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Entrepreneurship among university graduates

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Entrepreneurship among university graduates

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Abstract

The aim of the paper is to shed light upon entrepreneurship among university graduates. We are interested in differences across educational areas and among universities regarding entrepreneurial selection and performance. The paper differs from similar studies in two respects. In order to broaden the common definitions used to measure entrepreneurship we suggest a typology making it possible to differentiate between various types of entrepreneurs. Secondly, we differentiate between both level of education, area of education and university of graduation. In order to capture some of the uncertainties related to the choice among our entrepreneurial categories we use individual time series income data.

Thus, using cross-section data on all Swedish graduates we examine the impact of university on entrepreneurial choice and performance for graduates of 44 Swedish universities. A separate analysis is done for graduates of 5 education fields to control for heterogeneity of education. The results suggest that entrepreneurial preferences differ by educational fields, that graduates of some universities are more entrepreneurial than others. We also find that the preferences for different entrepreneurial occupations differ across universities. As to the university effect on graduates' earnings we find significant university effect for only a small group of universities, which differ by field of education and entrepreneurial category.

1. Introduction

According to a recent report analyzing the carrier development among graduates from universities in the Stockholm Region, the probability of being an entrepreneur differs between educational areas as well as between universities.¹ In the report entrepreneurs were defined as self-employed. Empirically useful as such a definition may be quite restrictive. As underlined by e.g. Glaeser et al (2010) and Braunerhjelm (2010) entrepreneurship has many dimensions and refers to a set of abilities rather than being synonymous with being or becoming self-

¹ Z Daghbashyan and B Hårsman "Karriärvägar bland examinerade vid Stockholms lärosäten", Stockholms Akademiska Forum, 2010

employed. Hence measures such as the frequency of self-employed among graduates can only serve as a rough proxy for a broader characterization of their entrepreneurial abilities.

There are obviously several kinds of interdependencies involved in choosing among fields and depth of education, different universities and between more or less entrepreneurial occupations. The choice of occupation is related to choice of labour market and as pointed out by e.g. Doms et al (2010) the relationship between education and entrepreneurship can be thought of in two interrelated ways. It seems likely that entrepreneurial selection and performance will be influenced both by the education of the entrepreneur and the educational level in the local market where he or she operates. In the following analysis will address some but certainly not all of the causality problems resulting from interdependencies of the kind hinted at.

Since most universities invest in fostering entrepreneurship among their students and faculty we are especially interested in finding out if some of them succeed better than others in this respect.²

There is a vast literature on entrepreneurship and education. Van Der Sluis et al (2004) provides a meta-analytical review of 94 studies on the impact of schooling on probability of being or becoming an entrepreneur and on entrepreneurship performance. They conclude that there is no systematic relationship between level of education and the probability of being or of becoming an entrepreneur but that the impact of education on performance is positive and significant. However, they also conclude that all included studies concerning performance are potentially biased since the estimation strategies used measures the correlation between education and performance rather than the casual effect.

Most studies focusing on the choice of becoming or of being an entrepreneur treat it as a dichotomous choice between two occupations: entrepreneur or wage employee. Van Praag and Cramer (2001), Rees and Shah (1986) and Hammarstedt (2001) all model the decision as a binary choice between wage employment and entrepreneurship related to the perceived utility associated with each alternative. As yet, we have not found any other empirical studies defining entrepreneurship along the lines suggested in this paper.

² Examples are given in the report "The KTH Entrepreneurial Faculty Project" that summarizes the findings of a fact finding international project initiated and lead by KTH's faculty dean professor Folke Snickars

Furthermore all these studies are aimed at finding a relationship between entrepreneurial choice and level of education, whereas relatively less is known about the variation in entrepreneurial choice and performance for graduates of different universities. Studies trying to find a link between university choice and carrier achievements of university graduates mainly looked at variation in wage earnings. The results are ambiguous and sensitive to the choice of method and sample. Thus, using Swedish data Lindahl and Regner (2005), Lundin(2006) find that earnings of graduates from old colleges are higher, whereas Eliasson (2006) reports no significant differences in wage earnings of graduates from five different college groups. Brand at al (2006) found mixed evidence that attending an elite college yields an advantage for wage earnings.

Using cross-section data on all Swedish graduates we examine the impact of university on entrepreneurial choice and performance for graduates of 44 Swedish universities. A separate analysis is done for graduates of 5 education fields to control for heterogeneity of education. The results suggest that entrepreneurial preferences differ by educational fields, that graduates of some universities are more entrepreneurial than others. We also find that the preferences for different entrepreneurial occupations differ across universities. As to the university effect on graduates' earnings we find significant university effect for only a small group of universities, which differ by field of education and entrepreneurial category.

The following section describes our entrepreneurship typology and the data set we have used. The third section discusses various causality and other problems involved and the models estimated. The descriptive statistics are presented in section 4, results in section 5 and some final remarks are given in section six.

2. Entrepreneurship typology and data

One drawback of using a binary model is that employees combining wage employment with entrepreneurship are left out by definition or are wrongly classified as either wage employees or entrepreneurs. As a result there is a risk that the extent of entrepreneurial activities in a city, a region or a country is underestimated.

In order to address this problem we propose an entrepreneurship typology reflecting the possibility to be more or less involved in entrepreneurial activities. To be useful from an

empirical point such a typology requires a definition and a way of measuring “involvement”. This can obviously be done in several ways. One approach could, for example be to define and measure the entrepreneurial activities of an employee by the fraction of time he or she devotes to business activities. Another approach would be to define it in terms of business income and wage income. Since we have access to individual data on both business and wage income this is the alternative chosen here.

The data base we are relying on is provided by Statistics Sweden and referred to as FAD, an acronym for “Firms And Establishment Dynamics” (in Swedish: Företagens och Arbetsställenas Dynamik). FAD comprises linked individual time series data on all Swedish employees, firms and establishments from 1985 to 2008. By way of example the employees are characterized in terms of education, occupation, age and income and the firms in terms of industry, employment and value added.

As for entrepreneurship, all employees are classified as belonging to one of three categories: wage employees, self-employed and co-owners of close companies. Any wage employee might also have a business income and any self-employee also a wage income. If the business income is larger than the wage income they are classified as self-employed and otherwise as wage employed.³ Since we have individual data on both business and wage income, the wage employees are divided into two subsets: those only having a wage income and those having both a wage income and a business income. Likewise the self-employed are split into two groups: those only having a business income and those having both a business income and a wage income. Since only wage income is reported for co-owners of close companies our typology leaves will consist of five categories.⁴ The names to be used for these categories are: Employees, mixed employees, mixed entrepreneurs, entrepreneurs, self-owners and entrepreneurs co-owners.

Table 1 and figure 1 show the size of each category across all employed and within different educational groups.

³ Statistics Sweden multiplies the reported business income by 1.6 in order to adjust for an observed tendency by business owners to underestimate their business income.

⁴ The incomes derived from profits are not included at the level of individuals since they are categorized as capital income.

Table 1 Thousand´s of employed by occupation and level of education. Sweden 2007

	Short	Medium	Long	Research	N/A	Total
Employee	1 439	1 578	660	36	21	3 733
Mixed Employee	103	100	59	7	0,8	270
Mixed Entrepreneur	25	23	9	0,6	0,5	57
Entrepreneur, self-owner	104	62	18	0,8	3	188
Entrepreneur, joint owner	68	51	23	1,2	1	145
Total	1 739	1 814	769	45	26	4 393

As expected and shown by the last column of the table, a large majority of all employees are wage employed without an additional business income; 3.7 out of 4.4 million. Some 270 000 the wage employees also have a business income. Though their entrepreneurial level of activity might be low they outnumber both the self-employed entrepreneurs (57 000 plus 188 000) and the joint owners. A large majority of the employees have a short (at most two years in upper secondary school) or a medium level of education (at least three years in upper secondary school and at most two years in a university college or university). The numbers having long education – at least three years of university studies or a PhD degree are 769 000 and 45 000, respectively. As indicated by the cross-tabulation and more clearly shown by figure 1, the entrepreneurship profile differs considerably across educational levels.

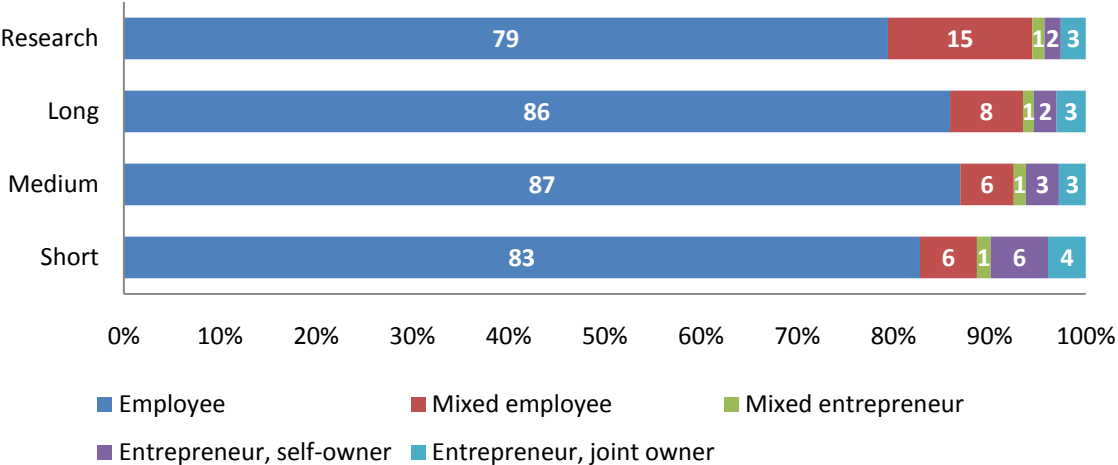


Figure 1 Entrepreneurship profile within groups of employees having different levels of education.

The percentage number of “full-time” entrepreneurs is lower the higher the level of education; from close to 10 percent (3.9 plus 6) among those having a short level of education to some 4 percent among those having a PhD-exam. The fraction of mixed entrepreneurs is roughly the same in all educational groups. However, the relationship is reversed for the category mixed employees; 15 percent of the PhD´s and 7.6 percent of

those having long education as compared to 5-6 percent among those having lower levels of education. The relationship between employment and level of education seems to be U-shaped: it first increases and then decreases when going from short to PhD-education. Since we will be focusing on entrepreneurship among graduates the figure hence seems support the use of a typology like ours.

