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RUSSIAN UNIVERSITY STUDENTS AND THE COMBINATION OF STUDY AND WORK: IS IT ALL ABOUT EARNING, LEARNING OR JOB MARKET SIGNALING?

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RUSSIAN UNIVERSITY STUDENTS AND THE COMBINATION OF STUDY AND WORK: IS IT ALL ABOUT EARNING, LEARNING OR JOB MARKET SIGNALING?[3][4]

The issue of how Russian students combine work and study can be analyzed through the quality of university, the quality of students and a number of financial, academic, social and demographic factors. These factors may have an effect on student employment and student labor supply, and help shed light on what motivates students to enter the labor market.

We discovered that 64.7% of Russian students combined study and work and most of them begin working during their 3rd year of study. Our results indicate that factors associated with the quality of students, such as studying in a top university and participating in research activities, positively affect the probability of student employment, but negatively affect the labor supply. Financial motivations for student employment are also significant. However, we found no evidence that combining study and work affects students' academic achievements.

JEL Classification: E32.

Keywords: higher education, student employment, combining work and study, job market signaling, human capital

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Introduction

Student employment is becoming a significant problem in modern interdisciplinary studies in labor economics and the sociology of education. Researchers claim that the number of students combining work and study is increasing globally, and students tend to work longer hours (Beerkens, 2011; Kalenkoski, Pabilonia, 2010; Hall, 2010)

There are many factors which determine a student's economic and educational behavior, and they have a certain impacts on a student's incentives and motivation for employment. This is due to the varying institutional structures of the labor markets and educational systems in other countries.

The main determinant of an increase in global student employment is linked to the transition from elite to mass higher education, where larger social groups are now involved in higher education. Trow outlined the main problems which arise in this kind of transition, such as a decrease in the quality of education, an increase of government expenditure on education, a disproportionate structural labor market and youth unemployment (Trow, 2000).

Researchers have analyzed the different factors that may determine a student's motivation for combining work and study. First, students combine work and study to pay for their own education. The cost of education increases with a better understanding of its value by different social groups, and students from low-income families are becoming more involved in higher education (Brennan, Choy, 2002). This motivation is significant in the US, where an elite higher education is still almost inaccessible for the majority of households and lower-quality education is available, but students from low-income families are obliged to work to pay for this education (King, 2002).

Second, students work to maintain their high standards of living and consumption (Beerkens et al., 2011).

Third, the modern labor market provides students with additional opportunities to combine work and study due to changes in workplace structures and the development of non-traditional types of employment, such as part-time employment, flexible employment, distance work, outsourcing or freelance. Universities have also created more flexible educational programs (Beerkens et al., 2011; Yanbarisova, 2014).

Finally, students work in order to gain a competitive advantage in the labor market. Structural changes in higher education linked to the transition from elite to mass higher education have led to a decrease in the quality of education, and the reduced significance of higher education as a labor market signal of high productivity. This means that work experience

is becoming another important signal of a graduate's abilities, productivity and ambitions on the job market. This is a common situation for Russia and other post-Soviet countries.

The Russian education system can also be characterized by a strong differentiation between universities' educational standards, in terms of their quality of education and reputation. This means that receiving a diploma from a top university with an excellent reputation on the labor market may be another important signal of a student's abilities. Here, students studying at top universities have already acquired an important labor market signal (the university's reputation) and would be less likely to combine their studies with work in order to gain additional "points" on the labor market through work experience. Moreover, students at low quality universities, without a good reputation on the labor market, ought to have greater motivation to acquire additional labor market signals such as work experience. Despite this, students at top universities have more opportunities to be employed while studying than students from low-quality universities. This is due to the university's good reputation, the students' abilities and the fact that, in Russia, most top universities are located in Moscow or St. Petersburg, and these cities have more diverse and developed labor markets which can provide students with additional opportunities for employment. Moreover, students studying in leading universities compete with each other for better jobs and the segmentation of the labor market may mean that competition between these students for high-quality jobs may be very strong. This competition forces students from top universities to acquire additional labor market signals, such as work experience.

When analyzing student employment, one significant research question is connected with determining the student's motivation for combining work and study, and the consequences of student employment in terms of wages and career prospects. Unfortunately, there is a lack of relevant panel data about career trajectories and the wages of university graduates in Russia, which has rendered this task rather complicated.

Considering different concepts of student employment allows us to suggest that the main motivation for combining work and study for Russian students lies in acquiring work experience and additional income (Roshchin, 2006). The research question is also connected with determination of the relative significance of work experience and formal education, and understanding its substitutive or complementary interconnection.

The information asymmetry on graduate productivity has become a salient issue for employers. The selection of most productive graduates is becoming a very complicated task: academic performance and the existence of higher education are no more reliable proxies for an employee's abilities and productivity.

Due to low standards of education and the decrease in significance of formal education as a job market signal, talented students also have issues with confirming the high level of their abilities, which is why they try to obtain an additional job market signal through work experience. Talented students do not have to make great efforts to achieve their university diploma, but formal education is insufficient in terms of the real increase in student productivity and professional qualifications. As a result, students are obliged to choose between increasing their productivity by the deeper self-study of professional disciplines; trying to gain access to quality educational programs at higher levels of education, or entering the labor market and acquiring practical skills and work experience which may provide them with a higher income in future. Another way of formulating our research question therefore concerns the factors that influence this choice, and what the consequences of this choice are in terms of future wages and employment.

Another important issue is linked to relatedness of a job to the student's field of study. We ought to differentiate between situations when students combine study with jobs which are related to their field of study, and those are employed in jobs which do not correspond with their field of study. The quality of the work experience that the student acquired in these situations may vary. The fact that the job applicant had work experience in a job related to their future specialty is a more valuable signal than work experience in jobs which do not correspond with their future specialty. Nevertheless, even if the student combined their studies with a job that did not correspond with their field of study, it may still have some merit as a signal to employers, especially in regional labor markets, unpopular specialties and low-quality universities. Having any work experience at all may indicate that the graduate has the basic skills of business communications, is responsible and able to perform certain job tasks.

In 2013, the Higher School of Economics and the Levada-Centre carried out a joint project called the Monitoring of Education Markets and Organizations (MEMO), and within that, conducted a survey of Russian higher education students on their educational and career trajectories and strategies. Our study is based on the data obtained during this survey.

Literature on student employment

Most studies on student employment tend to be based on the theoretical concepts of the human capital theory (Becker, 1962), the job market signaling theory (Spence, 1973), the concept of school-to-work transition (Ryan, 2001) and the idea of the transformation from an elite to mass higher education (Trow, 2000).

The empirical research on combining study and work usually focuses on the impact of combining study and work on student educational and career trajectories, particularly on academic performance, health, dropout rates, future employment and future wages. The literature also tends to cover factors that affect the probability of a student's future employment, particularly the financial, academic and demographic aspects, as well as their personal motivations.

Ehrenberg and Sherman's work was a key study, which focused on the impact of combining study and work on a student's educational and career trajectories. They considered the impact of student employment on academic performance and future employment and wages using the NLSY sample for the 1970s. The authors proposed a model for the student labor supply (work hours per week), which was based on the utility maximization function, and unlike classical labor supply model it includes factors such as university quality, academic performance and expected wages. Although the research did not identify the direct impact of student employment on future earnings, it did discover that there was an indirect impact through the influence on students' academic performances (Ehrenberg, Sherman, 1987).

Researchers who have analyzed the impact of combining work and study on academic performance conclude that the effect depends on a student's employment intensity (hours worked per week). A low and moderate intensity of employment can have a positive or insignificant effect on a student's academic achievements. At a certain point (usually if students work more than 24 hours per week), there is a significant negative effect of combining study and work on academic performance (Ehrenberg, Sherman, 1987; Brennan et al., 2005; Kalenkoski, Pabilonia, 2010).

