

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Economics**



**Bachelor Thesis**

**The analysis of unemployment development  
in the Czech Republic - focus on university graduates**

**Markéta Žáková**

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# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

## BACHELOR THESIS ASSIGNMENT

Markéta Žáková

Economics and Management

Thesis title

**The analysis of unemployment development in the Czech Republic – focus on university graduates**

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### Objectives of thesis

The aim of this thesis is assessing the unemployment of university graduates in the Czech Republic and the factors that influence them.

### Methodology

The main method is analysis of data and information obtained mainly from the websites Czech Statistical Office and Eurostat.

**The proposed extent of the thesis**

40 – 60 pages

**Keywords**

Unemployment, labour market, university graduates, The Czech Republic

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**Recommended information sources**

BUCHTOVÁ, B. Nezaměstnanost : psychologický, ekonomický a sociální problém. Praha: Grada, 2002. ISBN 80-247-9006-8.

ČESKÝ STATISTICKÝ ÚŘAD. Statistická ročenka České republiky = Statistical yearbook of the Czech Republic 2014. Praha: Český statistický úřad, 2014. ISBN 978-80-250-2580-2.

HOLMAN, R. Ekonomie. Praha: C.H. Beck, 2005. ISBN 80-7179-891

MAREŠ, P. Nezaměstnanost jako sociální problém. Praha: Sociologické nakladatelství, 1994. ISBN 80-901424-9-4.

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**Expected date of thesis defence**

2015/16 SS – FEM

**The Bachelor Thesis Supervisor**

doc. Ing. Mansoor Maitah, Ph.D. et Ph.D.

**Supervising department**

Department of Economics

Electronic approval: 25. 2. 2016

**prof. Ing. Miroslav Svatoš, CSc.**

Head of department

Electronic approval: 26. 2. 2016

**Ing. Martin Pelikán, Ph.D.**

Dean

Prague on 27. 02. 2016

### **Declaration**

I declare that I have worked on my bachelor thesis titled "The analysis of unemployment development in the Czech Republic - focus on university graduates" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any other person.

In Prague on 14.3.2016

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Markéta Žáková

### **Acknowledgement**

I would like to express my sincere gratitude to Doc. Ing. Mansoor Maitah, Ph.D. et Ph.D. for the supervision of my thesis, professional advice and valuable assistance throughout my work.

# **The analysis of unemployment development in the Czech Republic - focus on university graduates**

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## **Analýza vývoje nezaměstnanosti v České republice - zaměření na absolventy vysokých škol**

### **Summary**

This bachelor thesis deals with the issue of the unemployment of university graduates. It is focused on the Czech Republic and it examines the development of unemployment between 2004 and 2013. To achieve the objective, the analysis of data concerning the number of universities, students and graduates, the number of unemployed graduates and the unemployment rate. Further, the time since graduating from the university and the completed level of education has been taken into account. The data of unemployed graduates were drawn from the various regions and on the basis of field of study. The emphasis is also placed on employer requirement on the necessary competences for the acceptance of graduates, and their advantages and disadvantages. The last part mentions tools to support graduate employment. The recommended proposals of measures that should lead to the reduction of the unemployment of university graduates are stated in the conclusion.

**Key words:** Unemployment, labour market, university graduates, The Czech Republic

### **Souhrn**

Tato bakalářská práce se zabývá tématem nezaměstnanosti absolventů vysokých škol. Je zaměřena na oblast celé České republiky a zkoumá vývoj nezaměstnanosti mezi roky 2004 a 2013. K dosažení daného cíle je provedena analýza údajů týkající se počtu vysokých škol, počtu studentů a absolventů, počtu nezaměstnaných absolventů a míry nezaměstnanosti. Dále byla zohledněna doba od absolvování vysoké školy a dosažený stupeň vzdělání. Data o nezaměstnaných absolventech byla čerpána i z jednotlivých regionů a na základě oborové specializace. Důraz je kladen také na požadavky zaměstnavatelů na potřebné kompetence pro přijetí vysokoškolských absolventů a jejich výhody a nevýhody. Poslední část práce zmiňuje nástroje na podporu zaměstnanosti absolventů. V závěru práce byly doporučeny návrhy opatření, které by měly vést ke snížení nezaměstnanosti absolventů vysokých škol.

**Klíčová slova:** Nezaměstnanost, trh práce, absolventi vysokých škol, Česká Republika

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## List of Abbreviations

ILO: International Labour Organization  
CSO: Czech Statistical Office  
LFS: Labour Force Survey  
MLSA: Ministry of Labour and Social Affairs  
SVP: “Středisko vzdělávací politiky”  
MEYS: Ministry of Education Youth and Sports

# 1. Introduction

A labour undoubtedly belongs among the basic attributes of a human. Losing a job is a significant intervention in the life of every person. Losing a job is a significant experience in the life of any person. People who are unemployed can experience existential problems, which in most cases results in the loss of work and social habits, and even result in the deterioration of mental and physical health. Unemployment does not only affects the individual, but also it has the impacts on their surrounding social environment.

It may be generally stated that a person with higher education has better employability. It should be in the interest of both the individual and the society to make education accessible to the widest possible group of people. Higher education represents the highest level attainable in the educational system. Universities produce highly qualified professionals who contribute to the economic development and the whole society.

This is why I chose the topic *analysis of unemployment development of the university graduates in the Czech Republic* for my bachelor thesis. The Thesis is segmented into two parts to better understand the problem of unemployment. The theoretical part has been written on the basis of appropriate literature. The first aspect considered the problems of the labor market, its segmentation and further explanation of the character and function of the market, definition of the labour supply and labour demand, and there is mentioned the importance of balance. Attention is paid to unemployment, the principal topic of this thesis. I define the distribution of population from the economic point-of-view, and method of measuring unemployment. Also the various types of unemployment and the consequences of unemployment are mentioned. The theoretical part is concluded by the explanation of the concept of human capital and the possibility of increasing its value.

The analytic part examines the unemployment development of university graduates in the Czech Republic with the opportunity to point out the factors influencing it.

## **2. Objectives and Methodology**

### **2.1. Objectives**

The aim of this thesis is assessing the unemployment of university graduates in the Czech Republic and the factors that influence them. The main objective of this study is to elevate the unemployment of university graduates in the country. The first part deals with the interpretation of fundamental concepts necessary for an insight into the issue. There will be also analyzed the unemployment of university graduates and the factors that affect the employability of graduates on the labor market. Based on the analysis there will be discussed proposals for solutions to improve their employability.

### **2.2. Methodology**

This thesis was elaborated on the basis of studied literature and relevant Internet sources, particularly of data of the Czech Statistical Office and Ministry of Labour and Social Affairs. Obtained information and data were used to create graphs, tables and the preparation of the text.

## **3. Literature Review**

### **3.1. Labour market**

The labour market is an area that attracts the attention of the whole society and the consequences of its functioning affects all of us.