As well as varying by level of education, entrepreneurship is likely to differ between disciplines or educational areas. Table 2 shows the entrepreneurship profile for seven educational areas. Graduates in “Arts and media” stand out as most business oriented: the fraction of entrepreneurs is 13 percent, the fraction of mixed entrepreneurs close to 6 percent and additional 17 percent belongs to the category mixed employees. An obvious alternative hypothesis could be that they are forced to become entrepreneurs because of a low demand for their services as employees. Those having a teacher education are at the other end of the entrepreneurship scale: less than three percent are entrepreneurs or mixed entrepreneurs and 8 percent are mixed employees.

Table 2. Employees having at least three years of university education by occupation and field of education. Percent

	Employee	Mixed employee	Mixed entrepreneur	Entrepreneur, self-owner	Entrepreneur, joint owner	
Social Sciences	83,0	8,0	1,4	3,0	4,5	100
Natural Sciences	83,9	8,9	1,3	2,8	3,1	100
Arts & Media	64,0	17,1	5,8	10,0	3,0	100
Health	87,7	7,3	0,8	1,5	2,7	100
Humanities	82,7	8,9	2,3	4,4	1,7	100
Teacher	89,1	8,1	0,7	1,3	0,8	100
Technicians	85,2	7,4	0,8	2,2	4,3	100

In addition to counting the number of mixed employees and mixed entrepreneurs it is important to have an indication of their entrepreneurship activities as compared to “full-time” entrepreneurs. One way of providing such an assessment is to make use of the available income data at the individual level and compute an index by dividing business income with the sum of business income and wage. Provided all positive business incomes were positive, this ratio would increase from zero among employees to one among entrepreneurs and it would fall in between zero and one for the mixed categories. By definition, we would furthermore expect it to be – on the average – lower among mixed employees than among mixed entrepreneurs. Since some employees have a

negative business income we have instead used the absolute value of the business income. It is of course arguable if identical absolute values of a negative and a positive business income reflect the same volume of entrepreneurial activity. However, we think the resulting index can serve as an, admittedly rough indicator of differences in entrepreneurship activity across our occupation categories.⁵ Table 3 shows the resulting index for mixed employees and mixed entrepreneurs having different levels of education.

Table 3. Index of entrepreneurial activity among mixed employees and mixed entrepreneurs by levels of education. Percent

	Mixed employee	Mixed entrepreneur
Research	10,5	65
Long	14,1	68,1
Medium	17,5	70,7
Short	20,7	74,1
All	17,9	71,8

As expected, or rather by definition, the index indicates a larger volume of entrepreneurial activities among mixed entrepreneurs than mixed employees; on average 72 percent as compared to 18 percent among all mixed employees. In both categories the entrepreneurial activity seems to decrease with increased levels of education. Table 4 provides the same kind of information for different educational fields of education and shows that our indicator of entrepreneurial activity is highest within the field of arts and media among both mixed employees and mixed entrepreneurs.

Table 4 Index of entrepreneurial activity among mixed employees and mixed entrepreneurs by field of education among employees having long or research education.

	Mixed employee	Mixed entrepreneur
Teacher	14,9	66,1
Technicians	10,7	66,1
Health	13,1	67,3
Arts & Media	20,7	71,2
Humanities	16	70
Social Sciences	13,5	67,6
Natural Sciences	13,6	70,4

⁵ Like Statistics Sweden has done for self-owning entrepreneurs we have multiplied the reported business income of mixed employees by 1.6 provided it is larger than zero.

The variation in entrepreneurial activity indicated by tables 3 and 4 can be related to different entrepreneurial ambitions as differences in the demand for wage employment. Simplifying, the choice between our five occupations can be looked upon as a choice between the corresponding more or less uncertain income streams. Defining income as the sum of wage income and business income, table 5 present the medium income for each combination of occupation and level of education. As an indicator of the income variation the table also shows a variant the “Sharp-ratio”. This ratio is usually defined as the mean of a distribution divided by the corresponding standard deviation. In this case it is slightly differently defined as the ratio between the medium income and half the difference between the 90th and the 10th income percentile. Of course, we do not know to what extent the outcome of occupational choices presented by the table reflect consideration of expected income, risk and other factors. Disregarding the influence of other factors it seems, however plausible that a high ratio reflects more concern about risk than a low ratio.

Table 5. Median income and the Sharp ratio among all employees classified by level of education and occupation. Thousands of SEK in 2007

	Employee		Mixed Employee		Mixed Entrepreneur		Entrepreneur, self-owner		Entrepreneur, joint owner	
	Median	S-ratio	Median	S-ratio	Median	S-ratio	Median	S-ratio	Median	S-ratio
Research	437	1,42	484	1,34	259	0,73	77	0,35	399	1,13
Long	308	1,36	313	1,13	225	0,93	97	0,46	366	1,30
Medium	242	1,44	244	1,15	179	1,06	109	0,63	306	1,51
Short	243	1,79	216	1,18	188	1,20	120	0,71	285	1,74
Total	253	1,49	248	1,10	188	1,07	113	0,66	302	1,48

On average occupation seems to matter more for the income than the level of education. Considering all employed the median income ranges from 113 000 SEK among self-owning entrepreneurs to 302 000 SEK among co-owning entrepreneurs as compared to 164 000 SEK for those having short education and 353 000 SEK for those having a PhD exam. The income tends to increase with increased level of education in all occupations but “Entrepreneur and self-owner”.

Referring to conventional wisdom regarding risk attitudes one should expect the Sharp-ratio to be higher among employees than among entrepreneurs. However, this hypothesis is only partly supported by the data in the table. The ratio is considerably higher among employees (1.49) than among mixed employees (1.10), mixed entrepreneurs (1.07) and self-owning entrepreneurs (0.66) but does not differ from the ratio among co-owning entrepreneurs (1.48).

The relationship between level education and the Sharp-ratio differs between different occupations. It decreases by increased levels of education among mixed entrepreneurs, self-owning entrepreneurs and co-owning entrepreneurs. Among employees it first decreases and then increases as more years of education are added. The mixed employees exhibit a similar U-shaped pattern. It seems safe to conclude additional explanatory factors are needed in order to understand how the level of education influences entrepreneurial choice and income.

Focusing on university graduates, table 6 shows the median income and Sharp-ratio for different occupations and fields of education. The income variation between occupations is larger among graduates than among all employees; the medium income ranges from 96 000 SEK among self-owning entrepreneurs to 367 000 SEK among co-owning entrepreneurs in table 6 as compared to 113 000 SEK and 302 000 SEK among all. This certainly supports the inclusion of educational field in our analysis. Irrespective of occupation graduates in arts and media are in the bottom of the income league. Technicians take the top position in all occupations but co-owning entrepreneurs. The Sharp-ratio is also exhibiting a larger variation among graduates ranging from 2.17 for employed teachers to 0.27 among self-employed graduates in arts and media.

Table 6. Medium income and the Sharp-ratio among employees having long education classified by occupation and fields of education. Thousands of SEK in 2007

	Employee		Mixed Employee		Mixed Entrepreneur		Entrepreneur, self-owner		Entrepreneur, joint owner	
	Median	S-ratio	Median	S-ratio	Median	S-ratio	Median	S-ratio	Median	S-ratio
Teacher	270	2,17	271	1,59	182	1,02	48	0,27	300	1,41
Technicians	406	1,64	408	1,39	284	0,91	119	0,50	379	1,42
Health	290	1,23	333	0,89	273	0,90	159	0,66	399	1,49
Arts & Media	255	1,61	206	0,99	149	0,84	48	0,27	291	1,50
Humanities	284	1,56	285	1,21	182	0,95	76	0,44	306	1,35
Social Sciences	353	1,27	355	1,18	254	1,01	101	0,46	371	1,12
Natural Sciences	346	1,55	346	1,29	227	1,00	107	0,50	350	1,38
Total	312	1,34	324	1,09	227	0,91	96	0,45	367	1,29

While it is possible to make some predictions about differences in occupational choice and income for difference education levels and fields the difference for graduates of different

universities is less obvious. The figure below demonstrates the pattern of entrepreneurial choice and income for social science graduates from different universities.

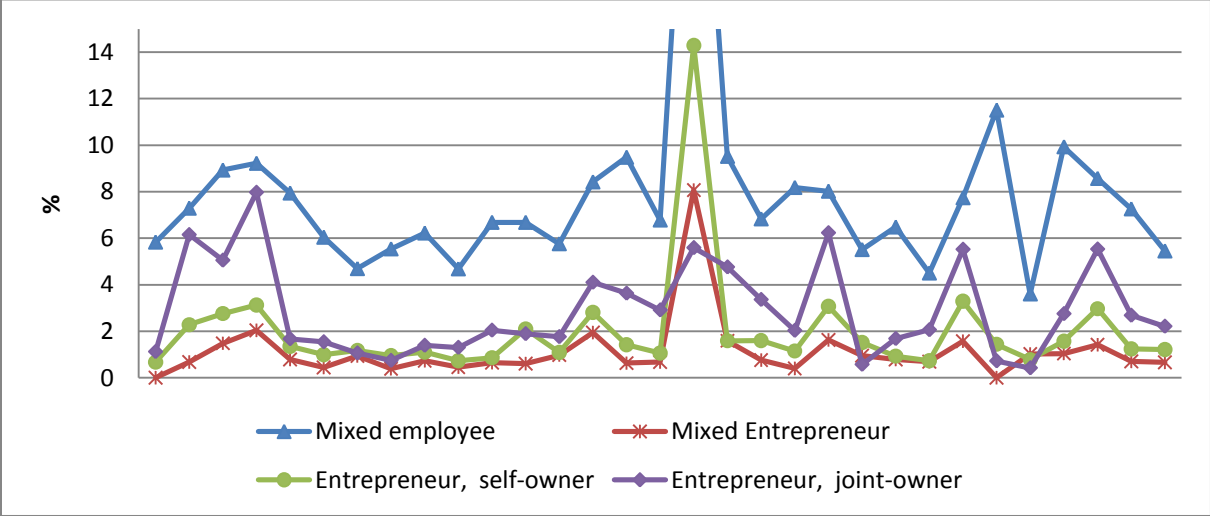


Figure 2. The frequency of entrepreneurial choice for social science graduates by university