The researchers have drawn a distinction between the financial, academic, social and demographic factors that influence student employment. According to Ford et al. (1995), the financial motivation of entering into the labor market entrance prevails; high education costs dictate the necessity of employment in order to pay for a student's education, especially for low-income families or if students lack financial support from their families (Ford et al. 1995). The probability of employment while studying in college is higher for students from low-income families (King, 2002; Kalenkoski, Pabilonia, 2010). This is a common situation for advanced

economies, where education still functions as an effective labor market signal to employers. In this case, work experience is not as important, and the financial motivation for employment prevails.

The situation is entirely different in transitional economies, particularly post-Soviet countries, where education has lost its significance as an efficient labor market signal, and work experience has become another important signal. As a result, a lack of financial resources in these countries is not the sole motivation for student employment. Students combine study and work in order to gain work experience because they expect that they will have some returns on that work experience in the future, in terms of wages and employment (Apokin, Yudkevich, 2008; Beerkens et al., 2011). Moreover, Roshchin discovered that student employment while studying at university decreases the time taken for them to search for and acquire a job, and insures them against low wages at the initial stages of their careers (Roshchin, 2006).

Alongside financial factors, social and demographic factors may also influence student employment. Demographic factors such as gender, marital status and children may all influence student employment indirectly, through financial factors. Social factors include the opportunity to be involved in professional networks, social connections, and the improvement of communication skills.

Research hypothesis

This research aims to evaluate the volume of student employment in Russia and study the factors that influence a student's decision to combine work and study. The main research questions are:

- What is the volume and structure of student employment in Russia?
- What is the main motivation for student employment?
- Which factors influence a student's decision to combine study and work?
- What is the effect of student employment on a student's academic achievement?
- What is the volume of the student labor supply (intensity of combining study and work) and factors that influence the intensity of student employment?

Whilst taking into consideration the main limitations and imperfections of the data, our study will test the following hypotheses:

- Student employment in Russia is a widespread phenomenon. More than half of Russian students have experience of combining study and work
- In spite of the significance of financial factors as a motivation for combining study and work, another important motivation for student employment is linked to the necessity of obtaining work experience

- Factors that are associated with the quality of students (such as studying on a state-funded basis, at high-quality universities, participating in research activities) positively affect student employment, as more talented students must acquire work experience as an additional labor market signal
- Students studying on a fee basis, students from high-income families or recipients of interfamily transfers are less likely to combine study and work, due to a lack of financial motivation.
- Students begin employment in the middle of their education (2.5 - 3 years into their studies), and employment does not significantly affect their academic achievements, due to low educational standards.

Data

Our research is based on data from a higher education student survey, conducted by the Higher School of Economics and the Levada-Center in a joint project called the «Monitoring of Education Markets and Organizations» (MEMO, 2013). The data sample includes 5 000 full-time students (final year Bachelor students, 4th and 5th year specialists and Masters students) in 22 higher education institutions in Russia. The sample is stratified by region, level of educational programs (graduate, undergraduate), and field of study (specialization). The regional sample distribution includes universities from Moscow (36%), St. Petersburg (14%), and other Russian regions (50%). Our sample is divided by Bachelor (13%), Specialist (76%), and Masters students (11%). In our sample's gender distribution, women seem to prevail (Fig. 1). Students who major in economics and management (25. 9%), and engineering sciences (16.2%) prevail in our sample distribution according to the field of study (Fig. 2).

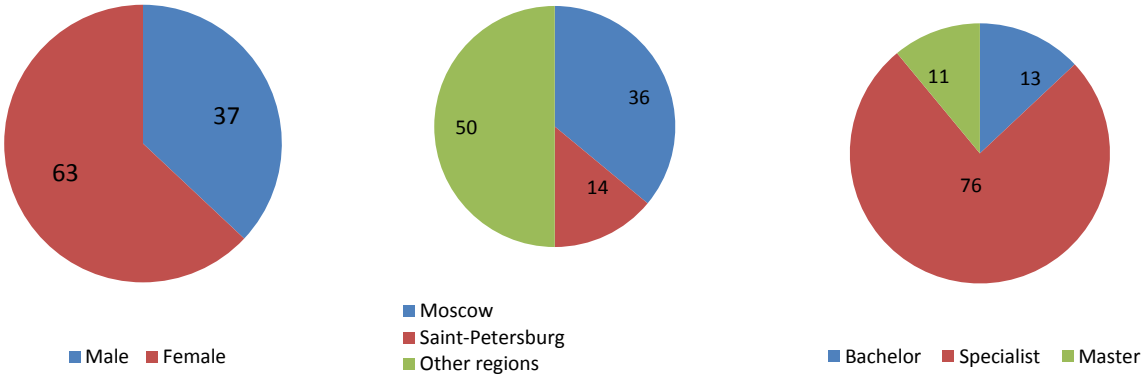

Fig. 1. Sample distribution by gender, region and level of education programs (%)

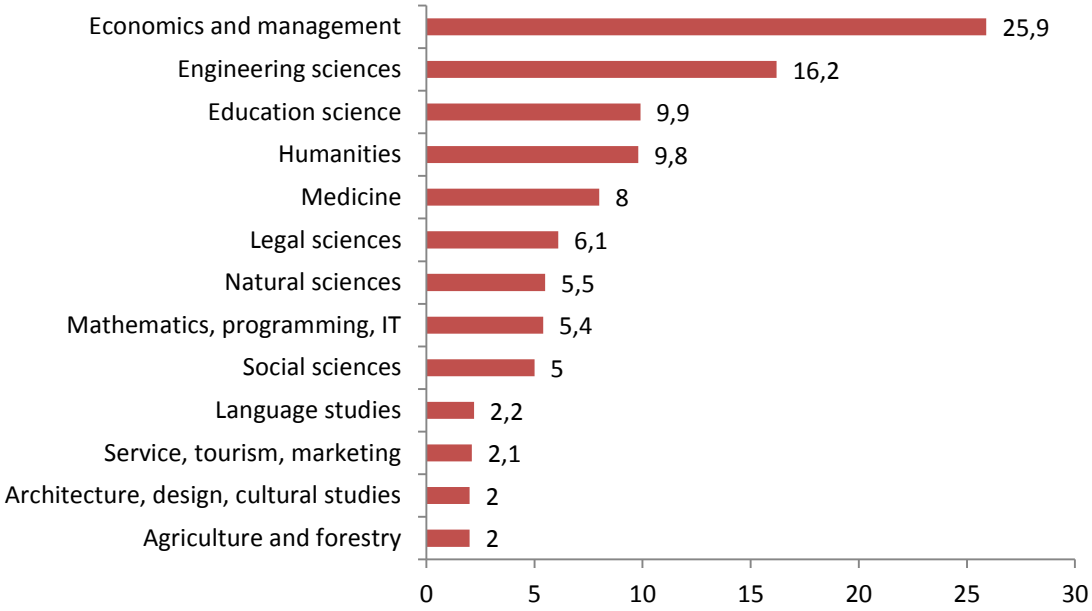

Fig. 2. Sample distribution by fields of study, %

Prevalence and structure of student employment in Russia

In order to evaluate the volume of student employment in Russia, we used the following questions in our survey:

- Have you ever had work experience while studying in university?
- During which year of your studies did you enter the labor market?
- Over the past 12 months what are the average hours per week that you worked on all your jobs?

a) All respondents b) Male c) Female

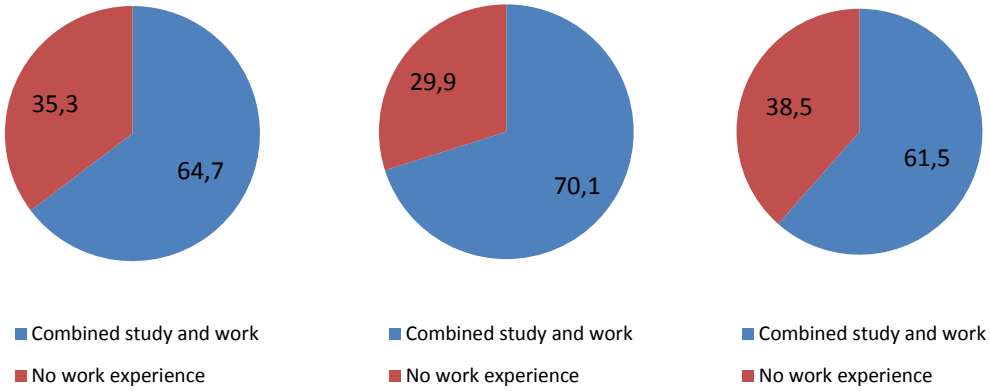

Fig. 3. Proportion of respondents who had experience of combining study and work, for the sample as a whole and according to gender groups (%)

