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Factors Influencing the Salary Expectations among Macedonian Students: A Comparative Perspective with the EU Students

Marija Andonova, Nikica Mojsoska-Blazevski

Abstract

The aim of this paper is to assess the salary expectations of Macedonian students, and the main factors that shape their expectations. Previous research elsewhere has shown that salary expectation is a major determinant that influences schooling decisions (Williams and Gordon, 1981; Betts, 1996; Wolter and Zbinden, 2001). Given that the main pathway to developing the human capital of an individual is schooling, learning about the factors that affect an individual's decision whether to acquire more education can contribute towards better educational policy in any given country. We employ a similar empirical approach as the one used by Brunello et al. (2001, 2004). We use all available information to regress: i) expected future earnings right after graduation from university and ii) expected future earnings 10 years after graduation from university, on a set of variables which include: the characteristics of the individual, their socio-economic background, the chosen field of study, the year of enrolment (junior or senior students), academic performance, sources of information for future earnings and the country of future employment, and the perceived employability and costs of studies. Our findings show that expected university earnings are significantly correlated with the father's education, year of study, sources of information on earnings in the labour market, gender, ethnicity, regular job during studies, perceived employability, the chosen field of study and the country of future employment. In other words, Macedonian students form their

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salary expectations in a similar vein to those of their European counterparts.The major contribution of this study is to provide a pioneering study of salary expectations of Macedonian students, as well as providing a comparative analysis of the salary expectations of students in Macedonia and their peer colleagues from the EU Member States.

Keywords: Demand of schooling, salary expectations, higher education

Introduction

> *"Education is development. It creates choices and opportunities for people, reduces the twin burdens of poverty and diseases, and gives a stronger voice in society. For nations it creates a dynamic workforce and well-informed citizens able to compete and cooperate globally – opening doors to economic and social prosperity"*
> (World Education Report, 2010, p. 9).

After finishing upper secondary education, every individual is confronted with a major decision: whether to continue his/her education or to enter the labour market. The recent changes in educational policy in Macedonia have brought a large increase in the number of pupils that enroll into universities after graduating from secondary schools. The most important policy changes, as well as other factors leading to high university enrolments are the following:

- Starting from school year 2008/2009, upper secondary education became mandatory, with financial penalties for parents whose children are not enrolled or are not attending secondary schools regularly;
- There has been a great expansion of the capacity of the tertiary level education institutions, increased subsidies to tuition fees, as well as geographical expansion through dispersed studies across the country;
- High unemployment in the country, coupled with relatively high payoffs to higher education (i.e. unemployment rates decrease and wages/salaries increase with the level of education).

These factors have contributed to a large increase in university enrollments, from 64% of pupils in the respective age group in 2007 to 95% in 2011 (State Statistical Office, 2011). Students are expected to make rational choices by investing in their education, while expecting higher future incomes.

Benefits from getting a university degree in labor economics are measured through the returns to education: wage/salary returns, as well as the returns in terms of the probability of getting a job. According to Mojsoska-Blazevski (2011), in Macedonia, there are relatively high wage/salary returns to education: individuals who have completed four years at secondary school have, on average, 37% higher wages than those who only completed their primary education, while getting a university degree increases wages by 106% compared to those who have only completed their primary education. Similarly, the probability of employment increases exponentially with education, so that workers with completed tertiary education in 2011 had 2.5 times higher employment rates than individuals with completed primary education. Hence, there are large incentives for young individuals to demand more education. However, there is no study in Macedonia so far about the factors driving the wage expectations of students and hence their demand for education. This raises a number of questions. For instance, to what extent are students realistic about the market value of their labour after their graduation from university? Do they expect a gender wage gap in their earnings? Which characteristics of students and their social environment influence the expected earnings?

While the literature on returns to education is very broad, few studies have attempted to answer these questions. Most of the studies for wage and salary expectations are related to the US and European experience, with no similar studies either for the transition countries or the Western Balkan countries. In this respect, the aim of this paper is to provide a first insight into the salary expectations of Macedonian students after graduation from university and of filling in the gap in the empirical literature. This paper is organized as follows. In Section 2 a brief review of the relevant literature is presented, whereas Section 3 discusses data and methodology. Section 4 presents and discusses results and Section 5 concludes.

