

DOI: [10.20472/BM.2015.3.1.007](https://doi.org/10.20472/BM.2015.3.1.007)

THE MACROECONOMIC VIEW OF THE UNEMPLOYMENT OF UNIVERSITY GRADUATES IN THE CZECH REPUBLIC

JANA SVARCOVA, MONIKA HORÁKOVÁ

Abstract:

EU and the Czech Republic as well as are suffering from high unemployment rates of graduates in the past five years. This is partly a consequence of the economic crisis that has hit Europe since 2008. This paper analysed noncyclic factors, which had an impact on the increase in youth unemployment in the Czech Republic and compared the results with strategic objectives of EU employment and training for the labour market (targets EU 2020). Primary research among students of Faculty of Management and Economics, Tomas Bata University in Zlín in the years 2011-2014 found a weak focus in the choice of professions. The research used the classification system of professions according to Roe because of CZ-ISCO has proved to be unsatisfactory for this purpose. Student preferences in choosing the professions largely do not match the structure of the Czech economy. Research, on the other hand, confirmed the prevailing educational aspirations of students at the bachelor level of the tertiary education. This is important to fulfilling the target that 40% of the population aged 30-34 years successfully finish tertiary education till 2020. Lengthening the period of economic inactivity of students before entering the labour market in the borders of 26 years will bring increased demand for funding from relatives. Higher investment required from the students' families may limit their support if they do not see adequate growth of wages in the labor market for university graduates. The labor market is becoming increasingly complex, which provides the background for asymmetric information in a significant proportion of the population. There are two types of asymmetric information: hidden knowledge about attributes and hidden knowledge about action. Tools to remove both types of asymmetric information on the labor market should be more involved in the education system. It is also a way to delegate at least part of the transaction costs of obtaining relevant information about the labor market away from the students and their parents (funding students) to the State.

Keywords:

Labour Market, Youth Unemployment, ESA 2010, Educational Aspirations, Choice of Professions

JEL Classification: J21, J24, J23

Authors:

JANA SVARCOVA, Tomas Bata University in Zlín, Czech Republic, Email:

MONIKA HORÁKOVÁ, Tomas Bata University in Zlín, Czech Republic, Email:

Citation:

JANA SVARCOVA, MONIKA HORÁKOVÁ (2015). The Macroeconomic View of the Unemployment of University Graduates in the Czech Republic. International Journal of Business and Management, Vol. III(1), pp. 106-118., [10.20472/BM.2015.3.1.007](https://doi.org/10.20472/BM.2015.3.1.007)

Introduction

Youth unemployment in the EU and in the Czech Republic has increased significantly in recent five years. This is partly a consequence of the economic crisis that hit Europe since 2008, but there are also non-cyclical factors influencing the growth in unemployment (Švarcová, J, Gabrhel, V. and Cícha, O., 2014, p.10). This article analyses selected factors in the Czech Republic with an impact on the increase in youth unemployment especially the professional orientation of young people in comparison with the structure of the Czech economy. This paper starts with analysis of the impact of indicators of EU and its individual members in the employment until 2020 in Chapter 1. According to our research university students in the Czech Republic are heavily economically dependent on their parents. This investment is wasted if graduate unsuccessfully entered the labour market.

1 Strategic targets for the EU in 2020 and their relation to the measurement of economic activity at the macroeconomic level

EU has set measurable employment targets to be achieved in 2020. It is not the task of this chapter to argue that those indicators are the right way to achieve economic development, or in a broader sense, increased prosperity in Europe and the nation states. For the purposes of this paper these targets are appropriate as comparative basis for evaluating current developments. The EU has set the following measurable objectives in the area of employment.