According to our data, student employment in Russia is a widespread phenomenon; 64.7% of full-time students in the sample acquired employment experience while studying at university. Russian male students are more likely to combine study and work than female students (respectively, 70% and 61,5%). There is also some significant differentiation in student employment by level of educational programs (Fig. 4). Masters students are more likely to combine study and work than bachelors and specialists. Masters students have already graduated from lower levels of educational programs and that's why they have an access to better jobs. On average, Masters students are older, than bachelor and specialist students, Masters students are more likely to live apart from their parents and have additional financial needs. Moreover, structure of Masters programs in Russia and low educational standards allow the students to combine study and work.

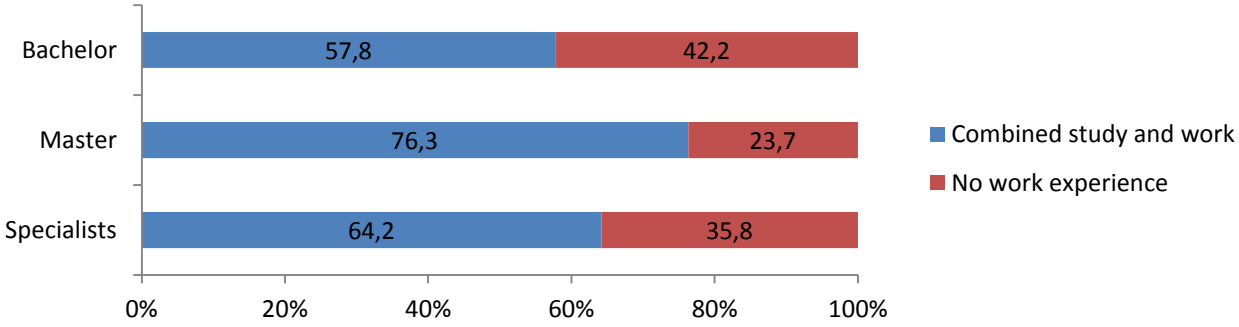

Fig. 4. Proportion of respondents combining study and work according to different levels of educational programs (%)

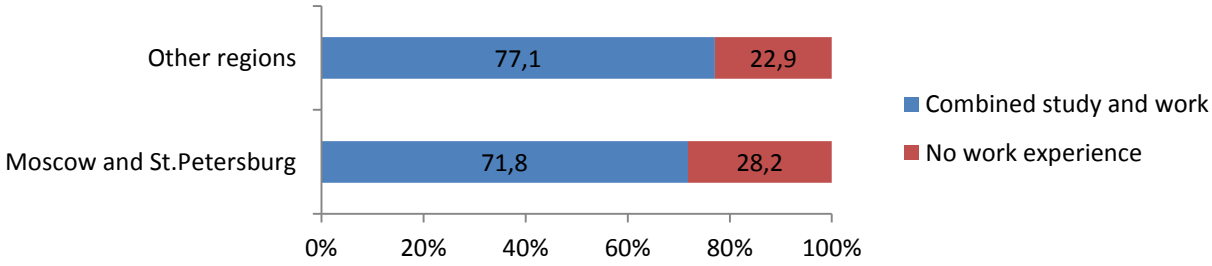

Fig. 5. Proportion of respondents combining study and work, by region (%)

Students from Moscow and St Petersburg are more likely to be employed while studying, than students from regions. This may be due to the more developed and flexible structure of the labor market in capital cities.

Students majoring in design, architecture, cultural studies, mathematics, programming, IT and social sciences are also more likely to be employed. The lowest level of employment is for agricultural and forestry students, and students who major in natural sciences. The amount of students who combine study and work according to their fields of study depends on the student's specialization and the demand for it on labor market; for example there is high labor demand for

math and IT students and a low demand for agriculture and forestry. The student employment level according to fields of study is also dependent on the level of their educational burden (educational standards) and their educational quality, which may differ not only by university, but also by their field of study. In Russia, low educational standards are common for several social and humanities specializations, particularly at low- and middle-quality regional universities.

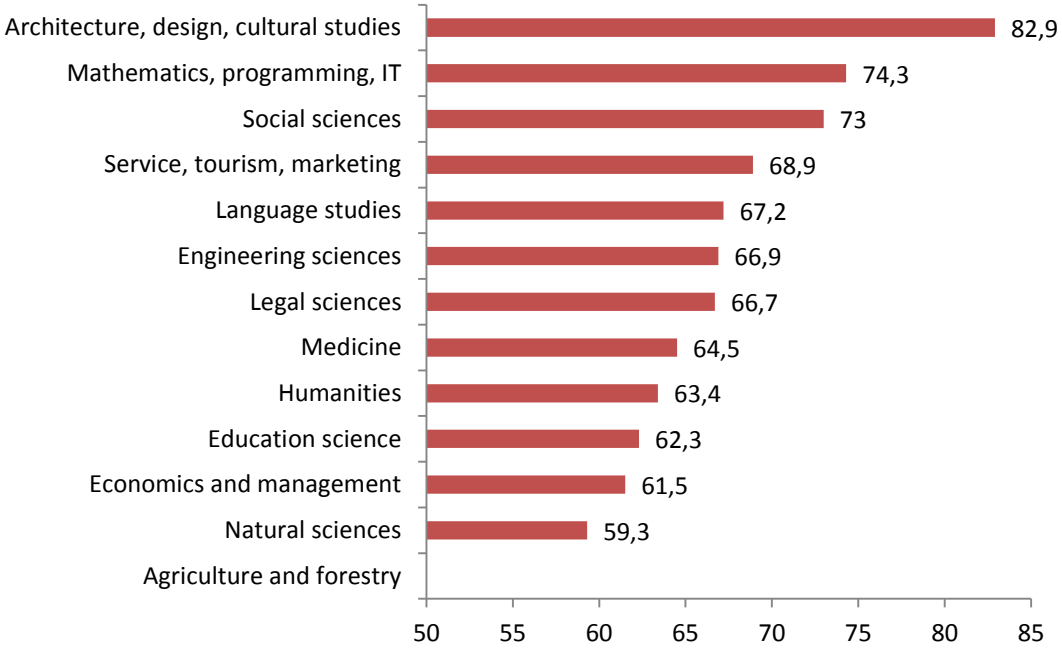

Fig. 6. Proportion of respondents combining study and work, according to field of study (%)

Another important issue is the year of study when students start being employed. Due to data restrictions, we are not able to estimate the probability of being employed while studying at university, dependent on the year of study, because our sample only contains information about students during their last years of education. However, we are able to identify the year of education during which the student begins to combine their work and studies.

According to our results (Table 1), the majority of students start combining study and work during their second or third year of education, on average after 2.7 years of study. During the first three years of study, students obtain basic and fundamental knowledge from their field of study. After this, the educational burden is likely to decrease, since the most difficult exams have been taken and passed, and as a result the students have more leisure time. This leisure time and an increased financial need (due to the student's age) facilitate their decision to enter the labor market.

Table 1. The probability of student employment while studying at university, by year of study.