Literature Review

Decisions on whether a person will choose to continue his/her education depend on perceived costs and benefits from it (Mazza and Hartog, 2011). However, there are only a few studies that try to explain how expectations are formed and what the major determinants are that affect expectations. Across the scarce studies in this area, the following factors are commonly found to affect students' expectations about future salaries: the socioeconomic background of the student, gender, field of study, academic performance, age of a student and sources of information (Wolter, 2000; Brunello et al., 2001; Wolter and Zbinden, 2001; Webbink and Hartog, 2004). We proceed by examining each of these factors separately.

Socioeconomic Background

Most studies focus on the parents' education and income as the main socieconomic factor that influences the wage expectations of students (Williams and Gordon, 1981; Webbink and Hartog, 2004; Delaney et al., 2011). Parental educational background is thought to influence a student's expectations on at least two levels: (i) information on salaries from educated parents are of better quality, (ii) students who have well educated parents can rely on their parents' personal networks for finding a job after graduation, and hence have higher salary (and job) expectations. Delaney et al. (2011) using data from seven Irish universities found out that parental education has a significant and positive effect on short- term and long term earnings expectations. This however is not in line with the results of the works of Betts (1996) and Androushchak and Natkhov (2008). In particular, Betts (1996) conducting a survey among 1,000 undergraduates from the University of California found that there is no strong effect between parental education and student's salary estimation. This is confirmed by Wolter (2000) and Wolter and Zbinden (2001). Wolter (2000) used a different approach; imagining different scenarios in which students were asked to predict their own future salaries, as well as the salaries of an average person with similar characteristics. In this study, as well as in the study of Wolter and Zbinden (2001) parental education as a variable proved to be insignificant. In contrast to all previous studies, Androushchak

and Natkhov (2008) found a negative effect of parental education on earnings expectations in Russia.

Different results appear when researchers examine separately the influence of the mother's and father's education on the student's salary expectations. Brunello et al (2001), in the study based on a survey conducted in 50 universities across 10 European countries found that having a mother with a university degree leads to a 3.3% increase in expected earnings right after graduation, and almost 4%, 10 years after entering labor market. In the same study it was found that the father's education is not statistically significant. This is confirmed by another study of Brunello et al. (2004).

The are consistent findings about the influence of parental income on students' salary expectations: salary expectations are higher when parental income is higher (Betts, 1996; Varga, 2001; Webbink and Hartog, 2004; Jerrim, 2008). Jerrim (2008) and Webbink and Hartog (2004) agree that students from high-income families expect higher salaries in order to maintain high living standards and their expectations are based on the income of the people around them. Webbink and Hartog (2004) state that this result may be a factor in explaining increased participation in extended education for students from wealthy backgrounds.

Gender

Researchers in many academic disciplines recognize the existence of a wage gap between males and females (Blau and Ferber, 1990; Fillipin and Inchino, 2003; Chevalier 2004) which is thought to affect wage expectations for different genders: knowing the actual gender pay gap, students expect lower earnings for females. According to Chevalier (2004), women are still paid between 20% and 40% less than a man despite the introduction of equal opportunity legislation. He argues that part of the existence of a gender wage gap is explained by gender differences in educational and career choices, as well as the gender differences in expectations, but there is still a large part that is left unexplained. Blau and Ferber (1990) examining gender wage gaps found that women plan shorter terms of employment and because of that there are less capital returns.

According to several studies, women do expect to earn less than man (Caravajal et al., 2000; Wolter, 2000; Fillipin and Inchino, 2003; Botelho and Pinto, 2004; Webbink and Hartog, 2004; Jacopo and Hartog, 2011). Examining whether or not the earning expectations of students from Florida International University are realistic, Caravajal et al. (2000) found that female students expect and earn significantly less than male students. This is confirmed by Webbink and Hartog (2004) when using Dutch panel data. These authors examined the accuracy of students' predictions of their future salaries and found that female students expect to earn 5% less than males, which is very close to the reality in which they earn 6% less. Botelho and Pinto (2004) and Fillipin and Inchino (2003) agree that even though females expect lower earnings than males, they prove to be more realistic in their expectations.

