THE EFFECT OF COMBINING WORK AND STUDY ON LABOR MARKET OUTCOMES IN TRANSITION COUNTRIES

by

Hrant Kuroian

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Thesis Supervisor: _____ Professor Kupets Olga

Approved by _____

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Date _____

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Abstract

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The fraction of employed students in developed countries has been drastically increasing since the early 1960s. However, for transition countries, this trend is new and not well researched. In this thesis, we study the effect of combining work and study on labor market outcomes in Ukraine and Armenia. To test the hypotheses, we consider the following variables: employment status, wage, satisfaction with current job position, desire to change work, and overqualification. We conducted the analysis for two periods: up to three years after graduation and more than three years. The empirical results show that the double-status position is effective in Ukraine and unfavorable in Armenia. Therefore, conjoint programs of universities with private companies might have a positive long-run effect in Ukraine. For Armenia, an increase in the number of scholarships can help students to concentrate only on the study and accumulate human capital which will result in better labor market outcomes.

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GLOSSARY

FSU – Former Soviet Union

GDP – Gross Domestic Product

ILO – International Labour Organization

Chapter 1

INTRODUCTION

Educational attainment is an important factor in the accumulation of human capital and future labor market outcomes (Becker 1962). Unfortunately, when it comes to choosing the field of study, a significant number of students are not able to figure out what they are interested in (Edvardsson 2010). Consequently, they are getting a degree in a sphere they are not planning to obtain a job. Despite this, regardless of whether they enjoy studying in this area or not, some of them are forced to enter the labor market to finance their education. As a fact, we have three groups of students: those who are able and want only to study, ones who can afford the only studying but want to have a working experience, and students who would like to dedicate all the time for studying, but due to financial circumstances have to make money.

Does combining work and study make those students more successful, or is it better to concentrate entirely on getting education? This question is researched in terms of future labor market outcomes. There is a large amount of literature on this topic. A substantial number of studies are done based on Western, and Central European countries, but there are some on socialist group countries (Douglas and Attewell 2019). At the same time, the literature on this topic for most FSU countries is at scarce.

The nineties began with economic and social shifts which entailed the removal of industrial capacity. The process of deindustrialization created a demand for employees with tertiary education. In response to this, the market responded by creating private educational institutions and expanding the range of fields of studies (Kupets 2016). For instance, using the data from UNESCO Institute for Statistics, we see that for 2019 the enrolment ratio for Ukraine and Armenia was 92% and 82%, respectively. At the first glance, the more people get an education, the better it is. In reality, "high levels of formal

education do not necessarily translate into high levels of up-to-date productive skills" (Kupets 2015). Sondergaard et al. (2012) came to the conclusion that most of the universities from post-Soviet countries do not give enough knowledge for being successful in the labor market. Both listed facts are devaluating the signaling function of the study (Kivinen, Hedman and Kaipainen, 2007). As a result, the employers might be forced to find another signal. Does work experience has a signaling function in FSU countries? Rudakov and Roshchin (2014) argue that smart students from good universities work relatively more often compared to their colleagues from worse ones. Another evidence for the job taking the signaling function was obtained by Beerkens, Mägi and Lill (2010). On the other hand, Baert, et al., (2015) did not find any evidence of non-negative effects of combining work and study on labor market outcomes.

This thesis aims at exploring the effect of combining work and study on labor market outcomes in transition countries. Specifically, two groups of labor market outcomes are analyzed in the thesis. The first two variables directly affect the wage rate of an individual: the probability of being employed and the wage. To get a complete picture, we also studied the effect of combining work and study on the second group of variables like overqualification, desire to change current working place, and being satisfied with the current position. According to our hypothesis, the first and the second group of variables might be positively and negatively affected by our variable of interest, respectively. We expect that the effect for the second group of variables will remain in both: short-run (individual graduated up to 3 years ago) and the long-run (one graduated more than 3 years ago). When the effect of the first group might be positive but not long-lasting. Nevertheless, even though both, Ukraine and Armenia were the part of USSR, many changes have taken place over these three decades. Due to that, we expect, that the effect of the explanatory variable may differ in these countries. There are some opportunities which one can gain and lose while combining work and study. For example,

expanding the network and getting extra money can help become more independent from parents and create connections which might be determining at some point in a career. Also, it may help to learn how to manage time and get early working experience. Even part-time work can help to gain important soft and hard skills.

Despite all the positive aspects, there are also some negative ones. Firstly, it is a lack of time for study and an increased amount of stress. It can take a lot of time until one can get used to this rhythm. Secondly, the job may be incompatible with the major. Lastly, the person still needs the rest and time for other activities. Sports and spending time with friends are also important aspects of human life.

To test these hypotheses the data from the ILO School-to-Work Transition Survey of youth under 29 years for Ukraine and Armenia are used. We have chosen these countries because both of them contained needed variables and a sufficient number of observations for our study. Secondly, two of them are transition countries with very similar education systems and GDP per capita. Thirdly, there are distinctions in such things as the youth unemployment rate, cross-sex unemployment rate, and share of graduates by field of study, which might result in non-homogeneous outcomes. This allows us to obtain several results and by comparing to understand which factors might be the reasons of differences.

This study estimates several regressions taking into account such variables as the field of studies, number of years passed after graduation, parental education, and other individual characteristics. A dummy variable for combining job and education is the main variable of interest.

The thesis is structured in the following way: Chapter 2 overviews the existing literature about the effects of combing work and study on labor market outcomes; Chapter 3 describes the detailed information about the methodology and the specification of models, and provides the information about descriptive statistics and process of data preparation; Chapter 4

presents the main finding and results of this study; Chapter 5 summarizes the main results and elaborates on the policy implications.

Chapter 2

LITERATURE REVIEW

The first place where one can gain the opening work experience is at school. There is no consensus in literature on whether it has a positive effect on future labor market outcomes or not. Ruhm (1997) argues that after 6-9 years seniors who work 20 hours per week are expected to receive 9% higher wages. Opposite follows from Hotz, et al., (1999), the ones which concentrate on full-time study may have better labor market outcomes.

The number of U.S. students who work while study has increased rapidly in the interval from 1959 to 1986. It has grown from 45% in the first years to 56 % until the mid-1980s (Stern and Nakata 1991). There are benefits to both sides of this contract. Employers are interested in cheap and flexible labor; this will help their business to stay viable (Curtis 2001). In turn, the factors like an increase in tuition fees relative to the income of households (Stern and Nakata 1991) and desire to get more independence from parents motivate students to find a job. For instance, Ford, Bosworth and Wilson (1995) report growth of the share of student income coming from working activities from 4 % in 1988 to 11 % in 1993.

There are several mechanisms in the literature of how combining work and study may transform into increasing wage or probability to be employed. The first one is through the accumulation of human capital. Informal learning can be an additional source of attaining applied skills valued by employers (Le Clus, 2011).

The second mechanism states, that people with better-filled resume have more chances to be employed and has higher salaries. Due to the absence of information about candidates, employers are forced to screen candidates through their CVs. At the same time, knowing that, candidates want to increase their chances by giving these signals to the potential hirer.

