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YOUTH UNEMPLOYMENT AND HIGHER EDUCATION, THE CASE OF SLOVENIA

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Abstract: *This paper is dealing with the problem of youth unemployment and the role that youth unemployment plays when enrolling in a first cycle degree programmes and in a second cycle degree programmes of higher education. After the introduction where we defined theoretical background and factors of youth unemployment, we tested two research hypothesis based on correlation and regression analysis of secondary time series data. Based on our empirical results we could not reject our first hypotheses, that an important reason for young to enrol in a first cycle degree programmes are bad prospects to get a job after completing secondary education. Our second hypothesis, that an important reason for young to enrol in a second cycle degree programmes are bad prospects to get a job after completing a first cycle degree programme, was rejected. In concluding remarks, we interpret our results with an emphasis on the discovered differences regarding the impact of youth unemployment on enrolment in the first and second cycle degree programmes.*

Key Words: *youth unemployment, factors of youth unemployment, first cycle degree programmes, second cycle degree programmes, Slovenia.*



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1. Introduction.

Transition from education to the labour market constitutes an important personal turning point in a person's life. In the aggregate sense, this transition has a great importance for the economy of a country, so investigating of this transition is particularly important. It has an impact on the macroeconomic-categories, such as unemployment or employment, on the size, structure and productivity of the active population and thus indirectly also on the level of actual and potential gross domestic product (Bevc 2008 15; Bevc 1991). This transition is mostly typical for a young person and the youth is the time of life, when we search for our position and status in society, and is the time when we lay the foundations for the establishment of our own family and financial independence (Ule and Kuhar 2002, 49; Mandič 2009).

Despite the fact that students belong to working age population, they don't count as active population (labour force), but are an integral part of the inactive population. As a result, students - although they are not employed - are not counted among the unemployed. Neither according to the methodology of the Statistical Register of Employment nor the methodology of Labour Force Survey. At the moment when the students have completed their studies and have lost their student status, they are joined to the active population, usually first as unemployed and when they find a job as persons in employment (employed or self-employed). On one hand, therefore the (fictitious) students often reduce a short term youth unemployment, which would otherwise be higher if these young people were not students. In this sense, participation in higher education also plays a role of social corrective. On the other hand, we believe that people with higher education attainment are more employable. Which means that in a long run, greater involvement of young people in higher education will contribute to lower probability of their unemployment, when they enter labour market.

A working age population is the population, which is fifteen years old or more. However, as already stated, the young until they study count as inactive population, and therefore they are not a part of a labour force supply. Obviously not only that higher education population participation influences youth unemployment and unemployment in general (Vynnyk and Konstantiuk 2015), but also the other way around - that unemployment influences higher education participation. (Trbanc 2005, 13-32). That's why we wanted to check, what is the role of (expected) youth unemployment among other factors of higher education participation separately in case of undergraduate (first cycle) and in case of postgraduate (second cycle) education.

Below we present first an overview of the basic reasons for the youth unemployment in the theoretical part of the paper and next an own original quantitative research of the importance of youth unemployment for further undergraduate and postgraduate education in the empirical part of the paper.

2. The determinants of youth unemployment.

Unemployment occurs when people are without work and are actively seeking work. It is measured by the unemployment rate, which is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labour force (employed and unemployed). Theories of unemployment explain causes, consequences and offer solutions for unemployment. *Classical* economics, *New classical* economics, and the *Austrian School* of economics argue that market mechanisms are reliable means of resolving unemployment - no government intervention is needed. *Keynesian* economics emphasizes the cyclical nature of unemployment and recommends government interventions in the economy that is supposed to reduce unemployment during recessions (Layard et al. 2005).