Age

Most of the reviewed studies have examined the influence of students' age over their salary expectations (Dominitz and Manski, 1994; Betts, 1996; Brunello et al 2001; Wolter and Zbinden, 2001; Brunello et al 2004; Botelho and Pinto, 2004). Dominitz and Manski (1994) found that earnings expectations are quite similar between junior and senior students. By contrast, several authors (Betts,1996; Brunello et al, 2001; Wolter and Zbinden, 2001; Brunello et al, 2004; Botelho and Pinto, 2004; Borrego and Medina, 2010) agree that senior students expect lower wages than junior students. Brunello et al. (2004) provide three possible explanations for such a result: (i) formations of earnings expectations improve as students approach graduation and they become more realistic about future earnings, (ii) senior students take questionnaires more seriously and/or (iii) students are taking into consideration future positive inflation and productivity growth.

Field of Study

Webbink and Hartog (2004) found that students in law, economics, health and technical studies expect to earn more than their colleagues in the social sciences, while students in languages expect the same wage as students in social studies. Androushchak and Natkhov (2008) found that law students expect to earn significantly more (20% more) than their colleagues from other fields of study. By contrast, Brunello

et al (2001) found that students in Science and Engineering have higher expectations than students in the Humanities, which is confirmed by the study of Borrego and Medina (2010). Jerrim (2008) examining the students' wage expectations using UK survey data explains that students in Science have unrealistic expectations because their chosen subject is traditionally challenging and therefore they expect to be rewarded.

Academic Performance

The role of ability is in the center of discussion In the literature of schooling behaviour, but very few studies examined the relationship between ability and wage/salary expectations. Manski (1993) points out that young people use their ability to form their expectations, and school choice depends on it. Several authors (Carvajal et al, 2000; Wolter and Zbinden, 2001; Brunello et al, 2004; Jerrim, 2010) include academic performance variables in order to test if there exists a correlation between students' earnings expectations and their performance in college. Academic performance is measured through students' perception of their ability compared to the other students. The results are consistent: students who perceived themselves as high performers have higher expected university earnings.

Sources of Information

The source of information about wages prevalent in the labour market can also affect earnings expectations. Adding this variable into regression, Brunello et al. (2001) and Wolter and Zbinden (2001) found opposite results. The former study found that when information is personal or collected from the daily and weekly press then this variable is significant and positively affects students' salary expectations. On the contrary, the latter study finds that students with no specific information about salaries have significantly higher expectations than the rest.

Other Findings

Several authors examined other influences over students' earnings expectations. Anchor et al. (2011) comparing students' expectations in England and the Czech Republic found that students who have higher costs for their studies, in order to compensate those, tend to have higher salary expectations. McMahon (1981) and Jerrim (2008) examined the

influence of ethnicity over students wage expectations. Both authors agree that students from minority background expect higher starting salaries, and tend to be more optimistic about their future earning potential. Epple and Romano (2008) suggest that private schools attract students with higher quality and therefore these students expect higher salaries than their colleagues.

To sum up, when deciding on the amount of education to "consume" individuals compare different options and chose the one with the highest return. Therefore, expectations for the future earnings are a major determinant that has an influence on schooling decision. The review of the relevant literature revealed the complexity of the formation of expectations and that expectations are mostly influenced by the students' personal characteristics (age, gender), their socioeconomic background (education and income of their parents), field of study, and academic performance, sources of information on wages.

Methodology and Data

Several authors using different approaches have tried to examine which determinants have influence on forming students' salary expectations (Wolter ans Zbiden, 2001; Brunello et al, 2001, 2004; Webink and Hartog, 2004; Anchor et al, 2011). Our study is based on the methodology used in the work of Brunello et al. (2001), which originally is based on methods for estimation of private return on education known as Mincer's method. Mincer (1974) was one of the first authors who applied the concept of human capital for an empirical estimation of the returns on education. In the Mincerian equation, dependent variables are the earnings of an individual, which are presented in logarithmic form. Brunello et al. (2001) estimated linear regression in which the dependent variable is a logarithm of students' expected earnings which is regressed on a set of independent variables.

This data used in our study on the salary expectations of Macedonian students were collected through a survey that was conducted in 11 university faculties belonging to 3 (1 state and 2 private) universities in Macedonia. The share of these three universities in the

total enrollments in the universities across Macedonia is 80%. Appendix A presents details about the universities used in the study.