According to the third mechanism, building networking and social connections may increase the chances of better future labor market outcomes. Former work colleague knowing that you are a diligent worker may recommend you on her new working place. Also, due to a broad number of connections, one can hear about an opening position even before it is posted. (Granovetter, 1995). The importance of this factor might be inflated for students from rich families, but it can be a perfect option for all other ones.

The last mechanism states that just the fact of working while studying might be treated by employers as something spurious. In this case, it can be a signal of an ambitious and purposeful person and a good argument to hire this candidate (Duckworth, 2018).

The issue of the effects of combining work and study on labor market outcomes has been studied since the 1980s. Ehrenberg and Sherman (1987) claim that in a case when a student works less than 25 hours per week, there is no direct effect on earnings. At the same time, it affects the grades which in turn adversely influences earnings. Yanbarisova (2013) argues that study-related work impacts the GPA better than non-study-related work. In some cases, it is even better than being unemployed. Researching data on educational institutions of Tatarstan the author claims that the best combination for maximizing the GPA is to do part-time study-related work. The worst one is full-time non-study-related work.

Papers from many countries studied the effect of combining work and study on labor market outcomes. To structure the review, we divided these works by origin of a dataset into three groups. The first groups: Australia, UK, USA. The second group: Finland, Switzerland, Germany, Spain, Italy, Norway, Belgium. The last group consists of the Czech Republic, Hungary, Poland, Slovenia, and Estonia.

Polidano and Zavirova (2011) did research using the data of the Australian Longitudinal Survey. They found a positive return on working on the final year of study. The obtained effect is estimated to have an upward effect up to

3 years after graduation. Robotham (2009) and Jewell (2014) made estimations on the UK with an interval of five years. The first author claimed a higher probability of being employed when the second found a positive effect only for degree-related and unpaid job experience. Douglas and Attewell (2019) also got a positive return. The authors estimated that the average working student from the USA will earn on $3000 more than the one who only studies. Molitor and Leigh (2005) found a significant difference in labor market outcomes depending on the type of schooling. However, the sign of the variable of interest was still positive.

Häkkinen (2006) did research using data of Finnish students. The effect of combining work and study is estimated to be not long-lasting. It has a positive but decreasing return which is not statistically significant in the long run. Geel and Backes-Gellner (2010) concluded that education and work experience can be complementary. Swiss university students should take to account that only related employment gives these positive returns. The authors estimated the effect of variable of interest on the following dependent variables: shorter duration in job search, lower risk of being unemployed, and a higher wage. In turn, Baert, et al., (2015) and Weiss, Klein and Graunhorst (2014) found no evidence for reporting about non-negative effects. For some subsamples of Belgian and German students, researchers obtained even negative returns. The empirical findings of Di Paolo and Matano (2016) are consistent with the results of Geel and Backes-Gellner (2010). They also report about the complementarity of study and study-related jobs. Passaretta and Triventi (2015) did a comparative study in Spain, Italy, Germany, and Norway. Even non-study related work gives a positive labor market outcome in Mediterranean countries when it is very small in Germany and minor in Norway.

Another research was published by Robert and Saar (2012). The target countries were the Czech Republic, Hungary, Poland, Slovenia, and Estonia. Overall, the authors report about the positive effect of study related jobs,

especially through shortening the time of job search and increasing the quality of the position.

Analyzing all the available studies, we found a gap in the literature. There is scarce content available on most PSU countries. Due to that, we decided to analyze the issue of the effect of combining work and study in Ukraine and Armenia.

Chapter 3

DATA DESCRIPTION AND METHODOLOGY

As this thesis studies the effect of combining work and study on labor market outcomes and is done on surveys from two transition countries, it would be nice to understand their similarities and differences before data description. Especially, we will concentrate on the short description of the labor market and education system of Ukraine and Armenia.

3.1 Description of labor market and education system of Ukraine and Armenia

Ukraine and Armenia were the part of USSR, which means that these countries had been developing in the same environment for quite a long time. However, three decades have passed since the collapse, and during this time a lot of things have happened in economic, political, and social life. Let's take a closer look at the numbers to understand better the current situation.

According to the World Bank data, GDP per capita in current US dollars in 2019 was 3659 and 4622.7 in Ukraine and Armenia, respectively. The share of females in the population is very close, 53% for Armenia and 54% for Ukraine. The female unemployment rate is much higher in Armenia than in Ukraine, 20.3% against 7.8%, respectively. As we can see from the data, the overall unemployment rate is higher in Armenia, but comparing the situation of males and females, the unemployment rate of males is smaller in Armenia, when for females in Ukraine. The unemployment rate for males is 17.6% and 8.5% for Armenia and Ukraine, respectively. Lastly, there is also a huge difference in the youth unemployment rate. 15.5% of Ukrainians are unemployed in this category, and 33.5% of Armenians.

Differences in education system are already visible starting from school. For example, since 2011 chess is a compulsory lesson in Armenia[1].

Table 1 demonstrates the structural difference in the distribution of tertiary graduates by field of study in Armenia and Ukraine.

Table 1. Distribution of tertiary graduates by field of study[2] (2019)

	Ukraine	Armenia	Difference
Education	9.45%	9.25%	0.20%
Arts and Humanities	7.35%	19.32%	-11.97%
Social sciences, Journalism and Information	7.08%	16.19%	-9.11%
Business, Administration and Law	27.16%	20.24%	6.92%
Natural Sciences, Mathematics and Statistics	3.79%	6.61%	-2.82%
Information and Communication Technologies	5.50%	4.81%	0.69%
Engineering, Manufacturing and Construction	15.76%	5.73%	10.03%
Agriculture, Forestry, Fisheries, and Veterinary	4.17%	0.86%	3.31%
Health and Welfare	9.17%	9.54%	-0.37%
Services	8.33%	3.45%	4.88%
Other	2.24%	4.00%	-1.76%

We see that the share of graduates from Arts and Humanities is higher on 11.97% in Armenia than in Ukraine. At the same time, the share of Engineering, Manufacturing and Construction is much higher in Ukraine. This was expected, because there are a lot of plants and factories in Ukraine that need educated personnel and a little of them in Armenia. The number of graduates from Social sciences, Journalism and Information are also higher in Armenia, and Business, Administration and Law are higher in Ukraine.

Summing up, there are a lot of differences between Ukraine and Armenia which might be a source of different outcomes. There are also cross-sex differences that might influence results. Moreover, the cross-sexual

[1] http://www.chessfed.am
[2] http://data.uis.unesco.org

regressions might have sense, since we investigate youth in our sample and this age falls on the reproductive time of women.

3.2 Data description

The research is based on the «School-to-Work Transition Survey» for Ukraine (2015) and Armenia (2014). Unfortunately, this is the most recent database collected by International Labor Organization. Since the survey was conducted by the same organizations all the variables used for estimations are similar. Historically, this is individual-level data for the 15–29-year age group. To investigate the research question, we dropped all observations where the highest level of received education is neither vocational (after 9^{th} grade or 11^{th} grade) nor tertiary (bachelor's degree, master's degree, and doctorate). As the goal of the research is to study the effect in both the long-run (graduated more than 3 years ago) and short-run (graduated up to 3 years ago) we constructed the *graduation* variable for that. It is a binary dependent variable, which is equal to zero when the individual graduated from his highest level of education less than 4 years ago and to one when more or equal to 4 years. To all other, we dropped all current students from the sample, because our goal is to estimate the effect of variable of interest on labor market outcomes. The overall number of observations is 1390 for Ukraine and 964 for Armenia.