Traditional and current opinions concur that the labour market is one of the interconnected segments of the market economy. [1]

The labour market is generally defined as any other market. It is a place where supply meets demand. However, this market is distinguished by the fact that the subject of market transaction is labour, which is performed by people. People supplying their labour to the market are unique. They have their own rights, and they are endowed with the will and thought. [2]

The demand side of the market is comprised of firms or companies with demand for a suitable labour force. The subject of harmonization of demand and supply sides is a wage or salary. To sum it up, the labour market is represented by the labour supply, labour demand, and the price of the labour i.e. wage.

As well as other markets, the labour market is characterized by the competition between demand and supply side. This means that the labour is demanded by many firms and offered by many people, and the aim of both sides is the maximization of their profit or benefit. [4]

Both sides are entering the market with certain ideas. Firms usually want to find efficient and reliable employees who will conscientiously fulfill as much as possible tasks at the lowest possible wages. On the contrary, the potential employees want to find a suitable job with a high prestige and salary, the opportunity for professional growth, and other benefits. The labour market's main task is achieving the balance between both sides; otherwise it may cause the unemployment.

On the one hand the labour market is influenced by the demand for labour resulting from the overall economic and social policy. On the other hand, it is influenced by the qualification and professional structure of the labour supply. In order to respond to the current demand for goods and services, the existence of adequate labour supply is very important. Due to the specificity and complexity of this market there are a frequent state interventions and political conflicts. [5]

### **3.1.1. Labour market segmentation**

As early as the 19<sup>th</sup> century economists articulated the imperfections manifesting in the labour market. One of the peculiarities of a labour market is called “labour market segmentation”, i.e. the heterogeneity of the labour market. In other words, there is no single labour market; there is a whole range of markets segmented according to geographical areas, sectors and professions. The labour market can be basically segmented into primary and secondary labour market or into internal and external labour market. [7]

#### **3.1.1.1. Primary and secondary labour market**

The first example of the segmentation of the labour market is a division into a primary and secondary labour market. This segmentation is in accordance with the theory of a dual labour markets, which has been described by authors Doeringer and Piore (1971):

The primary labour market is characterized by higher demand for jobs than job vacancies. For this reason, employers pay attention to personal characteristics (especially to education) that help to identify potential employees with a higher productivity. The primary labour market offers superior and advantageous job opportunities with a high prestige and stable environments. Among other things work in this market offers many advantages such as the possibility of professional growth, further training and education, higher earnings and better working conditions. [7]

On the other hand a secondary labour market is characterized by less attractive jobs with a low prestige, low qualification requirements, low wages and employment uncertainty. The possibility of getting a job in the secondary labour market is higher unlike primary labour market thanks to a high employee fluctuation. The secondary labour market is mainly represented by women, young people, elderly citizens, handicapped people, low-skilled or low-educated people and also by the members of ethnic minorities.

A market distribution into those relatively independent sections with their own requirements for qualification causes certain barriers of the movement of workers. A switching from the secondary market to primary market is not practically possible for most of the people, because the primary market requires higher qualifications. Workers from the secondary market does not have sufficient knowledge required for the performance of the job of the primary labour market, they have different preferences and attitudes. [7]

### **3.1.1.2. Internal and external labour market**

Another example of the segmentation is a division into internal and external labour market. The internal labour market is not a market in the true sense of the word. It represents job opportunities within individual companies. There is a focus on increasing qualification, and the movement without a need of dismissal from employment. The external labour market is a market where companies offer job vacancies, and potential workers their labour and qualifications.

Sometimes the primary market is also called an internal labour market. This is typical for large companies with several organizational units, which allows career advancement of employees. This market is defined according to three criteria:

- it is characterized by the hierarchical structure
  - new employees can get in only through the lowest levels
- work reflects the development of knowledge and skills. [8]

### **3.1.1.2. Formal and informal labour market**

Among other things, the labour market can be divided in other ways, into formal and informal labour markets. This division is based on the condition of whether the market is controlled by the social institutions or not.

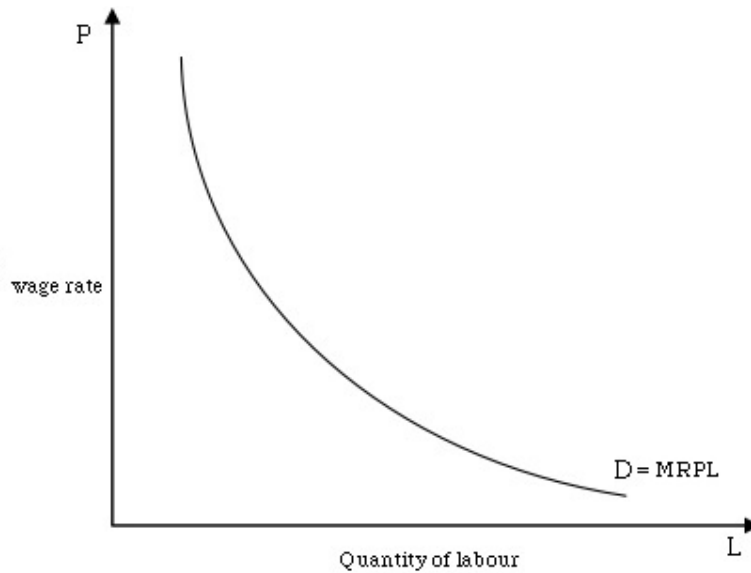
Formal labour markets are the markets of the official jobs controlled by the social institutions used for its regulation. The opposite of the formal market is the informal one, which is not controlled or regulated by any social institution. On the one hand it includes an innocent forms of family or neighbourly assistance, but on the other hand it may include illegal forms of businesses, which may lead to criminal acts. When speaking of the informal market, we mention in particular black market, unreported employment and the employment of foreign workers without work permits. [7]

### **3.1.2. Labour demand**

Labour demand is represented by firms looking for employees. The amount of units of labour that firm is willing to employ is derived from the production function, which describes the relationship between the quantity of inputs used for production and the maximum quantity of output. How many employees a company will demand is derived from the marginal revenue product of labor MRPL (the additional revenue that results from employing an additional unit of labor). A company compares this revenue with marginal factor cost of labour MFCL (the costs associated with an additional unit of labour i.e. a wage rate). It logically follows that a firm will hire employees as long as the revenue is greater than costs  $MRPL > MFCL$ . [2]

As the Figure 1 shows, the labour demand curve is downward sloping. The labour demand curve is identical with the MRPL curve. [5]

**Figure 1: Labour demand curve**



**Source:** Jírová, H., 1999, p. 10., own processing

The main determinants of the labour demand, which are:

- cost of labour (a wage rate)
- demand for goods and services and their prices
- labour productivity which further depends on
  - quality of units of labour (literacy, education, professional training, skills)
  - quality and quantity of cooperating factors of production
  - usage of technical and technological knowledge and their level
- price of other inputs
- expected future sales
- available units of labour on the labour market. [5]