The questionnaire used in the work of Brunello et al. (2001, 2004) was adapted for the purpose of our study, taking into consideration the specific country context and our research questions. We asked students of their wage expectations under two different scenarios: i) expected monthly net earnings right after university graduation, and ii) expected monthly net earnings 10 years after graduation. The exact formulation of the questions asked is presented in Appendix B (in the Macedonian language).

In order to collect relevant answers about expected earnings after graduation, students were choosing from several intervals in which they thought that their future monthly net earnings belong. We used interval amounts that are commonly used by the State Statistical Office. The ordered variable was then transformed into a continuous variable by calculating the mean from each interval. We then apply linear regression, which is defined as:

$$\ln W_i = \mathsf{a} + \mathsf{b}_i X_i + \mathsf{e}_i \qquad (1)$$

where:

a =constant;

$W_{i,c}$ =expected net wage of individual I;

b_i =vector of parameters to be estimated;

X_i =vector of parameters, assumed that have influence on wage expectations and

e_i =error, assumed to be well-behaved.

Table 1 examines variables used in our study, X_i.

Table 1: Description of variables

	Wage expectation with university degree	Continuous variable
	Wage expectation with university degree 10 years after graduation	Continuous variable
	Year of study	Dummy 1=juniors; 0=seniors
	Type of school	Dummy 1=private; 0=state
Field of study	Business and Economy	Dummy 1=yes; 0=otherwise
	Engineering	Dummy 1=yes; 0=otherwise
	Mathematics	Dummy 1=yes; 0=otherwise
	Medicine	Dummy 1=yes; 0=otherwise
	Father holding Univesrity degree or Master/PhD	Dummy 1=yes; 0=otherwise
	Mother holding Univesrity degree or Master/PhD	Dummy 1=yes; 0=otherwise
	Same field as father	Dummy 1=yes; 0=no
	Same field as mother	Dummy 1=yes; 0=no
	Repeaters	Dummy 1=yes; 0=no
	Academic performance	Ordered variable on a scale 1 to 5 1=very good 2=good 3=average 4=poor 5=very poor
	Employment in family business	Dummy 1=yes; 0=no/my family doesn't have household business
	Employability	Ordered variable on a scale 1 to 5 1=very good 2=good 3=average 4=poor 5=very poor

	Expected country of employment	Dummy country	1=Macedonia; 0=other
	Regular job during studies	Dummy	1=yes; 0=no
Information's about wages	W1	Dummy 0=otherwise	1=career center;
	W2	Dummy 0=otherwise	1=daily/weekly press
	W3	Dummy 0=otherwise	1=personal communications
	W4	Dummy	1=never; 0=otherwise
	Costs	Continuous variable	
	Gender	Dummy	1=females; 0=males
	Ethnicity	Dummy	1=Macedonian; 0=other

The questionnaire (in the Macedonian language) was distributed among Macedonian undergraduates in the spring semester of the academic year 2012/2013. Different fields of study were selected randomly and students were asked to fill in the questionnaire during the first minutes of a lecture. This method delivered a 100% response rate and 496 questionnaires were returned.

Tables C1 and C2 in Appendix C present in detail decsriptive statistics for the sample. Here we present some of those statistics. The average age of the students in the sample is around 21 years. At the time of the survey, 59% of the students were in their first year of study, while others in their last year of study. Students in Macedonia expect their average starting wage after graduation to be 24,085 denars, and 10 years after graduation 36,150 denars. A slightly higher share of the respondents are females: 56% compared to 44 % males. The majority of the student (85%) respondents reported Macedonian ethnicity. Males after graduation from university on average expect to earn 15% higher wages than females and 17% more after 10 years in labour market. Less than half (43%) of the students are studying in private universities. About 43% of respondents belong to households where fathers have a university degree or masters/PhD, and 44% of respondents belong to households where mothers have a university degree or masters/PhD.

A small proportion of students is enrolled in the same field of study as their parents, 19 % are in the same field of study as their fathers, while 13 % are in the same field of study as their mothers. Almost 1/3 of respondents need additional years of study to complete their university education.

Results

The results from the estimated equation (1) are presented in Appendix D. Data are presented for the dependent variable: i) the salary expectations after graduation from university (column 1) and ii) wage expectations 10 years after graduation (column 2). We proceed by examining factors that significantly influence the salary expectations of Macedonian pupils.