For estimating the effect of combining work and study on our dependent variables we used the set of the demographic and individual characteristics, family background variables, information about the level of completed education, and variable of interest. Table 2, Table 3, and Table 4 show the descriptive statistics for all independent variables.

Table 2. Descriptive statistics for all binary independent variables by country

country	urban	female	tertiary	children	single	graduation	combining
Ukraine	0.73	0.53	0.59	0.44	0.47	0.61	0.33
Armenia	0.73	0.38	0.52	0.39	0.51	0.55	0.14

As can be seen from the Table 2, the share of urban observations is the same for both countries. The proportion of people who graduated more than or equal to 4 years ago, combiners and males is lower in Armenia. Also, the share of ones with tertiary education is higher in Ukraine.

Table 3. The highest level of parental education

	Ukraine		Armenia	
parental_education	Freq.	Percent	Freq.	Percent
school (0)	128	12.2	197	20.8
vocational (1)	442	42.4	413	43.6
tertiary (2)	472	45.3	336	35.5
Total	1,042	100	946	100

We can see from Table 3 that the share of tertiary education as the highest level of parental education equals 45.3% in Ukraine and only 35.5% in Armenia. At the same time, the largest group in the sample from Armenia is "*vocational*" which is the second in Ukrainian with 43.6% and 42.4% respectively. The information depicted in Table 4 shows the distribution of the field of the obtained highest level of education by country.

Table 4. The field of education by country

	Ukraine		Armenia	
Field	Freq.	Percent	Freq.	Percent
general_programs (0)	-	-	119	12.4
education (1)	126	9.1	68	7.1
humanities_arts (2)	73	5.2	196	20.5
soc_bus_law (3)	397	28.5	177	18.5
science (4)	90	6.4	133	13.9
engin_man_cons (5)	196	14.1	63	6.5
agriculture (6)	52	3.7	29	3.0
health_welfare (7)	51	3.6	111	11.6
services (8)	292	21.0	60	6.2
other (9)	112	8.1	-	-
Total	1,389	100	956	100

The highest share in Ukraine are Social sciences, Business and Law, and the highest share in Armenia are Humanities and Arts with 28.5% and 20.5% respectively.

Table 5 shows that the share of employed and satisfied individuals is higher in Ukraine when overqualified and ones who want to change the current working place is higher in Armenia.

Table 5. Descriptive statistics for all binary dependent variables by country

country	employed	satisfaction	change_empl	overqualified
Ukraine	0.73	0.86	0.30	0.09
Armenia	0.48	0.78	0.50	0.31

Figures 1 and 2 show that there is some difference in wage distributions for those who were combining work and study in Armenia.

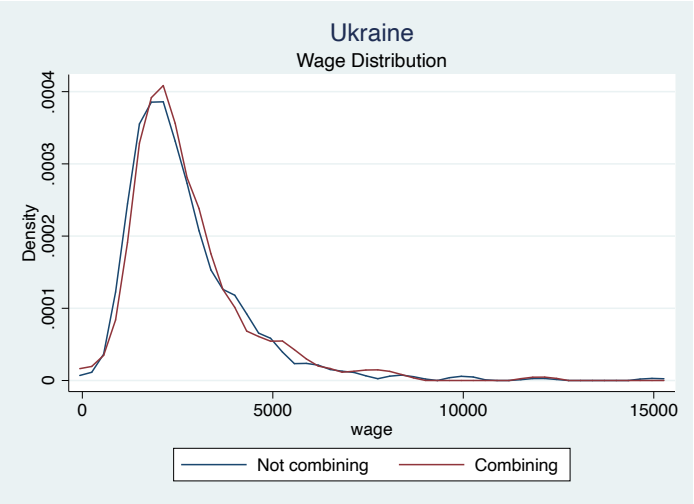

Figure 1. Wage distribution in Ukraine (Kernel density)

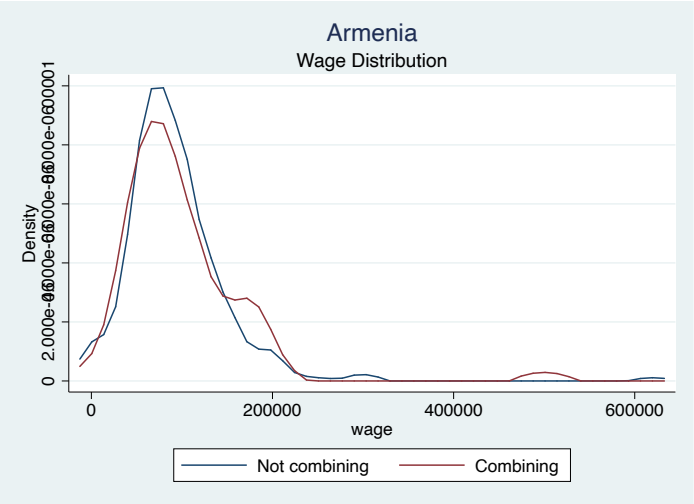

Figure 2. Wage distribution in Armenia (Kernel density)

As can be seen on the graph for Armenia, the blue line (not combiners) is higher for the lower level of wages, when the red line (combiners) is higher on the right. As for the graph for Ukraine, Figure 1 indicates the absence of any distinctions, because the red and blue lines are very close to each other for any level of the wage. However, to make more robust conclusions we need to make the regression analysis to study the question deeper.

3.3 Methodology

The objective of this research is to estimate the effect of combining work and study on labor market outcomes. As such indicators, we have chosen probability to be employed, the relevance of education qualification in performing on the current job, the probability to be satisfied with current job, the probability that education is appropriate for current job, the probability to have the desire to change the job, and the amount of current wage.

Studying the existing literature, we formed our hypotheses of how combining of work and study effects listed dependent variables in both, short and long run (Table 6).

Table 6. Summary of hypotheses

	Short-run	Long-run	Reason
Wage	Positive	Negative	We expect a positive effect of combining work and study on both, wage and employed variables in the short run, because the early working experience could convert into better labor market outcomes. At the same time, we believe that it may harm the quality of obtained education and give worse outcomes in the long run.
Employed	Positive	Negative	
Overqualified	Positive	Positive	We expect that those who combined work and study will consider themselves as overqualified, less satisfied and want to change work in both, long run and short run. They might feel that education was not applicable.
Satisfied	Negative	Negative	
Change work	Positive	Positive	

For estimating the effect of combining work and study on all binary dependent variables we chose the logistic regression:

$$P(employed = 1) = \frac{e^{X\beta}}{1+e^{X\beta}} \quad (3.1)$$

$$X\beta = \boldsymbol{Z}_i\boldsymbol{\beta}_i + \boldsymbol{C}_i\boldsymbol{\beta}_2 + \boldsymbol{G}_i\boldsymbol{\beta}_3 + (\boldsymbol{C}_i * \boldsymbol{G}_i) * \boldsymbol{\beta}_4, \quad (3.2)$$

where **C** stands for combining, **G** for a number of years passed since graduation and, $\boldsymbol{Z}$ for all other independent variables. We control our regressions for the area(urban/rural), sex, the highest level of education (tertiary or vocational), the presence of children in a family, social status (single or not), number of years passed since graduation (up to three years or more than four), field of completed education, age and the highest level of parental education. Häkkinen (2006) noted the importance of adding an interaction term of female and the presence of children in a family. Women with children are expected to have lower wages and a probability to be employed than ones without. Also, our models are extended with the interaction term of our key variable(*combining*) and the number of years passed after graduation(*graduation)*. Due to that, we estimated the difference between the ones who were not combining and combining in short run, and then in the long run. Where the short run means that individuals are graduated less than four years ago, and long run means that one is graduated more or equal to four years. All detailed information about the construction of independent variables is depicted in Appendix A.