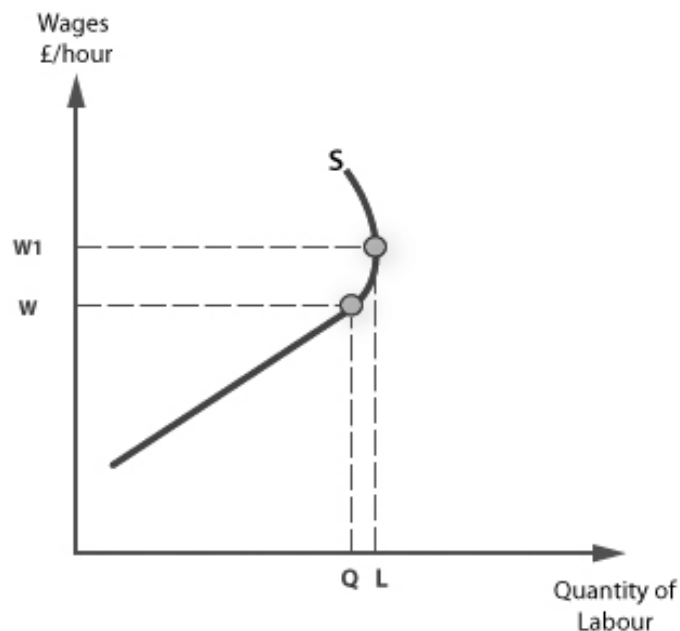
### 3.1.3. Labour supply

Labour supply is represented by humans who offer a certain amount of work on the labour market. How much work is offered on the labour market depends solely on each individual's decision. A person has a choice between two options. Either they can work and receive a wage for which they can buy goods or services and receive benefit from their consumption. Or one can give preference to leisure time and not work, receiving the benefit arising from this leisure time.

People compare a marginal utility of leisure with a marginal utility of goods and services bought for a wage. Wage is both the price of the leisure time, and an income of the individual. [2]

The Figure 2 shows that the curve is backward bending. It is caused by the influence of two wage effects on the labour supply. These are the substitution effect and the income effect.

**Figure 2: Individual labour supply**



**Source:** Economics Online (2016), *The Labour market*, available online

With an increasing wage rate, the leisure time will rise in price, where a person prefers to work. They replace the leisure time by goods that they can buy for that wage. This replacement is described as a substitution effect of increasing wage. It means that the growth of wage motivates a person to buy less free time and offer more work.

As it was mentioned before, the wage is also an income of the individual. Therefore the increasing wage means the increasing income. A person can buy more goods, including the leisure time, i.e. increasing wage motivates a person to buy more leisure time and offer less work. This is called an income effect of increasing wage.

Both of these effects simultaneously act against each other, and therefore the outcome of one is dependent on prevailing other. As Figure 2 shows, the substitution effect predominates up to the point  $W_1$ . In this case of relatively low wages a person offers more work with increasing wages. By contrast, in case of relatively high wages (beyond  $W_1$ ) a person reduces the labour supply. The shape of the individual supply curve depends on person's individual appraisal of the levels, which are considered relatively low and relatively high wage rates, i.e. each person has the breaking point  $W_1$  at a different level of wage rate.

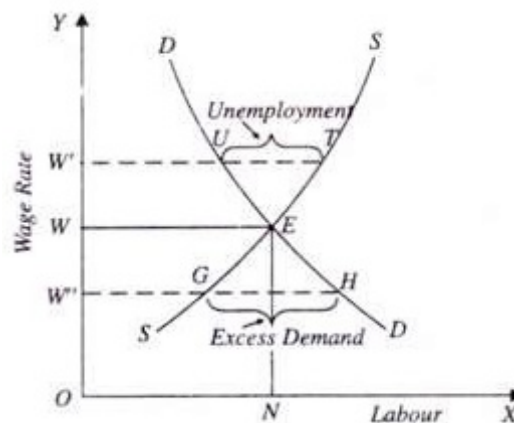
A labour supply and a labour demand are not dependent on the growth of nominal wages, but they are dependent on the growth of real wages. This is explained by the fact that people would offer the same amount of labour as previously when the wage rate and the price of goods increase at the same rate. [2] In other words, people could not buy for their wages more goods than before, and therefore they would not react to such a growth. The same applies for labour demand of companies. If prices and wages increase simultaneously, the labour demand would remain unchanged. Only if prices would grow faster than wages (in case of decline in real wages) the companies would hire more people.

Aside from the real wage the other determinants of labour supply are personal assets, outside-employment income including government transfers, demographic trends (particularly the age structure and the amount of the population), the rate of the economically active population, the interest rate, and the social and cultural customs. [5]

### 3.1.4. Labour market equilibrium

Apart from the individual perspective of labour demand and supply, a labour market can be viewed from the macroeconomic point of view. It can be taken as a market in general. The labour market is characterized by market demand of labour and market supply of labour. Market demand of labour is demand of all firms in the economy (a sum of all individual labour demands), and market supply of labour is supply of all humans in the economy (a sum of all individual labour supplies). [4]

**Figure 3: Labour market**



**Source:** Your Article Library (2015), *Wage Determination under Perfect Competition in the Labour Market*, available online

The Figure 3 shows the labour market where the horizontal axis X represents the amount of work in hours, and the vertical axis Y represents the real wage per hour (average real wage calculated as an average of different types of professions). The labour market equilibrium occurs at the point E where the quantity of labour demand is equivalent to the quantity of labour supply. The wage at this point is called equilibrium wage. If the wage is higher or lower than the equilibrium wage, the labour market is in disequilibrium. In the case of excess demand (labour shortage) companies could not find such an amount of labour they want. In the opposite case supply excess (labour surplus) arise, which is called unemployment.

### **3.1.5. Imperfections of the labour market**

Most economists admit that the labour market is affected by a lot of factors, which can be generally considered as personal, social, cultural, political and last but not least economic.

Besides the globalization and the economic situation in the country, the labour market is influenced by technological development. Ongoing technological development may result in the job reduction, but also in the job creation. These new jobs require certain qualifications for their performance.

The asymmetry of the market may be included in these factors. This asymmetry manifests itself as less possibilities of the labour supply side than the labour demand side have. It is caused by the specific nature of the labour supply, which is not primarily regulated by the expected sales as in the case of classic market. It is primarily dependent on the demographic processes and rules of human reproduction that affects the size of the labour supply. [7]

The asymmetry is further reflected in the availability of information that the participants of the labour market have. The demand side has usually more information than the supply side. Furthermore, the demand side has the opportunity to respond to the changing conditions on the production market, i.e. it can change the size of the demand for labour. Individuals offering their labour do not have this opportunity. Their supply remains relatively constant, because each individual is dependent on the means of subsistence that one can get by the offering labour on the labour market. [7] One of the peculiarities of the labour force is also the fact that the material and cultural need within the subsistence level of the individual are usually constant, and it is not possible to substantially reduce.

