

TERTIARY EDUCATION AS THE PREVENTION OF YOUTHFUL UNEMPLOYMENT IN THE CZECH REPUBLIC

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Abstract

The experience with the last economic crisis (2008-2011) proved that the elimination of the work force doesn't endanger all groups of inhabitants in line with demographical development at the same level. There is no surprise that among the most endangered demographic groups belongs the workforce aged above 50, but the youthful is concerned as well. We will define the youthful as a group of people from 15 to 24 years old. The less well-known fact is that the restored economic growth doesn't generate the new work force with the longer delay and almost in the smaller, i.e. insufficient, extent. The main focus of this article is just on the youthful. In the Czech Republic and in the European Union as well we can see that there is a direct proportion between the education and ability to find employment. The worst situation can be monitored in the south of Europe where the unemployment of the youthful (i.e. Spain) is above 50% and makes more than 30% of the total unemployment. The tertiary education increases employment rate of youthful but not in the same range. The difference is among the economical, technical, medical and art specialization.

Key words: youthful, unemployment, tertiary education

JEL Code: J6, I23

Introduction

This article focuses on the employability of university graduates in the Czech Republic in 2015-2017. In the first chapter we will deal with the concept of education as a form of the method of building human capital. The next chapter will cover the issue of the European Employment Strategy as a means of influencing the jobs of young people. The last chapter of this article examines the unemployment of graduates of master's degree in the Czech Republic in 2015-2017, depending on the chosen field of study. In the academic year 2016/2017, there were over 300.000 students enrolled in the Czech universities (about 3% of the Czech population), out of which 29.526 were studying the in-person master's degree. (Czech Statistical Office, 2017)

1 Education as a way to build human capital

The authors will consistently rely on the fact that the Czech labour market is fully compatible with the other labour markets of the EU Member States, and faces the same problems. It is well-known that the employability of young people in the European Union is a major problem. That is why the interpretation of Czech graduates will be confronted with certain situations in the EU. In this context, we will recall the basic employment strategies that are applied precisely to this segment of the labour market. Despite these strategies are mostly focused on the entire tertiary education, this article focuses only the master's study graduates.

The generally accepted fact is that education is taken as a basic prevention of unemployment. (Becker, 1993) It is not just about graduates with higher education finds it easier, but also having the ability to keep a job longer. They have so-called *human capital*, which is key to the employment of those workers (Becker, 1993). The theory of human capital is one of theoretical concepts that have a dimension not only economic but also sociological.

The Chicago School, and in particular G. Becker, who can be considered the spiritual father of this theory, think that education (especially tertiary) must be seen as an investment. The return on this investment is then the revenue flow received by the investor. Let's assume that a graduate of a master's degree (the actual creator of human capital) is *homo oeconomicus*. As such, he/she will compare the cost of education with its yield. The problem is that the cost of this investment must be realized immediately, while revenue in the form of a discounted revenue stream is spread over the active working age. Risk and uncertainty are not considered for simplicity. It is obvious that a high school student starts with a minus balance, with the growth of years worked, the liabilities become assets. Formally, it is possible to express the discounted revenue flow as follows (Becker, 1993):

$$PV = E_0 + \frac{E_1}{(1+r)} + \frac{E_2}{(1+r)^2} + \frac{E_3}{(1+r)^3} + \dots$$

E ... the expected earnings flow (also includes negative returns in the form of investment cost)

N ... expected yields

R ... interest rate

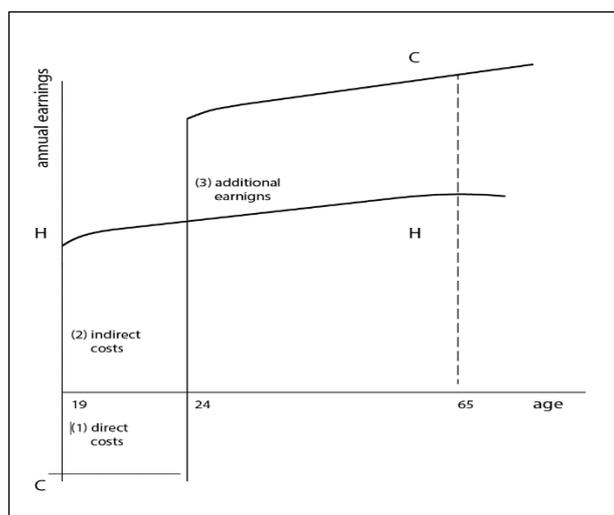
It is clear from the equation that the "profitability" of education increases with the number of years worked. The length of active working life strengthens the likelihood of positive present value. It also logically follows that the current value of future earnings will be the greater, the greater the difference in the earnings of a high school student and a graduate of a master's degree study. We assume that the difference in the yields of both are due to the different productivity of the work that both will achieve and the subsequent attractiveness

for companies. It also builds on the ability to stay in the labour market and maintain the job position.