Year of study	Number of employed students	Proportion of employed students (%)	Cumulative probability of employment by year of study
1	510	15.7	10.2
2	844	26.1	27.0
3	889	27.4	44.7
4	629	19.4	57.3
5	182	5.6	60.9
6	5	0.2	61.0
Masters students	186	5.7	64.6
All employed students	3240		
All students in the sample	5016		
The average year of study before entering the labor market = 2.7 years			

The motivation for student employment

The motivation for student employment is one of the main research questions in this study, as it can offer the key to understanding student educational and career strategies. Testing hypotheses on the motivation for student's employment is greatly restricted by the available data. In our case, it is reduced to an analysis of the answer distribution from the survey question about the advantages of student employment.

According to the students, the main advantage of employment while studying at university is connected with obtaining work experience that will give them future economic returns on the labor market after graduation (Fig. 7).

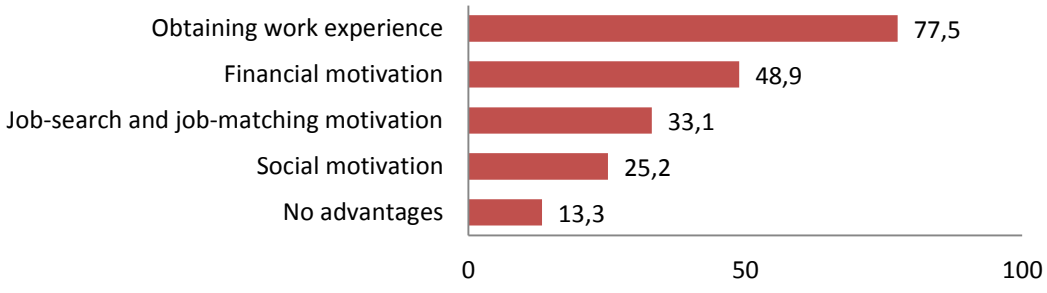

Fig. 7. Motivation for student employment, %

Financial motivation is also significant, as employment is an opportunity for many students to receive some extra money. Moreover, some students consider combining study and work to be a kind of job search and job matching. During their employment, students better understand the job market structure and labor demand as well as their own skills and abilities.

The social externalities of combining study and work are significant for 25% of the respondents. They claim that employment while studying at university provides them with opportunities to be involved in professional networks (Fig. 7). Therefore, we could draw the preliminary conclusion that obtaining work experience and the expectance of future economic returns from work experience are a more significant motivation for student to be employed than solely a financial motivation.

Factors that have an impact on student employment

University quality and student quality

The quality of students may depend on the quality of a university, their academic achievements and unobserved abilities, and may all have a significant impact on the probability of that student being employed.

- Students studying at universities of different qualities differ by many characteristics, including unobserved abilities. This heterogeneity explains part of the variation in the probability of student employment
- Heterogeneity in terms of the university's quality leads to differences in educational standards that influence the level of educational workload. As a result, in different universities, students must make different efforts to maintain a sustainable level of academic achievement which will lead to inequality in employment opportunities during their period of study.

The impact of a university's quality on student employment while studying is questionable. On the one hand, students studying at high-quality universities may have greater abilities than students studying at low-quality universities, as the individual must have the pre-existing talent, skills and abilities to get into a good university. A student's greater abilities, along with the university brand, render high-quality university students more attractive to employers and so they are able to find jobs more easily, even while studying. On the other hand, higher educational standards require greater effort and time dedicated to study, which negatively influence then probability of combining study with work.

University status rating Vs rating based on the Unified State Exam's (USE) entrance exam grades

To evaluate the effect of the university's quality on student employment, we divided our sample according to the quality of universities. We used two different methods to divide the universities in the sample into two groups. We defined the quality of the university according to its status and an average applicant's exam score in the Unified State Exam (USE).

The main selection criteria through which we divide universities according to their quality is university status, which is associated with higher standards of education; national

research universities, federal universities, top universities with special status (such as Moscow State University, St. Petersburg State University) and universities included in a program called the 5-100 Russian Academic Excellence Project.

These universities acquired their special status through different procedures and programs which evaluated their reputation and the quality of their educational standards, according to the Russian Ministry of Education and Science. According to the first classification, we defined 7 universities in our sample as top (elite) universities or high-quality universities. Another 15 universities in the sample were defined as ordinary universities or universities of medium quality.

For the second classification, we used the rating of Russian universities based on an average applicant's examination grades in the Unified State Exam (USE), which allows applicants to get into a university and have their studies funded by the state. These grades show the degree of competition for enrolling in the university. We assume that universities where the entrance examination grades are higher are therefore more prestigious than universities with lower average entrance grades, as it is clear that applicants with higher grades on the USE tend to receive places at top universities.

Nevertheless, this rating has some imperfections, as competition for entering a university on a state-funded basis, together with the quality of university, reflects a demand and supply for higher education that could be irrational and dependent on several factors, such as the preferences of applicants for different specialties, or demographic trends. In other words, this rating is based on the assumption that students with higher USE grades are likely to select universities of a higher quality. We should also point out that we used the USE grades of applicants who passed the exam in 2011, as we studied senior students that, on average, started university in 2010-2012. We defined a university as "leading" or "top" if the USE applicants' average grades were higher than 70 of 100.

We should also point out that heterogeneity may exist not only for different universities, but also within universities, due to the heterogeneity of departments, faculties and specialties that may significantly differ according to the quality of education and the quality of students. By including variables in the analysis which reflect different specialties, we were able to control part of the heterogeneity of specialties, but due to data restrictions we cannot control heterogeneity within universities.

The main classification that we use in this paper is the university status classification, but to check the robustness of our regression results, we also use an alternative classification, based on the USE results.

We analyzed the relationship between the quality of a university, academic achievements, and the cost of education and student employment, through a correlation matrix (Tab. 2). According to Table 2, there is significant relationship between factors such as studying on a state-funded basis (or studying on a fee-basis), studying at a top university and student employment. Students who are state-funded usually have better academic achievements than those who pay for their education, particularly in middle-quality universities. Students who pay for education are more likely to have less academic achievements. Therefore, we can make the assumption that a student's propensity to combine study and work depends on the quality of students; talented students with greater abilities may be more likely to be employed while studying. We can use studying on a state-funded basis, particularly in leading universities, as a proxy for the quality of a student. It should be noted that if we use the Grade Point Average (GPA) as a measurement for student academic achievements, we may encounter problems in the comparability of the GPA between universities and even within universities, between different faculties. Given these restrictions, we do not use student academic achievements as a proxy for student quality, and so when considering a student's academic achievements, we control for university status.

Tab. 2. Correlation matrix for the link between university quality, academic achievements, cost of education and student employment

	Study on a state-funded basis in a top university	Study on a state-funded basis in an ordinary university	Study on a fee-basis in a top university	Study on a fee basis in an ordinary university
Combined study and work	0.1055***	-0.0255	0.0070	-0.0885***
Academic achievements	0.0511***	0.1516***	-0.1794***	-0.1119***

**** p<0.01*

Financial factors

Firstly, we analyzed the impact of educational costs on the probability of combining study with work. We discovered that state-funded students were more likely to work at the same time as studying than students studying on a fee basis (Table 3). These differences may be partially explained by the students of a higher quality, who enter universities on a competitive basis and are state-funded. Another explanation is questionable. On the one hand, state-funded students have lower financial motivations to combine their study and work, as they do not have to pay for their education. However, those students whose parents are able to finance their education usually represent high-income families and have less motivation to work, because families are able to support students, but this is dependent on a family's economic

circumstances. To understand the influence of student quality on student employment through financial motivation, we must control factors such as the quality of a university, interfamily transfers and family income.

The evaluation of the impact that a university's quality has on a student's employment confirms the results of the correlation analysis, as presented in Table 2. We attempted to reveal the influence of the quality of students on their employment by using variables such as studying on a state-funded basis, studying in top universities, and its interconnections. The evidence presented in Table 4 indicates that higher quality students are more likely to combine study and work. Thus, we can suggest that a high quality of student positively correlates with the student's propensity to combine study and work.