According to the different reasons why unemployment occurs, labour market theory most commonly lists structural, frictional, cyclical and classical unemployment. *Classical* or

real-wage unemployment occurs when real wages for a job are set above the equilibrium level, causing the quantity of labour supplied to exceed the quantity of labour demanded. *Cyclical or Keynesian* unemployment occurs when there is not enough aggregate demand in the economy to provide jobs for everyone who wants to work. Due to the decrease in aggregate demand, less production and consequently fewer workers are needed. Because wages are sticky and do not fall to meet the equilibrium level *cyclical* unemployment occurs. *Structural* unemployment focuses on structural problems in the economy and inefficiencies such as a mismatch between the supply and demand of workers with necessary skill sets. *Frictional* unemployment depends on the time period between jobs when a worker is searching for or transitioning from one job to another. It focuses on voluntary decisions to work based on each individual's valuation of their own work and how that compares to current wage rates plus the time and effort required finding a job. Voluntary unemployment - most of the frictional unemployment - is attributed to the individual's decisions, whereas involuntary unemployment - most of the cyclical, structural and classical unemployment - exists because of the socio-economic environment (Layard et al. 2005).

Certainly, we can figure out that to the certain extent the youth unemployment may be associated with all of the reasons mentioned above by the unemployment theories, which shall also apply to other age groups of the population. However, the transition of young people from the first and second cycle of higher education to the labour market is especially sensitive, complex and unpredictable (Ignjatović 2006). Young people who have completed schooling and are looking for their first job are facing one of the most difficult events in their lives on individual as well as macro system level (Trbanc 2007, 38). Young people are a special group of population, which allows us to talk about a special segment of the workforce. The youth after the turn of the Millennium is different from that of the post-war generations. It is characterized by unique forms of a lifestyle and values, and incomplete or imperfect social statuses, which is associated with uncertainty. On one side is a feature of today's young a prolonged cohabitation with their parents, on the other are early experiences, which are otherwise typical for adults (Šaponja 2006, 11; Ule et al. 2000, 98).

How quickly young people find jobs also depends on how good is a match between knowledge and competencies produced by education and the knowledge and competencies needed by the economy (Svetlik and Lorenčič 2002, 258). Unemployment of young people with higher education attainment is thus often high because of a structural mismatch. A large number of unemployed graduates, who graduated in the field of social science and humanities, especially in economics, law and business administration find it difficult to get employed. On the other hand, the supply of graduates in the fields of engineering, mechanical engineering, electrical engineering and electronics and computer science is less than the demand for them. The mismatch in the labour market is therefore not that much a result of mismatch in level of education but more in the field of education (Košir 2012).

On their way to employment, also young people with higher education are facing the following obstacles. A shrinking number of jobs during the recession; expansion of higher education, which leads to a changed evaluation of the education attainment (Bojić 2011); in a short run partly also a delayed retirement, which means that existing work positions don't get open as fast as before, which however is of minor importance (Ivančič 2000; Kramberger 2007, 87-88).

The transition of young people from education to the labour market may vary depending on the speed and smoothness of that transition. There are individual, structural and institutional factors that are associated with each other (Trbanc 2007, 50). *Individual* factors include personal characteristics of young people, like precision, diligence, responsibility, adaptability and earnestness, which differ from one individual to another. Personal characteristics may be their advantages or disadvantages on the labour market. A typical feature of today's young people is their fresh formal knowledge on the one hand and

the lack of experience on the other hand (Trbanc 2005b, 166). *Structural* factors are economic and demographic factors and factors of the labour market functioning. As a demographic factor is particularly considered the size of young generations, which defines how many young people are coming to the labour market. Because the total fertility rate remains below the level of a simple reproduction for several decades, it can be expected to be less and less young people and in the medium run also to be less and less unemployed young people as a consequence. However, youth unemployment is also affected by a number of other socio economic factors (Trbanc 2007, 51). Young people, who often have a higher education attainment than older people, impose higher labour cost. This is why employers prefer to employ older people over a younger one in case their performance and efficiency is the same. Consequently younger people are more likely to be left unemployed even though they are much more vulnerable to unemployment than older people, because they are only at the beginning of the career path. *Institutional* factors include factors that are associated with the organization of the education system. Mutual cooperation between educational institutions and employers is highly important. Young people's transition from education to the labour market can begin with corporate scholarships, obligatory internships, apprenticeship, traineeship and with a variety of other programs that assist young people in getting their first job (Trbanc and Verša 2002, 357). The more educational institutions are connected to the labour market, the lower the youth unemployment. One of the key linking factors between education and labour market is a government, which offers a variety of the active employment policy measures (AEP).