In the second part of the article, this assumption will in principle be confirmed, but not in general. In the Czech Republic there are masters courses which fully confirm this hypothesis, but also those facts are partly promoted.

The cost and income of higher education can be illustrated graphically below.

Fig. 1: Higher education costs and revenues



Source: BROŽOVÁ, D. (2012). *Kapitoly z ekonomie trhu práce*. Praha: Oeconomica, 60. Own processing.

Area 1 represents the direct costs of study (tuition fees, study-related expenses, purchase of textbooks). Area 2 then indirect study costs - essentially lost earnings resulting from choosing a career other than university studies. This is the classic cost of the sacrificial opportunity. The CC curve represents the profitability of college school employees, the HH curve is the same for high school students. The chart shows that with the growth of the years worked both curves grow, but at a different pace. It can be seen that the growth rate is faster for the CC curve and the two curves move away from each other. Curvature of the CC curve (the rate of its growth) varies from case to case due to the type of master study chosen. Of course, we can assume variants where the HH curve is under the CC curve. (Brožová, 2002)

In interpreting the theory of human capital, we have so far dealt with its yields, which are relatively easy to quantify. Higher education, however, brings benefits that can be difficult to express with exact numbers. It is a wider concept of human capital where a graduate of this type of study actually invests in a social position. It brings social status and contacts that further enhance the value of human capital. (Becker, 1993) In addition, it is possible to assume a significant degree of probability that higher education will lead to better decision-making and

overall orientation in politics, culture, etc. We can thus assume that the (sociologically) broader concept of human capital will be reflected in higher revenues to its owner. Here is a dichotomy: education as investment and education as consumption. It is undisputed that education can also be seen as a positive externality with huge social reach. People with higher education tend to have a healthier lifestyle that reduces their mortality and at the same time they are not related to pathological phenomena such as drug addiction, crime, etc. Because of their higher income and higher consumption, they are paying higher direct and indirect taxes. This means they drain less public finances whilst contributing more to public funds.

If Master's Higher Education is free of charge (in terms of private reimbursement of direct and indirect costs), it must be regarded as a public good. Turning to economic theory, the problem of an adequate amount of this form will arise. The question is not satisfactorily solved because of the social, political and psychological aspects, in addition to purely economic ones. Authors of this article monitor this problem, but they must state that no clear position can be taken in this respect. Different systems of higher education applied in Europe and elsewhere are often based on tradition and reflect the priorities of the political party that is in power.

Returning to the concept of human capital as a private investment (basically a concept of G. Becker), the issue of its funding arises. Suppose a graduate student who is fully paid and who does not have sufficient means to cover it. The solution is a loan, which is differently structured and differently guaranteed in different countries. The cost of investing in human capital must, therefore, be compared with investment in physical capital. Capital markets show a certain tendency to favour investment in physical capital before investing in human capital. Lending funds are better available for investment in physical capital. Human capital is embodied by an entity that borrows and is not available "in itself", i.e. in a material form concurrently with a loan. In the case of a loan such as house loans, there is a house available to the lender in the event of default by the borrower, the sale of which by the lender will cover the eventual loss. In the case of an education loan, there is nothing like that for the lender. Education is only an insecure guarantee of future income, and this risk associated with the payment of a liability for future income includes lenders as a risk premium in the cost of borrowing funds. (Becker, 1993)

It follows from the logic of the cited paragraph that investing in human capital is riskier than investing in physical capital, which increases its cost and discourages its use. Logically, there is room for a certain state guarantee and for institutional measures and projects, whether from the state or the European Union. This statement stands out when we realize that higher education master's degree programs (if we look at risk) guarantee very different future earnings.

Despite this, it can be said that building and shaping human capital is the most promising way to create an employee position and also the way to maintain it. This also applies fully to the Czech Republic, as shown in the second part of the article.