Table. 3. The probability of student employment by educational costs (%)

	Combined study and work	No work experience
Study on a state-funded basis	66.9	33.1
Study on a fee basis	59.3	40.7

Table. 4. The probability of student employment by quality of university and education costs (%)

	Combined study and work	No work experience
Study in leading university	73.6	26.4
Study in ordinary university	60.9	39.1
Study in leading university on a state-funded basis	73.6	26.4
Study in ordinary university on a state-funded basis	63.4	36.6
Study in leading university on a fee basis	65.7	34.3
Study in ordinary university on a fee basis	55.9	44.1

Another important motivation for student employment is linked to interfamily transfers. If students have sufficient financial support from their families, they have less financial motivation to be employed and vice versa. This argument was confirmed by our analysis; 86% of students who do not receive financial support from their families combine study and work, whilst amongst the recipients of interfamily transfers, only 59% are employed (Table 5).

An analysis of the impact of family income on the probability of student employment shows no correlation. This is mainly because of large measurement errors in the variable that specifies family income. Measurement errors were probably caused by imperfections in the questionnaire and the tendency of respondents to distort data about their income.

Table 5. Influence of family financial support on the probability of student employment (%)

	Combined study and work	No work experience
Recipients of interfamily transfers	59,1	41.0
Do not receive financial support from family	86.3	13.7

Academic factors

Our analysis shows that there is very low variation in the probability of a student being employed according to their academic achievements. A-level students are more likely to combine study and work. B-level students and D-level students are also quite active on the labor market. C-level students are relatively less active on the labor market (Table 6). We can assume that A-level students have more abilities than other students, which supports the hypothesis that students with higher abilities are more likely to be employed while studying.

Moreover, students who participate in academic research activities at university are more likely to combine work and study than those who do not participate (Table 7). By participation in academic research activities in the survey, we do not refer to professional work at university research centers, rather participation in student conferences, the publication of studies in student journals and presentations in academic seminars.

Table 6. The probability of a student's employment according to their academic achievements (%)

	Combined work and study	No work experience
D-level students	65.0	35.0
C-level students	62.2	37.8
B-level students	65.1	34.9
B+ -level students	64.7	35.3
A-level students	66.5	33.5

Table. 7. The probability of student employment according to student participation in academic research activities (%)

	Combined work and study	No work experience
Did not participate in research activities	60.7	39.3
Participated in research activities	70.9	29.1

Participation in listed research activities can be used as a proxy for high student quality, because in Russia, only the most active and talented students tend to participate in this kind of research activity. Due to their high capabilities, they are able to combine academic achievements, participation in academic research activities and employment on labor market. The fact that students that participate in academic research activities have a significantly higher

probability of being employed while studying also supports the hypothesis that high quality students are more likely to combine study with work. Almost half of the respondents (48%) thought that employment while studying did not adversely affect their academic achievements, and that they could easily combine study and work. Moreover, 36% of students believed that they could combine studying and working relatively successfully. Significant difficulties when combining study and work were reported only by 16% of the respondents (Table 8).

This optimistic view can be partially explained by an absence of students in our sample who dropped out. It is clear that those who continued studying somehow coped with their educational workload. However, although there was student heterogeneity in academic achievements the majority of respondents did not experience serious problems when combining study and work. This indicates that standards of education are low, that gives students the opportunity to combine study and work and make employment a necessity to obtain additional labor market signal.

Table. 8. Student self-evaluation of their success at combining study and work

The success of combining study and work	Share of respondents (%)
Easily and successfully combined work and study	47.8
Combined work and study with relative success	36.3
Combining study and work negatively influenced academic achievements	10.9
High risk of drop-out or job dismissal due to combining study and work	5.0

Regression analysis

The determinants of student employment

In order to evaluate the influence of financial, academic and socio-demographic factors on the probability of student employment while studying at university, we used a binary logit-regression:

$$Prob(Y = 1) = F(x_t' \beta)\,. \qquad (1)$$

Where Y=1 if the student combined study and work during their period of study, and Y=0 if the student had no work experience, x_t – controls. We used factors as controls which had been analyzed in previous chapters and were divided into financial, academic and socio-demographic groups of variables. In order to evaluate the influence of these factors on the probability of student employment, we used a marginal effects estimation. The results of our regression are presented in Table 9.

The regression results consist of two specifications that differ in the way that we define the quality of the university. Our base specification, Specification 1, was classified according to the university's status. The following analysis is based on this classification. In order to check

the robustness of our results, we used another specification, Specification 2, which was based on a measurement of the university's quality by applicants' average USE grades.

Table 9 Factors that influence the probability of student employment: marginal effects

Variables	Specification 1. University rating based on university status	Specification 2. University rating based on USE acceptance grades
Level of education programs: reference group (Bachelor program)		
Masters program	0.134***	0.139***
	(0.0306)	(0.0307)
Specialists program	0.0890***	0.0899***
	(0.0205)	(0.0209)
Fields of study: reference group (Humanities)		
Economics and Management	-0.00433	0.00413
	(0.0248)	(0.0247)
Social Sciences	0.0596	0.0560
	(0.0392)	(0.0392)
Legal Sciences	0.0155	0.0134
	(0.0339)	(0.0340)
Language Studies	0.107**	0.0884*
	(0.0493)	(0.0492)
Engeneering sciences	-0.00333	0.0196
	(0.0283)	(0.0279)
Mathematics, programming, IT	0.0381	0.0606
	(0.0386)	(0.0384)
Natural sciences	-0.0529	-0.0438
	(0.0339)	(0.0340)
Medicine	0.0594*	-0.00865
	(0.0331)	(0.0350)
Education sciences	0.0295	0.0161
	(0.0304)	(0.0306)
Service, tourism, Marketing	0.0804	0.0901*
	(0.0511)	(0.0511)
Architecture, Design, Cultural studies	0.163***	0.177***
	(0.0579)	(0.0588)
Agricultural studies	-0.0506	-0.0289
	(0.0507)	(0.0510)
Self-evaluation of demand for specialty on labor market: reference group (Low Demand)		
Specialty in High Demand	-0.0693***	-0.0723***
	(0.0192)	(0.0193)
Specialty in High Demand but Low Wages	-0.00349	-0.00673
	(0.0192)	(0.0193)
Educational mobility after school: reference group (No educational mobility)		
Educational mobility	-0.0402**	-0.0383**
	(0.0189)	(0.0191)
Residence status: reference group (Don't live with parents)		
Living with parents	0.0360*	0.0407**
	(0.0191)	(0.0192)
Academic achievements(grades): reference group (Medium academic achievements)		
Low academic achievements	-0.0216	-0.0235
	(0.0149)	(0.0149)
High academic achievements	-0.0359	-0.0362
	(0.0283)	(0.0283)

Participation in research activities: reference group (Do not participate in research activities)		
Participation in research activities	0.0919***	0.0928***
	(0.0143)	(0.0143)
Job relatedness to specialty: reference group (do not plan to work on the profile of obtained specialty)		
Plans to work in the field of obtained specialty	-0.0118	-0.00927
	(0.0143)	(0.0143)
Gender: reference group (female)		
Male	0.0794***	0.0785***
	(0.0146)	(0.0146)
Interfamily transfers: reference group (do not receive financial support from families)		
Receives financial support from families	-0.278***	-0.274***
	(0.0191)	(0.0192)
Age	0.0114**	0.0103*
	(0.00575)	(0.00574)
Marital status: reference group (single)		
Married	0.0901***	0.0888***
	(0.0206)	(0.0206)
Parental status: reference group (no children)		
Have children	0.0477	0.0500
	(0.0359)	(0.0357)
Level of parents education : reference group (low education level)		
Medium level of family education	0.0257	0.0225
	(0.0183)	(0.0184)
High level of family education	0.0265*	0.0252*
	(0.0152)	(0.0153)
Family income: reference group (very low income, poor families)		
Low family income	-0.0111	-0.00961
	(0.0155)	(0.0156)
Medium family income	-0.0329	-0.0325
	(0.0205)	(0.0206)
High family income	-0.0198	-0.0259
	(0.0252)	(0.0252)
Quality of university (based on university status classification): reference group (studying at ordinary universities)		
Study at top university	0.0925***	
	(0.0162)	
Quality of university (based on USE acceptance grades): reference group (studying at ordinary universities)		
Study at top university		0.0689***
		(0.0194)
Educational costs: reference group (study on a fee basis)		
Study on a state-funded basis	0.0198	0.0214
	(0.0163)	(0.0165)
Region of Russia : reference group (regions except Moscow and St. Petersburg)		
Moscow and St. Petersburg	0.0994***	0.0841***
	(0.0158)	(0.0192)
Observations	4907	4907