AEP comprises measures and programs to increase employability and reduce unemployment, particularly youth unemployment. Guidelines for the implementation of measures of AEP for the period 2016-2020 were prepared by the Ministry of Labour, Family, Social Affairs and Equal Oportunitet. The total amount of the funds for that period on an annual basis on the implementation of all the measures aimed at AEP is €100 million. Guidelines for the implementation of measures for the period 2016-2020 AEP are covering five measures. First of all, the action of *training and education*, which is in the form of formal and non-formal education available to the unemployed and employed persons (€14.92 million of funds). The second measure is a *substitution in the workplace and the division of the workplace* for which a special, additional resource are not intended. Action *employment incentives* (€41.7 million of funds) in the context of the employment subsidy provides for the reimbursement of contributions for an employee paid by the employers. The most important measure of AEP is the *jobs creation* (€41.380 million of funds), which is directed at vulnerable persons on the labour market and persons who are unemployed for a long time primarily through the public works programs. *The promotion of self-employment* (€2 million of funds) is the AEP measure aimed at unemployed persons who have an entrepreneurial idea. Programs include interviews with consultants, workshops in support of the beginning of the independent entrepreneurial path and education in the field of entrepreneurship. The measure provides for a variety of subsidies for self-employment (Ministry of Labour, Family, Social Affairs and Equal Opportunities 2015).

3. The Research Hypothesis, Methodology and Limitations.

Below we present the purpose and hypotheses of the empirical research, the methods that we used to test our research hypotheses, the data used as well as assumptions and limitations of the research.

3.1. Purpose and hypotheses of the research.

The purpose of the empirical part of the research is to explore the role that youth unemployment plays in higher education participation at first and second cycle degree

programme. Because the empirical part of the research is of quantitative nature, we set up two research hypotheses, which we tested on the basis of secondary data analysis.

Hypothesis one (H1): An important reason for the continuation of formal education in the first cycle degree programmes are bad prospects to get a job after completing a secondary education.

Hypothesis two (H2): An important reason for the continuation of formal education in the second cycle degree programmes are bad prospects to get a job after completing the first cycle degree programme.

Starting from the theoretical framework of the research it follows that young people after completion of secondary education might decide to continue their further education on the first cycle programmes or later on on the second cycle programmes of higher education also because of the risk of becoming unemployed in case they didn't continue their education. By deciding to continue their education, not only they avoid the risk of becoming unemployed at that time and avoid all the negative consequences related to unemployment. By deciding to continue with higher education they also increase their employability after the completion of that additional education. In the case of Slovenia we will check to what extent this is true and whether there are any differences between the higher education on the first and the second cycle programmes in that context.

3.1. Methodology of the research and the data used.

In order to achieve the purpose of the research and to test both of the hypotheses we performed own research. We collected and analysed secondary data from statistical databases of the Statistical Office of the Republic of Slovenia-SORS (SORS 2015) and the Employment Service of Slovenia-ESS (ESS 2015). Within the analysis of the time series for the time period from 1980 to 2015, we tested the hypotheses using correlation and regression analysis. In addition to the correlation between certain socio-economic variables, we were particularly interested in correlation between the number of enrolled in the first year of the first Bologna cycle programmes and youth unemployed on one hand and correlation between the number of enrolled in the first year of the second Bologna cycle programmes and youth unemployed on the other hand. Beside the correlation analysis we primarily used regression analysis in order to test the impact of youth unemployment on the enrolment in the first year of the first and the second Bologna cycle of higher education programmes. The general form of the multiple regression model used is specified as follows:

$$Y = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \dots + \beta_p * X_p + \beta_t * T + \varepsilon$$

where Y is a dependent variable in each regression model and X₁ to X_p are the explanatory variables. The term ε is a normally distributed error term with expected value 0 and variance σ_ε and T is a linear trend term.