The Heckman model was chosen to estimate the effect on wage (Heckman 1979). The main reason for choosing this model was not a randomly selected sample. This problem arises when the dependent variable (*wage*) has a causal effect on the presence of some observation in the sample. To understand the model better, let's consider the simplified scenario. The decision to go to work and to get a salary may be made only when the expected wage would be more than some value. This means that we observe only wages of individuals whose expected salary is higher than some value.

As the survey was conducted in countries with a high level of shadow economy, we faced an issue when there were a lot more employed individuals

than observed wages in the sample. This is a second argument to use the Heckman model.

To tackle this problem Heckman suggests making the estimation into three stages, where the first one is running a probit:

$$P(wage = 1) = \frac{e^{\gamma\beta}}{1+e^{\gamma\beta}} \quad (3.3)$$

$$\gamma\beta = \boldsymbol{F}_i\boldsymbol{\beta}_1 + \boldsymbol{U}_i\boldsymbol{\beta}_2 + \boldsymbol{C}_i\boldsymbol{\beta}_3 + \boldsymbol{S}_i\boldsymbol{\beta}_4 + \boldsymbol{T}_i\boldsymbol{\beta}_5 + \boldsymbol{W}_i\boldsymbol{\beta}_6 + \boldsymbol{G}_i\boldsymbol{\beta}_7 + u_i, \quad (3.4)$$

where (3.3) is a probability that the wage is observed regression. In (3.4) **F** stands for female, **U** for urban, **C** for presence of children, **S** for social status (single or not), **T** for level of highest education (tertiary or vocational), **W** for type of contract (written or oral), and **G** for type of organization (governmental or private). The specification of selection model was used by Schwiebert (2014).

We have chosen **G** and **W** from (3.4) as exclusion restriction variables. The descriptive statistics for these variables are provided in Table 7.

Table 7. Descriptive statistics for type of contract and type of organization by country (binary variables)

country	written	governmental
Ukraine	0.84	0.38
Armenia	0.77	0.37

As we can see, the share of written contracts and type of organizations is almost the same for Ukraine and Armenia.

The specification of model is continued by (3.5):

$$\begin{bmatrix} \epsilon_i \\ u_i \end{bmatrix} \sim N \begin{bmatrix} \rho^2 & \rho\sigma \\ \rho\sigma & 1 \end{bmatrix} \tag{3.5}$$

where ϵ_i and u_i are bivariate normal distribution error terms from original OLS regression and probit regression respectively. Since the variance of u_i is not identified it normalized to 1. In (3.5) the σ is just scale parameter, and ρ is the correlation coefficient. As we theoretically assumed selection bias ρ coefficient has not to be equal to zero. Otherwise, running the regular OLS would be enough to estimate the model.

The next step is estimating an inverse Mill's Ratio from (3.4) according to the following formula:

$$\lambda_i = \frac{\varphi(z'\gamma)}{\Phi(z'\gamma)} \tag{3.6}$$

Where φ is the probability density function, and Φ is the cumulative density function.

And the third step is running a simple OLS regression using Mill's Ratio (3.6) to control for the endogeneity problem:

$$X\beta = \boldsymbol{Z}_i\boldsymbol{\beta}_i + \boldsymbol{C}_i\boldsymbol{\beta}_2 + \boldsymbol{G}_i\boldsymbol{\beta}_3 + (\boldsymbol{C}_i * \boldsymbol{G}_i) * \boldsymbol{\beta}_4 + \boldsymbol{\rho\sigma\lambda} + v_i, \tag{3.7}$$

where $\boldsymbol{\rho}$ is the correlation coefficient between error terms, $\boldsymbol{C}$ is combining work and study, $\boldsymbol{G}$ is the numbers of years passed after graduation (up to three or more than four)

The interpretation of this model coefficients could be not that obvious as it may seem. The cases when the variable of interest appears in both, outcome and selection model are more complicated ones. In our case, the variable *combining* appears only in the outcome model, due to that, the interpretation does not differ from OLS for this variable. As aside from the variable of interest our specification includes the interaction term, then we interpret the effect of combining for short-run and long-run separately.

Finally, datasets for all countries include population weights. As a result, the interpretation of all regression estimations is for the target population, not just for the sample.

Chapter 4

ESTIMATION RESULTS AND ROBUSTNESS CHECK

The estimation process was organized in two stages. Firstly, we ran the regressions for all dependent variables according to the specifications described in the previous chapter. For two of our dependent variables, we got general results for both sexes. For another three dependent variables, the interaction of sex of an individual with having a child was very significant. Taking this into account and cross-sex differences described in the data description we decided to run the different regressions for males and females for satisfaction, overqualification, and desire to change working place. Also, to check the robustness of obtained results we ran two more regressions in addition to the baseline model but without the "*urban*" variable and "*parental education*", respectively. Below, we show only the output of the variables of interest. All additional information about the regression output is depicted in Appendix B. Also, as we mentioned in previous chapters, with short run we mean that less than three years passed after the graduation, and with long run that four and more years passed after the graduation.

4.1 Model for employment

Below, in Table 8 we can see the estimated effect of the key variable on employment status.

Table 8. The short run and long run average marginal effects of combining work and study on the probability to be employed in Ukraine and Armenia

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	0.070*	-0.189***	0.070*	-0.172***	0.071*	-0.205***
	(0.040)	(0.063)	(0.041)	(0.063)	(0.038)	(0.062)
Long run	0.049	-0.187***	0.051	-0.191***	0.037	-0.193***
	(0.038)	(0.070)	(0.038)	(0.071)	(0.034)	(0.070)

We estimated our baseline model for both countries and got significant results in short run and only for Armenia in the long run. The average marginal effect in short run for Ukraine is 7% when for Armenia the effect is negative and is equal to -18.9%. The effect for those who graduated more than 3 years ago is statistically insignificant for Ukraine and negative with almost the same magnitude as in short run for Armenia. The average marginal effect in the long run for Armenia is -18.7%.

To check the robustness of our models we ran the two more regressions in addition to the baseline one and for all cases got the same level of significance and sign. This means that obtained results are robust.