The coefficient of determination for the first equation is about 22%, meaning that 22% of the variablity in the salary expectations of pupils after graduation is explained by the independent variables/ regressors. The coefficient of determination for the second equation is about 26%, meaning that 26% of the variablity in the wage expectations of pupils 10 years after graduation is explained by the independent variables/regressors. Coefficients are jointly significant and coefficients have the expected signs. As Table D1 (Appendix D) shows, the following variables are found to have a significant influence on the wage expectations of pupils: year of study (juniors vs. seniors), field of study, father's education, sources of information, country of employment, perceived employability, holding a regular job during studies, gender and ethnicity.

In Macedonia, students who belong to households where the father has University degree, or Masters/PhD, expect to earn 10% more than their peers on entry into the labor market and 15.6% more after 10 years. In the EU countries having a father with University degree is not statistically significant (for instance, see Brunello et al., 2001). Our study shows that in Macedonia there is no effect of the mother's education on the salary expectation of students. Furthermore, in Macedonia as in the EU, there is no statistically significant correlation between expected earnings and the same field studied as parents.

We find that female students in Macedonia, as in most European countries, expect to earn less than their male colleagues, 10% less if they hold a university degree. This gap increases to 20% after 10 years on the job with a university degree.

Similar to the findings of several authors from Europe (Brunello et al 2001; Wolter and Zbinden, 2001; Borrego and Medina, 2010), junior students expect to earn more than senior students. In Macedonia juniors expect to earn 14% more than senior students at the labour market entry, and 9.5 % more after 10 years. Section 3 provided several possible explanations for the greater optimism of the junior students.

When examining the relationship between students' salary expectations and the chosen field of study, we found that students from Medicine on entry into the labour market expect to earn 25% less than Engineering students. After 10 years in the job, this percentage slightly decreases to 24%. The coefficients for the other fields of study are insignificant. This result is in line with the work of Brunello et al (2001).

Depending on how students are informed about salaries in their field of study, their earnings expectations might vary. In Macedonia, students who have gathered information about future earnings in the University career centres expect to earn 25% more at the beginning of their careers than students who don't have any information about future salaries. Students who informed themselves from the daily or weekly press expect to earn 15% more than students who don't have any information about future wages. These results are the opposite of the results from the study of Wolter and Zbinden (2001).

Students of Macedonian ethnicity expect to have 10% lower wages than their colleagues from other ethnicities at the entry of the labour market, which is in line with the work of Jerrim (2008). Lower expectations of ethnic Macedonians can be related to the policy of the equal representation of ethnic minorities (under the Ohrid Framework Agreement), as well as the relatively lower supply of workers from ethnic minorities who hold a university degree. Coefficients on ethnicity after 10 years in the job are not statistically significant. Although Epple and Romano (2008) suggest that students from private Universities expect more from their future earning, we have not found any correlation between type of school (private vs. state) and students' salary expectations.

Holding a regular job while studying can influence students' salary expectations in at least two ways: (i) students who work during their studies have insider information about wages and the labour market and (ii) they take into consideration their working experience and therefore expect higher wages. In Macedonia, students who hold a regular job during their studies expect to earn 13.7% more than students who don't work.

Because of the acknowledged brain drain in Macedonia, we asked students about the country of their expected employment. Students who expect to work in Macedonia, have 17% and 22% lower wage expectations than students who expect to work abroad at the entry of labour market and 10 years after graduation, respectively.

Contrary to the results from the work of Anchor et al (2011) we have not found correlations between the costs of studies and students' salary expectations.

Conclusion

The aim of this paper was to fill in the gap in the empirical literature on the factors influencing the salary expectations of Macedonian students. In addition, we put the results into comparative perspectives with those of EU students. Our key finding is that expected university wages are significantly correlated with the father's education, year of study, sources of information on wages in the labour market, gender, ethnicity, regular job during studies, perceived employability, field of study and country of future employment. In other words, Macedonian students form their salary expectations in a similar manner to their European counterparts. However we need to be cautious when we apply these results to the entire student population as we are confronted with a non-balanced sample of Universities. The next logical step would be to extend this research by working with a more representative sample of Macedonian students.