The headline targets for the EU in 2020

1. Employment

- 75% of 20 to 64 year old men and women to be employed

2. R&D

- 3% of GDP to be invested in the research and development (R&D) sector

4. Education

- Reduce the rates of early school leaving to below 10%
- at least 40% of 30 to 34 year olds to have completed tertiary or equivalent education

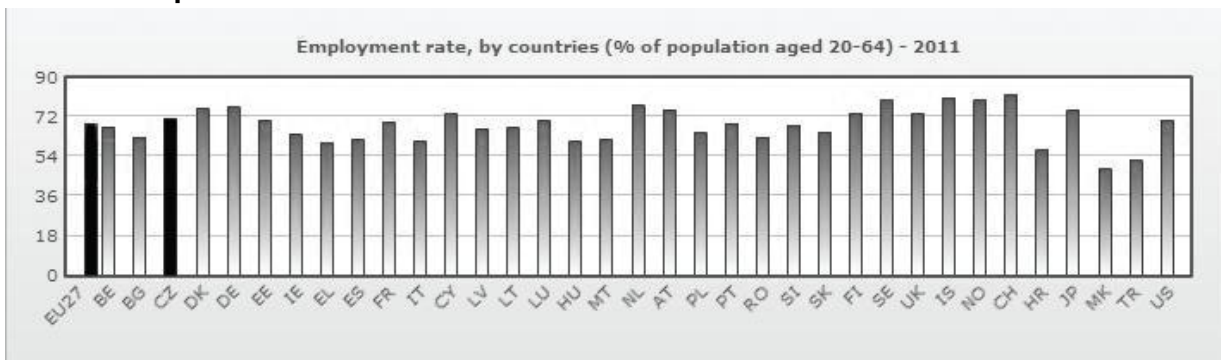
Source:

http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators/targets

Target Employment: 75% of 20 to 64 year old men and women to be employed

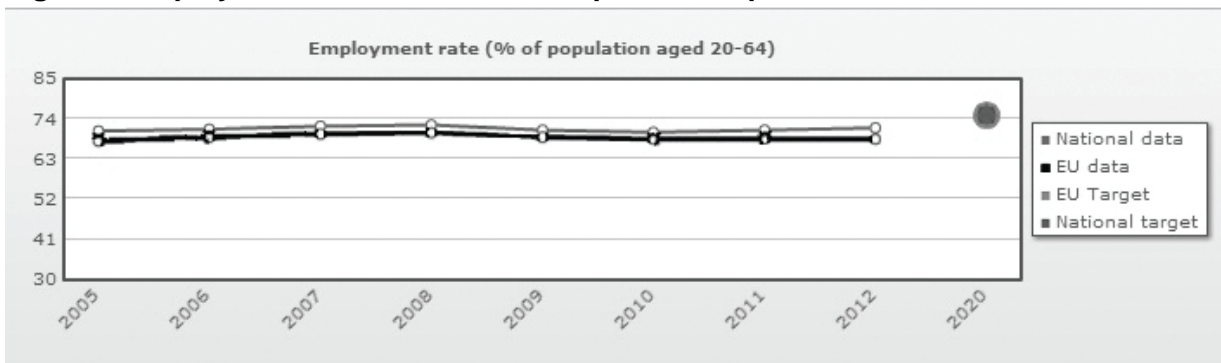
Czech Republic belongs to mainly industrialized countries. It is positively reflected in higher organization and involvement in economic activities, than in countries traditionally agrarian-oriented in the south wing of Europe. The average value of employment in the Czech Republic according to Eurostat methodology was at the level of 71% in 2011, compared to the EU 27 average achieves long-term lower values below 70% (see Figure 1 and Figure 2).

Figure 1 Employment rate in the Czech Republic according to Eurostat methodology in 2011 compared to the EU



Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

Figure 2 Employment rate in the Czech Republic compared to the EU in 2005-2012



Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

From Figure 1, we learn that the developed EU countries such as Germany, UK and Nordic States achieve even higher values of employment (we can compare with Norway and Switzerland, which are not EU members). In contrast, the southern EU members have a significantly lower value of the employment rate. EU target for 2020 is to achieve 75% employment rate, which appears to be realistic goal for the Czech Republic, as shown in Table 1.