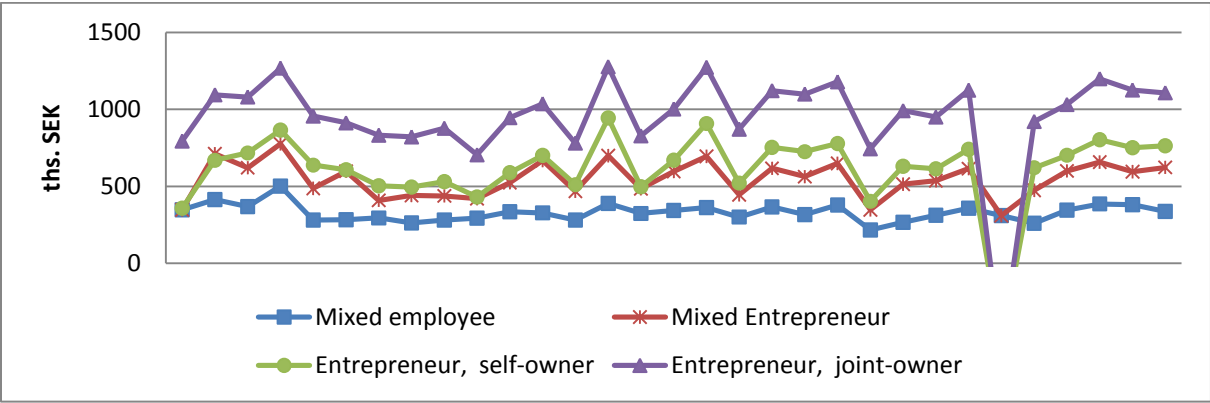


Figure 3. The difference in median earnings in each entrepreneurial group by university

Thus the data suggest that both the frequency of entrepreneurial choice and income vary considerably for graduates of different universities. There is more variation in the frequency of being mixed employee and entrepreneur joint owner. At the same time it looks that graduates of some universities are more entrepreneurial than others. Furthermore we also observe differences in the choice of different entrepreneurial groups, suggesting different entrepreneurial profiles of university graduates. The data also show that universities differ not only by high frequency of entrepreneurial choice but also by median earnings. There is more variation in median earnings of entrepreneurs and less for mixed employees. Furthermore the shapes of earnings variation for each entrepreneurial group are rather similar for entrepreneurs suggesting that graduates of some universities earn more in all entrepreneurial categories.

A similar variation is observed for graduates from other education fields, suggesting that the graduation place matters for both entrepreneurial choice and income.

3. The model and estimation method

We are interested in differences in the entrepreneurial choice and earnings of university graduates. Hence we first suggest a model to estimate university effect on the likelihood of entrepreneurial choice. We further estimate university effect on individuals' earnings given entrepreneurial choice.

University effect on entrepreneurial choice

To model the choice of university graduates into the above described 5 occupational categories () we assume that each individual () makes the choice based on the highest perceived utility associated with each alternative.

- Employee – wage employee without any business income (86% of the sample)
- Mixed employee – wage employee with non zero business income, which is however less than wage income (8% of the sample)
- Mixed entrepreneur – self-employed with non zero wage, which is however lower than business income (1% of the sample)
- Entrepreneur, self-owner - self-employed with zero wage (2% of the sample)
- Entrepreneur, joint owner - self-employed in own company with joint ownership (3% of the sample).

Then the probability that individual i will choose occupation j is

The utility in turn is a function of individuals' personal characteristics, variations in wage and business income in previous years as well as labor market characteristics. Hence the probability of being in occupation j is a function of

- Education specifics such as level and field of education, university of graduation. We distinguish between two levels of university education, i.e. research level education and higher education. Furthermore instead of including a dummy variable for each field of education we make separate analysis for graduates of each field of education to control for the heterogeneity among graduates of different fields. To distinguish between university specific effects we include university dummies.
- Other personal characteristics such as ethnic background, age, abilities

A dummy variable is included to control for individuals ethnic background and a continuous variable for age. As a measure of individuals' abilities we use grade point average from secondary school.

- Sharp ratio, which captures the variation in previous years income and is defined as the ratio of average income (wage plus business income) in proceeding 5 years to its variance. We assume that the higher the Sharp ratio the lower the probability of choosing risky occupations.
- Labor market specifics
Individuals' occupational choice might be also affected by labor market specifics. For example the likelihood of entrepreneurial choice may differ with the level of urbanization, employment possibilities and other regional specifics. To capture differences in the labor markets we include controls for the regions. In particular we distinguish between Stockholm region, Göteborg/Malmö region, medium size regions, small regions, villages.
- Unobserved factors

The estimation is done using multinomial logit model which allows incorporation of five different occupational categories under the assumption of independence of irrelevant alternatives and identically and independently distributed error term. The multinomial logit model allows estimation of probability of being in category j as compared to base category k , which is the alternative normalized to have coefficients equal to 0.

The main caveat with estimation of the abovementioned model specification maybe in the violation of the assumption on randomness of independent variables. In an attempt to capture university specific effects we include university dummies, which however might not be random, since more able individuals will probably choose more selective universities. In this case the results will be biased due to dependence between the factors effecting university choice and choice of occupational status. To solve the problem we apply what is called selection on observables strategy according to which controlling for observable pre-university factors affecting both outcomes the problem is reduced. The data we have allowed to control for individuals' ability, which is among the main observable factors effecting university

choice.⁶ At the same time we assume that unobservable factors effecting choice of university and occupation are not correlated which seems to be plausible.

University effect on earnings

Non-random selection of university place is more problematic while estimating the university effect on income. As noted in Elliasson (2006) “Better students sort into more selective colleges”. As a result the estimates of university effect will be biased. To cope with this problem we again refer to “selection on observables” strategy proposed by (Heckman and Hotz 1989). Under this assumption the bias is reduced conditioning on a sufficiently rich set of observable pre-university characteristics effecting selection. Thus, among such factors we identify parents’ education and individuals’ ability.

Hence, to estimate the impact of university on individual’s earnings (wage plus business income) we specify the following equation for each entrepreneurial category.

Where y is individuals income from wage employment and business activity, it can be either negative or positive. The choice of independent covariates is guided by the literature on estimation of earnings and includes all traditional variables, which are further discussed in the next section. We also include control for the size of business activity to account for differences on business outcome brought by business size differences.

We would like to note that in this setup we don’t control for the selection bias which could originate from being in this or that entrepreneurial category. We observe each individual in one category only and hence we don’t know about the earnings he/she could earn in other entrepreneurial categories which results in selection bias.

⁶The literature also suggest parents’ education level as a determinant of university choice, however we do not control for it since it seems to be no relation between occupational choice and parents’ education.

4. More on data and descriptive statistics

The data used in this study are provided by Statistics Sweden (SCB) and cover the whole working population of Sweden in 2007, which makes about 4,5 mln individuals. The dataset is quite comprehensive and contains information about individuals' personal characteristics, such as gender, age, ethnic background, parental information, education specifics as well as labor market specifics. For each individual we have data on the respective employment and business activity, wage and business income, occupation type etc.

For the purpose of the analysis we have chosen individuals with higher education, i.e. university graduates. The analysis is restricted to the alumni of those universities having at least 1000 graduates working in Swedish labor market in 2007. Thus, we study the population of graduates from 44 Swedish universities⁷ which makes about 631 000 individuals⁸. A separate analysis is performed for graduates of five education fields: social science, natural/technical science, health care, education and arts/humanities to control for specifics of graduates from each field.

The samples used for the choice models and earnings model are somewhat different, since the earnings equations include data on parents' education level, which contains missing values contracting sample size by about 17-20% for each field of education. However comparisons of descriptive statistics from two samples indicate that both samples are similar in terms of distribution of included variables. Sample means of independent variables used the in the choice model are presented in the table below for graduates of social science.

Table 7. Sample means of independent variables in the choice model

	Employee	Mixed employee	Mixed entrepreneur	Entrepreneur, Self-owner	Entrepreneur, Joint-owner
Personal characteristics					
Women (%)	58	46	51	49	28
Age	37	41	41	43	44
Native Background (%)	93	95	92	93	96
Research Level Education (%)	2	6	4	1	1
Grade point average	1466	1472	1484	1471	1469
Labor market size					
Stockholm (%)	46	42	49	50	48

⁷ Swedish higher education institutions, hereinafter referred to as universities, include universities and university colleges.

⁸ After accounting for all missing values the population is reduced to a sample of about 530 000 individuals.

Malmö-Göteborg (%)	22	22	26	26	25
Medium size regions(%)	7	7	6	5	6
Small regions(%)	17	21	13	12	14
Smallest regions(%)	7	9	6	8	7
No of observations	100754	7704	1018	1717	4001

We can see from the table that women for example less frequently choose entrepreneurial occupations, moreover their share is the lowest and makes 28% among entrepreneur- joint owners. The average age in all entrepreneurial categories is higher than in the category of employees and fluctuates from 41 to 44. When it comes to ethnic background the data suggest that the share of those with foreign background is higher among mixed entrepreneurs and entrepreneurs self-owners. Furthermore the share of individuals with research level education is considerably high for mixed employees and mixed entrepreneurs, suggesting that researchers prefer combination of both wage employment with business. As to differences in grade point average⁹, the measure of individuals' ability we see that it is higher in all entrepreneurial categories. As to regional distribution of entrepreneurial activities the data suggest that about half of entrepreneurial activities take place in Stockholm, followed by Malmö Göteborg.

We also present statistics for the sample of social science graduates used for estimating earnings regression, which differs from the previous table by including statistics on parents' education level as well as industry affiliation and business size data for those engaged in business activities. For employees industrial belonging indicates the industry to which wage employment is affiliated and for entrepreneurs it has to do with their business activity. Furthermore to capture the effect of business size on individuals income we use the number of employed in business activity.

Table 8. Sample means of independent variables in earnings model

	Employee	Mixed employee	Mixed entrepreneur	Entrepreneur self owner	Entrepreneur joint owner
Personal characteristics					
Women	58	45	52	51	28
Age	37	40	39	40	42
Native Background	94	96	93	94	96
Research level education	2	6	4	1	1
Grade Point Average	1470	1480	1492	1488	1479

⁹The mechanism of grade point average calculations have been changed in Sweden in 1996. For comparability considerations the grades in the old and new system have been transformed into a common scale with a minimum of 1000 and maximum 2000.