The already mentioned labour market segmentation highly affects the labour force. A particular worker can perform only certain occupations. This is limited by the age, physical competence, professional experiences, and largely by the education. Each person has different preferences regarding their interest in education, goals and lifestyle.

It follows that possibilities of the labour force are limited into two activities:

- geographical mobility, i.e. moving for work or commuting to work
- professional mobility or retraining, which means to adapt to the structure of labour demand in the region. [7].

## **3.2. Unemployment**

Unemployment is one of the key topics in today's modern society. It is a natural phenomenon in a market economy, when a certain amount of the population is unable to find paid employment.

Unemployment is generally defined as a natural socio-economic phenomenon associated with a free choice of individuals and with an existence of the labour market, requiring an appropriate movement of workers. It represents the consequence and the manifestation of the disequilibrium on the labour market between labour supply and labour demand. [7]

Although a certain natural level of unemployment is an integral attribute for the functioning of the labour market, for most of the people it represents unpleasant experiences that they would prefer to avoid. [2]

Work for a human occupies an irreplaceable position. Work is not only for a production of goods or services, but also it can give a sense of fulfillment and social utility to the individual. A human with no job lives with economic insecurity and loses the opportunity of gaining and maintaining work habits and skills. [1]

### **3.2.1. Economic status of the population**

The basic indicator of economic activity of the population is economic status, which allows classification of a population into the economically active population and the economically inactive population. The economically active population is further classified into employed persons and unemployed persons. For example Brožová (2003) mentions this division:

- A person is employed when he / she performs any paid employment or self-employment. As well as those who have a job, but are not working because of illness, vacation or strike, are considered employed persons.

- A person is unemployed when he / she is able to work, able to start work within a certain period, do not have paid employment or self-employment and actively look for the work. The unemployed group also includes those who are waiting for a call to return back to work, or waiting to occupy a new job position.
- The economically inactive population includes other people who do not belong to either to one of these groups of the economically active population. These include students, retired people, housewives, women on maternity leave, persons unable to work, and people who do not look for a job.

### **3.2.2. Unemployment rate and measurement**

The monitoring and the influencing of the unemployment rate belong to principal objectives of the economic policy. [8]

The definition of unemployment often varies between different countries. Therefore the International Labour Organization (ILO) has introduced a unified methodology for all EU member states, which provides internationally comparable data. According to the ILO definition, the unemployed person is a person who:

- Have no job in the reference period
- Do not work
- Actively seeking employment and is able to start work within two weeks [12]

General unemployment is calculated as difference between economically active population and the employed population. It follows that the official unemployment rate is the number of people unemployed as a percentage of the labour force. [8]

The unemployment rate is calculated by the formula:

$$u = \frac{U}{L+U} \times 100,$$

where  $u$  is the unemployment rate in percentage,

$U$  is the number of unemployed persons and

$L$  is the number of employed persons. [1]

### **3.2.3. Measurement of unemployment in the Czech Republic**

The Czech Republic uses two unemployment rates at present time, i.e. the general unemployment rate and the proportion of unemployed persons.

General unemployment rate is defined in accordance with the requirements of the ILO as the percentage of the total labor force that is unemployed. For the estimation of the unemployment in the Czech Republic, the Czech Statistical Office (CSO) uses the Labour Force Survey (LFS).

Since the January 1st 2013, the Ministry of Labour and Social Affairs (MLSA) has introduced a new indicator of the unemployment in the Czech Republic called “The proportion of unemployed persons”. This indicator has replaced the registered unemployment rate. The registered rate measures unemployed people only in comparison with economically active persons. A new indicator expresses the percentage of all inhabitants aged 15 to 64 years old that are unemployed. This easier interpreted indicator has removed inconsistencies in the figures with the general unemployment rate published by the CSO. [13]

In the context of registered unemployment there is considered hidden labour force and hidden unemployment. Those people who are registered at the employment office but do not want to work are included, while those people who cannot find employment and have not attending the employment office for help are not included. A relatively large part usually consists of married women and young people.

In practice, besides the general unemployment rate there are many other indicators termed as specific rates, which provides more detailed data of changes in the economy. The specific rates of unemployment describe a certain social, age or other groups of population - for example the unemployment according to achieved education or gender.



### **3.2.3.1. Under-employment**

The lack of official unemployment rate does not consider so-called under-employment. This category includes employees who are forced to work fewer hours than they would like to or do not fully use their skills and qualifications. Therefore, the declining unemployment rate may be just a false indication of an improving situation on the labor market. [8]

This type represents one of the ways of solving the mass unemployment or the unemployment of the young people. Most often there are introduced part-time jobs or job sharing, where one job position is shared between two people. For employers this solution means reduced labour costs (exclusion from the social insurance and fringe benefits) and greater labour flexibility. [7]

### **3.2.4. Types of unemployment**

Unemployment can be categorized into three basic types according to the causes that gave rise to it. These are frictional, a structural or a cyclic unemployment.

#### **3.2.4.1. Frictional unemployment**

The frictional unemployment in the labour market is altogether common. It arises as a result of a constant movement of people between certain areas, workplaces, or during the different stages of the lifecycle. These movements are motivated by the personal or economical needs, where the period of the unemployment of people looking for job is usually short-term. This group includes those people who switchover from one job to another, people looking for a job after graduation or those who are moving to another city. However, changes in the frictional unemployment depend on the time spent with a searching for the employment that an unemployed person is willing to accept. The main factors are the structure of the labour market, a support system of the welfare state during the unemployment, but also the awareness of subjects on the demand and supply side. [7]

### **3.2.4.2. Structural unemployment**

Besides common changes of employment some workers lose the employment due to the imbalance between the qualification structures of labour supply and demand. This type of unemployment is called the structural unemployment.

Such workers are unemployed due to the disintegration of inefficient businesses, the elimination of old industries, replacing the human labour due to the technological development or disposal of over-employment. The qualification of certain people is not demanded on the labour market and by the contrast there is a lack of labour supply of people with required qualifications. One of the causes of structural unemployment is the movement of jobs between industries, where the structure of the labour force has to be adjusted (to some extent it overlaps with the frictional unemployment). For that reason there may occur subsequent barriers associated with the movement of the labour force, such as retraining. [7]

The structural changes constantly take place in the economy and the suppression of these changes would lead to a lagging economy. Therefore the frictional and structural unemployment represent the natural rate of unemployment in the economy.

### **3.2.4.3. Cyclical and seasonal unemployment**

Cyclical unemployment is related to overall recession, which affects the economy of the country in general. During this period the demand for goods and services is insufficient, therefore the labour demand is declining and companies are forced to dismiss the employees. On the contrary the rate of the cyclical unemployment falls during the economic growth.