Summing up, we observe that combining work and study has a positive effect on the probability to be employed in Ukraine, even though the effect is not long lasting. At the same time, combining work and study might harm the quality of obtained education. Study-related work can be the best option for Ukrainian students. In Armenia the situation is the opposite, the combining work and study has negative effects on the probability to be employed in both, short and long run. The first hypothesis is that our specification might not control for the income of the family or social connections. We assume that the highest level of parental education correlates with this factor and the model does not suffer from omitted variable bias. The obtained results for Armenia suggest students focus on university and do not try to combine work and study. However, we cannot estimate the effect of study-related combining due to data limitations.

4.2 Model for satisfaction

The results of short run and long run effect of combining work and study on the probability to be satisfied are depicted in Table 9 and Table 10 for females and males, respectively.

Table 9. The short run and long run average marginal effects of combining work and study on the probability to be satisfied with job position in Ukraine and Armenia (females)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	-0.049	0.111	-0.058	0.139	0.048	0.139
	(0.070)	(0.110)	(0.069)	(0.106)	(0.066)	(0.103)
Long run	-0.033	-0.231**	-0.034	-0.207*	-0.034	-0.236**
	0.043	(0.113)	(0.044)	(0.112)	(0.037)	(0.112)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

As we can see, combining work and study does not affect the satisfaction of young females in Ukraine in both, long and short run. As for Armenia, the effect is estimated to be negative. The female from Armenia who was combining work and study has on 23% less probability to be satisfied with the place of work than ones who were not.

Table 10. The short run and long run average marginal effects of combining work and study on the probability to be satisfied with job position in Ukraine and Armenia (males)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	0.015	-0.036	0.015	-0.041	0.011	-0.040
	(0.059)	(0.100)	(0.059)	0.100	(0.047)	0.097
Long run	0.003	-0.004	0.003	-0.004	0.017	-0.004
	(0.060)	0.085	(0.060)	(0.096)	(0.050)	(0.093)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

At the same time, there is no significant effect of combing work and study on the probability to be satisfied of males in both countries. This means, that running separate regressions for both sexes makes sense. We might make the

wrong conclusion for both sexes when the significant effect is only obtained for females. All the regressions magnitude and signs did not change drastically, which gives arguments to state about the robustness of the model. Satisfaction is a very subjective concept that can't be described in detail as, for example, wage or employment status. An individual can be not satisfied because she(he) is very ambitious and want to achieve enormous goals or due to awful working conditions. Overall, the variable of interest significantly affects only the satisfaction of females in Armenia and only in the long run. The obtained result goes in line with a suggestion to concentrate on studying for students in Armenia analyzing the probability to be employed because for some reason women feel 23% more unhappy. Unfortunately, due to the data limitations, we can't highlight the source of displeasure.

4.3 Model for the probability to be overqualified

As for the probability to be satisfied, the effect on the probability to be overqualified was estimated separately for males and females. The output is depicted in Table 11 and Table 12.

Table 11. The short run and long run average marginal effects of combining work and study on the probability to be overqualified in Ukraine and Armenia (females)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	0.004	-0.016	0.001	-0.025	0.023	-0.060
	(0.050)	(0.128)	(0.048)	(0.125)	(0.055)	(0.120)
Long run	-0.034	0.234*	-0.034	0.228*	-0.048	0.233*
	(0.038)	(0.132)	(0.038)	(0.131)	(0.041)	(0.130)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The short run effect is estimated to be negative for females from both countries, and only for Armenia the long run is significant. The effect of combining work and study on the probability to be overqualified is 23% for females from Armenia.

Table 12. The short run and long run average marginal effects of combining work and study on the probability to be overqualified in Ukraine and Armenia (males)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	-0.002	-0.050	-0.002	-0.035	-0.050	-0.067
	(0.062)	(0.098)	(0.062)	0.099	(0.065)	(0.094)
Long run	0.008	0.123	0.005	0.131	-0.005	0.123
	(0.036)	(0.119)	(0.036)	(0.124)	(0.030)	(0.123)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Using regression analysis for our sample the significant effect for males was not discovered for both time periods.

Overqualification is an issue which harms both, individual and government. This problem occurs when obtained education is not practically used in the working place. In fact, in terms of future labor market outcomes it a waste of time. As it is well known, most of the lecturers from Ukraine and Armenia have a lack of practice. Due to that, as they do not use their knowledge on the labor market, they transfer to the students only theoretical material. As we discussed above, only females from Armenia are significantly overqualified in long run. There are several reasons why they consider that studied more than in was needed. Firstly, the level of youth unemployment in Armenia is very high. According to the World Bank It was 33.5% in 2019 when in Ukraine only 15.5%. Secondly, the share of people who combine work and study is approximately two times higher in Ukraine than in Armenia. Lastly,

according to the UNESCO Institute for Statistics girls spend on average more time for training and are less likely to skip lectures.

4.4 Model for having desire to change a working place

Below, in Table 13 and Table 14 we can see the estimated effect of the key variable on probability to have the desire to change working place for females and males, respectively.

Table 13. The short run and long run average marginal effects of combining work and study on the probability to have desire to change working place in Ukraine and Armenia (females)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	0.055	-0.070	0.065	-0.090	0.001	-0.138
	(0.085)	(0.123)	(0.084)	(0.121)	(0.077)	(0.118)
Long run	0.021	0.240***	0.025	0.231***	-0.018	0.226***
	(0.074)	(0.086)	(0.075)	(0.088)	(0.065)	(0.086)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Looking on the Table 13 we see that the short run effect of combining work and study on the probability to have desire to change work is not observed in both countries. At the same time, we can state about long run positive effect on females. The result is estimated to be 24% for females from Armenia.

Table 14. The short run and long run average marginal effects of combining work and study on the probability to have desire to change working place in Ukraine and Armenia (males)

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	0.011	0.213**	0.011	0.224**	0.046	0.221**
	(0.074)	(0.106)	(0.074)	(0.106)	(0.067)	(0.107)
Long run	0.118*	0.239**	0.119*	0.236**	0.094	0.218*
	(0.068)	(0.112)	(0.068)	(0.112)	(0.059)	(0.114)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The outcomes from Table 14 are the following: the short run significant effect is observed only for Armenia, and long run for both countries. We see that males from Armenia who were combining work and study are predicted to have the desire to change working place on 21.3% more than ones that were not. The magnitude and sign of long run effect for them are very similar and equal to 23.9%. At the same time, the sign for males from Ukraine is the same, but the magnitude is lower and estimated to be 11.8%.

The process of robustness check shows consistent results for all three specifications for Armenia, and when we drop the variable "parental education" the combining work and study loses its significance. There are 3 arguments why we tend to believe our baseline specification: 1) the t-statistics is very close for being significant; 2) the model specification was chosen according to the literature; 3) the variable "parental education" is an important control that might be correlated with income of the family and its connections which can influence the dependent variable.

Results from probability to be employed regression state that combining work and study in Ukraine is effective. In turn, here we see, that males who were combining work and study are predicted to have more desire to change working place than ones that were not. At the same time, there was no negative effect on satisfaction. Possibly, they are satisfied with the status quo

but at the same time want to improve working conditions. Both, males and females from Armenia who were combining work and study are predicted to have more desire to change working place in long run, and males in short run also. The result goes in line with previously discussed dependent variables in the case of Armenia.