Parents' education					
Father with higher education	29	30	37	35	33
Mother with higher education	26	27	32	29	28
Labor market size					
Stockholm	45	41	50	50	48
Malmo-Goteborg	22	21	25	25	25
Medium size regions	7	7	6	5	6
Small regions	17	20	13	13	14
Smallest regions	7	9	6	8	7
Industries					
Public Admin. & Defense	21	14	0	0	0
Agriculture & Fishery	0,2	0,4	2	5	1
Construction	1	1,4	1	1	2
Education	6	11	3	2	2
Electricity & Gas Production	0,8	0,8	0	0	0
Finance	11	7	1	1	3
Health	5	8	6	4	2
Hotels & Restaurants	0,6	0,8	1	1	2
Manufacturing /Equipment/	4	4	0	0	1
Manufacturing General	5	7	2	2	3
Real Estate & Business Activity	24	27	64	63	71
Social Services	5	6	16	11	2
Retail Trade	2	2	2	5	5
Wholesale Trade	6	5	1	4	6
Transport & Communication	3	3	1	1	1
Size of business activity					
Number of employees			1,4	1,3	28
No of obs	90 000	6451	850	1375	3216

The sample means are almost identical for personal characteristics. From the data on parents' education we can see that those in entrepreneurial occupations more often have educated parents than those working as employees. The industrial decomposition indicates that the vast majority of business is in real estate and business activity sector. The next biggest category of business activities is social services sector. As to the size of business activity represented by the number of employees we can see that mixed entrepreneurship and self-owner entrepreneurship are mostly one person businesses, whereas entrepreneurs with joint ownership own bigger businesses.

It is worth noting that to exclude outlier effects individuals with earnings below and above 1st and 99th percentile of earnings distribution for each occupational category were excluded from the analyses. The **table** below describes income distribution for in each occupation category.

Table 9. Income distribution by entrepreneurial category

Percentile	Employee	Mixed Employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur joint owner
1%	26 509	-306 730	9 295	-573 973	18 535
5%	89 930	8 300	32 737	-116 967	93 598
10%	142 368	83 906	53 355	-24 654	146 683
25%	236 007	215 334	116 783	8 027	270 000
50%	313 181	326 986	230 914	105 792	368 000
75%	427 038	464 873	370 203	269 606	520 766
90%	612 263	681 000	555 665	410 597	718 000
95%	765 990	850 945	720 920	531 935	881 214
99%	1 311 344	1 386 151	1 161 916	862 099	1 561 594

5. Results

Choice model

The results for the occupational choice model are presented in **Table A-1** for each education field separately. The presented coefficients show the impact on the probability of being in the corresponding entrepreneurial occupation as compared to full-time employment (not marginal effects). Several conclusions are relevant.

First, the results suggest that graduates of a number of universities have higher likelihood of choosing entrepreneurial occupations. The list of universities having significant impact on the choice of entrepreneurial status differs by field of education and entrepreneurial category. The results are summarized in the following table, which shows the number of universities graduates of which differ significantly (either positively or negatively) in the choice of corresponding entrepreneurship type.

Table 10: *The number of universities with either positive or significant difference in graduates entrepreneurial choice by field of education and type of entrepreneurship*

	Mixed Employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur joint owner
Social Science	19 (1 negative)	3 (2 negative)	5 (3 negative)	10 (3 negative)
Teacher	15 (3negative)	8(1 negative)	6(1 negative)	4 (2 negative)
Arts & Humanities	4 (1 negative)	9 (4 negative)	11(10 negative)	9 (8 negative)
Natural Science	19	5 (3 negative)	6(5 negative)	9(5 negative)
Medicine	10(5 negative)	8 (6 negative)	12 (10 negative)	9 (5 negative)

Thus the results suggest considerable variation given that that the total number of universities having graduates in social science, teacher education, arts and humanities, natural science and

medicine makes 30, 26, 25, 29 and 36 respectively. The variation in the choice of entrepreneurial occupation across universities is more often for the choice of mixed employment and entrepreneurship with joint ownership for social science graduates, mixed employment and entrepreneurship for graduates of pedagogy, entrepreneurship with self-ownership for arts and humanities, mixed employment and entrepreneurship with self-ownership for natural science graduates.

Among universities affecting the entrepreneurial choice for social science graduates in all entrepreneurial categories we identify Karolinska Institutet, Stockholm University and Handelshögskolan. For graduates in pedagogy we have Konsthögskolan and Stockholm University, for Arts and Humanities Konstfack, for medical science Lund University, Göteborg University and Karolinska Institutet, for natural science it's a bit vague since different universities promote choice to different entrepreneurial categories, but for example Sveriges lantbruksuniversitet effect is significant for all choices.

Second, the results indicate that there are differences in entrepreneurial preferences across universities; some occupational categories are more likely for graduates of one university and less likely for others. This indicates the ability of university to effect the type of entrepreneurial choice. For example social science graduates of Handelshögskolan and Stockholm University have higher likelihood of choosing entrepreneurship with joint ownership, followed by mixed entrepreneurship, entrepreneurship with self ownership and mixed employment whereas the same group of graduates from Karolinska Institutet prefers mixed employment to mixed entrepreneurship, followed by entrepreneurship with either self or joint ownership. Or for example graduation from KTH in natural sciences will positively affect the likelihood of choosing mixed employment and entrepreneurship with joint ownership, however no significant affect for entrepreneurship with self ownership. At the same time we find no significant effect of choosing either entrepreneurship for natural sciences graduates of Chalmers University.

As to other factors effecting entrepreneurial choice the results suggest that women are less likely to be entrepreneurial, which holds for all education fields and entrepreneurial categories. The age has positive effect on individuals' entrepreneurial choice which is the same in all model variations. As to ethnic background it has mainly positive impact on the choice of mixed employment, mainly negative impact on the choice of mixed entrepreneurship and

entrepreneurship with self-ownership and mainly positive impact on entrepreneurship with joint ownership.

The research level education stimulates the choice of mixed employment but has mainly negative impact on other entrepreneurship forms, with the exception for social science graduates. Thus for graduates of social science the research level education affects positively the choice of mixed entrepreneurship.

Not surprisingly the abilities measured as grade point average after secondary school has positive and significant effect on entrepreneurial choice in all models. As to the effect of Sharp ratio, the results suggest that people with high variation in previous years income are less likely to choose entrepreneurial occupations and prefer more stable wage employment.

Earnings model

In this section we will discuss the results of the second model, where we estimate if there is a link between entrepreneurial performance and university. The results for each category of entrepreneurs in the respective education field are presented in **table A-2**.

First, we find less frequent effect of university on graduates’ earnings than entrepreneurial choice, meaning that earnings are more similar for different universities. However, as shown in the table below the variation differs by both field of education and entrepreneurial category.

Table11: The number of universities with either positive or negative significant variation in graduates earnings by field of education and type of entrepreneurship

	Mixed Employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur joint owner
Social Science	8 (7 negative)	4(1 negative)	3 (2 negative)	8
Teacher	8 negative	15	2 (1 negative)	2 (1 negative)
Arts & Humanities	2	14 (1 negative)	7	17
Natural Science	14 (1 negative)	1 (negative)	4(2 negative)	13 (1 negative)
Medicine	11 (10 negative)	10 (1 negative)	8 (4 negative)	4 (2 negative)

For example there is almost no variation in earnings of natural science graduates in the category of mixed entrepreneurs. Social science graduates of only 3 universities are identified as having statistically significant difference in earnings for the category of entrepreneur, self owner. Furthermore graduates of some universities do better others worse. For example

earnings of mixed employee graduates from medical sciences are significantly lower for graduates of 10 universities out of 36. At the same time natural science graduates of 12 universities in the category of entrepreneur joint owner do significantly better than others, among them Chalmers Tekniska Högskolan, Lund University, Linköping University etc. For those having got teacher education we can see significant but still negative university effect for the group of mixed employment and mixed entrepreneurship, suggesting that graduates of these universities do worse than others combining employment with business activity. The variation in university effect is much bigger for graduates of arts and humanities and the university effects are mainly positive and significant for mixed entrepreneurship and entrepreneurship with joint ownership.

Second, the results suggest that the pattern of earnings variation by universities is not preserved in all entrepreneurial categories. Graduates of one university may have higher earnings in one entrepreneurial category but lower in others meaning that universities cannot be unanimously ranked by alumni earnings in all entrepreneurial categories.

Third, comparing the list of universities promoting entrepreneurial choice and the list of those having advantage in graduates earnings we see that they are different. For example social science graduates of Karolinska Institutet have the highest likelihood for all types of entrepreneurial choices however they don't differ significantly by earnings. The same is true for Sveriges lantbruksuniversitet and many others.

As to other factors effecting earnings the results suggest that being women negatively impacts earnings in all occupational categories except for entrepreneur joint owner. This seems plausible because entrepreneurs of this group are business co-owners and they should be less discrimination among them. Age is mainly significant positive for the group of mixed employees and mainly insignificant for others, which suggest that earnings increase with age due to wage employment and not business activity. Furthermore foreign background is mainly insignificant suggesting no earnings variation for the population of highly educated people we analyze. Research level education effects significantly and positively on earnings of those in the group of mixed employees, however less clear effect in other entrepreneurial categories. The effect of grade point average, our measure of ability, is positive and significant for mixed employees and differs by education field in other entrepreneurial groups.

The overall conclusion from performance equations is that only few universities effect the performance either positively or negatively. The list of these universities differs across education fields and entrepreneurial categories. The graduates of the majority of universities perform more or less similarly in terms of their earnings.

6. Summary

The paper aimed at analyzing the entrepreneurial choice and performance for graduates of different universities and education fields. To control for non-random choice of education field as well as heterogeneity of graduates from difference education disciplines separate analysis is performed for graduates of each education field. A topology is suggested for differentiating between various types of entrepreneurship.

The results indicate that universities differ in the ability to effect individuals' entrepreneurial choice. The graduates of some universities are more entrepreneurial than others, the entrepreneurial profile of graduates , i.e. the preferences across different types of entrepreneurship, differ by universities. The list of universities having significant impact on entrepreneurial choice varies by field of education and entrepreneurship category.

We find less frequent university effects on individuals' performance on the labor market, however the results indicate significant variation for some universities. Furthermore the university impact on entrepreneurial choice is not necessarily the same as the impact on earnings.