One can talk about the demand-deficit unemployment, because this unemployment arises due to the lack of overall labour demand compared to the labour supply. [7]

If the cyclical unemployment is periodical and associated with the natural seasons and climate changes, the unemployment is termed as a seasonal unemployment. The most affected sectors are civil engineering, the agriculture and tourism.

## **3.2.5. Consequences of unemployment**

### **3.2.5.1. Economic consequences**

The unemployment means the loss of the macroeconomic production. If the economy is not in full employment, an output gap arises between actual and potential output. The size of the loss is directly proportional to the size of the output gap. [2]

People, who would like to work and due to the lack of employment opportunities cannot be involved in the production process, cannot contribute to higher levels of macroeconomic production. That could only happen in the case of full employment.

Another effect of unemployment for the government is loss of tax revenue. People who do not work cannot pay taxes on their salaries. Consequently, firms with lower production during the higher unemployment pay lower taxes. Thus, the government loses tax revenues while spending more on funding unemployment benefits. [2]

### **3.2.5.2. Social consequences**

People can lose qualifications with the long-term unemployment. This leads to so-called dequalification. The economy in this case misses valuable human capital. [2]

The system of relatively high social support in the combination with a low level of wages causes social parasitism. [2] This applies to the group of people with low or no qualification who can receive the long-term social benefits without working. According to their expectations the standard of living will rise only slightly when entering the labour process. Therefore it is not profitable for them to change the leisure time for a minimum wage. The government pays over a long period for the set system of social support.

### **3.3. Human capital**

A human capital is the economic term for describing the knowledge and skills of workers. In comparison with other types of capital this one is tied to a human. [2]

A person as an individual has some natural ability and talent that can improve by further development and education. This improvement is mainly affected by the willingness of the person and their family upbringing, all levels of education, and also experiences gained from practice. All of these afore mentioned factors develop personal qualities including the method of communication, self-discipline, responsibility and persistence.

The theory of human capital arises in the first half of the '60s. The theory is associated with Theodore W. Schultz, Gary S. Becker and Jacob Mincer. It is an economically definable component of human resources, which includes not only the constituents measurable by econometric methods, but also the components, which cannot be measurable, such as the natural ability, communication skills, and all psychological aspects of the personality profile of an individual. [6]

#### **3.3.1. Education as an investment**

The education is perceived as a basic element of human capital. Its process is referred to the process of investment in human capabilities. These investments are permanent and evaluate resources invested into the study and practice. It is not only about the monetary amounts spent on studies (tuition fees, study materials and tools), but mainly about the lost wages that the individual can acquire in the working process while the leisure time is devoted into studies and education. The investment into education is evaluated with the time by obtaining better job opportunities, higher salary and better social positions. [2]

To succeed in the labour market can be really difficult. In particular people sufficiently qualified, flexible and with the specialization can succeed. Each individual who invests in their professional training can expect higher remuneration for their work. In

the case of education the achieved level is important, but if the education is not maintained and developed, it loses in value. For that reason it is important to be able to educate throughout the whole life. Work experiences from other professions and fields are also considerable beneficial for the success on the labour market.

The effect of education may be evaluated from several perspectives. Besides looking at education as a major benefit for individuals, other ones can be mentioned:

- The economic contribution is that people who are highly educated usually have higher income. They are more economically active and generally bring higher profit for enterprises.
- In terms of enterprise, education and qualifications is transformed into the economic potential. Higher education of employees usually indicates higher profits for the company and the productivity of qualification-demanding work increases. The employer may reduce the cost of employment by hiring fewer employees with higher qualification. The company itself has a role in the educational process. It may arrange training for their employees and contribute to the education of them.
- Non-economic educational benefits are benefits for both the individual and the whole society. Thanks to predominantly intellectual job content, higher educated people live longer and they are less likely to get sick. They commit less criminal offenses and their children grow up in the more favourable conditions. This learning also improves language skills and thus expands the possibilities for travelling and learning. For these individuals the spending leisure time tends to be more varied.
- The whole-of-society effect, benefiting from the growth of the quality and quantity of human capital. There is a direct correlation between the level of education and economic growth. More educated people, due to the higher income, invest more and stimulate economic growth. [6]

### **3.3.2. University graduates on the labour market**

It is obvious that higher education brings undoubted advantage to the people on the labour market. University graduates find jobs much easier and their unemployment rate is significantly lower than the unemployment rate of the people with less education. This fact applies not only in the Czech Republic but also in any other economically developed country.

The university diploma indicates to employer that its holder will likely have higher skills. The level of education corresponds to innate ability of the person. It shows the level of skills and knowledge, capability of communication and thinking, adaptability, willingness to learn, confidence and motivation. The holders of diplomas has proven these abilities by completing their studies. It presumes that they will bring them into the working process. [2]

It is clear that the accumulation of factors such as high education, young age, knowledge of language, computing and assertiveness creates a set of factors that brings success. [6]

However university graduates applying for their first job are disadvantaged on the labour market by the lack of practical experience and basic work habits. If the graduate do not gain these habits, it may lead to negative consequences for both the individual and for the society. [1] With increasing duration of unemployment, the graduates lose technical and theoretical knowledge and skills gained from studying, but also the confidence and motivation in search of jobs. [8]

It is possible to define several factors which affect the status of university graduates on the labour market. These include:

- Default situation - primarily a percentage of university graduates in the population of productive age
- Change of trend – in this situation the rapidly growing proportion of young people entering higher education as well as the growing proportion of graduates
- Development on the labour market over the long term – really important is the structure of demand for labour and the demand for university graduates
- Short-term developments on the labour market – a significant decrease in the overall labour demand
- Increased competition on the labour market – work represents not only the growing competition between the university graduates and graduates already settled on the labour market, but also the competition by the quality and reputation of universities. [14]

## **4. Analytical part**

This part of the thesis will deal with the analysis of the collected data relating to the unemployment development of the university graduates in the Czech Republic. At first it is necessary to put this issue into the context of the situation of the labour market in the Czech Republic. The unemployment of university graduates depends on the current situation in the labour market.

### **4.1. Unemployment development in the Czech Republic**

Until 1990 there is practically no unemployment in the Czech Republic. Growth in the number of unemployed began with the economic reform in 1989 and with the overall change in the economic structure.