4.5 Model for wage

The results of short run and long run effect of combining work and study on wage level are depicted in Table 15. As we took the variable "wage" in logs, the interpretation of the key variable is in percentage changes.

Table 15. The short run and long run effects of combining work and study on the log(wage) in Ukraine and Armenia

	Baseline model		Without urban		Without parenal educ	
	Ukraine	Armenia	Ukraine	Armenia	Ukraine	Armenia
Short Run	-0.103	0.298**	-0.097	0.294**	-0.068	0.329**
	(0.065)	(0.142)	(0.065)	(0.135)	(0.061)	(0.146)
Long run	-0.044	-0.145	-0.046	-0.259	0.001	-0.211**
	(0.072)	(0.762)	(0.076)	(0.198)	(0.065)	(0.097)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The short run effect is not significant for Ukraine and is estimated to be 29.8% for Armenia.

The long run effect is not significant for both countries but becomes significant for Armenia when we drop the variable "*parental education*". As the specification of the model was chosen according to the literature and we believe that the highest level of parental education is correlated with the income of the family and social connections which might positively affect the

wage level of individual we tend to believe that the long run effect for Armenia is not significant and our baseline model specification is correct.

Summing up, as we expected looking at Figure 1, combining work and study does not affect wage level in Ukraine. In Armenia the situation is different. Ones who were combining are predicted to have on 29.8% higher level of wages in short run than ones that were not. Unfortunately, in the long run, this effect disappears. Being smart, the student would look at all the results from estimated regression and make a decision maximizing his long run well-being. She(he) would conclude that combining in Armenia is not effective even though it gives higher returns in terms of wage in short run. It was pretty obvious, that those who start working earlier might have higher wages in short run. As this effect disappears in long run, we can suppose that either the effect of obtaining more time to get an education is statistically not different from the effect of getting early working experience or those who were combining work and study were forced to do non-study-related work.

Chapter 5

CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Conclusions

In this paper, we estimated the effect of combining work and study on binary variables like employment status, satisfaction, overqualification, and desire to change working place. Also, we studied whether the variable of interest has a significant effect on the wage of an individual.

In our research, we study this effect on the data from the "School-to-Work Transition Survey" for Ukraine (2015) and Armenia (2014). These countries are very different from each other, but they both share the USSR legacy. Due to that, we were interested to understand whether the results will be homogeneous or that the dissimilarities among these countries are quite substantial.

Estimation results indicate that there is consensus in some of the dependent variables, but there are also some structural differences. For instance, the effect of combining work and study on the probability to be employed is significant and long-lasting in Armenia and has only significant influence in short run for Ukraine. For Armenia, the effect is estimated to be -18.9% and -18.7% for short run and long run, respectively. In Ukraine, the effect has the opposite sign. The individual who was combing work and study is predicted to have 7% more chances to be employed than the one who was not combining. The significant effect on the satisfaction and overqualification variables was observed for females from Armenia and only in the long run. The women from Armenia who were combining work and study have 23.1% fewer chances to be satisfied and a 23.4% higher probability to be overqualified.

To all others, we estimated the effect of combining work and study on the probability to have the desire to change working place and on the wage level. The output states that combining positively affects the desire to change working place. We obtained significant results for both sexes and periods for Armenia except for females in short run and only positive effect for males in Ukraine in the long run. Also, the analysis showed that combining work and study has not any causal effect on the level of wage in Ukraine for both periods and only a temporary positive effect in Armenia.

Analyzing the obtained results in Chapter 4 we came to different conclusions for Ukraine and Armenia. In the first case, there was not observed any consequential negative effect in both, short run and long run. Moreover, it helps to have a higher probability to be employed up to 3 years after graduation. In Armenia situation is the opposite. Almost all dependent variables were negatively affected by combining work and study. Regression analysis showed that only for short run it has a positive effect on wage level in Armenia. However, even this effect disappears three years after graduation.

This topic was mostly researched in Western countries. There are a lot of studies that account for the intensity of work during the study, study-related and non-study-related work, combining work and study on first years of study and last years of study, combining work and study in a specific field of education. Unfortunately, due to the data limitations, we could not cover these factors in our research. However, we hope that the results of this paper would raise interest in this topic, and all the listed above factors will be investigated in the nearest future.

5.2 Policy implications

As we mentioned that according to obtained results the combining work and study is ineffective in Armenia and productive in Ukraine, we formed two groups of policy implications for each of the countries.

The first suggestion for Ukraine is to start creating infrastructure which can help private companies start interacting with students. It can take different forms of cooperation. For example, allowing companies to conduct courses, establish the laboratories, create a centralized resource where students could find internships in modern companies. Even now, such initiatives exist but in a very small form and mostly in private universities.

Secondly, as the fact that students who combine work and study spend less time on learning materials at university do not makes them less competitive on the labor market in the long run against ones who were only studying, we can conclude that the quality of universities is very low. The suggestion is to reduce the number of state educational institutions and use freed-up resources to attract professors from the market. Also, additional funds might be used for the creation of on-campus employment opportunities.

For the case of Armenia, we see that combining work and study harms students in both, long run and the short. The government can react by increasing the number of scholarships which could give an opportunity not to be distracted from the study. At the same time, we believe that intensity and study-related combining matters. A large amount of financial assistance can completely take away the incentives of students to work. Due to that, further research must help to understand this problem more deeply and figure out which type of combining is harmful, and which might be effective.

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APPENDIX A

DESCRIPTIVE STATISTICS

Table 16. Variable description used for building the models

Variable	Description
urban	urban = 1 , rural = 0
female	female = 1, male = 0
tertiary	tertiary = 1, vacational = 0
children	have children = 1, no children = 0
single	single = 1, not single = 0
graduation	graduated less than 4 years ago = 1, graduated more or equal to 4 years ago
combining	was combining = 1, not combining = 0
employed	employed = 1 , unemployed = 0
satisfaction	satisfied with current job = 1, not satisfied = 0
change_empl	has a desire to change employment = 1, has not desire = 0
overqualified	overqualified = 1, underqualified and the education was relevant = 0
written_contr	written contract = 1, oral = 0
governmental	work in governmental institution = 1, in private = 0
parental education	school =0 , vocational = 1, tertiary = 2

APPENDIX B

ESTIMATION OUTPUT

Table 17. Estimation results for logistic regression (*dependent variable: Employed*)

	Ukraine	Armenia
VARIABLES	employed	employed
urban	0.212	0.453**
	(0.211)	(0.180)
female	-0.237	-0.279
	(0.270)	(0.218)
tertiary	-0.0404	-0.324
	(0.291)	(0.223)
children	-2.114***	-0.278
	(0.300)	(0.363)
female#children	2.639***	1.716***
	(0.447)	(0.366)
single	0.242	-0.335
	(0.258)	(0.232)
graduation	0.000294	-0.384
	(0.293)	(0.236)
education	-1.450**	-0.116
	(0.586)	(0.428)
humanities_arts	-1.471***	0.103
	(0.368)	(0.329)
soc_bus_law	-0.898*	-0.153
	(0.479)	(0.345)
science	-1.352***	-0.264
	(0.444)	(0.350)
engin_man_constr	-1.163**	-0.725*
	(0.560)	(0.426)
agriculture	0.0457	-0.235
	(0.710)	(0.484)
health_welfare	-1.611***	0.0169
	(0.429)	(0.343)
services	-1.145**	0.321
	(0.560)	(0.407)
combining	0.348	-0.984**
	(0.270)	(0.405)
age	0.205***	-0.126***
	(0.0563)	(0.0386)