Table 1 Employment rate in the Czech Republic in 2005–2013 compared to the target

http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

Czech Republic Download data for country

	UNIT	REFERENCE PERIOD						TARGET	TABLE
		2005	2009	2010	2011	2012	2013		
75% of the population aged 20-64 should be employed									
Employment rate - age group 20-64	% of population aged 20-64	70.7	70.9	70.4	70.9 (b)	71.5	72.5	75	

Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

The indicator of employment at 75% of the population aged 20-64 years has its macroeconomic logic. On one side gives sufficient space for obtaining qualification before entering the labour market, on the other side it respects prevailing retirement age in the EU, and thus the end of the economic activities and the beginning of retirement, whether from public or private pension systems. Average 44 years of economic activities of individuals seems to be sufficient for the smooth functioning of redistributive processes. Recent experience from the first years of economic crisis in 2009 and 2010, however, have shown how drastic decline in the cyclical development of the economy may bring - a pension account in the Czech Republic after years in surplus immediately fell into deficit in the tens of Billions of Czech crowns and accelerated the debate on the need for reform of the pension system.

Employment rate of the age group 20-64 represents employed persons aged 20-64 as a percentage of the population of the same age group. The indicator is based on the EU Labour Force Survey. The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. The employed persons are those aged 20-64, who during the reference week did any work for pay, profit or family gain for at least one hour, or were not at work but had a job or business from which they were temporarily absent (definition at eurostat.ec.europa.eu/). The figures are estimations from Labour Force Survey. LFS concentrates on all persons usually living in private households. The survey does not cover persons living in collective accommodation establishments for a long time, which is why data on certain population group (foreign nationals living and working in the Czech Republic in particular) are rather scarce.

(http://www.czso.cz/eng/redakce.nsf/i/employment_unemployment_ekon).

Indicator definition has its limitations - one of the constraints is very easy spill over between economically active and economically inactive population, especially among young people. A young person can be student (economically inactive), in another reference week he is employed (economically active) and in another week the same person is looking for work and is unemployed (economically active).



Economic activity and employment are usually given in relation to the GDP. Latest revision of national accounts according to European standards ESA 2010 (results were published in the Czech Republic in October 2014), involves certain additional question. In the national accounts there are getting estimated variables such as self-supply households and GDP is already produced by economically inactive people (work of person in the household or assistance between neighbours, but also illegal prostitution, production of drugs for personal use etc.).

Indicator of the rate of economic activity will increasingly diverge from quantification of the GDP - GDP is not generated by unemployed people, even if they are part of the economically active population, but instead most economically inactive people will contribute to GDP.

Table 2 Tertiary educational attainment

http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

Czech Republic Download data for country

	UNIT	REFERENCE PERIOD						TARGET	TABLE
		2005	2009	2010	2011	2012	2013		
The share of early school leavers should be under 10% and at least 40% of 30-34 years old should have completed a tertiary or equivalent education									
Early leavers from education and training	% of population aged 18-24	6.2	5.4	4.9	4.9	5.5	5.4	5.5	
Additional data (Show)									
Tertiary educational attainment	% of population aged 30-34	13.0	17.5	20.4	23.7	25.6	26.7	32	
Additional data (Show)									

Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

2 Employment, activity and inactivity people with tertiary education

Young people practically postpone entering the labour market by being part of tertiary education. From macroeconomic point of view, this aspect is negatively reflected in the indicators of The EU Labour Force Survey (LFS) that state the unemployment rate. Full time students are considered economically inactive population in the case there is no part time job within the period of reference week examined. The value of active population is thus decreased and the final unemployment rate rises. According to LFS methodology, daily university students could firstly be considered as an inactive population. In case a student has an extra job, such person could be considered as an employed one. An important role regarding decision about the labour status is represented by actual position of the researched person described below:

- **Employed persons** are all persons who worked at least one hour for pay or profit during the reference week or were temporarily absent from such work.
- **Unemployed persons** are all persons who were not employed during the reference week and had actively sought work during the past four weeks and were ready to begin working immediately or within two weeks.
- The **active population** (labour force) is defined as the sum of employed and unemployed persons.