Appendix

Table A-1. Results of multinomial logit regression

A. Social science graduates

VARIABLES	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Women	-0.571*** -0,0268	-0.945*** -0,0566	-0.650*** -0,072	-1.387*** -0,0404
Age	0.0713*** -0,002	0.155*** -0,00347	0.111*** -0,00476	0.125*** -0,00268
Native background	0.137** -0,056	-0,0924	-0.228* -0,122	0.257*** -0,0825
Research level education	0.949*** -0,0544	-1.025*** -0,255	0.406** -0,165	-1.187*** -0,157
Grade point average	0.000361*** -5,46E-005	0.000699*** -0,000119	0.000569*** -0,000154	0.000728*** -7,90E-005

Sharp Ratio	-0.000373***	-0.00237***	-0.00136***	-0.000536***
	-2,14E-005	-7,59E-005	-6,65E-005	-2,63E-005
Blekinge tekniska högskola	0,316	-0,0567	-14.09***	-0,129
	-0,234	-0,574	-0,216	-0,52
Chalmers tekniska högskola	0,116	-0,0476	-0,367	0,488*
	-0,241	-0,464	-0,749	-0,27
Göteborgs universitet	0.371***	0,0224	0,16	0.459***
	-0,0815	-0,174	-0,219	-0,122
Handelshögskolan i Stockholm	0.483***	0.356*	0.686***	0.803***
	-0,0984	-0,201	-0,251	-0,135
Högskolan Dalarna	0.444***	0,198	-0,0729	0,297
	-0,144	-0,321	-0,453	-0,266
Högskolan Kristianstad	0,276	-0,497	-0,211	0,14
	-0,174	-0,487	-0,542	-0,322
Högskolan Väst	0,0976	-0,321	0,361	-0,263
	-0,19	-0,441	-0,43	-0,397
Högskolan i Borås	-0.243**	-1.365***	-0.869**	-1.075***
	-0,113	-0,308	-0,338	-0,229
Högskolan i Gävle	0.402***	0,0711	0,063	0,0659
	-0,144	-0,336	-0,425	-0,286
Högskolan i Halmstad	0,154	-0,533	-0,137	0,0602
	-0,141	-0,387	-0,408	-0,254
Högskolan i Jönköping	0.507***	0,0556	-0,0917	0.586***
	-0,112	-0,28	-0,356	-0,183
Högskolan i Kalmar	0.350**	0,407	-0,111	-0,065
	-0,14	-0,283	-0,429	-0,263
Högskolan i Skövde	0,221	-0,978	0,163	0.696***
	-0,166	-0,601	-0,457	-0,247
Högskolan i Sundsvall/Härnösand	0,26	0.769**	0,604	0,342
	-0,202	-0,362	-0,491	-0,282
Högskolan i Östersund	0.299*	-0,712	-0,449	-0,132
	-0,17	-0,468	-0,613	-0,288
Karlstads universitet	0.247**	-0,123	-0,00898	0.455***
	-0,102	-0,235	-0,294	-0,15
Karolinska institutet	2.253***	1.815***	1.738***	1.395***
	-0,251	-0,541	-0,638	-0,439
Kungl. Tekniska högskolan	-0,447	1,098	-14.67***	0,253
	-1,049	-1,106	-0,325	-0,972
Linköpings universitet	0,143	-0,169	-0,126	0,227
	-0,0919	-0,201	-0,257	-0,139
Luleå tekniska universitet	0.467***	0,00139	-0,499	0,206
	-0,114	-0,281	-0,431	-0,196
Lunds universitet	0.211***	0,121	0,157	0.648***
	-0,0809	-0,166	-0,217	-0,118
Malmö högskola	0.465*	-0,081	0,456	-0,529
	-0,254	-0,542	-0,551	-0,726
Mittuniversitetet	0.369***	-0,166	0,301	0,247
	-0,113	-0,28	-0,303	-0,194

Mälardalens högskola	0,0183	-0,533	0,17	0.476**
	-0,138	-0,334	-0,327	-0,203
Stockholms universitet	0.324***	0.330**	0,247	0.644***
	-0,0793	-0,162	-0,213	-0,117
Sveriges lantbruksuniversitet	1.252***	-0,0602	-14.32***	-0,153
	-0,307	-1,11	-0,273	-0,968
Södertörns högskola	0,205	-0,337	0.614*	-0.796*
	-0,165	-0,374	-0,332	-0,463
Umeå universitet	0.338***	-0.383*	-0,0931	-0,187
	-0,0864	-0,204	-0,249	-0,145
Uppsala universitet	0.314***	0.273*	0,126	0.652***
	-0,08	-0,165	-0,216	-0,118
Växjö universitet	0.336***	-0,126	0,0578	0,167
	-0,0965	-0,232	-0,279	-0,154
Constant	-5.200***	-8.229***	-7.775***	-8.475***
	-0,15	-0,304	-0,388	-0,222
Observations	108541	108541	108541	108541

B. Teacher graduates

VARIABLES	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Women	-0.779***	-1.458***	-1.284***	-1.326***
	-0,031	-0,102	-0,109	-0,11
Age	0.0746***	0.150***	0.107***	0.114***
	-0,002	-0,00586	-0,00648	-0,00749
Native Background	0.370***	-0,275	0,236	0,29
	-0,0795	-0,202	-0,259	-0,257
Research Level education	0.566***	-0,923	-0,162	-0,763
	-0,178	-1,121	-0,788	-0,746
Grade point average	0.000511***	0.00133***	0.00113***	0.000592***
	-6,11E-005	-0,000222	-0,000232	-0,000224
Sharp Ratio	-0.000323***	-0.00297***	-0.00151***	-0.000540***
	-2,20E-005	-0,000195	-0,000114	-0,000121
Göteborgs universitet	-0,0231	0,421	-0,142	0,24
	-0,0854	-0,369	-0,319	-0,319
Högskolan Dalarna	-0.293**	-0,772	-0,253	-0,418
	-0,121	-0,689	-0,445	-0,536
Högskolan Kristianstad	-0.275**	-0,304	-0,769	-0,185
	-0,11	-0,535	-0,475	-0,448
Högskolan Väst	-0,329	0,594	0,741	0,182
	-0,21	-0,68	-0,498	-0,771
Högskolan i Borås	-0.404**	-1,08	-1,619	-14.23***
	-0,172	-1,068	-1,045	-0,303
Högskolan i Gävle	-0.295**	0,0466	0,0733	-0,183
	-0,119	-0,502	-0,408	-0,457
Högskolan i Halmstad	-0.537**	-0,426	-0,884	-0,367
	-0,26	-1,038	-1,046	-1,046

Högskolan i Jönköping	-0,146	-0,639	-0,712	0,294
	-0,101	-0,557	-0,46	-0,375
Högskolan i Kalmar	-0.234**	0,332	-1.056*	-0,269
	-0,112	-0,486	-0,571	-0,457
Högskolan i Skövde	0,0386	1,026	-14.88***	-14.24***
	-0,311	-0,803	-0,31	-0,321
Högskolan i Sundsvall/Härnösand	-0,153	0,518	-15.26***	0,626
	-0,207	-0,661	-0,303	-0,584
Karlstads universitet	-0.195**	0,376	-0.826*	-0,134
	-0,0947	-0,419	-0,429	-0,377
Konstfack	0.641***	1.400***	0,666	0.909**
	-0,15	-0,433	-0,46	-0,451
Kungl. Musikhögskolan i Stockholm	0.968***	1.353***	1.566***	0,494
	-0,134	-0,438	-0,375	-0,483
Linköpings universitet	-0.289***	0,194	-0,262	0,21
	-0,0895	-0,383	-0,333	-0,328
Luleå tekniska universitet	0,0344	0,59	-0,236	0,266
	-0,103	-0,439	-0,416	-0,389
Lunds universitet	-0,0713	0.856**	0,31	0,32
	-0,0961	-0,378	-0,33	-0,335
Lärarhögskolan i Stockholm	-0.386***	0,0962	-0,411	-0,212
	-0,0882	-0,362	-0,332	-0,329
Malmö högskola	-0.465***	-0,32	-1.119**	-1.270**
	-0,11	-0,462	-0,448	-0,514
Mittuniversitetet	0,0403	-1,066	-0,627	-0,283
	-0,114	-0,792	-0,535	-0,538
Mälardalens högskola	-1.250***	0,527	-15.06***	-0,371
	-0,393	-0,692	-0,28	-1,049
Stockholms universitet	0.386**	1.984***	1.107**	1.566***
	-0,187	-0,452	-0,48	-0,454
Södertörns högskola	-0.917*	-14.24***	-14.99***	0,207
	-0,52	-0,395	-0,333	-1,028
Umeå universitet	-0,0194	0,264	-0,308	0,0663
	-0,0853	-0,382	-0,335	-0,331
Uppsala universitet	-0,0193	0.686*	0,0607	0,189
	-0,09	-0,366	-0,334	-0,327
Växjö universitet	-0.301***	0,391	0,161	0,456
	-0,107	-0,444	-0,366	-0,368
Constant	-5.347***	-10.01***	-8.889***	-9.646***
	-0,153	-0,605	-0,547	-0,558
Observations	90770	90770	90770	90770

C: Graduates of Arts and Humanities

VARIABLES	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Women	-0.512***	-0.716***	-0.549***	-0.988***

	-0,0561	-0,0887	-0,101	-0,142
Age	0.0357***	0.0728***	0.0614***	0.0818***
	-0,0042	-0,00625	-0,00751	-0,0101
Native Background	0,0694	-0,087	0,0733	0.651*
	-0,12	-0,177	-0,211	-0,384
Research Level education	0,0668	-2.182***	-1.156***	-1.330***
	-0,0855	-0,358	-0,257	-0,347
Grade point average	0.000332***	0.000974***	0.000855***	0,000221
	-0,000114	-0,000189	-0,000221	-0,000277
Sharp Ratio	-0.000430***	-0.00252***	-0.00154***	-0.000413***
	-4,83E-005	-0,000148	-0,000125	-9,33E-005
Blekinge tekniska högskola	-0,0412	-15.35***	1,976	-14.13***
	-0,664	-0,523	-1,229	-0,747
Göteborgs universitet	0,445	-0,104	1,605	0,228
	-0,29	-0,436	-1,031	-0,73
Högskolan Dalarna	-0,445	-0,104	1,261	0,532
	-0,482	-0,656	-1,192	-1,003
Högskolan Kristianstad	-0,553	0,172	-13.43***	-14.80***
	-1,112	-1,303	-1,125	-0,818
Högskolan Väst	-14.98***	-15.45***	-13.75***	-14.40***
	-0,4	-0,561	-1,093	-0,8
Högskolan i Borås	0.699*	0,209	2.390**	1.856**
	-0,4	-0,591	-1,096	-0,845
Högskolan i Gävle	-0,564	-0,796	-13.54***	-14.17***
	-0,587	-0,837	-1,042	-0,727
Högskolan i Halmstad	0,0961	-1,34	1,394	0,737
	-0,511	-1,121	-1,27	-1,25
Högskolan i Jönköping	1,451	-15.31***	-13.52***	-14.63***
	-0,96	-0,647	-1,134	-1,018
Högskolan i Kalmar	0,444	0,924	1,986	-13.87***
	-0,689	-0,72	-1,47	-0,751
Högskolan i Skövde	-0,636	-0,717	0,0806	0,445
	-0,42	-0,608	-1,246	-0,912
Karlstads universitet	-0,132	-0,798	0,000269	0,946
	-0,406	-0,735	-1,446	-0,865
Konstfack	1.430***	1.152***	2.373**	1.475**
	-0,296	-0,439	-1,034	-0,729
Kungl. Musikhögskolan i Stockholm	0.879***	-0,416	2.034**	-0,246
	-0,299	-0,482	-1,036	-0,796
Linköpings universitet	-0,162	-0,479	1,706	-0,439
	-0,337	-0,507	-1,049	-0,903
Luleå tekniska universitet	0,0324	-1,577	0,275	0,539
	-0,433	-1,089	-1,43	-1,022
Lunds universitet	-0,0888	-0,619	1,04	-0,165
	-0,29	-0,439	-1,032	-0,73
Malmö högskola	-0,452	-1.910*	0,164	-14.92***
	-0,609	-1,031	-1,449	-0,748