2 The European employment strategy as a way to influence the labour market

The question of employment in general and the employability of young workers in particular has begun to be a separate problem, addressed at the turn of the century. The economic development since the 1990s shows trends that the EU is facing: even relatively strong economic growth does not generate sufficient jobs. As a result of significant changes in the structures of individual economies, jobs in traditional industries and agriculture are falling. New technologies require workers with a completely different qualification than those who have been practicing virtually the entire previous century. (Palíšková, 2014) We are returning to the formation of human capital, where education is not a task of younger years, but a lifetime duty. The EU Employment Strategy responds to this situation and excludes employment priorities. Goals are set for the most vulnerable groups. The method used is to coordinate the National Reform Program, which includes major macroeconomic trends including labor market developments. The question of employment is conceived in the wider context of sustainable development and the knowledge economy. It is necessary to emphasize that implementation of the staff policy itself remains fully within the competence of the individual member states. Given the limited scope of this state, we will only mention (very briefly) the Europe 2020 Strategy, which was endorsed by the European Council on 17 June 2010. It identified three priority areas: (Palíšková, 2014)

Intelligent Growth - Developing a knowledge-based economy based on the promotion of education and the use of new technologies

Sustainable growth - Developing an environmentally friendly economy using renewable technologies

Inclusive growth - Empowering as a way to reduce poverty and social exclusion.

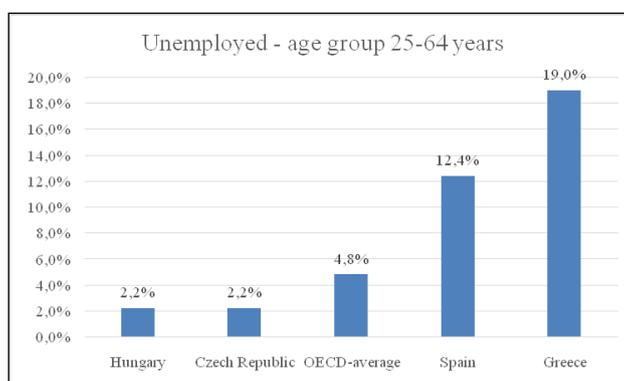
There is no doubt that all of these priority areas are related to the creation of human capital in one or the other faith. The employment of university graduates has even set quantitative targets: increasing the number of undergraduates aged 30-34 from the current 31% to at least 40%. For young people's education and therefore the employability of young people, it is necessary to create conditions: to encourage the mobility of young workers, to make higher

education more attractive and to improve its quality. Universities are integrated into international evolutionary processes. This makes it possible to compare them internationally. By obtaining the appropriate certificate, a university level is guaranteed and prerequisites for recognizing achievement of education in any EU country are created.

3 Unemployment of graduate students in the Czech Republic in 2015-2017

The following table shows the number of graduates in selected EU countries, however, within an entire tertiary study, (not just a master's degree).

Fig. 2: Unemployed – age group 25-64 years



Source: OECD. (2016). Unemployment rates by education level. Retrieved from <https://data.oecd.org/unemp/unemployment-rates-by-education-level.htm#indicator-chart>. Own processing.

Statistical data suggests that the Czech Republic is below the European Union average. In this context, an interesting question arises: What is the correlation between the number of graduates of tertiary education and the employment rate (or unemployment rate) in each country? This very crucial topic is beyond the main interest of the authors of this state. Therefore, only the basic context will be mentioned, because the employment rate is influenced by a number of factors that intertwine and operate at different levels of intensity. M. Palíšková, which deals with this issue, states - on the basis of its own calculations - that "there is a mutual positive dependence between the number of persons with tertiary education and the employment rate". (Palíšková, 2014) However, this dependence is not absolute. There are a number of other factors that cannot be neglected: the quality of the education system, the interconnection of schools with business practice, the amount of funds the company provides for the development of education, the number of high school graduates in the labour market, the number of early school leavers, etc. Last but not least, compliance Between labour

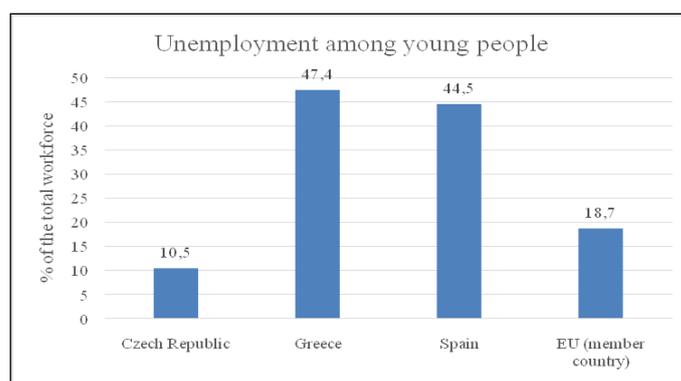
supply and demand, skills and skills in the labour market, labour market flexibility (labour legislation, worker protection, application of the flexicurity concept) and, in general, the overall conditions for stimulating and creating new jobs.

Forming human capital is an increasingly lifelong process. However, it is logical that it primarily concerns young people. In recent years a dangerous phenomenon of the so-called *lost generation* has emerged. This applies in particular to the southern wings of the EU countries. A typical figure is Spain, where between the ages of 20 and 30 is virtually no one.