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

The regression results of Specification 1 indicate that students studying on Masters and specialist programs are more likely to combine study and work than Bachelors (respectively 13.4% and 8.9%). In order to evaluate the influence of the field of study on the probability of a student being employed, we used humanities as a base outcome. In comparison with students majoring in humanities, students who major in architecture, design, cultural studies, medicine and languages have a higher probability of being employed while studying. Students in fields of study which are in high demand on the labor market have a reduced probability of combining study and work, perhaps due to their own self-confidence in employment prospects even without work experience. We can presume that lends further support to the hypothesis that students combine study and work in order to obtain work experience as an additional labor market signal because students who are confident about their own employment prospects after graduation are less likely to combine study and work.

The highly significant coefficient for studying at a top university also offers indirect support for this hypothesis, as students at top universities on average have greater abilities than their counterparts from medium-quality universities. Studying for free has no significant impact on a student's employment. This shows that there is no connection between entering university on a competitive basis that could be a proxy for the quality of a student, and entering on a fee-paying basis. However, the insignificant coefficient may be explained by the heterogeneity of the university's quality, because it is much more difficult to gain a place at a top university than an ordinary university, on a competitive basis. Academic performance also has no significant effect on the probability of employment, which is probably due to the reverse causality and heterogeneity in the educational standards at different universities and in different fields of study.

Family financial support significantly decreases the probability of a student gaining employment, indicating that financial motivation is a very important factor and has an impact on a student's decision to enter the labor market. Students from Moscow and St. Petersburg are more likely to combine study and work than regional students, due to the better employment opportunities in developed regions and the fact that most high-quality universities in our sample are located in capital cities. From amongst the socio-demographic characteristics, male and married students have a significantly higher probability of employment than female and single students, whilst family income and parents' education have no significant impact.

It is evident that the binary variable for student employment is imperfect and can lead to bias, because of the impossibility of identifying how intensively a student is employed in terms of their work hours per week, and the main student job patterns (permanent/temporary job. full-time/part-time etc.) through this variable. Nevertheless, this binary variable can identify how

students make the decision to enter labor market while studying or whether they choose to dedicate all their time to study.

The main problem in our econometric model is linked to endogeneity, which is caused by unobserved student abilities that may affect the probability of student employment. We tried to deal with endogeneity by including factors in our regression model such as parents' education; academic performance; participation in research projects at university; studying at a top university and studying on a state-funded basis, which might be a proxy for student quality and could partially solve the problem of unobserved abilities. We also conducted a robustness check of our model by including and excluding different factors using the Wald test, and others. We included the interaction between studying on a state-funded basis and studying at top universities in the model, but this variable was insignificant and reduces the explanatory power of our model overall.

Another way of checking the robustness of our results could be using an alternative measure for the quality of a university. Instead of university status, we used the university applicant Unified State exam (USE) average grade rating, and built our proxy for the quality of a university based on that rating. The results, as presented in Specification 2, indicate that the coefficients are very stable and we obtained almost the same results with this alternative measure as in Specification 1. We can therefore conclude that our regression results are stable and robust.

The intensity of student employment

When we analyze student employment, we ought to take into account that this is a complex problem, because it consists of two large parts. A student's decision about employment while studying is a two-step process. On the first step student makes a binary decision about employment, whether to work while studying or not. If a student decides to work on the on the second step they must make a choice about their labor supply and answer the question – how hours per week they can dedicate to working, and how many hours to their studies.. From this, the research question can be formulated as follows: «Are there any financial, academic, motivational and socio-demographic factors which have the same impact on both stages of a student's decision about employment, or there are significant differences? ». It is likely that factors which positively influence a student's decision about employment may have a different impact on a student's decision about labor supply. In order to answer these questions in this study, we used descriptive analysis and regression analysis.

Employment intensity or the student labor supply can be measured by the number of hours that students worked per week. According to the results of our survey, Russian students on

average work 26.2 hours per week, which constitutes 2/3 of the standard working week (40 hours). Masters students, on average, tend to work more intensively (30 hours per week) than Bachelor and specialized students. This is mainly because Masters are older, and educational standards on Masters programs are usually lower, therefore providing an opportunity to work (Fig. 8).

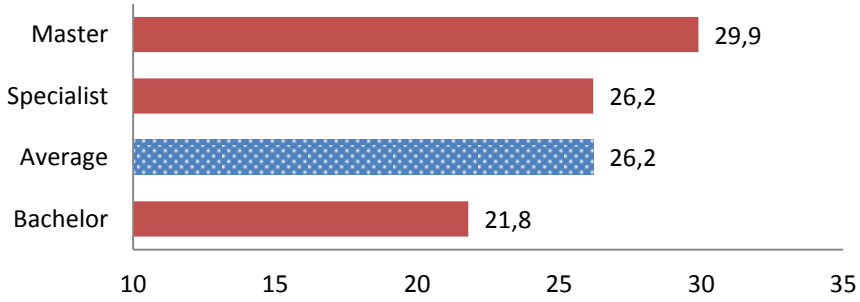

Fig. 8. Student labor supply according to level of educational programs (hours per week)

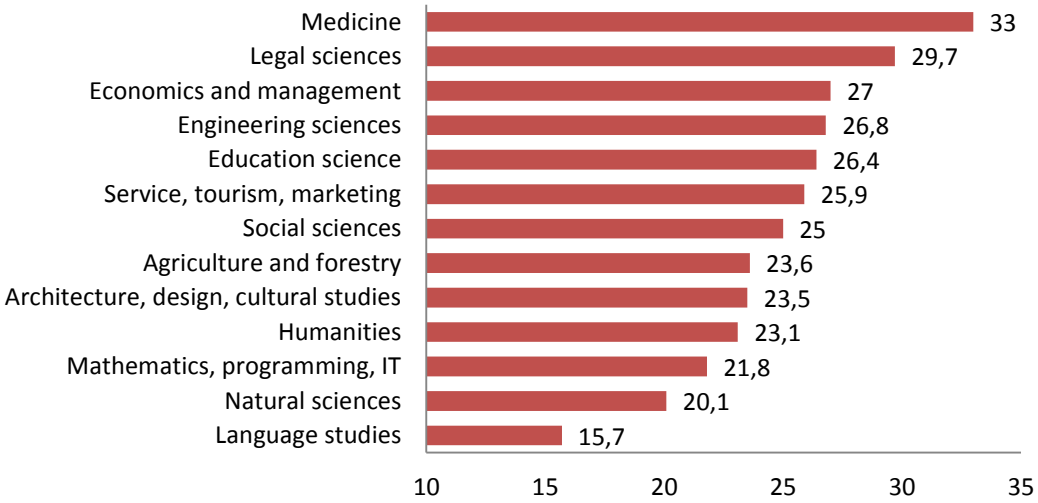

Figure 9: Student labor supply by fields of study (hours per week)

Medicine and law students tend to work more hours per week. Language studies and linguistic students worked less intensively than the students overall, probably due to their employment as private tutors (Fig. 9).

Other important descriptive statistics on the determinants of student labor supply are presented in Table 10.

The results of the labor supply descriptive analysis indicate that a number of factors which have a positive impact on the first-stage binary decision about whether to enter the labor market may have the opposite effect on the second-stage decision about labor supply. For instance, although students of top universities are more likely to combine study and work than their counterparts from ordinary universities, at the second decision-making stage, top university

students work fewer hours on average. The same situation is also exhibited for educational costs; students studying on a fee basis work even more hours than those who are state-funded, but students who study on a state-funded basis are more likely to be employed.