As proxy measures of youth unemployment, we used the following variables. The number of unemployed persons who are 18 to 21 years old, the number of unemployed persons who are 22 to 24 years old, and the number of unemployed persons with no more than secondary education attainment. The rest of the explanatory variables used are the size of the current generation of young who 19 years old, the size of the current generation of young who are 23 years, gross domestic product per capita, the number of scholarships for the first and the second cycle of Bologna higher education programmes and some other socio economic variables. The calculated partial regression coefficient beta was used to find out whether the explanatory variable has a positive or negative impact on higher education participation and how strong is that impact. Using the coefficient of determination we estimated the percentage of the variation of the higher education participation that can be explained by the variation of the socio economic variables included in the models. We carried

out t-tests in order to test the statistical significance of each particular variable as well as F-test in order to test the statistical significance of the model as a whole.

3.2. The limitations and assumptions of the research.

The purpose of regression analysis was not to develop a complete comprehensive model of all factors that determine the enrolment in the first and second cycle of higher education but only to find out what is the impact of youth unemployment on that enrolment, while other explanatory variables are considered as control variables. While collecting secondary data, we were faced with a limitation of non-availability of some secondary data. The secondary data analysis is limited to the data in a time period from the year 1980 to the year 2015 in Slovenia. We analysed only those people who were involved in the first or second cycle of higher education or the corresponding level of the pre-Bologna Reform programmes for the time before the Bologna programmes were implemented. That means that besides the students in the first cycle programmes we counted also the students of the former pre-Bologna Reform undergraduate programmes like former professional higher education and former academic higher education programmes. Besides the students in the second cycle programmes we counted also the students of the former pre-Bologna Reform postgraduate programmes like former specialisation and master of science programmes, however we didn't include students of doctoral programmes.

We assume that the respective old programmes were adequate predecessors of the new Bologna programmes. We also assume that the actual unemployment rates of young people in various age groups, who are already in the labour force apply not only for these young people, but would hypothetically apply also for those young people who now due to their student status cannot be unemployed. Yet, if they were not included in higher education, they would be unemployed (at that rate) because they would join the active population.

4. Econometric Results.

Next, we present empirical results of the statistical analysis of secondary data, conducted with the aim of testing research hypotheses.

4.1. Correlation and regression analysis of participation in the first cycle of higher education.

Prior to conducting a regression analysis, we identified the following statistically significant associations based on preliminary correlation analysis. As expected, the number of students enrolled in the first year of the first cycle programmes is positively correlated with the size of the current generation of persons aged 19 years ($r = 0.860$, $\text{sig} = 0.000$), since the number of enrolled students is directly associated with the number of young people in that age. Similarly, the number of students enrolled in the first year of the first cycle programmes is positively correlated with the number of scholarships intended for the first cycle programmes ($r = 0.708$, $\text{sig} = 0.000$). The higher the unemployment of young who are 18 to 21 years old, the higher the enrolment in the first year of the first cycle programmes ($r = 0.546$, $\text{sig} = 0.490$). Between the GDP/capita and the number of students enrolled in the first year of the first cycle programmes there is a negative correlation ($r = -0.497$, $\text{sig} = 0,059$). All those correlations already in this phase of the research speak in favour of the first hypothesis. Young people are enrolling in greater numbers in the first cycle programmes, if chances to get a job immediately after the completion of secondary school are lower. This chances are typically lower in recession, when youth unemployment is higher and GDP/capita is lower. These associations were further analysed using linear regression analysis.

The presented regression model (table 1) is statistically significant

($F = 138.579$; $\text{sig.} = 0.000$). Adjusted coefficient of determination ($\text{adj. } R^2$) equals 0.847, which means that variation in scholarships, the size of generation of young and youth unemployment explain 84.7% of the variance in the first cycle higher education participation. All three of the in the final regression model included variables are statistically significant.