Mittuniversitetet	0,149	-0,397	2,041*	0,635
	-0,526	-0,815	-1,198	-1,282
Mälardalens högskola	0,136	-0,127	1,09	-0,158
	-0,349	-0,503	-1,096	-0,985
Stockholms universitet	-0,152	-0,224	0,909	-0,401
	-0,29	-0,439	-1,03	-0,73
Sveriges lantbruksuniversitet	0,0371	-13,46***	-13,03***	-14,12***
	-1,144	-0,865	-1,207	-0,892
Södertörns högskola	0,0871	-2,408**	0,448	-0,608
	-0,4	-1,101	-1,178	-1,233
Umeå universitet	0,198	-0,944*	0,658	0,811
	-0,304	-0,49	-1,073	-0,74
Uppsala universitet	-0,236	-1,023**	0,438	-0,755
	-0,29	-0,452	-1,038	-0,745
Växjö universitet	-0,22	-2,191**	1,094	0,0606
	-0,384	-1,094	-1,153	-0,998
Constant	-3,096***	-4,201***	-6,639***	-8,319***
	-0,39	-0,614	-1,19	-1,048
Observations	14454	14454	14454	14454

D: Graduates of Natural Science

VARIABLES	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Women	-0.616***	-1.056***	-0.890***	-1.254***
	-0,0276	-0,0656	-0,0847	-0,0482
Age	0.0577***	0.148***	0.110***	0.113***
	-0,00174	-0,0035	-0,00497	-0,00251
Native Background	0.242***	-0,0886	-0,126	0,0871
	-0,0539	-0,112	-0,145	-0,0721
Research Level education	0.266***	-0.517***	-0.262**	-0.738***
	-0,0324	-0,0988	-0,118	-0,0629
Grade point average	0.000232***	0.000756***	0.000545***	0.000660***
	-4,66E-005	-0,000127	-0,00016	-7,24E-005
Sharp Ratio	-0.000330***	-0.00222***	-0.00145***	-0.000606***
	-1,69E-005	-7,59E-005	-6,77E-005	-2,79E-005
Blekinge tekniska högskola	0,226	-1,391**	0,108	0,525**
	-0,175	-0,587	-0,671	-0,26
Chalmers tekniska högskola	0.422***	-0,144	0,491	0,278
	-0,138	-0,302	-0,512	-0,206
Ersta Sköndal högskola	0	0	0	0
	0	0	0	0
Göteborgs universitet	0.377**	-0,254	0,692	-0,0383
	-0,151	-0,334	-0,539	-0,232
Högskolan Dalarna	0.507***	-0,588	0,428	0,157
	-0,168	-0,466	-0,631	-0,275
Högskolan Kristianstad	0.513**	-1,134	-0,5	-0,53
	-0,222	-0,792	-1,123	-0,498

Högskolan Väst	0,219	-0,451	0,177	-0,710*
	-0,19	-0,435	-0,674	-0,381
Högskolan i Borås	0,378**	-0,292	-0,0658	-0,096
	-0,169	-0,4	-0,671	-0,284
Högskolan i Gävle	0,0519	-0,958*	0,00441	0,102
	-0,183	-0,506	-0,677	-0,275
Högskolan i Halmstad	0,687***	-0,554	0,829	0,587**
	-0,162	-0,43	-0,583	-0,245
Högskolan i Jönköping	0,503***	-1,855**	0,559	0,0389
	-0,169	-0,765	-0,629	-0,287
Högskolan i Kalmar	0,360**	-0,645	0,965*	0,124
	-0,172	-0,454	-0,577	-0,276
Högskolan i Skövde	0,293*	-0,361	0,726	0,138
	-0,177	-0,433	-0,597	-0,279
Högskolan i Sundsvall/Härnösand	0,522	0,569	0,714	-1,424
	-0,321	-0,611	-1,136	-1,031
Högskolan i Östersund	0,483*	-0,794	0,552	0,265
	-0,253	-0,792	-0,861	-0,351
Karlstads universitet	0,453***	-0,0186	0,11	0,0857
	-0,159	-0,362	-0,617	-0,252
Karolinska institutet	-0,732	-15,83***	-15,29***	0,036
	-0,988	-0,358	-0,529	-0,959
Kungl. Tekniska högskolan	0,423***	-0,00936	0,762	0,422**
	-0,137	-0,297	-0,505	-0,204
Linköpings universitet	0,374***	-0,217	0,197	0,316
	-0,138	-0,3	-0,519	-0,205
Luleå tekniska universitet	0,479***	-0,691**	-0,237	0,161
	-0,141	-0,332	-0,55	-0,214
Lunds universitet	0,409***	-0,0898	0,894*	0,255
	-0,139	-0,304	-0,51	-0,208
Malmö högskola	0,22	-0,335	0,254	-0,745
	-0,222	-0,488	-0,763	-0,461
Mittuniversitetet	0,629***	-0,554	0,763	-0,0908
	-0,155	-0,403	-0,563	-0,265
Mälardalens högskola	0,124	-0,338	0,633	0,0173
	-0,165	-0,38	-0,572	-0,253
Stockholms universitet	0,399***	-0,0967	0,702	0,017
	-0,149	-0,322	-0,531	-0,225
Sveriges lantbruksuniversitet	1,424***	0,751**	1,895***	0,546**
	-0,138	-0,302	-0,506	-0,212
Södertörns högskola	-0,529	0,457	-15,16***	-15,02***
	-0,713	-0,85	-0,517	-0,251
Umeå universitet	0,358**	-0,397	0,182	-0,0126
	-0,146	-0,337	-0,549	-0,229
Uppsala universitet	0,350**	0,0224	0,787	0,177
	-0,143	-0,311	-0,519	-0,213
Växjö universitet	0,128	-1,548**	-0,0557	-0,115
	-0,183	-0,659	-0,71	-0,296

Constant	-4.772***	-7.918***	-8.231***	-8.133***
	-0,168	-0,396	-0,588	-0,258
Observations	123583	123583	123583	123583

E: Graduates of Medicine

VARIABLES	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Women	-0.651***	-1.452***	-0.901***	-1.664***
	-0,0364	-0,11	-0,14	-0,062
Age	0.0689***	0.159***	0.0882***	0.144***
	-0,00217	-0,007	-0,0116	-0,00418
Native Background	0.145**	-0.357**	-0.395**	-0.233**
	-0,067	-0,158	-0,173	-0,106
Research Level education	0.832***	-0.861***	-0.807***	-1.968***
	-0,05	-0,216	-0,251	-0,132
Grade point average	0.000569***	0.000992***	0.00103***	0.00138***
	-6,56E-005	-0,000199	-0,000242	-0,000124
Sharp Ratio	-0.000196***	-0.00189***	-0.000732***	-7.77e-05**
	-2,30E-005	-0,000134	-0,000268	-3,69E-005
Blekinge tekniska högskola	-0,334	-0,316	-17.76***	-15.41***
	-0,257	-1,043	-0,259	-0,204
Ersta Sköndal högskola	-0,272	-1,45	-18.28***	-0,884
	-0,234	-1,043	-0,267	-1,028
Göteborgs universitet	0,0851	0.585**	0,0451	1.736***
	-0,087	-0,286	-0,314	-0,194
Hälsö högskolan i Jönköping	0.313**	0,171	-0,846	-0,411
	-0,133	-0,517	-0,746	-0,484
Hälsö högskolan i Stockholm	-0.248*	-0,176	-0,648	0,113
	-0,128	-0,391	-0,462	-0,267
Hälsö högskolan i Umeå	0.267*	0,158	0,116	0,0629
	-0,147	-0,501	-0,567	-0,39
Högskolan Dalarna	0,0834	-1,022	-0,962	-1,179
	-0,174	-1,033	-1,033	-1,023
Högskolan Kristianstad	-0,025	-0,528	0,238	-1,169
	-0,164	-0,754	-0,511	-1,016
Högskolan Väst	0,208	-17.32***	-1,503	-0,611
	-0,138	-0,25	-1,03	-0,611
Högskolan i Borås	0,0743	-1,362	-1,567	-0,0928
	-0,151	-1,034	-1,031	-0,537
Högskolan i Gävle	-0,223	-17.40***	-1,209	-0,737
	-0,18	-0,251	-1,031	-0,74
Högskolan i Halmstad	0,0895	-0,506	0,0699	-16.11***
	-0,158	-0,741	-0,557	-0,193
Högskolan i Jönköping	0,0946	-17.16***	-1,615	-0,942
	-0,14	-0,241	-1,033	-0,735
Högskolan i Kalmar	-0,0634	-17.16***	0,258	-0,187
	-0,173	-0,252	-0,559	-0,617
Högskolan i Skövde	0,0866	-17.10***	-17.77***	-15.70***