Table. 10. Descriptive statistics on the determinants of student employment intensity

Variable	Labor supply (hours per week)
Top university	24.2
Ordinary university	27.5
Male	26.5
Female	26.0
Study on a state-funded basis	26.3
Study on fee basis	27.0
Formal employment	29.1
Informal employment	21.3

Our research also considers the influence of employment intensity on students' academic achievements. The results show that low student employment intensity (part-time jobs) has a significant positive effect on academic performance. Medium employment intensity has no impact on academic performance, and high employment intensity (more than 40 hours per week) has a significantly negative effect.

Table. 11. The influence of student employment intensity on academic achievements

	Academic achievements			Correlation coefficients
Intensity of employment	Low	Medium	High	High academic achievements
No work experience	16.6	38.7	44.6	-0.0178
<20 hours per week	12.8	38.7	48.5	0.0517***
20-40 hours per week	15.5	41.7	42.7	-0.0168
>40 hours per week	19.7	39	41.2	-0.0286***
Average	15.6	39.4	45	

We can conclude that the functional relationship between employment intensity and a student's academic achievements is a concave function; a low intensity of employment has a positive effect on academic performance; a medium intensity has no effect, and a high intensity of employment negatively affects students' academic achievements. These results are consistent with the results of most studies about the influence of employment intensity on student academic achievements [Ehrenberg and Sherman, 1987; Brennan et al.. 2005].

Although the descriptive analysis is important to understand the main patterns of student labor supply, we ought to use a regression analysis to improve our understanding of these patterns, test our hypothesis and answer our research questions.

Determinants of student labor supply

To evaluate the influence of these factors on the student labor supply or employment intensity (hours per week) we used an equation with a logarithm of the hours that a student worked per week as a dependent variable. We also used the controls which were listed in the previous regression (Table. 9) as explanatory variables and added several variables, which were linked to workplace characteristics:

$$\log(H_i) = \beta_0 + \beta_1 Acad_i + \beta_2 Fin_i + \beta_3 SocDem_i + \beta_4 Work_i + \beta_5 Qual_i + \varepsilon_i \quad . \qquad (2)$$

where H_i – hours that the students worked per week. $Acad_i$- a set of academic factors (field of study or program). Fin_i- a set of financial factors (interfamily transfers, family income, etc.), $SocDem_i$- a set of socio-demographic factors (gender, age, marital status, etc.), $Work_i$ – a set of work characteristics (work activities. type of employment). $Qual_i$- a set of variables used as a proxy for the quality of a student (studying at a top university, state-funded study, participation in research activities). The quality of the university. as presented in Table 12. is measured by a university's status.

Table. 12. Regression analysis of determinants in the student labor supply

VARIABLES	OLS Regression	OLS Regression, Heckman correction	Quantile (Median) Regression
Level of education programs: Reference group- Bachelor program			
Masters program	0.288***	0.316***	0.302***
	(0.0566)	(0.0751)	(0.0628)
Specialist program	0.114**	0.129**	0.124***
	(0.0449)	(0.0519)	(0.0481)
Fields of study: reference group (Humanities)			
Economics and Management	0.150***	0.157***	0.0721
	(0.0519)	(0.0478)	(0.0534)
Social Sciences	0.0406	0.0436	-0.0731
	(0.0731)	(0.0698)	(0.0763)
Legal Sciences	0.213***	0.228***	0.142*
	(0.0654)	(0.0662)	(0.0729)
Language Studies	-0.339***	-0.320***	-0.481***
	(0.105)	(0.104)	(0.0977)
Engeneering sciences	0.184***	0.193***	0.111*
	(0.0548)	(0.0536)	(0.0589)
Mathematics, programming, IT	0.0394	0.0513	-0.0868
	(0.0655)	(0.0724)	(0.0730)
Natural sciences	-0.0667	-0.0757	-0.0982
	(0.0706)	(0.0660)	(0.0733)
Medicine	0.289***	0.313***	0.0747
	(0.0647)	(0.0729)	(0.0736)
Education sciences	0.117*	0.125**	0.0525
	(0.0664)	(0.0593)	(0.0664)
Service, tourism, marketing	0.0825	0.0947	0.0955
	(0.104)	(0.0977)	(0.101)

Architecture, Desing, Cultural studies	0.198**	0.218**	0.0833
	(0.0809)	(0.110)	(0.0993)
Agricultural studies	0.540***	0.552***	0.459***
	(0.108)	(0.1000)	(0.109)
Self-evaluation of the demand for this specialty on the labor market: reference group (Low Demand)			
Specialty in High Demand	0.0348	0.0197	0.00394
	(0.0371)	(0.0434)	(0.0395)
Specialty in High Demand but Low Wages	0.0487	0.0437	0.0360
	(0.0358)	(0.0340)	(0.0377)
Educational mobility after school: reference group(No educational mobility)			
Educational mobility	-0.0577*	-0.0735*	-0.0112
	(0.0350)	(0.0396)	(0.0382)
Residency status: reference group (Do not live with parents)			
Living with parents	0.111***	0.124***	0.101***
	(0.0343)	(0.0365)	(0.0383)
Academic achievements(grades): reference group (Medium academic achievements)			
Low academic achievements	0.0296	0.0538	-0.00994
	(0.0374)	(0.0404)	(0.0420)
High academic achievements	-0.0244	0.0286	-0.00943
	(0.0269)	(0.0283)	(0.0440)
Participation in research activities: reference group (Do not participate in research activities)			
Participation in research activities	-0.0659**	-0.0520	-0.0701**
	(0.0262)	(0.0394)	(0.0291)
Future job plans: reference group (do not plan to work in the field of their specialty)			
Plans to work on the profile of obtained specialty	-0.0907***	-0.0910***	-0.0770**
	(0.0273)	(0.0273)	(0.0303)
Gender: reference group (female)			
Male	0.0275	0.0469	0.0356
	(0.0262)	(0.0434)	(0.0306)
Interfamily transfers: reference group (do not receive financial support from families)			
Receive financial support from families	-0.160***	-0.223*	-0.178***
	(0.0260)	(0.117)	(0.0307)
Age	0.0190**	0.0189**	0.0185*
	(0.00869)	(0.00950)	(0.0103)
Marital status: reference group (single)			
Married	-0.0306	-0.0160	0.00727
	(0.0339)	(0.0396)	(0.0383)
Parental status: reference group (no children)			
Have children	-0.0344		0.0217
	(0.0609)		(0.0750)
Level of parents' education : reference group (low education level)			
Medium level of family education	0.0520	0.0446	-0.0654*
	(0.0363)	(0.0356)	(0.0387)
High level of family education	0.0134	-0.0141	-0.0725*
	(0.0281)	(0.0324)	(0.0375)
Family income: reference group (very low income, poor families)			
Low family income	-0.0782***		-0.108***
	(0.0293)		(0.0320)
Medium family income	0.000429		7.85e-10
	(0.0363)		(0.0436)
High family income	0.0430		0.0894*
	(0.0465)		(0.0524)

Quality of university (based on the university status classification): reference group (studying in ordinary universities)			
Study in top university	-0.0964***	-0.0791	-0.139***
	(0.0302)	(0.0502)	(0.0344)
Educational costs: reference group (study on a fee basis)			
Study on a state-funded basis	-0.0279	-0.0269	-0.0433
	(0.0315)	(0.0346)	(0.0352)
Region of Russia : reference group (regions, except Moscow and St. Petersburg)			
Moscow and St.Petersburg	0.0521*	0.0725**	0.124***
	(0.0312)	(0.0312)	(0.0347)
Job correspondence with field of study: reference group (job does not correspond to field of study)			
Job combined with study correspond with field of study	-0.0009*	-0.0008	-0.0016
	(0.0303)	(0.0293)	(0.0330)
Type of employment: reference group (informal employment)			
Formal employment	0.343***	0.344***	0.314***
	(0.0280)	(0.0261)	(0.0293)
Nature of work combined with study: reference group (supporting work in office)			
Management activities	0.147***	0.154***	0.137***
	(0.0368)	(0.0370)	(0.0416)
Analytical, teaching or creative work	-0.0703**	-0.0699**	-0.0594
	(0.0331)	(0.0320)	(0.0361)
Services(trade,repair,transportation, etc.)	0.101***	0.0964***	0.0788**
	(0.0335)	(0.0314)	(0.0353)
Blue-collars (loader, locksmith)	-0.00645	-0.0142	0.0215
	(0.0566)	(0.0496)	(0.0557)
Constant	2.363***	2.153***	2.462***
	(0.250)	(0.314)	(0.294)
Heckman Lambda		0.149	
		(0.261)	
Observations	4858	4858	4858
R-squared	0.202	0.202	0.214