Table 1. Regression analysis of participation in the first cycle of higher education

Variable	Regression coefficient (β)	Standard error	t-statistics	The exact two-tailed significance level
Constant	-11,117.25	2,005.57	-5.543	0.001
Scholarships for the first cycle programmes	0.294	0.100	2.940	0.014
The size of the generation of persons aged 19	0.653	0.076	8.592	0.000
Unemployment of young who are 18 to 21 years old	0.481	0.142	3.387	0.012
	N = 36	F-test = 138.579 (sig = 0.000)		Adj. $R^2 = 0.847$

Source: own calculations.

The influence of the explanatory variable number of scholarships for the first cycle programmes on the number of students enrolled in the first year of the first cycle programmes is statistically significant and positive. Partial regression coefficient ($\beta = 0.294$) indicates that if the number of scholarships is increased by 1, the number of students enrolled is increases by 0.294, holding other things constant. Expectedly, the explanatory variable the size of the generation of persons who are 19 years old has a positive and statistically significant influence on the number of students enrolled in the first year of the first cycle programmes. The value of the respective partial regression coefficient ($\beta = 0.653$) tells us that if the size of the current generation of young is increased by 1 person, the number of students enrolled is increased by 0.653, holding other things constant. Student enrolment is increased also if the unemployment of young who are 18 to 21 years old is increased. Partial regression coefficient ($\beta = 0.481$) indicates that if the unemployment of young who are 18 to 21 years old is increases by 1 person, the number of students enrolled in the first year of the first cycle higher education programmes is increased by 0.481 students, holding other things constant.

4.2. Correlation and regression analysis of participation in the second cycle of higher education.

Also in case of the analysis of the second cycle programmes of higher education, before conducting regression analysis we first identified statistically significant associations based on preliminary correlation analysis. The number of students enrolled in the first year of the second cycle programmes is negatively correlated with the size of the current generation of persons aged 23 years ($r = 0.933$, $\text{sig} = 0.000$), since the number of enrolled students is directly associated with the number of young people in that age. It seems surprising at the first sight, however that doesn't mean that enrolment will increase, if there are less young people. That is not a cause-effect relationship. It is just a reflection of the specific situation in the observed period, when the size of young generations was decreasing due to the low fertility while the number of the second cycle programmes (master programmes before) students were increasing substantially. There are many reasons for that substantial increase in the number of second cycle students. Some of them are definitely the general

popularisation of the postgraduate education and especially the Bologna Reform, which changed the value of the undergraduate study and made the second cycle education more necessary and also more accessible. There are no more tuition fees that would need to be paid by the students. A positive and statistically significant association is found between the number of students enrolled in the first year of the second cycle programmes and the number of scholarships intended for the second cycle programmes ($r = 0,960$, $\text{sig} = 0,000$), since scholarships help to cover the costs of the study. Not like in the first cycle of higher education there is positive and statistically significant association between the variable GDP/capita and the number of students enrolled in the first year of the second cycle programmes ($r = -0.499$, $\text{sig} = 0,072$). Again, unlike in the first cycle programmes, the number of unemployed people aged 22 to 24 years is negatively and statistically significantly associated with the number of students enrolled in the first year of the second cycle programmes ($r = -0.355$, $\text{sig} = 0.058$). Similarly, the number of unemployed young people with the first cycle higher education attainment is negatively associated with the number of students enrolled in the first year of the second cycle programmes ($r = -0.716$, $\text{sig} = 0.046$). The higher the unemployment of young after completing the first cycle higher education, the lower the participation in the second cycle education. All of this suggests already in this phase of the research that we might not be able to confirm the second hypothesis, which refers to the second cycle of higher education. However these associations were further analysed using linear regression analysis.