- The **inactive population** consists of all persons who are classified neither as employed nor as unemployed. (Source: Eurostat, LFS main indicators; http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/lfsi_act_a_esms.htm)

In the context of the Czech Republic, it is possible to study in a full-time mode of study as well as a part-time mode of study. The full-time mode of study is typical for people younger than 25 whereas the part-time mode of study is typical for all age categories that are considered to be economically active. The data of Czech Statistical Office show that 70 – 80 % of total number of students study in a full-time mode of study. In many university study programmes, young people study for 3 years to achieve a bachelor degree. Then, up to 80 % of the people continue in a follow-up master's degree programme. Just a small number studies in doctoral degree programmes focused on research and development career..

As we can see in Table 3, the number of full-time students in the Czech Republic was growing until the academic year 2011/2012. Although this number has slightly decreased during the last two years, it is still growth in relation to an active population. It is possible to state that this will correspond with the headline target of Europe 2020 related to educational area.

Table 3 Number of University Students in the Czech Republic

Academic year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Daily students	251 903	263 897	277 051	283 528	284 256	281 897	277 621
Total number of university students	343 938	368 052	389 006	395 992	392 099	381 047	368 304

Source: <http://www.czso.cz/csu/2014edicniplan.nsf/p/320181-14#12>

The qualification improvement at tertiary education should also lead to better chances of finding employment on the labour market. This illusion was disrupted by economic crisis in the year 2008. Many European countries such as Spain, Italy, France, Portugal or Slovakia face more than 30% unemployment rate regarding young people up to the age of 34.

Employment of graduates on the labour market is the principal question and majority of governments from EU member states is looking for the answer. The level of education achieved is considered the most important one when talking of chances of young people on the labour market. This is many times more than the region of residence or work place. This very different trend in Europe is exceptional. In the countries of southern part of Europe, there is no influence of the level of education achieved on young people's employment on the labour market. A lower one is also in the neighbouring countries of Austria and Germany.

According to the newest analysis of Czech Statistical Office from November 2014, there is a 69.4% probability of employment of people of age category 15-34 within the period of 3-12 months after finishing their studies in the Czech Republic in 2013. In comparison with the economically efficient year 2008 when there was an 78.4%

employment (75.6% of women and 81.4% of men). The lowest probability was recorded in 2004 (54.9%). The economic crisis brought a sharp change when during the period of two years the chances of young people regarding finding a job decreased greatly, and the year 2013 did not bring any radical changes. This trend is interesting, also in contrast to the overall long-term growth of employment in the Czech Republic. There are surprising figures regarding gender differences. There was a higher probability regarding employment of men in the previous years. At present, these gender differences have been eliminated greatly and do not exist anymore, which means that both sexes are equal concerning these issues..

(Source: <http://www.czso.cz/csu/csu.nsf/informace/czam112714analyza14.docx>)

On European scale, the importance of tertiary education (bachelor's, master's and doctoral degree) is reflected in the following education indicators as it is displayed in Table. 4. In comparison with other members of EU, there are 82.5% of tertiary educated people in the Czech Republic employed. In comparison with average numbers of EU 27 or EU 17, we are slightly above these figures. The highest employment rate of 87-90% is reached by northern countries such as Iceland, Norway, Sweden, Denmark, Luxembourg, Switzerland and Lithuania. On the contrary, the lowest percentage below 70% was recorded in the countries struck by the economic crisis such as Greece, followed by Spain, Italy, Slovakia, Portugal, etc..

