main finding of this thesis is that the difference between Lund University and Malmö University for first generation immigrants cannot be explained. The minimum grades of admission and the share of pupils with parents with foreign background in compulsory school seem to increase the probability that a student at Lund University is a first generation immigrant slightly but the difference between the universities remains.

This "gap" between Lund and Malmö University for first generation immigrants is problematic since it could have consequences for both the quality of education and social networks at the universities as well as in the labor market. Therefore, in order to eliminate this difference between the universities, universities with a low rate of immigrant students, such as in this case Lund University, should try to make the university more attractive among especially first generation immigrants or improve the information about the university.

Also more research in this area should be conducted in order to see what is actually causing this unexplained difference between Malmö and Lund University.

6.2 Further research

This study raises many questions that are still to be answered. It would have been good to be able to collect even more data in order to avoid selection biases and to include more programs to be able to see if there is a systematic difference between the types of educations.

It would be interesting to do a similar study that includes more universities to see if there is a difference among these as well.

What would also be interesting is to be able to follow these students to see how they will do in the labor market. Are there any differences in outcomes in the labor market?

Also to do a similar study on these who are finishing secondary school, to be able to include those who chose not to study or who are not admitted to the program they apply to.

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Appendix I

The questionnaire:

1. How old are you? _____
2. Are you?

Man ☐ Woman ☐

3. Are you admitted to a single course or a program?

Program ☐ Single course ☐

What program? _____

4. Are you an international or a Swedish student?

Swedish ☐ International ☐

5. Have you been studying at any other university before?

Yes ☐ No ☐

If yes, what university?_____

6. Where do you live? (Town)_____

7. Where did you attend **upper primary school (högstadie**t)? (School and municipality)

_____

8. Do you take any loans to finance your studies?

Yes, full amount ☐ Yes, to some extent (for example 50%) ☐ No ☐

9. Do any of your parents have a tertiary education?

Father	Mother	Both	No one	Don't know
☐	☐	☐	☐	☐

10. Are you born in Sweden?

Yes	No
☐	☐

If not, where are you born?_____

11. Are any of your parents born outside Sweden?

Father	Mother	Both	No one
☐	☐	☐	☐

Where?_____

12. What made you choose Malmö University?

Please rank the option according to how important they were for your decision.

	Main reason	Important	Of some importance	Irrelevant
The status of the university	☐	☐	☐	☐
Parents recommended it	☐	☐	☐	☐
Many friends study here	☐	☐	☐	☐
Close to home town	☐	☐	☐	☐
Other,	☐	☐	☐	☐

If other, what?_____

Appendix II

Probit/Logit estimations

Table I. Probit and Logit, 1st and 2nd generation immigrants (851 obs.)

Coefficients or Marginal Effects:	OLS	Probit	Logit
Lund University	**-0,122*** **	**-0.122*** **	**-0.122*** **
Campus Helsingborg	0.044	0.041	0.00

Table II. Probit and Logit, 1st and 2nd generation immigrants (725 obs.)

Coefficients or Marginal Effects:	OLS	Probit	Logit
Lund University	**-0.098**	**-0.101**	**-0.103**
Campus Helsingborg	-0.007	-0.015	-0.015
Programs	Yes	yes	Yes
Minimum grades for admission	0.009	0.008	0.010
Age	0.000	-0.001	0.000
Male	-0.009	0.012	0.010
Both parents with a post-secondary education	-0.143***	-0.141***	-0.144***
Mother with a post-secondary education	-0.079	-0.069	-0.069
Father with a post-secondary education	0.068	0.070	0.067
Full study loan	-0.073*	-0.074*	-0.076*
Partial study loan	-0.032	-0.025	-0.027
Living in home municipality	0.156***	0.160***	0.160***
Studied in another university before	0.001	0.002	0.002