Table 2. Regression analysis of participation in the second cycle of higher education				
Variable	Regression coefficient (β)	Standard error	t-statistics	The exact two-tailed significance level
Scholarships for the second cycle programmes	0.792	0.043	18.419	0.000
GDP/capita	2.570	248.967	9.892	0.000
Unemployment of young who are 22 to 24 years old	-0.147	0.066	-2.227	0.059
	N = 36	F-test = 1,519.123 (sig = 0.000)		Adj. R ² = 0.793

Source: own calculations.

In table 2, we present our final regression model which is statistically significant ($F = 1,519.123$; $\text{sig} = 0.000$) as a whole. Adjusted coefficient of determination (adj. R²) equals 0.823, which means that variation in scholarships, GDP/capita and youth unemployment explain 79.3 % of the variance in the second cycle higher education participation. All three of the in the final regression model included explanatory variables are statistically significant or very close to that. The influence of the explanatory variable number of scholarships for the second cycle programmes on the number of students enrolled in the first year of the second cycle programmes is statistically significant and positive. Partial regression coefficient ($\beta = 0.792$) indicates that if the number of scholarships is increased by 1, the number of students enrolled is increases by 0.792, holding other things constant. Economic cycle also has an influence on the second cycle higher education participation. The explanatory variable GDP/capita has a positive and statistically significant influence on the number of students enrolled in the first year of the second cycle programmes. The value of the respective partial regression coefficient ($\beta = 2.570$) tells us that if GDP/capita is increased by €1,000, the number of students enrolled is increased by 2.570 holding other things constant. Student enrolment is increased also if the unemployment of young who are 22 to 24 years old is increased. Partial regression coefficient ($\beta = -0.147$) indicates that if the unemployment of

young who are 22 to 24 years old is increased by 1 person, the number of students enrolled in the first year of the second cycle higher education programmes is decreased by 0.147 students, holding other things constant. Within the regression analysis we tested several different regression models, however only the best results are presented here. In order to show the robustness of our results, we shortly mention another regression model for the second cycle higher education participation, which is very similar to the previous one just described above. The only difference is that instead of the explanatory variable the number of unemployed young who are 22 to 24 years old, we included explanatory variable the number of unemployed young people with the first cycle higher education attainment. The explanatory power of the regression model is very similar to that of the previous model. The other two explanatory variables are the same as in the previous regression model with similar statistical significance. They have the same direction of the influence on the second cycle higher education participation and a similar strength of that influences.

5. Key findings and implications of the research.

The issue of employability of young people after secondary education and the first cycle of higher education is a relatively complex issue and is related to the various aspects of the education system on one hand, as well as to the aspects of labour market supply and demand on the other hand. On their way to employment young people are faced with various challenges, such as periods of recession, the consequences of the Bologna Reform, which changed the value of different levels of higher education, the consequences of the pension system reform which also means latter retirement. The government with its own measures promotes higher education and helps young people on their way to employment. However its educational policy is not fully aligned with the labour market needs and requirements of the employers, who to a large extent require work experiences, which unfortunately is difficult to provide immediately after the completion of education (LSE 2016).

Whether youth unemployment affects higher education participation or not and how, we explored in our own empirical study. In order to test the two research hypotheses, we analysed the secondary data obtained from the SORS and ESS and here we discuss the results.

Within correlation and particularly regression analysis related to the verification of the first hypothesis we have found that the number of students enrolled in the first cycle of higher education is certainly higher, if the size of the generation of young people is greater, if the number of available scholarships is higher, and if youth unemployment after completion of secondary education is higher. The young are still major participants in the first cycle of higher education, therefore it is expected that their number has a significant impact on the number of students. Additionally, an important role is played also by social policy of the government including scholarships. It is interesting that a higher actual youth unemployment after completion of secondary education - which is at the same time also the expected unemployment rate for all young who are deciding whether or not to continue their education in the first cycle of higher education - is a motivator for that further education. When youth unemployment is higher, the opportunity cost of continuation of education in the first cycle of higher education is lower. Because the benefits lost due to the continuation of the study, expressed in potential earnings lost, are lower. The probability to find a job in such a situation is lower, as is the expected average salary. On the other hand, higher youth unemployment represents an additional motivation for continuation of education in the first cycle because of expectations of a better employability and higher rates of pay after completion of education. Social security and other social benefits, which are provided by the student status are also not negligible. In the context of the analysis conducted in order to test our first hypothesis we can't reject our first hypothesis that an important reason for the continuation of formal education in the first cycle programmes are bad prospects to get a job after completing a secondary education. Higher youth unemployment contributes to an increased enrollment in

the first cycle of higher education.