Table 4 Employment rate of tertiary educated people in EU

Employment rate, by highest level of education attained		Code: tsdec430					
% of age group 20-64 years							
The indicator is calculated by dividing the number of employed people within age group ... more							
iscsed11 Short-cycle tertiary, bachelor or equivalent, master or equivalent and doctoral or equivalent (levels 5-8)		Labels 1,234,56 1,234,56 1,234,56					
geo	time	2008	2009	2010	2011	2012	2013
Euro area (17 countries)		83.2	82.3	81.8	81.8	81.3	80.8
Belgium		83.0	81.9	81.9	82.0	81.8	81.0
Bulgaria		86.1	85.5	83.3	81.2	81.1	80.7
Czech Republic		83.2	82.0	81.0	81.1	81.2	82.5
Denmark		88.4	86.7	85.4	85.5	86.0	86.1
Germany		85.7	86.3	86.7	87.6	87.6	87.5
Estonia		85.3	81.9	78.4	79.1	81.4	82.3
Ireland		84.5	80.6	79.4	79.3	79.0	79.3
Greece		82.0	81.5	78.8	74.0	70.3	68.2
Spain		82.0	79.3	77.9	76.9	75.2	74.1

Source:

<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tsdec430&language=en>

Majority of full-time students face the problem of lack of money. This means a great deal of stress for their relatives. Czech students are generally used to receive the financial resources from their relatives for the period of minimum 5 years. As mentioned above, it is common for 80 % of Czech students to continue with their follow-up master's degree programmes right after finishing their bachelor's degree programmes. This phenomenon is again not typical for western European countries where young people use their gap year(s) for gaining practical experience on the labour market. They get back to their studies within the period of 1-2 years. The Czech government will strive to decrease a number of accepted master students this year as well as in the following years as their chances of employment on the labour market are rather low. It is a case of economic fields of study whereas technical and medical fields of study will experience higher numbers.

3 Non-cyclical factors influencing the growth in youth unemployment in the Czech Republic

The former successful strategy in the labour market was "I am going to do what my parents do". Every day a young man can see what such work entails and, moreover, may partly rely on relational capital that parents can use to help young person to initial employment. We asked in repeated surveys among undergraduate students, how many of them want to do what their parents do, but the proportion of young people who responded positively was surprisingly low.

The survey involved 387 students of the first year of bachelor study (full-time) Fame Tomas Bata University in Zlín. The age of respondents was 19 to 20 years. A similar questionnaire among 173 full-time students of master's degree study programme was conducted at the same faculty for the reason of a certain degree of comparison. These students were of the age of 22 to 23. Average educational attainment of father and mother of respondents was at the level of maturity (average father's education 3,054 and mother's 3,036, at the scale where the value 3 is equivalent to high school graduation, the value 2 - apprenticeship, the value 4 - higher vocational school, the value 5 - bachelor's degree, the value 6 - master's degree). The level of educational aspiration of respondents was higher than the actual average educational attainment of their parents.

3.1. The results of surveys conducted among university students

First Table 5 brings the results about parents influence at study focus their children. Students usually do not want to do the same job as their parents (and reproduce the current structure of the Czech economy).

Table 5 "I want to do similar work, as my parents".

Answer	Absolute	Relative
YES	79	20%
NO	271	70%
I do not know	37	10%
Number of respondents	387	100%

Source: Own elaboration

On the other hand students do not realize that in principle many students are economically dependent on their parents (and their jobs), as shown in the following Table 6.

Table 6 “During my studies, my parents pay some of the costs”.

Study degree	Bachelor degree		Master degree	
25% of the costs	29	8%	18	10%
50% of the costs	62	16%	34	20%
75% of the costs	161	42%	67	39%
100% of the costs	130	34%	54	31%
Number of respondents	382	100%	173	100%

Source: Own elaboration

Only 8% of students declared that from their parents receive a contribution of only 25% reimbursement of their costs. Other students are on their parents significantly economically dependent. In comparison with students of master's degree programmes, there are no significant differences between students of bachelor's degree programmes. 70% of all master students are strongly dependent of their parents who pay 75% above their costs.