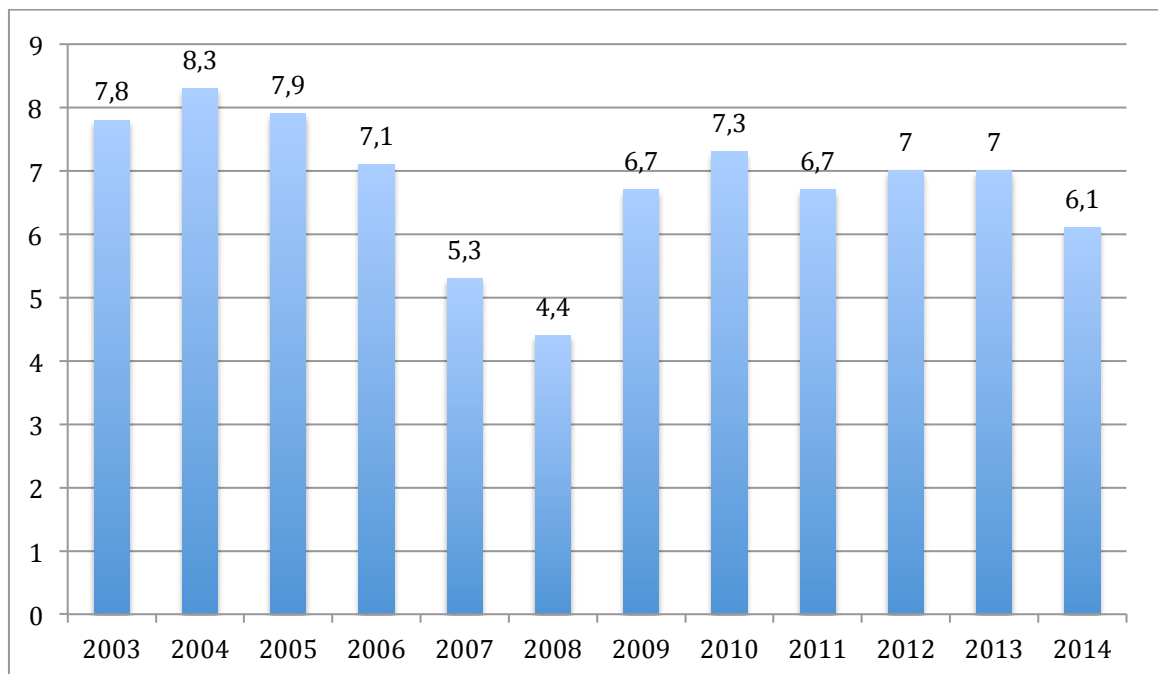
The increasing number of unemployed caused a need for the establishment of Labour Offices. The first one was established in 1991 in Kladno, and at the end of this year had registered over 221 thousand unemployed people, which was 4,1%. In subsequent years, the average annual unemployment rate ranged around 3%. A significant part of unemployed people represents those of low skills and limited labour mobility. Higher unemployment rates were mainly in the agricultural and industrial districts. Also, people such as graduates without experiences, women with children, or other groups of people without qualifications represented the most vulnerable group. [18]

Up until 1997 the unemployment rate grew only slightly. At the end of this year it has substantially increased, and the average annual rate reached a value of 4,3%. In late 1998 there was a significant growth up to 7,5%. In these years, the consequences of the economic transformation was fully felt and the unemployment rate increased by 4,8 percentage points in two years. Unemployment grew until 2004 when reached 10,2%. [18]



In 2004 the Czech Republic entered the European Union and there has been a turnaround in the overall unemployment rate (see chart). A recovery period and the growth of the economy started. The unemployment rate fell from 8,3% in 2004 to 4,4% in 2008, which was the minimum in this period. The global economic crisis began from the following year, and a significant decline in vacancies occurred. Also the number of job seekers and the unemployment rate had increased. The increase between 2008 and 2009 was 2,3 percentage points. Since that time the unemployment rate remained stable at around 7%.

**Figure 4: Average unemployment rate in the Czech Republic (in percentage)**

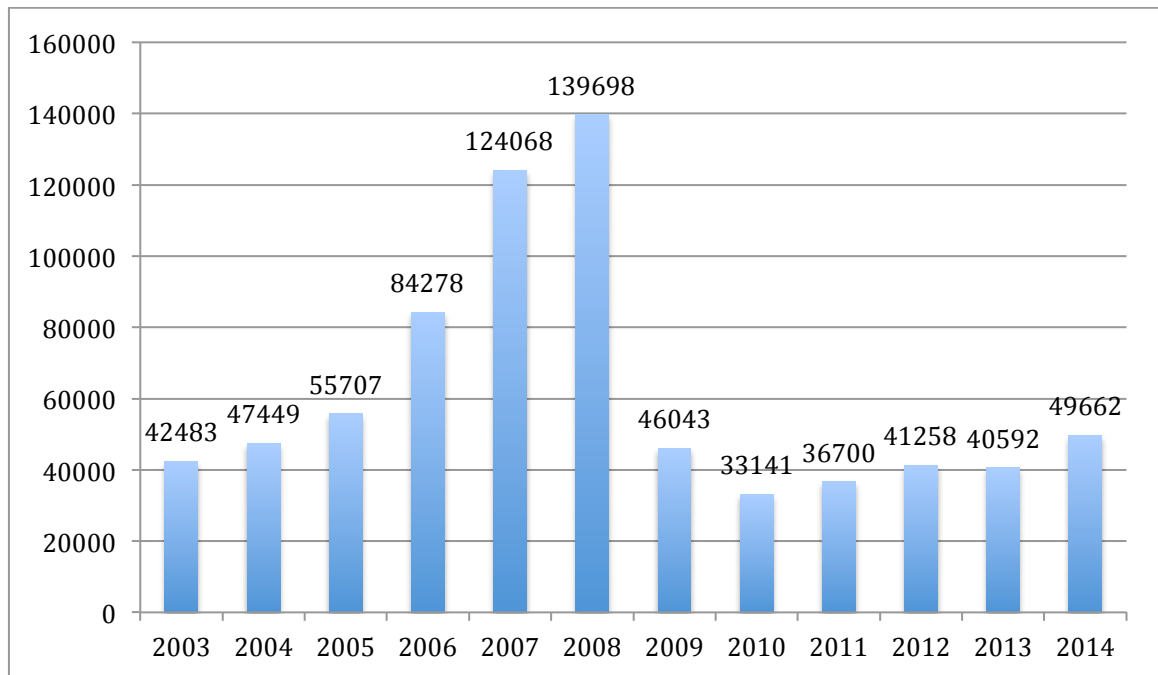


**Source:** CSO, own processing

It is possible to say that graduates from 2009 and 2010 entered the labour market in a dramatically worsened situation. Their unfavorable situation can be deduced from the following graph of the number of vacancies.

The dramatic decline in the number of vacancies in the economy occurred between 2008 and 2009. The decline was more than triple. The absorption capacity of the labour market and the demand for new employees (including the graduates) had radically reduced. The lowest number of vacancies on the labour market has been recorded in 2010.