	-0,156	-0,249	-0,252	-0,195
Högskolan i Östersund	0.515***	0,519	0.868**	0,511
	-0,129	-0,411	-0,401	-0,317
Karlstads universitet	0,127	-1,112	-17.88***	-0,711
	-0,156	-1,028	-0,249	-0,737
Karolinska institutet	0,0499	0.996***	0.563**	2.032***
	-0,0868	-0,283	-0,281	-0,193
Linköpings universitet	0,0654	-0,0631	0,28	0,229
	-0,103	-0,43	-0,357	-0,317
Luleå tekniska universitet	0.258*	-0,649	-0,162	-0,612
	-0,146	-0,75	-0,631	-0,734
Lunds universitet	0,104	0.749***	0,442	1.406***
	-0,0883	-0,281	-0,302	-0,198
Lärarhögskolan i Stockholm	-0.449*	-0,552	0,154	-0,728
	-0,269	-0,754	-0,648	-0,748
Malmö högskola	-0.265*	-0,0747	-0,504	0,496
	-0,155	-0,503	-0,535	-0,391
Mittuniversitetet	0,106	-0,42	-0,453	-0,415
	-0,11	-0,472	-0,476	-0,423
Mälardalens högskola	-0.372**	-1.925*	-0,642	-0,0688
	-0,145	-1,026	-0,552	-0,422
Röda Korsets Högskola	-0.527**	-0,369	-0,135	-0,87
	-0,264	-0,645	-0,635	-1,021
Stockholms universitet	-0,145	0,0264	0,346	0,359
	-0,123	-0,354	-0,345	-0,264
Södertörns högskola	0,215	-16.80***	-17.73***	-15.11***
	-1,023	-0,371	-0,336	-0,326
Umeå universitet	0,0607	0,219	-0,088	1.227***
	-0,0863	-0,296	-0,317	-0,198
Uppsala universitet	-0,0552	0,00629	0,156	0.474*
	-0,0971	-0,345	-0,323	-0,247
Växjö universitet	0,0907	0,359	-17.78***	-15.76***
	-0,177	-0,637	-0,249	-0,196
Vårdhögskolan Boden	-0,071	0,406	-0,526	0,193
	-0,166	-0,5	-0,749	-0,394
Vårdhögskolan Lund/Helsingborg	-0.308*	-0,244	-0,132	-0,277
	-0,179	-0,527	-0,525	-0,438
Vårdhögskolan i Göteborg	0,0412	0.645*	0,0103	-0,187
	-0,123	-0,35	-0,405	-0,322
Vårdhögskolan i Uppsala	0,13	-0,0748	0,559	-0,516
	-0,18	-0,575	-0,493	-0,547
Vårdhögskolan i Örebro	-0,202	0,0269	-0,374	-0,45
	-0,199	-0,522	-0,746	-0,483
	-0,199	-0,522	-0,746	-0,483
Constant	-5.620***	-10.06***	-8.509***	-11.47***
	-0,162	-0,497	-0,56	-0,355
Observations	86268	86268	86268	86268

1. Robust standard errors reported under

coefficients

*** p<0.01, ** p<0.05, * p<0.1

2. Reference group: Orebro University
3. Controls for regions are included

Table A-2 : Results of earnings equation by education field

A: Social Science Graduates

	Mixed employee	Entrepreneur, self-owner	Mixed entrepreneur	Entrepreneur, joint owner
Woman	-110451***	-36606**	-49723***	1669
	-5265	-14346	-11544	-5047
Age	22999***	6728	7083	204,8
	-3427	-9736	-8500	-3936
AgeSq	-172.0***	-38,28	-22,76	6,906
	-43,93	-123,7	-106,4	-49,37
Native Background	3291	8038	61326***	-8826
	-12786	-31844	-20140	-8740
Research Education	56974***	67551*	-33633	
	-10861	-38540	-55430	
Grade point average	79.08***	62.49**	63.10**	9,182
	-9,72	-26,91	-24,8	-9,329
Mother with High Education	3475	-27591*	-12886	-2221
	-6353	-15513	-13258	-6398
Father with High Education	-11901*	-16457	-15078	2569
	-6469	-15058	-13193	-7134
Blekinge tekniska högskola	12267		-4672	
	-32724		-155971	
Chalmers tekniska högskola	31657	94871*	-125834	
	-44538	-57387	-87158	
Göteborgs universitet	18813	-22096	-41625	4908
	-15576	-38677	-32069	-20523
Handelshögskolan i Stockholm	85505***	-2241	-100304***	4178
	-24264	-48570	-36496	-21581
Högskolan Dalarna	-46990**	-14720	29865	13803
	-21825	-107289	-46985	-26432
Högskolan Kristianstad	-40064*	-18587	28023	-17792
	-23881	-58994	-49908	-22360
Högskolan Väst	-34896	-152208***	-913,2	46131**
	-24057	-46893	-63784	-22921
Högskolan i Borås	-56060***	-121513*	-11096	70594***
	-18349	-67649	-52806	-25304
Högskolan i Gävle	-32614	-73002	-508,7	
	-24964	-54112	-55142	
Högskolan i Halmstad	-23372	-116614**	-19882	24357
	-22544	-58835	-68452	-23501
Högskolan i Jönköping	22092	-33737	26629	37941
	-21163	-43991	-59784	-28810
Högskolan i Kalmar	-29176	20496	24762	-33056

	-21701	-61497	-44772	-24621
Högskolan i Skövde	-17822	-7898	113654***	8259
	-25957	-78805	-31790	-22808
Högskolan i Sundsvall/Härnösand	-32140	-15395	-84590	34438*
	-42921	-74768	-105750	-20442
Högskolan i Östersund	-38597	-121627***	-84851	32525
	-31877	-41498	-68657	-22227
Karlstads universitet	10680	-1980	61008	33335
	-19261	-49092	-45706	-22690
Karolinska institutet	37418	39461	-168480***	
	-33704	-52276	-43852	
Kungl. Tekniska högskolan	-169073***			
	-17047			
Linköpings universitet	24360	-14584	-18745	-24362
	-19209	-46616	-37082	-21064
Luleå tekniska universitet	-19035	25629	-12316	39903*
	-23052	-79882	-45971	-23325
Lunds universitet	8163	35418	18728	4264
	-15633	-38988	-33669	-19934
Malmö högskola	-74694*	-58501	-82214	
	-43309	-50168	-64845	
Mittuniversitetet	-20685	-30437	-2552	-37073
	-18912	-49912	-42939	-28429
Mälardalens högskola	22267	-65937	-51667	18778
	-22387	-45648	-45717	-20157
Stockholms universitet	-29648*	7306	-19102	5647
	-15289	-38676	-30573	-19990
Sveriges lantbruksuniversitet	52680		569863***	
	-66624		-42252	
Södertörns högskola	-25196	-19938	55251	
	-22102	-53688	-52018	
Umeå universitet	-1774	5335	-2860	-60,94
	-15784	-45672	-39026	-22871
Uppsala universitet	10812	-14854	-22500	-5772
	-15207	-40879	-31008	-20255
Växjö universitet	29005	-50134	21875	6784
	-18906	-42291	-45529	-23212
Constant	-361652***	81848	-171940	63485
	-81565	-202915	-180617	-79006
Observations	6295	836	1355	234
R-squared	0,251	0,139	0,203	0,232

Controls for industry and region, business size

B: Teacher graduates

VARIABLES	Mixed employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur, joint owner
Woman	-60571***	-24961	-78242***	11962
	-3719	-17659	-19829	-22938
Age	1537	7680	19947	5573

	-2608	-13875	-16800	-14208
AgeSq	34,75	-64,22	-202,2	-53,96
	-32,36	-171,5	-200,1	-175,2
Native Background	116	26751	-3126	
	-14110	-35472	-44335	
Research Education	114488***	146892	-210599***	
	-18340	-245656	-44942	
Grade point average	35.58***	89.07***	67.64*	-16,75
	-7,339	-33,74	-40,42	-40,41
Mother with High Education	-3160	-24906	10269	-25233
	-4672	-18468	-18461	-22476
Father with High Education	75,13	-16864	-5589	-26074
	-5203	-18832	-18355	-25055
Göteborgs universitet	-5298	-36414	-39620	-12446
	-9599	-40639	-58009	-63917
Högskolan Dalarna	-31204**	-75887	-50690	
	-13867	-50903	-92215	
Högskolan Kristianstad	-24416*	34186	94326	23222
	-14757	-93466	-79519	-89034
Högskolan Väst	-50399**	-105625**	-10312	
	-24749	-44431	-62393	
Högskolan i Borås	-10363	76263*	367515***	
	-16746	-41482	-65876	
Högskolan i Gävle	-22005	-120816**	76366	
	-13686	-46961	-62604	
Högskolan i Halmstad	-577,1	-123070**	-79071	
	-24928	-47573	-63724	
Högskolan i Jönköping	-17798	-10771	-96728	-31622
	-11193	-52420	-115360	-37910
Högskolan i Kalmar	-20475	-114808**	61083	-44123
	-13259	-50423	-96767	-78439
Högskolan i Skövde	39830		-52254	
	-28880		-97326	
Högskolan i Sundsvall/Härnösand	-46581*		-98739	-63579
	-26506		-74372	-39156
Karlstads universitet	-8313	-97735*	-15188	-52774
	-10488	-49802	-63709	-71314
Konstfack	-49030**	-65018	-94320	21861
	-19043	-45973	-66309	-78817
Kungl. Musikhögskolan i Stockholm	-41348***	-81743**	-78160	3998
	-13840	-39224	-63755	-62970
Linköpings universitet	-1918	-13706	-41199	27190
	-10085	-42539	-68607	-65507
Luleå tekniska universitet	-25711**	-7091	-61289	37266
	-10943	-47324	-79638	-116223
Lunds universitet	3367	-58801	-73923	-31170
	-11997	-44189	-59305	-73395
Malmö högskola	-7458	33938	-120051	-3723
	-13279	-57224	-79551	-65463

Mittuniversitetet	-34296**	-98357	-18527	
	-14351	-71365	-70213	
Mälardalens högskola	-77437		-62559	
	-82343		-113252	
Stockholms universitet	-47571**	-76671	-57531	-98271
	-22091	-51405	-70107	-102461
Södertörns högskola	69150			
	-58067			
Umeå universitet	-16857*	-81528**	-29555	-27027
	-9862	-41172	-59406	-66551
Uppsala universitet	-13537	-65991	23404	-56241
	-10642	-40024	-62511	-111059
Växjö universitet	-1369	-25524	-45367	-8743
	-12460	-49336	-69202	-83304
Constant	267929***	297494	-424474	-8497
	-54742	-291710	-358826	-250583
Observations	4837	345	368	56
R-squared	0,185	0,192	0,314	0,729

Controls for industry, region, business size included

C: Graduates of Arts and Humanities

VARIABLES	Mixed employee	Mixed entrepreneur	Entrepreneur self owner	Entrepreneur joint owner
Woman	-46913***	-23132	-26083*	5778
	-8601	-14801	-14617	0
Age	4626	31613***	19732*	5658
	-6083	-10147	-10921	0
AgeSq	27,74	-361,8***	-227,8	-148,3
	-79,14	-128,9	-141,2	0
Native Background	-8281	-19928	30170	
	-15332	-30284	-23697	
Research Education	97488***	38577	-102993***	
	-15122	-51094	-35263	
Grade point average	35,76**	24,65	-15,76	-414,6
	-14,26	-25,21	-26,63	0
Mother with High Education	7569	7775	-11064	-103819
	-8892	-16457	-13817	0
Father with High Education	-1719	-13658	-6850	235613
	-8951	-16276	-13840	0
Blekinge tekniska högskola	14904	121640**		
	-52436	-59082		
Göteborgs universitet	-48251	114461**	-80401	-18497
	-41891	-45079	-65410	0
Högskolan Dalarna	82255	133137	85075	
	-65015	-131287	-89243	
Högskolan Kristianstad	-52991		61718	
	-43104		-63580	
Högskolan i Borås	-64137	-12632	-163162	