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Appendix A

University	Type of institution	Faculty
American College Skopje	Private	1.School of Business Economics and Management
		2. School of Computer Science and Information Technology
		3. School of Architecture and Design
St. Cyril and Methodius Skopje	State	4. Faculty of Economics
		5. Faculty of Civil Engineering
		6. Faculty of Agriculture and food
		7. Faculty of Natural sciences and Mathematics
		8. Faculty of Architecture
		9. Faculty of Electrical engineering
		10. Faculty of Medicine
European University Skopje	Private	11. Faculty of Economics

Appendix B

Почитувани студенти, Ве молиме да одговорите на следниот прашалник кој се однесува на перспективата на студентите во Македонија во врска со приходите односно платата. Прашалникот е дел од магистереска теза и податоците ќе се искористат исклучиво за ова истражување. Оваа анкета ќе ви одземе најмногу 10 минути. На прашањата со понудени одговори одговорете со заокружување. Ви благодариме за соработката.

1. Од која **област** се Вашите студии?

(1) Бизнис
(2) Економија
(3) Природни науки, Инженерство
(4) Право, Политички науки
(5) Медицина
(6) Друго_____

2. Образование на Вашите родители (последна стекната диплома)?

Татко

(1) нема формална диплома
(2) занает
(3) основно образование
(4) средно образование
(5) виша школа
(6) високо образование (додипломски студии)
(7) магистер/доктор на науки
(8) не знам

Мајка

(1) нема формална диплома
(2) занает
(3) основно образование
(4) средно образование
(5) виша школа
(6) високо образование (додипломски студии)
(7) магистер/доктор на науки
(8) не знам

3. **Ако** Вашиот татко студирал, дали Вашите студии се од истото поле? (1) да (2) не

4. **Ако** Вашата мајка студирала, дали Вашите студии се од истото поле? (1) да (2) не

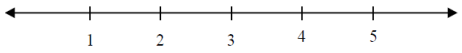
5. **Кога** ги започнавте студиите? Во 20____ .

6. **Колку** години се официјално потребни за дипломирање на вашиот факултет? _____ години.

7. **Кога** очекувате да дипломирате?

(1) 2013 (2) 2014 (3) 2015 (4) 2016 (5) 2017 (6) подоцна (_____)

8. Означете го Вашиот личен академски успех (**споредено со Вашите колеги**) на следнава скала.



одлично незадоволително

9. Дали некогаш сте прочитале или слушнале изјави во врска со идните заработувачки на дипломираните студенти и каде? (можни се повеќе одговори)

(1) во универзитетски центар за кариера
(2) во дневниот/неделниот печат
(3) лична комуникација (со родител, пријатели и слично)
(4) никогаш

10. Колку очекувате да изнесува вашата месечна плата веднаш **по дипломирањето (на вашето прво работно место)**?

(1) Помалку од 5000 денари
(2) Помеѓу 8001 и 10000
(3) Помеѓу 12001 и 16000
(4) Помеѓу 20001 и 25000
(5) Помеѓу 30001 и 40000
(6) Помеѓу 5001 и 8000
(7) Помеѓу 10001 и 12000
(8) Помеѓу 16001 и 20000
(9)Помеѓу 25001 и 30000
(10) Над 40001

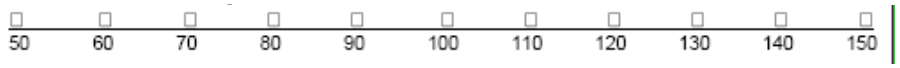
11. Колку ќе заработувавте да започневте со работа **веднаш по завршувањето на средно училиште**? (наведете ја приближната месечна нето сума) _____.

12. Наведете ги **Вашите очекувања** во врска со зголемувањето на платата:

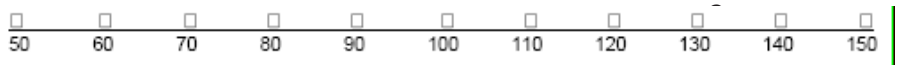
(1) Со **диплома**, по **десет години** на работното место, ќе заработувам _____% повеќе од првата година.

(2) Без диплома (со вработување веднаш **по завршување на средно училиште**), **по десет години** на работното место, ќе заработувам _____% повеќе од првата година.