Table 7 “My bachelor's degree studies followed directly my high school studies”.

Answer	Absolute	Relative
YES	329	87%
NO	49	13%
Number of respondents	378	100%

Source: Own elaboration

The predominant proportion of respondents followed bachelor's degree directly to the study of high school (see Table 7). Only 13% of respondents have already been in practice before joining the university, some of them engaged in top sport, or were on the non-profit work abroad.

The following Table 8 presents data regarding tendency of studying a master's degree programme right after obtaining a bachelor degree. In this case, there was also an important aspect of postponing entering the labour market for the reason of entering tertiary education. 91% of respondents followed directly their bachelor's degree studies by studying a master's degree programme.

Table 8 “My master's degree studies followed directly my bachelor's degree studies”.

Answer	Absolute	Relative
YES	157	91%
NO	16	9%
Number of respondents	173	100%

Source: Own elaboration

Students are not interested in work of their parents, but they are economically dependent on their parents' money. The work of parents may to some extent represent the current structure of the national economy of the Czech Republic. In principle, there is the thesis that students are not interested in their future professions to copy the current structure of the economy.

What profession young people choose for their future career - it was the fundamental question of our primary research in the segment of high school students in the Czech Republic. The first findings were published in 2011 by Švarcová Chochořáková, Dobeš and they examined primarily structural discrepancy in the labour market in the Czech Republic between the structure of the economy and the occupational choices of high school students. Electronic questionnaire was completed by 854 students of high schools from across the country. Two dimensional classification model of professions according to Roe (Roe, A. & Klos, D. 1972; Roe, A. & Lunneborg, P., 1990; Vendel, Š., 2008, pp. 32-37) was used instead of the CZ-ISCO, because CZ-ISCO proved to be unclear for students. The first investigation showed that the greatest disparities arise in the occupational group oriented towards techniques and technologies that are currently leaders of the Czech economy and the labour market shows overhang of demand of companies, however, students of high schools have little interest in these professions. Even some students of technical high schools in their electronic questionnaires reported that after graduating from high school they are certainly unwilling to continue to work with technical focus (in our research, it was 23% of respondents, but the research sample was not large, therefore this number cannot be taken as representative). The very fact that such students in the survey discovered, is the signal that the segment of technical disciplines needs deeper analysis and finding the causes of disproportion of demand and supply in the labour market in the Czech Republic.

The second finding of this first study was that students tend strongly on the contrary to choose professions creative and media interesting (actor, artist and top professional athlete, etc.). The labour market in the Czech Republic, however, shows a drastic oversupply of these graduates over demand of Czech companies. Both of the above trends are not affected by stage of economic cycle. Students do not respond on the market laws (technical professions are due to surplus of demand of companies fairly good pay of that students have seen wages in the questionnaires for each profession, but this information did not stimulate students to change their career decision).

Discussion and conclusion

EU target for 2020 shows that young people should be more educated (achieve higher average education in comparison with their parents). This goal is achievable, according to our research. The question is what can be the impact of this strategy. Recent developments in the Czech Republic shows that the young generation will

study longer and they will enter the labour market later. However, the educational aspirations of many students of the first year of bachelor study will not be finally met because many students do not succeed in graduating the university study. Some students do not complete this study and money spent (partly money of parents and partly state money) will be wasted investment.

Problem 1: if a large part of the population (EU target 2020 says 40%) achieved tertiary education, the labour market will enter very many graduates without demand from companies that require such qualifications. This can lead to a widening of the structural gap between demand of companies and supply of graduates. If the high supply of university graduates reduces the wages of such work in the labour market, the interest of the households for university studies may fall in the future. This direction is supported by the higher risk of failed investments mentioned above. Conclusion 1: demand from companies for graduates is equally important as interest of households in difficult university studies and related investments.