In this context, the abbreviation NEET (not in employment, education or training) appeared. These are young people who are not able to actually start a career. Very often, they do not even aim to set up a family and resign to a more significant social status. If we understand tertiary education as the ultimate form of human capital formation, then this segment of the population is out of work.

In the Czech Republic, youth unemployment is not such a serious problem. In February 2018, the general unemployment rate in the Czech Republic was 3.5%. When looking at youth unemployment, graph no. Below, the Czech Republic shows a lower total value of 10.5% of the total labour force. Unlike the Czech Republic, Spain and Greece show almost five times the value. Spain 44.5% and Greece 47.4%, taken from the total labour force of the country. Unemployment among young people in the EU is on average 18.5%. (OECD, 2016)

Fig. 3: Unemployment among young people



Source: OECD. (2016). Youth unemployment rate. Retrieved from <https://data.oecd.org/unemp/youth-unemployment-rate.htm>. Own processing.

Subsequent statistical data confirm the premise we have explained throughout the article: tertiary education significantly reduces unemployment, but to a different extent, depending on the type of study:

Tab. 1: Overview of graduate unemployment: Master's degree April 2015

Group of education graduates	Graduates (2016)	Unemployed graduates (4/2017)	Unemployment rate of graduates in% (4/2017)	Comparison with 4/2016 (p.b.)
Natural sciences	2 022	49	2,4	-2,1
Technical sciences Natural sciences	5 610	164	2,9	-1,7
Agricultural-Least and Veter. Science and education	1 006	43	4,3	-2,3
Health service, doctor. And pharmacist. Science and education	1 998	27	1,4	0,0
Humane and Social Sciences	3 250	164	5,0	-2,3
Economic Sciences	4 831	196	4,1	-2,1
Legal sciences	1 322	34	2,6	0,8
Pedagogy, Teaching and Soc. Care	2 352	68	2,9	-1,5
Arts and Art	737	48	6,5	-2,7
Total	23 128	793	3,4	-1,8

Source: Collective. (1997). Uplatnění absolventů škol na trhu práce. Praha: Ministerstvo školství, mládeže a tělovýchovy České republiky. 23. Own processing.

Tab. 2: Overview of graduate unemployment: Master's degree April 2017

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Source: Collective. (2017). Nezaměstnanost absolventů škol se středním a vyšším odborným vzděláním. Praha: Národní ústav pro vzdělávání. 24. Own processing.

Both tables allow comparison of unemployment of master's degree graduates with a formulation of specific trends. It is necessary, however, to consider that in particular the last 2 years represent a period of highest conjuncture of the Czech economy and the unemployment has been declining in all industries and professional structures. If we focus on total figures, we can observe continuous decline of unemployment of the master's degree graduates. Year-on-year comparisons even point on accelerating tendencies of this trend. More detailed analysis confirms further facts, that can be considered as a constant. Lowest (as well as the most stable) unemployment show graduates of the master's degrees of medicine. Tables also prove stable

count of graduates of these study programs. Positive development is also observable in a category of legislative sciences, where a slight decline of graduates occurred (as compared between years 2014 and 2016), however, there was a more significant unemployment decline (from 4,5% in 2015 to 2,6% in 2017). The economic sciences show notable major decline of graduates as well as a relatively strong decline of unemployment (from 6,3% in 2015 to 4,1% in 2017). Unemployment of agricultural, forestry and veterinary graduates showed a positive evolvement: despite the equal count of graduates in compared periods, the percentage of unemployed decreased (from 7,9% to 4,3%). Statistical data for humanities and social sciences also show a favourable progress. Number of graduates slightly decreased, while the unemployment dropped significantly (from 7,2% to 5,0%). Nevertheless, the most important finding is that the year-on-year unemployment rate of the master's studies show declining trend, which (in certain fields especially) is even accelerating.

Conclusion

Should we evaluate the unemployment of graduates of the master's studies and the related trend, we need to remind the premise outlined in the first part of this article: building human capital is the best unemployment prevention. Statistical data for the Czech Republic between 2015 and 2017 not only prove this, but also imply a favourable evolvement of this labour segment for future. However, it is necessary to point out the prosperous economic condition of the Czech Republic, currently showing one of the highest growth rates in the EU. This, of course, decreases the general rate of unemployment (thus not only of the tertiary education graduates). On the other hand, the unfavourable demographic development shows declining number of economically active population of the Czech Republic. In the tertiary education segment the article focuses on, this translates to a decline of graduates in all fields. Statistical data also show that employability of this labour force differs based on a given profession segment. This is proved by fractional unemployment of graduates of medicinal studies and humanities. All observed fields, however, show positive trend of declining unemployment, despite not in an equal rate.

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