13. Ако Вашата плата ја поставиме на 100, колку очекувате да заработува студент со слични карактеристики на Вашите, но од



14. Ако Вашата плата ја поставиме на 100, колку очекувате да заработува студент со слични карактеристики на Вашите, но од



15. Доколку Вашиот одговор во **13 и/или 14**-тото прашање е различен од 100 која е причината? (можни се повеќе одговори)

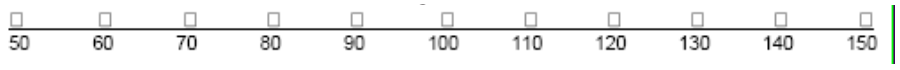
(1) Постојат разлики во карактеристиките и ставовите помеѓу мажите и жените

(2) Различна распределба на домашните задолженија

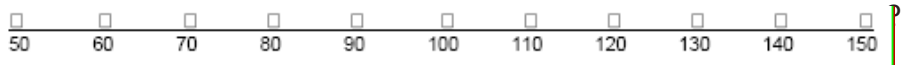
(3) Работодавачите очекуваат различни карактеристики помеѓу мажите и жените.

(4) Работодавачите имаат различни ставови во врска со еднаквите карактеристики и домашните обврски.

16. Ако Вашата плата ја поставиме на 100, колку очекувате да заработува студент со слични карактеристики на Вашите, но од



17. Ако Вашата плата ја поставиме на 100, колку очекувате да заработува студент со слични карактеристики на Вашите, но од



18. По дипломирањето, дали очекувате да работите во **семејниот бизнис** доколку вашето семејство има таков бизнис?

(1) Да (2) Не (3) моето семејство нема таков бизнис

19. **Каде** очекувате да најдете работа по дипломирањето?

(1) Странство (наведете држава) _____

20. Што мислите, какви Ви се шансите за наоѓање на соодветна работа **по дипломирањето**?
(1) многу слаби (2) слаби (3) просечни (4) добри (5) многу добри
21. Дали тие шанси се подобри или полоши во споредба со поседување само на **средношколско образование**? Изгледите по дипломирањето се:
(1) многу полоши (2) полоши (3) исти (4) подобри (5) многу подобри
22. Дали сте редовно вработени за време на студирањето?
(1) да, _____ часа неделно (2) не
23. Колкави се вашите годишни давачки поврзани со студиите (партиципација, книги...)?_____
24. Кои беа решавачки фактори за вашиот избор на студии? Подредете ги следниве точки од
1 (најважно) до 5 (најмалку важно).

– Близината до моето родно место
– Академска репутација
– Трошоци (живеење, партиципација...)
– Можностите во врска со вработување и приходи
– Интерес за конкретното поле

25. Која година сте родени? _____
26. Пол. (1) машки (2) женски
27. Која е вашата етничка припадност? _____
28. Место на раѓање (град, држава). _____

Appendix C

Table C1: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
year of study	496	0	1	0.59	0.492
type of school	496	0	1	0.43	0.495
Field of study					
Business	496	0	1	0.20	0.399
Economy	496	0	1	0.09	0.285
Computer Science and Information technology	496	0	1	0.05	0.210
Mathematics	496	0	1	0.07	0.249
Civil Engineering	496	0	1	0.16	0.364
Architecture and Design	496	0	1	0.19	0.389
Medicine	496	0	1	0.07	0.253
Electrical Engineering	496	0	1	0.02	0.147
Agriculture and food	496	0	1	0.17	0.374
Father's education	496	0	7	5.02	1.236
no formal degree	496	0	1	0.00	0.045
apprenticeship traininig	496	0	1	0.01	0.090
primary education	496	0	1	0.02	0.126
secondary education	496	0	1	0.36	0.482
higher education	496	0	1	0.17	0.375
university degree	496	0	1	0.34	0.474
Master/PhD	496	0	1	0.09	0.282
Don't know	496	0	1	0.01	0.109
Father holding University degree or Master/PhD	496	0	1	0.43	0.495
Mother's education	496	0	7	4.96	1.306
no formal degree	496	0	1	0.01	0.078
apprenticeship traininig	496	0	1	0.00	0.063
primary education	496	0	1	0.03	0.182
secondary education	496	0	1	0.35	0.477
higher education	496	0	1	0.15	0.359
university degree	496	0	1	0.37	0.484
Master/PhD	496	0	1	0.06	0.246
Don't know	496	0	1	0.02	0.134