Table 17. Continued

	Ukraine	Armenia
VARIABLES	employed	employed
1. parental_education	-0.179	-0.373*
	(0.295)	(0.211)
2. parental_education	0.180	-0.512**
	(0.295)	(0.257)
graduation#combining	0.159	0.0420
	(0.387)	(0.523)
Constant	-2.419*	3.571***
	(1.303)	(0.836)
Observations	1,020	938

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 18. Estimation results for logistic regression for Ukraine (*dependent variable: Satisfied)*

Ukraine	males	females
VARIABLES	satisfaction	satisfaction
urban	-0.009	-0.481
	(0.352)	(0.571)
tertiary	0.487	-0.168
	(0.487)	(0.621)
children	-0.0645	0.117
	(0.552)	(0.545)
single	-0.551	0.175
	(0.517)	(0.438)
graduation	-0.427	0.341
	(0.517)	(0.698)
education	0.275	-0.660
	(1.500)	(1.239)
humanities_arts	-1.241	-1.355*
	(1.080)	(0.704)
soc_bus_law	-1.285	-
	(1.149)	
science	-1.073	-2.144**
	(1.089)	(0.939)
engin_man_constr	-0.197	-
	(1.224)	
agriculture	-	-1.576*
		(0.841)
health_welfare	-0.517	-0.989
	(1.120)	(0.861)
services	-0.605	-1.789*
	(1.166)	(0.986)
combining	0.0208	-0.438
	(0.410)	(0.529)
age	0.0496	-0.0604
	(0.0767)	(0.131)
1. parental_education	-0.158	1.301**
	(0.501)	(0.626)
2. parental_education	0.197	1.858***
	(0.503)	(0.641)
graduation#combining	0.120	-0.0627
	(0.688)	(0.848)
Constant	1.559	3.980
	(2.132)	(2.971)
Observations	399	319

Table 19. Estimation results for logistic regression for Armenia (*dependent variable: Satisfied*)

Armenia	males	females
VARIABLES	satisfaction	satisfaction
urban	-0.651	0.409
	(0.487)	(0.390)
tertiary	-0.238	-0.182
	(0.493)	(0.472)
children	0.401	-0.0563
	(0.597)	(0.575)
single	0.596	-0.661
	(0.570)	(0.460)
graduation	0.0740	0.695
	(0.485)	(0.497)
general_programs	0.315	0.920
	(1.390)	(1.228)
education	0.604	1.136
	(1.311)	(0.757)
humanities_arts	0.487	0.485
	(1.310)	(0.673)
soc_bus_law	0.915	0.0552
	(1.418)	(0.625)
science	0.170	0.699
	(1.530)	(0.626)
engin_man_constr	-1.243	-0.0850
	(1.799)	(0.959)
agriculture	-0.399	1.360
	(1.308)	(1.040)
health_welfare	-0.167	0.246
	(1.619)	(0.801)
combining	-0.0299	-1.150**
	(0.676)	(0.534)
age	0.00369	0.0219
	(0.0819)	(0.0806)
1. parental_education	-0.0664	0.309
	(0.658)	(0.408)
2. parental_education	0.455	0.378
	(0.697)	(0.522)
graduation#combining	-0.225	1.726**
	(0.902)	(0.810)
Constant	1.216	-0.297
	(2.490)	(1.727)
Observations	249	235

Table 20. Estimation results for logistic regression for Ukraine (*dependent variable: overqualified*)

Ukraine	males	females
VARIABLES	overqualified	overqualified
urban	0.434	-0.208
	(0.554)	(0.604)
children	-0.529	-0.324
	(0.610)	(0.675)
single	-0.270	0.961
	(0.568)	(0.619)
tertiary	-0.0709	0.686
	(0.606)	(0.762)
graduation	-0.531	-0.0938
	(0.672)	(0.833)
education	-0.609	0.760
	(1.240)	(1.460)
humanities_arts	-1.133	2.157**
	(0.807)	(1.068)
soc_bus_law	-1.093	1.562
	(1.118)	(1.407)
science	-0.546	1.066
	(0.696)	(1.476)
engin_man_constr	-0.898	3.105**
	(1.169)	(1.531)
agriculture	-0.442	2.959**
	(1.389)	(1.143)
health_welfare	-1.207*	1.329
	(0.710)	(1.294)
services	-	0.890
		(1.625)
combining	0.125	-0.640
	(0.517)	(0.777)
age	0.112	0.0231
	(0.132)	(0.131)
1. parental_education	0.303	1.178
	(0.689)	(0.925)
2. parental_education	0.319	0.649
	(0.709)	(0.945)
graduation#combining	-0.127	0.697
	(0.840)	(1.067)
Constant	-4.371	-6.404*
	(3.042)	(3.404)
Observations	375	335

Table 21. Estimation results for logistic regression for Armenia (*dependent variable: overqualified*)

Armenia	males	females
VARIABLES	overqualified	overqualified
urban	0.773*	-0.102
	(0.426)	(0.423)
children	-1.119*	-0.0792
	(0.642)	(0.524)
single	0.111	0.305
	(0.568)	(0.472)
tertiary	0.104	0.293
	(0.459)	(0.432)
graduation	-0.0827	-0.0859
	(0.481)	(0.457)
general_programs	0.265	0.567
	(1.383)	(1.249)
education	0.460	-0.645
	(1.359)	(0.679)
humanities_arts	-0.154	-0.0862
	(1.405)	(0.600)
soc_bus_law	0.508	0.0496
	(1.390)	(0.598)
science	-0.167	-0.421
	(1.549)	(0.623)
engin_man_constr	-0.121	-0.160
	(1.922)	(0.860)
agriculture	-0.121	-1.768*
	(1.329)	(1.063)
combining	0.600	1.016*
	(0.568)	(0.604)
age	0.122	-0.0553
	(0.0787)	(0.0878)
1. parental_education	-1.083**	-0.316
	(0.518)	(0.501)
2. parental_education	-1.316**	-0.239
	(0.541)	(0.549)
graduation#combining	-0.871	-1.089
	(0.753)	(0.811)
Constant	-3.303	1.249
	(2.091)	(2.168)
Observations	244	191

Standard errors in parentheses

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

Table 22. Estimation results for logistic regression for Ukraine (*dependent variable: change employment*)