Problem 2: research shows that many students choose a profession without taking into account the structure of the labour market in the Czech Republic (relatively low interest in technical fields). The branch structure of the students' interest should match the structure of the economy. The invisible hand of the labour market does not ensure it yet. This problem is closely related to the degree of labor market regulation. Regulatory efficiency of the labor market can increase the performance of the economy as a whole and its growth (Kadeřábková, Čermáková and Holman, 2014). On the other hand, it is necessary to see the asymmetry of information on the labor market (especially for students who would enter the market after certain time), which currently has a strong influence on the imperfect functioning of the market and the emergence of graduate unemployment. Mankiw (2013) speaks about two types of asymmetric information: hidden knowledge about attributes and hidden knowledge about action. Tools to remove both types of asymmetric information on the labor market should be more involved in the education system. It is also a way to delegate at least part of the transaction costs of obtaining relevant information about the labor market away from the students and their parents (funding students) to the State.

Size of graduate unemployment is the result of cyclical fluctuations in the economy and non-cyclical causes as well. The pressure to increase the level of education regardless of the Czech economy structural layout can then be reflected in the final impact of even higher youth unemployment.

References

- Analysis: Young people in the labour market [Online] Available from:
<http://www.czso.cz/csu/csu.nsf/informace/czam112714analyza14.docx>
[Accessed: 27th November 2014]
- Employment and unemployment. [Online] Available from:
http://www.czso.cz/eng/redakce.nsf/i/employment_unemployment_ekon
[Accessed: 14th October 2014]

- Headline indicators Europe 2020. [Online] Available from: http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators/targets [Accessed: 14th October 2014]
- KADERÁBKOVÁ B. , ČERMÁKOVÁ K. and HOLMAN R. (2014) The role of soft factors on economic growth. *Proceedings of the 14th International Academic Conference*. Malta: ISES.
- Labour Force Survey; LFS Main Indicators; Metadata; 3.4. Statistical concept [Online] Available from: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/lfsi_esms.htm#meta_update1403263945554 [Accessed: 14th October 2014]
- MANKIW, N. G. (2013) *Macroeconomics*. Second printing. Palgrave Macmillan, 570-571.
- ROE, A. and KLOS, D. (1972). Classification of Occupations. In: WHITELEY, J. M., RESNIKOFF, A. (eds.). *Perspectives on Vocational Development*. Washington: American Personnel and Guidance Association, 199–221.
- ROE, A. and LUNNEBORG, P. (1990). Personality Development and Career Choice. In BROWN, D., BROOKS, L., et al. *Career Choice and Development: Applying Contemporary Theories to Practice*, San Francisco, Oxford : Jossey-Bass, 68–101.
- ŠVARCOVÁ, J. CHOCHOLÁKOVÁ, A. and DOBEŠ, K. (2011) New Paradigm for the System of Professional Focus of Young People in Accordance With Trends in the Labour Market. *Journal of Competitiveness*. UTB in Zlín, 3/2011, 4-12. [Online] Available from: <http://www.cjournal.cz/index.php?hid=archiv&cp=1> in the archive.
- ŠVARCOVÁ, J., GABRHEL, V. and CÍCHA, O. (2014) *Makroekonomické aspekty vývoje trhu práce ve vztahu k absolventům škol v ČR*. Zlín: CEED.
- Tertiary education in the Czech Republic. Tab. 12.08. [Online] Available from: <http://www.czso.cz/csu/2014edicniplan.nsf/p/320181-14#12> [Accessed: 19th November 2014]
- Unemployment rates of the population aged 25-64 by level of education [Online] Available from: <http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tsdec430&language=en> [Accessed: 23rd November 2014]
- VENDEL, Š. (2008) *Karierní poradenství*. Vyd. 1. Praha: Grada Publishing.