Within correlation and particularly regression analysis related to the verification of the second hypothesis we have found that the number of students enrolled in the second cycle of higher education is higher, if the number of available scholarships for the second cycle of education is higher, if GDP per capita is higher and if youth unemployment after completion of the first cycle of education is lower. The impacts of the explanatory variables are obviously different from those in the case of the first cycle of education. The results of our research indicate that the conditions of economic expansion encourage enrolment of young in the second cycle programmes. When GDP per capita is higher and youth unemployment after the first cycle of education is lower, then the number of young people who decide to continue their education in the second cycle programmes of higher education is higher. Because our analysis covers also the time period when most of the students still needed to pay a tuition for postgraduate education, it is understandable why there is a favourable impact of lower youth unemployment and better economic conditions for the continuation of education after the first cycle. If young people after the completion of the first cycle of higher education have a job, it is easier for them to pay for the costs associated with postgraduate education. This costs of course are not associated only with the possible tuition but there are also other costs related to the study. On the other hand, just having a job after the first cycle of education, the possibility or even the necessity of the promotion in the workplace, the desire for even higher earnings due to higher level of education and other benefits resulting from higher levels of education are those motivators that further encourage the continuation of education in the second cycle programmes. Those who do not have a job, also do not have these motivators. In the context of the analysis conducted in order to test our second hypothesis we can reject our second hypothesis that an important reason for the continuation of formal education in the second cycle programmes are bad prospects to get a job after completing a first cycle education. Higher youth unemployment contributes to lower enrollment in the second cycle of higher education.

Employment or unemployment of young people is an important factor of higher education participation in both the first as well as the second cycle programmes. However, its impact in case of the first cycle programmes is different than in case of the second cycle programmes. Youth unemployment after completion of secondary education encourages continuation of education in the first cycle programmes. On the contrary unemployment of young with the first cycle higher education attainment, discourages continuation of education in the second cycle programmes.

Based on the findings of our research we can provide some recommendations for improving the existing situation. Certainly, youth unemployment cannot be considered as an instrument of education policy, at least not when it comes to the impact of higher youth unemployment on the continuation of the study in the first cycle of education. In a way, this could even be understood as an anomaly. Nevertheless, it is interesting to understand that youth unemployment has an impact on continuation of education. Regardless of that, the goal of the government must be to increase the employability of the first and the second cycle graduates, through a better match between the education system outcomes and the needs of the labour market as well as through some other measures. At the same time with the appropriate labour market policy it must encourage employment of young people, also of those, who after completing secondary education, want to get a job in the profession for which they were actually schooling. Those young people otherwise enter the first cycle of higher education as so-called fictitious students, solely in order to enjoy social benefits provided by the student status. Such students are only a burden for the higher education system, because they mostly never complete their study or even had never intended to do so. However, financially speaking, such students are spending the public budget funds, since they use the student status benefits such as subsidized eating, transportation, health insurance and other

services, the lower taxation and the possibility of student work. Last but not least exactly the exploitation of the student work of such fictitious students by employers, causes a lot of damage to young people on the labour market. To those who are involved into that student work directly as the fictitious students instead of having a regular employment contract. As well as to those young people who do not continue their education, but as active population compete on the labour market, together with those who can work as students in the form of a student work, who so represent a disloyal competition to them.

There are many interesting issues open to be further investigated. It would be interesting to make a comparison between different EU and non EU countries in that respect as well to conduct an in-depth analysis of all the higher education participation factors using panel statistical data.

Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at <http://sepd.tntu.edu.ua/images/stories/pdf/2018/18zctcos.pdf>

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