	-52025	-55155	-102997	
Högskolan i Gävle	-40237		-42297	
	-57533		-88171	
Högskolan i Halmstad	-126884	365131***	-183304***	
	-121650	-57438	-65027	
Högskolan i Jönköping	5100			
	-41824			
Högskolan i Kalmar	-74459	169108***	-150286*	
	-50562	-57307	-90629	
Högskolan i Skövde	-42380	122636	-68526	
	-51926	-77073	-89845	
Karlstads universitet	-15740	299587***	90983	
	-75965	-61215	-114090	
Linköpings universitet	2859	115404**	-76134	
	-44823	-54128	-73744	
Luleå tekniska universitet	21976	330763***	47900	
	-48242	-56307	-63965	
Lunds universitet	-51173	128097***	-91891	134936
	-42930	-44868	-65900	0
Malmö högskola	-25998	-41215	-333657***	
	-66636	-50223	-66284	
Mittuniversitetet	-12065	75335*	-124947	
	-66420	-38480	-77189	
Mälardalens högskola	-909	138155**	-62289	
	-44384	-60706	-72334	
Stockholms universitet	-15580	160270***	-92990	191560
	-42486	-44503	-64947	0
Södertörns högskola	4707	368200***		
	-55849	-50171		
Umeå universitet	-80560*	131182***	-163907**	180763
	-43712	-46516	-68131	0
Uppsala universitet	-13257	97106*	-91517	
	-42838	-50028	-69520	
Växjö universitet	-49838	39056	-66609	143210
	-49558	-64009	-85211	0
Constant	142101	-644194***	-179613	620743
	-155436	-222691	-221134	0
Observations	1574	449	655	22
R-squared	0,229	0,171	0,133	1

Controls for industry, region, business size included

D: Graduates of Natural Science

VARIABLES	Mixed employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur, joint owner
Woman	-107429***	-81086***	-89641***	-5812
	-4921	-19075	-13072	-7594
Age	12289***	24404**	46096***	-6420

	-2788	-11061	-8219	-5541
AgeSq	-51,51	-260.7*	-542.1***	77,86
	-36,66	-141,6	-103,6	-68,33
Native Background	9490	-9016	33301	15019
	-11882	-30017	-29592	-13466
Research Education	37571***	-5949	-53766**	6675
	-6274	-29855	-24234	-14997
Grade point average	47.46***	4,134	64.31***	13,91
	-6,652	-30,27	-23,67	-11,7
Mother with High Education	-5546	-25031	-10619	2439
	-4781	-19524	-13403	-6957
Father with High Education	5272	4077	-29193**	10486
	-4832	-20109	-13251	-6759
Blekinge tekniska högskola	109359***	-168855*	-144518	11469
	-25007	-88137	-123717	-21693
Chalmers tekniska högskola	92803***	-20742	-31098	-22394
	-20765	-87221	-70007	-27571
Göteborgs universitet	30396	-84682	-992,9	-24930
	-22102	-90511	-76327	-29125
Högskolan Dalarna	32625	-99674	-16872	9404
	-24021	-138062	-83324	-30665
Högskolan Kristianstad	64520**	53966	127672	
	-25445	-87230	-92555	
Högskolan Väst	15129	-25693	-5819	
	-25336	-93779	-82391	
Högskolan i Borås	62043**	-60706	-1908	-29841
	-25156	-91814	-80115	-31069
Högskolan i Gävle	33756	-178847	-77289	
	-26384	-126367	-82672	
Högskolan i Halmstad	46428**	-50949	-146067*	-3283
	-22731	-91379	-86391	-33900
Högskolan i Jönköping	18647	-214651*	-37691	28222
	-24478	-109489	-89570	-22535
Högskolan i Kalmar	26184	-167292*	-114317	-54133*
	-24269	-98986	-100769	-32010
Högskolan i Skövde	40374	-163696	-119012	-32173
	-26226	-103312	-89232	-30943
Högskolan i Sundsvall/Härnösand	15482	-171328**	-316877***	
	-64259	-83218	-118433	
Högskolan i Östersund	56953	-136932	277738***	-12794
	-59979	-85363	-98986	-40981
Karlstads universitet	38327	-68800	-56389	-12277
	-23845	-96470	-75521	-36019
Karolinska institutet	19629			
	-28313			
Kungl. Tekniska högskolan	92125***	-57485	-51790	-30624
	-20626	-84472	-70567	-27130
Linköpings universitet	122539***	-66393	-54549	-18500
	-20475	-86720	-70379	-28333

Luleå tekniska universitet	76950***	-9510	-70489	-2027
	-21417	-111461	-75595	-30656
Lunds universitet	105224***	-117765	-33039	-33658
	-21063	-85149	-70621	-29200
Lärarhögskolan i Stockholm	0	0	0	0
	0	0	0	0
Malmö högskola	40330		-81486	-50601*
	-30201		-98506	-26899
Mittuniversitetet	25645	-2155	-40843	-35126
	-22923	-97278	-78122	-32556
Mälardalens högskola	57342**	-33917	-56015	15861
	-23490	-82711	-88069	-25395
Röda Korsets Högskola	0	0	0	0
	0	0	0	0
Stockholms universitet	20676	-125326	-76996	-19834
	-23282	-89161	-72961	-29036
Sveriges lantbruksuniversitet	27447	-125687	-44663	-40297
	-20724	-84150	-70333	-26908
Södertörns högskola	-264618***		-42929	
	-24447		-143165	
Umeå universitet	53868**	-102039	10339	-21893
	-21870	-88941	-75810	-35415
Uppsala universitet	28213	-14466	12528	-31520
	-21819	-90515	-73929	-29809
Växjö universitet	87169***	-126865	102215	294,5
	-24836	-91519	-92359	-20536
Constant	-293621***	394345	-1.090e+06***	178498*
	-103774	-247813	-181878	-97970
Observations	8316	696	1259	193
R-squared	0,263	0,231	0,219	0,263

Controls for industry, region, business size included

E: Graduates of Medical Sciences

VARIABLES	Mixed employee	Mixed entrepreneur	Entrepreneur, self owner	Entrepreneur, joint owner
Woman	-137534***	-103850***	-29294	24286
	-6826	-25439	-24552	-28063
Age	-3077	-15629*	14176	16210
	-4077	-9318	-13824	-16267
AgeSq	132.0**	272.5**	-141	-176,4
	-51,73	-117,9	-162,5	-203,1
Native Background	-28730*	-73264*	29779	-15408
	-15169	-43804	-36920	-54341
Research Education	245105***	77157	-40971	-36509
	-11878	-64442	-46830	-54790
Grade point average	94.05***	44,88	-39,4	-53,45
	-11,61	-36,12	-55,39	-40,09
Mother with High Education	-1893	30520	-25105	-55,6

	-7852	-27812	-25114	-49592
Father with High Education	22338***	-34098	48804**	-2254
	-7961	-25897	-24643	-27161
Blekinge tekniska högskola	-27658		178088***	
	-31070		-60927	
Ersta Sköndal högskola	-53079	-159733*	202935**	0
	-43514	-87382	-86826	0
Göteborgs universitet	21894	30614	-8410	-24729
	-13396	-50204	-47801	-53771
Hälsö högskolan i Jönköping	-17271	-2779	-154931**	
	-20205	-200872	-69141	
Hälsö högskolan i Stockholm	-31290	-147148**	28253	
	-22499	-73889	-54391	
Hälsö högskolan i Umeå	-48798**	-19637	13454	35242
	-21468	-80863	-62879	-54122
Högskolan Dalarna	12751	-35031	74972	
	-18701	-91407	-52497	
Högskolan Kristianstad	8889	58475	-10952	
	-22584	-70866	-66591	
Högskolan Väst	-37717*	-32962		-12871
	-20133	-53504		-65030
Högskolan i Borås	-5220	-47117		
	-19628	-48779		
Högskolan i Gävle	-7759			
	-26232			
Högskolan i Halmstad	6887	61971	-28070	
	-18393	-56617	-49014	
Högskolan i Jönköping	-15449			
	-16734			
Högskolan i Kalmar	48826***	150593		
	-16763	-151695		
Högskolan i Skövde	-3179	68083		
	-19163	-44752		
Högskolan i Östersund	11249	108810	-27122	
	-16942	-79577	-70619	
Karlstads universitet	-33263		-47632	
	-21829		-50804	
Karolinska institutet	24257*	65487	7582	14382
	-14707	-45137	-46260	-46139
Linköpings universitet	33387*	-20277	17537	-93737
	-17838	-57009	-71779	-71730
Luleå tekniska universitet	10462	66761	-79493	
	-28472	-65056	-76798	
Lunds universitet	22872	-17068	-25917	-32879
	-14623	-43616	-51385	-62399
Lärarhögskolan i Stockholm	21461	137276**	-132530**	
	-29553	-66520	-64593	
Malmö högskola	36276*	-24233	-11251	
	-19746	-64193	-75321	

Mittuniversitetet	5245	-52614	92556	-14645
	-15076	-75130	-117096	-48400
Mälardalens högskola	-11066	103050	-104589	23078
	-18962	-97301	-64965	-55263
Röda Korsets Högskola	-48046	129899***	-164264***	
	-40604	-48324	-51811	
Stockholms universitet	337,4	11484	-86470	
	-18499	-62316	-53099	
Södertörns högskola	237636***			
	-15186			
Umeå universitet	24679*	77177	-59115	33979
	-13050	-54724	-49890	-38395
Uppsala universitet	26570	-32048	-81688	-5478
	-18211	-51654	-61514	-55829
Växjö universitet	26227		52824	
	-19382		-68106	
Vårdhögskolan Boden	-55468**		62050	-97786
	-26571		-111365	-81602
Vårdhögskolan Lund/Helsingborg	-20355	37250	-116311	
	-25174	-51493	-170831	
Vårdhögskolan i Göteborg	-11833	-74390	14064	52332
	-19502	-71925	-60631	-56163
Vårdhögskolan i Uppsala	-26335	317298*	-111790	
	-38920	-175270	-103453	
Vårdhögskolan i Örebro	-7722	-141874***	62618	
	-29037	-48304	-65684	
Constant	331500***	460640**	-130185	-218223
	-119380	-193285	-354523	-341892
Observations	3807	305	370	45
R-squared	0,533	0,381	0,411	0,619

Controls for industry, region, business size included
Robust standard errors reported under coefficients