Mother holding University degree or Master/PhD	496	0	1	0.44	0.497
same field as father	496	0	1	0.19	0.394
same field mother	496	0	1	0.13	0.338
repeaters	496	0	1	0.33	0.471
Academic performance	493	1	5	2.41	1.102
Wages information					
WI1	491	0	1	0.07	0.258
WI2	491	0	1	0.12	0.328
WI3	491	0	1	0.67	0.471
WI4	491	0	1	0.14	0.344
University monthly net wage	496	5000	45,000	24,085.69	10,865.673
high school monthly net wage	489	0	60,000	11,818.00	6697,477
Graduation wage after 10 years%	491	0	400	49.35	43.556
high school wage after 10 y%	490	0	322	19.76	28.263
oposite gender	491	5	160	100.10	17.794
oposite gender 10	491	50	150	112.51	22.334
other ethnicity	491	50	150	101.96	15.234
other ethnicity 10	491	10	150	108.53	21.307
family business	490	0	1	0.31	0.462
where	488	0	1	0.66	0.476
employability	491	1	5	3.55	0.992
regular job	491	0	1	0.09	0.292
Working hours	34	4	50	19.82	14.147
costs	488	6500	360,000	92,133.48	64,860.180
year of birth	491	1968	1995	1991.73	2.285
gender	490	0	1	0.56	0.497
ethnicity	484	0	1	0.85	0.360

Table C2: Descriptive statistics by gender

Variable	%		%
	male		female
Field of study			
Business	8.6		11.2
Economy	1.8		6.9
IT	4.1		0.6
Mathematics	1.6		5.1
Civil engineering	9.0		6.9
Architecture	7.8		10.2
Medicine	1.8		5.1
Electrical engineering	1.4		0.8
Agriculture and food	8.2		8.8
Parent's education			
Father			
don't know	0.4		0.8
no formal degree	0.2		0.0
apprenticeship traininig	0.8		0.0
primary education	0.4		1.2
secondary education	15.5		21
higher education	8.0		9.2
university degree	13.3		20.4
Master/PhD	5.7		3.1
Mother			
don't know	0.8		1.0
no formal degree	0.2		0.4
apprenticeship traininig	0.2		0.2
primary education	1.6		1.8
secondary education	14.7		20.2
higher education	8.0		7.1

university degree	16.3		20.8
Master/PhD	2.4		4.1
Same education as parent			
same field as father	9.6		9.8
same field as mother	3.9		9.4
Year of study			
junior	27.1		31.8
senior	17.1		23.9
Relative Academic performance			
very poor	9.7		16.8
poor	10.5		14.2
average	15.7		16.4
good	6.8		7.2
very good	1.2		1.4
repeaters	16.3		16.7
regular job during studies	31		15
Perceived Employability			
very poor	1.8		1.6
poor	5.7		3.9
average	11.8		19.6
good	16.3		23.1
very good	8.6		7.6
Country of employment			
Macedonia	23.8		37.2
family business	16		14
Other country	16		18.5
Ethnicity			
Macedonian	34.9		49.8
other	9.1		6.2
Observations	44.3 %		55.7 %

Appendix D

Table D1: Expected graduation and high school wage and expected wage gain 10 years after labour market entry

	University wage	University wage 10 years after graduation
	β	β
Year of study (juniors=1)	0.149***	0.095**
Type of school (private =1)	0.014	-0.004
Field of study: reference category: Engineering		
MATH	0.013	-0.117
Medicine	-0.247***	-0.239***
Business and economy	-0.005	0.020
Father holding University degree or Master/PhD	0.102**	0.156***
Mother holding University degree or Master/PhD	0.047	0.026
Same field as father	-0.043	-0.044
Same field mother	0.060	0.008
Repeaters	0.014	0.005
Academic performance	-0.003	-0.007
Wages information (reference category=never)		
WI1 (career center=1)	0.251***	0.312***
WI2 (daily/weelky press=1)	0.151**	0.223***
WI3 (personal comunication=1)	0.011	0.057
Family business	-0.008	-0.010
Country of employment	-0.170***	-0.219***
Employability	0.082***	0.131***
Regular job	0.137*	0.127**
Costs	0.000	0.000
Gender (female=1)	-0.103***	-0.201***
Ethnicity (Macedonian=1)	-0.106**	-0.052

*,** and *** indicate significance at the 10, 5 and 1% level, respectively