Ukraine	males	females
VARIABLES	change_empl	change_empl
urban	-0.0240	0.386
	(0.278)	(0.356)
tertiary	0.0465	0.607
	(0.392)	(0.428)
children	-0.0665	0.357
	(0.403)	(0.378)
single	0.474	0.402
	(0.374)	(0.332)
graduation	0.129	0.104
	(0.419)	(0.473)
education	0.678	-1.365**
	(0.961)	(0.685)
humanities_arts	1.096	-0.276
	(0.746)	(0.403)
soc_bus_law	1.643**	0.274
	(0.787)	(0.625)
science	1.792**	-0.381
	(0.746)	(0.698)
engin_man_constr	1.846**	-
	(0.881)	
agriculture	-1.120	-0.0207
	(1.383)	(0.582)
health_welfare	0.520	0.382
	(0.788)	(0.524)
services	0.709	0.497
	(0.870)	(0.734)
combining	0.584*	0.116
	(0.336)	(0.395)
age	-0.0820	-0.0623
	(0.0693)	(0.0758)
1. parental_education	-0.0814	0.0195
	(0.431)	(0.482)
2. parental_education	-0.585	-0.221
	(0.440)	(0.472)
graduation#combining	-0.521	0.183
	(0.519)	(0.610)
Constant	-0.00641	-0.465
	(1.803)	(1.760)
Observations	407	340

Table 23. Estimation results for logistic regression for Armenia (*dependent variable: change employment*)

Armenia	males	females
VARIABLES	change_empl	change_empl
urban	0.474	-0.242
	(0.360)	(0.373)
tertiary	-0.265	-0.176
	(0.434)	(0.423)
children	-1.347**	-0.117
	(0.521)	(0.464)
single	-0.196	-0.0328
	(0.465)	(0.413)
graduation	-0.0487	0.0790
	(0.454)	(0.421)
general_programs	1.364	2.314*
	(1.063)	(1.319)
education	0.982	-1.341**
	(1.036)	(0.628)
humanities_arts	1.077	0.394
	(1.063)	(0.632)
soc_bus_law	0.808	0.0654
	(1.064)	(0.595)
science	0.708	-0.569
	(1.209)	(0.572)
engin_man_constr	2.210	-0.544
	(1.468)	(0.771)
agriculture	0.233	-1.655*
	(1.041)	(0.846)
health_welfare	0.462	-0.578
	(1.425)	(0.642)
combining	1.087**	1.296**
	(0.536)	(0.562)
age	0.0777	-0.115*
	(0.0814)	(0.0698)
1. parental_education	-0.993**	-0.0312
	(0.482)	(0.400)
2. parental_education	-0.932*	0.167
	(0.498)	(0.498)
graduation#combining	-0.121	-1.610**
	(0.727)	(0.773)
Constant	-1.954	3.585**
	(2.001)	(1.564)
Observations	249	235

Table 24. The effect of combining work and study on *log(wage)* for Armenia

	Armenia short run		Armenia long run	
	(1)	(2)	(1)	(2)
VARIABLES	lnwage	select	lnwage	select
female	0.0441	0.309	0.556	-0.473
	(0.167)	(0.256)	(0.897)	(0)
urban	-0.0224	-0.113	-0.573	0.342
	(0.166)	(0.234)	(2.015)	(2.346)
children	-0.717**	6.697	-0.122	-0.445
	(0.344)	(0)	(0.161)	(0)
single	-0.307*	0.176	-0.0889	-0.455
	(0.168)	(0.295)	(0.433)	(0)
tertiary	-0.0692	-0.0696	0.0991	-0.644
	(0.172)	(0.244)	(0.692)	(0)
combining	0.298**		-0.145	
	(0.143)		(0.763)	
age	0.0362		0.0208	
	(0.0331)		(0.0794)	
1. parental_education	-0.0388		0.261	
	(0.236)		(0.255)	
2. parental_education	0.283		0.496	
	(0.256)		(0.512)	
general_programs	0.169		0.138	
	(0.708)		(2.384)	
education	0.0358		0.729	
	(0.663)		(0.659)	
humanities_arts	0.314		0.580	
	(0.680)		(1.655)	
soc_bus_law	0.347		0.343	
	(0.700)		(1.546)	
science	0.328		0.499	
	(0.667)		(1.173)	
engin_man_constr	-0.188		0.448	
	(0.736)		(3.722)	
agriculture	0.360		0.183	
	(0.659)		(2.877)	
health_welfare	0.771		-0.523***	
	(0.689)		(0.160)	
female#children	0.0937		-0.175	
	(0.343)		(0.435)	
written_contract		0.334		0.345***
		(0.267)		(0.0579)

Table 24. Continued

	Armenia short run		Armenia long run	
	(1)	(2)	(1)	(2)
VARIABLES	lnwage	select	lnwage	select
governmental		-0.472**		-0.200
		(0.217)		(0.322)
Constant	10.56***	0.272	10.71	1.125
	(1.043)	(0.423)	(0)	(0)
athrho		-1.646**		-13.79***
		(0.636)		(0.414)
lnsigma		-0.196		-0.112
		(0.155)		(1.596)
Observations	185	185	213	213

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 25. The effect of combining work and study on *log(wage)* for Ukraine

	Ukraine short run		Ukraine long run	
	(1)	(2)	(1)	(2)
VARIABLES	lnwage	select	lnwage	select
female	-0.262***	0.0835	-0.295***	0.523***
	(0.0749)	(0.176)	(0.0963)	(0.143)
urban	0.0856	-0.0261	0.333***	-0.310*
	(0.0696)	(0.206)	(0.0680)	(0.164)
children	-0.0976	-0.559**	-0.121	-0.0341
	(0.182)	(0.275)	(0.108)	(0.165)
single	0.0318	-0.0698	-0.0466	0.364**
	(0.0835)	(0.230)	(0.0878)	(0.170)
tertiary	-0.00584	0.0574	0.325**	-0.0180
	(0.133)	(0.230)	(0.129)	(0.144)
combining	-0.103		-0.0442	
	(0.0658)		(0.0720)	
age	0.00931		0.00356	
	(0.0245)		(0.0206)	
1. parental_education	0.138		-0.0881	
	(0.164)		(0.0835)	
2. parental_education	0.236		0.0416	
	(0.155)		(0.0844)	
education	0.112		-0.00524	
	(0.151)		(0.156)	
humanities_arts	-0.0518		0.0610	
	(0.139)		(0.108)	
soc_bus_law	-0.0227		0.121	
	(0.183)		(0.148)	
science	0.0599		0.250	
	(0.130)		(0.155)	
engin_man_constr	-0.110		0.204	
	(0.235)		(0.194)	
agriculture	-0.126		0.238*	
	(0.170)		(0.140)	
health_welfare	0.0313		0.403***	
	(0.129)		(0.150)	
services	0.143		0.433**	
	(0.164)		(0.202)	
female#children	0.321		0.344***	
	(0.247)		(0.129)	
written_contract		-0.239		0.397**
		(0.441)		(0.180)

Table 25. Continued

	Ukraine short run		Ukraine long run	
	(1)	(2)	(1)	(2)
VARIABLES	lnwage	select	lnwage	select
governmental		0.343		-0.0373
		(0.217)		(0.155)
Constant	7.354***	0.558	7.520***	-0.0234
	(0.527)	(0.378)	(0.512)	(0.253)
athrho		0.486		-0.997***
		(0.464)		(0.289)
lnsigma		-0.859***		-0.443***
		(0.124)		(0.137)
Observations	283	283	455	455

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1