**Figure 5: Job vacancies on the Czech labour market**



**Source:** MLSA, own processing

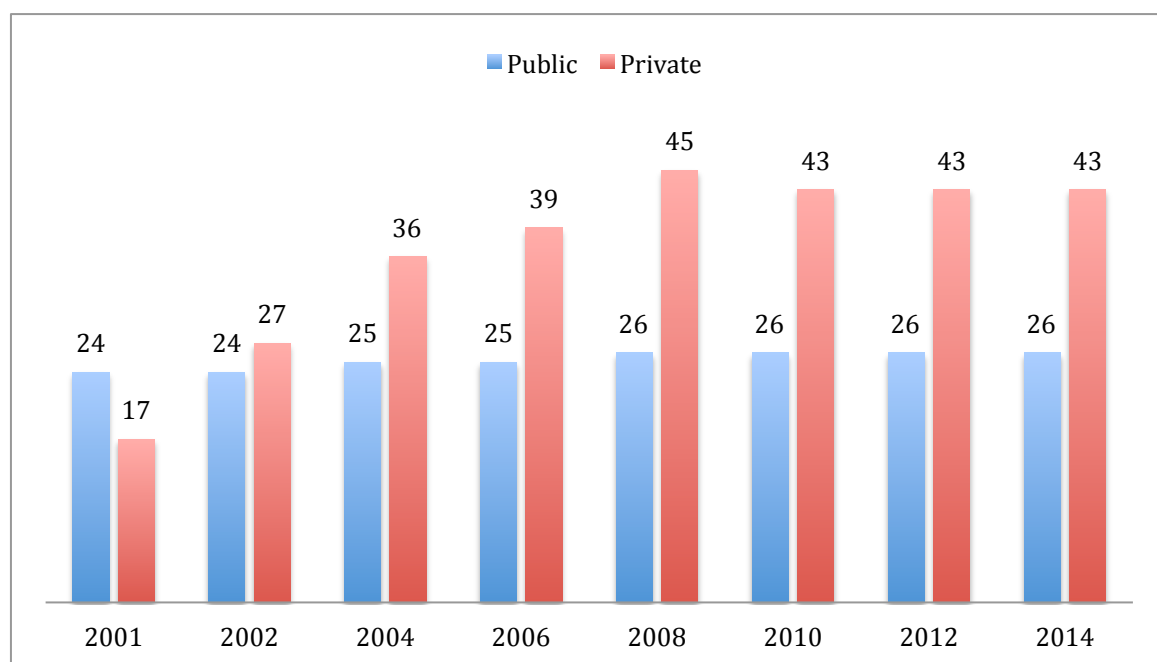
This issue can be illustrated even from a different angle - the evolution of the number of job seekers per vacancy. The negative impact of the economic recession is the number of applicants per vacancy. In the period of economic prosperity, i.e. in the first half of 2008, it was much easier to find a job in comparison with the following period. During the first half of 2008 there has been two to three job seekers per one vacancy, in December 2008 four job seekers per vacancy, and in January 2010 18 job seekers. Together with the values from 2010/2011, these were the highest. In December 2013 there has been seventeen job seekers per vacancy. [19]

## 4.2. Higher education institutions in the Czech Republic

The study opportunities in the Czech Republic has increased significantly. At the turn of the century, many private schools were established and since 2001 their number have grown.

As the chart shows, since 2001 the number of public universities has not changed a lot. It remains constant at 26. On the contrary, the private universities recorded a substantial increase. Their number systematically grew until 2008, when the largest growth by 28 institutions was recorded. Since 2010 the number of universities has stabilised. Nowadays, the Czech Republic provides the total number of 71 higher education institutions that may award academic degrees, specifically 43 private, 26 public and 2 state. Compared to the population, the Czech Republic with these numbers does not vary in comparison with other countries of the European Union.

**Figure 6: Development of Czech universities**



Source: CSO, own processing

Thanks to the increasing number of private universities, the percentage of students began to increase gradually, both Czech and foreign. Also the branches of studies have significantly expanded. [20]

### **4.3. University graduates in the Czech Republic**

In recent years, the unemployment of university graduates has become the central theme of the employment policy. The Czech Republic belongs to the group of countries where the number of university graduates has rapidly grown over the last years. It is particularly caused by the strong expansion of higher education.

The data about the total number of university students and graduates come from the sources of the Ministry of Education, Youth and Sports. This information is based on the database called *The Union Students' Register*. The university graduate is a person who has successfully completed the studies no more than two years ago.

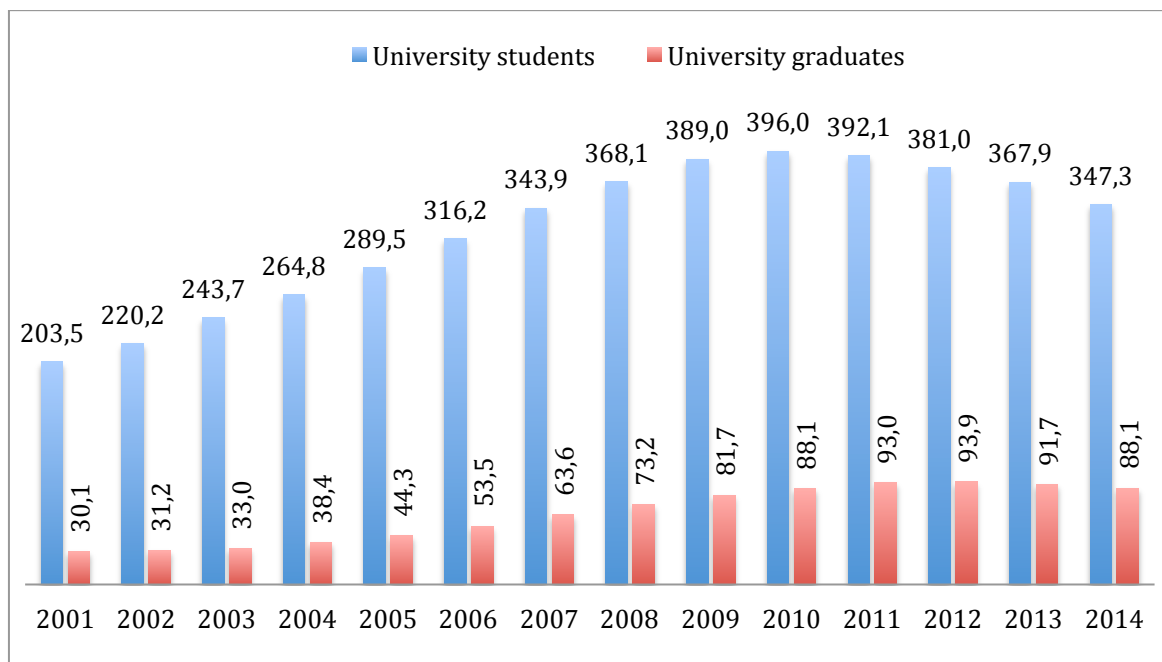
The numbers of university graduates relates to the date on which the data are collected. They are collected every year in April and September. The selection of the period, which determines the interval preceding the collection of data in which the student graduated, is also important. The date corresponds to the date of successful passing of the final state examination. The number of still studying graduates means the number of graduates who have graduated within the given period and then started further studies at university and have been enrolled in the given month and year. [21]

It should be added that since 2001 the structure of university education has changed and has been divided into three stages. Instead of 4-6 year study at the university, well-known bachelor and master study programmes were introduced. Furthermore, there are some master programmes that could not be split up. For example, medicine, veterinary medicine or architecture is included among these programmes. After the successful completion of master studies, graduates can continue with the doctoral program, which lasts three or four years. [22]

### 4.3.1 Development of the number of students and graduates

During the last years, fundamental changes in the number of people interested in education in the Czech Republic occurred. At the same time the number of graduates increased. This dynamic development is captured in the following chart.