To estimate the effect, we applied OLS-regression to our equation, and reported the basic estimations (Table. 12, column 1). These coefficients may be biased due to self-selection problem. As we have previously discussed, the labor supply decision is a two-stage process; at the first stage, students make a decision about employment and at the second stage they make a decision about their employment intensity (hours worked per week). The binary decision about labor market entry is exogeneous in this model, as we evaluate the determinants of the labor supply only for employed students, although selection in employment is not random.

In order to solve this problem, we applied a two-step estimation using the Heckman correction procedure, which can amend the problem of self-selection. In the first step, we evaluate the probability of selection in our subsample of employed students, and only then do we run the OLS-regression. Our estimates indicate that the influence of sample selection is insignificant in our model, as Heckman's Lambda is not statistically significant and so we can trust the estimates received from the OLS-regression. Furthermore, the coefficients obtained

after the Heckman correction are very slightly different from the basic OLS-regression coefficients. (Table. 12, Column 2)

Another sample problem which may bias our coefficients is connected with outliers. We obtained our dependent variable that defines the student labor supply (hours worked per week) not from official statistics, but from questionnaires, which were filled by students themselves. The variable analysis shows that there is very high variation in the student labor supply; a number of students reported that they worked more than 60 hours per week, or even 100 hours a week, but it not always possible to trust their answers to be factually correct. Moreover, a non-random drop of this values or tails of distribution may also lead to a significant bias in our coefficients.

To solve this problem, we used a quantile median regression which is not as sensitive to outliers as the basic OLS-regression, and can reduce the potential biases caused by dependent variable measurement errors (Table 12, Column 3).

The results of our estimation indicate that a number of factors which have a positive impact on a student's decision to enter the labor market, in fact negatively influence their labor supply (worked hours per week). This is particularly true for variables which are associated with student quality, such as, studying at a top university and participating in research activities. The influence of having your university studies funded by the state (entering university on a competitive basis) and a student's academic performance on the student labor supply is insignificant. Furthermore, studying at a top university has a significantly negative effect (9-14%) on the student labor supply, which is the same situation observing for participation in research activities (6-7%).

When summarizing the evidence, we may presume that students with greater abilities are more likely to combine study and work, but are more moderate in their employment intensity. This can be partially explained by the fact, that talented students are interested in obtaining the signals of both a diploma and work experience on the labor market. Intensive employment while studying increases the risk of issues with academic performance and dropping out. In this case, talented students probably choose to combine their studies and part-time jobs because the risks which are associated with higher involvement in labor market outweigh the possible advantages. Moderate employment intensity provides with students an opportunity to have additional experience signals on the labor market and earn money without any threat to their education.

The labor market itself exerts a strong influence on the supply of student labor, as the developed labor market gives students additional opportunities to combine their studies with work. From our estimations, we note that employed Moscow and Saint-Petersburg students tend to work more hours (5.2-12.4%) than regional students. The influence of several variables on the

student labor supply is the same as on a student's decision to enter the labor market. For example, Masters' and specialist students work more intensively than Bachelors' students (28-30%; 11-12%). Receiving financial support from one's family has a strong negative impact on student employment (16-19%). Additional variables, which are included in our analysis of the labor supply, such as formal employment and work activities, have a significant impact on the labor supply. Students employed in the formal sector tend to work more than those who are informally employed (31-34%). The variable that reflects the correspondence of one's job with their initial field of study is statistically insignificant.

In order to check the robustness of our results, we estimated the same regressions using an alternative measure of a university's quality, based on acceptance grades from the Unified State Exam (USE). The results, we obtained indicated that most of the variable coefficients remain stable and are robust. The influence of the quality of a university on the student labor supply remains negative, but the effect is higher than in a model based on the university's status rating (19-23% Vs 7-13%). In Table 13, we present the regression results for the variable associated with education quality.

Tab. 13. Regression analysis of the determinants of the student labor supply (the quality of a university is measured by the USE rating)

VARIABLES	OLS Regression	OLS Regression. Heckman correction	Quantile(Median) regression
Quality of university (on the basis of applicant's Unified State Exam (USE) acceptance grades): reference group (studying in ordinary universities)			
Study in top university	-0.190***	-0.185***	-0.230***
	(0.0357)	(0.0419)	(0.0414)

Conclusions

Most of our hypotheses which were formulated at the beginning of our study were empirically verified. Combining study and work in Russia is indeed a mass phenomenon, and student employment is very significant; 65% of our respondents have experience of combining study and work during their education process and the average employed student works more than 26 hours a week. We partially supported the hypothesis that, together with financial incentives, an important motivation for student employment is to obtain additional labor market signals, such as work experience.

Summarizing the evidence, we suggest, that, more talented students (or higher quality students) are more likely to combine study and work. To test this hypothesis, we used proxy-variables associated with a student's quality that partially reflects the student's abilities, such as

studying at a top university, state-funded studying and participating in research activities. The descriptive and regression analysis indicates that two of these variables have a positive impact on the probability of student employment. These results partially support the idea that talented students are more likely to combine study and work. When students receive a low standard of education, they must attempt to gain additional labor market signal (work experience), which can be an important competitive advantage after their graduation.

However, a student's decision about the labor supply is a two-step process, and the evaluation of factors that determine the intensity of a student's employment is another significant issue. Our analysis shows that although talented students are more likely to combine study and work, their employment intensity is moderate (they prefer working part-time). This can be explained by the fact that high-quality students with greater abilities are interested in obtaining both of the important signals on the labor market, such as work experience and a good formal education. There is no doubt that intensive employment increases the risks of drop-outs or poor academic achievements, and in this case students choose part-time employment. Using this strategy, students have the opportunity to obtain work experience as an additional labor market signal and satisfy their financial needs, all without doing any serious damage to their academic achievements.

Our study shows that financial motivation for a student's employment in also important. This hypothesis is indicated by the fact that students who do not receive financial support from their families are much more likely to be employed while studying and work much more intensively than others. Our study also shows that students begin combining study and work, on average, in the third year of their education due to a decrease in their educational workload. A moderate intensity of employment does not affect a student's academic achievements, and the majority of students believe that they can successfully combine study and work, such that employment does not seriously damage their academic performance. These results indicate on the one hand that low educational standards in Russia have led to a decrease in significance of the formal education signal on the labor market, but on the other hand, also provide opportunities to combine study and work without seriously damaging a student's academic achievements or running the risk of dropping out.

Our analysis has certain issues and limitations. The main problem is endogeneity, which is caused by unobserved student abilities. We have attempted to reduce the endogeneity by including variables which partially reflect a student's abilities, but these proxy variables are imperfect and there is still some endogeneity in our model.

Another problem in our analysis is the overrepresentation of dummy-variables, but this is mostly caused by our data restrictions and the nature of the subject matter. When we analyze

different educational and career strategies and factors that influence these strategies, we must use some dummy-variables, as we are not able to measure these strategies through continuous variables. To check the robustness of our results and measure the quality of our proxy variables, we used two different specifications with alternative measures for the quality of the university. The results of the regression analysis show that the coefficients are stable and robust, regardless of the measure that we used to define the quality of a university (by the university's status or USE rating).

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