**Figure 7: University students and graduates**



**Source:** CSO, own processing

The chart shows the number of Czech university students from 2001 until 2014. Their number increased until 2010, when the highest number of overall students was recorded. 203,5 thousand people studied at Czech universities in 2001, 396 thousands in 2010. Since 2010 there was a slight decrease of students, until 2014 the number declined by 50 thousands. In 2014 there were 347,3 thousands students. The number of students has grown by 71% in comparison with 2001.

This slight decline in recent years does not mean reducing interest in studying at universities. Mainly the demographic development is considered as the reason.

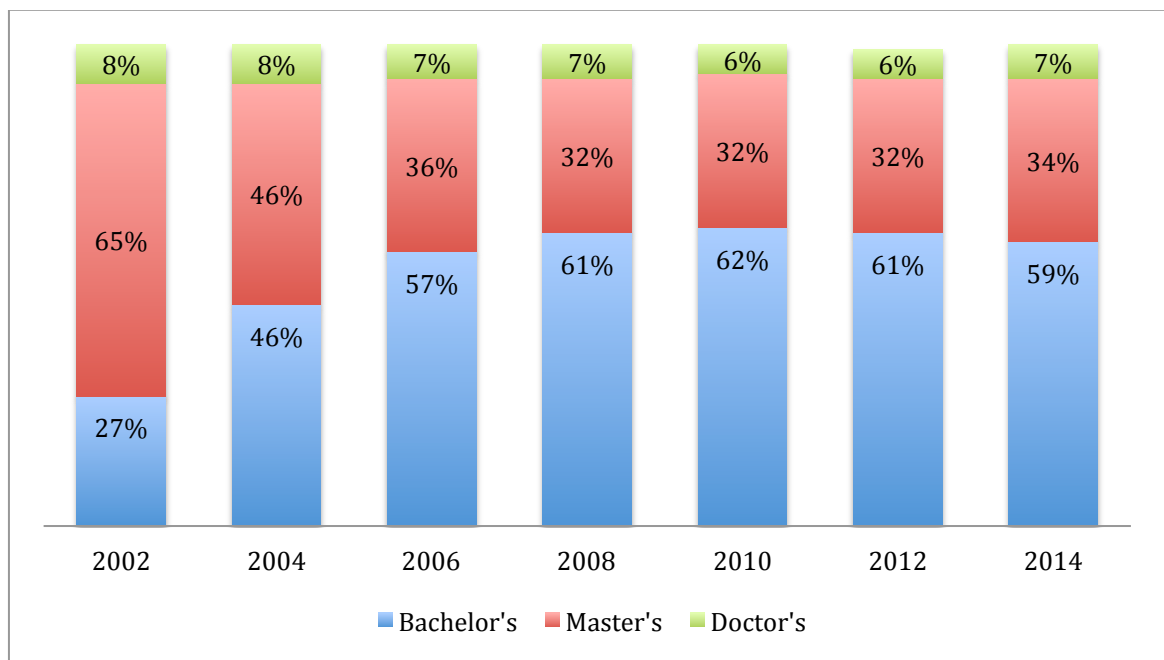
As the number of students increases, so does the number of university graduates. During the period from 2001 until 2014, the number has increased from 30,1 thousand to

88,1 thousand. The number of successful graduates has almost tripled. It is evident that graduates on the labour market have to face increasing competition from their peers.

#### 4.3.1.1. The number of students in terms of degrees of education

To some extent, replacing the 4-6 year study in 2001, which did not distinguish bachelor and master programs, caused the increase of graduates. A large part of bachelor graduates thus continues studying the master's degree. Subsequently, the following chart, shows the development in the structure of students by degree of education and how the changes took effect.

**Figure 8: Structure of students by the type of study programme**



**Source:** CSO, own processing

The graph shows the percentage representation of students of individual study programs. In 2002, Master degree students represented 65% of the student population, which was the largest segment. As time progresses, their share has stabilized at 32%. In 2014 their share grew to 34%. The bachelor students started to dominate. In 2014 representing 59%. The share of doctoral students since 2002 until 2014 remained relatively stable. Their proportion ranges between 6 to 8 percent.

## **4.4. Defining the concept of unemployed graduate**

The unemployment of graduates in the period from 1999 to 2004 was complicated by different approaches of individual labour offices to the definition of the graduate. Originally they used the definition according to Labour Code, which marked an unemployed graduate as a job seeker whose total period of employment has not reached two years. This did not concern maternity leave, sick leave, military service etc. There was a problem with this definition, because the unemployed graduates were all graduates who had not worked more than two years. Labour offices gradually switched to the definition according to the Employment Act, which defines unemployed graduate as job seeker registered at the labour office and whose period since graduation did not exceed two years. [23]

At the present time the Employment Act does not define the term graduate - job seeker, but they are still monitored by the Ministry of Labour and Social Affairs and by the labour offices, and the numbers of unemployed graduates, who successfully completed studies no more than two years ago, are still listed. Also there has been a change in the monitoring of long-term unemployed graduates. The graduate is long-term unemployed as far as he or she is registered for more than five months. [23]

The collection of data regarding unemployed graduates in the Czech Republic are in charges of labour offices, which were tasked with it by the Ministry of Education, Youth and Sports. This data is used not only for research and management of individual universities, but also for the orientation of choosing study programmes at the university. [11] This data as well as data of total number of graduates and university students are processed twice a year, in April and September. The September values are always a bit higher, since the number of new graduates entering the labour market at this time increases by those who successfully graduated in June. In summary, the unemployed graduate is a graduate registered at the labour office who has successfully graduated from the university no more than two years ago and has not been employed in the given period.

#### **4.4.1. Unemployment rate of the Czech university graduates**

The unemployment rate is an important indicator with both social and economic dimensions. Rising unemployment results in a loss of income for individuals, increased pressure with respect to government spending on social benefits and a reduction in tax revenue. From the economic perspective, unemployment may be viewed as unused labour capacity. [24]

The unemployment rate of university graduates reflects the percentage of graduates who have been unable to find employment on the labour market and who registered themselves at a labour office. To express the unemployment of graduates, there is used the indicator of the graduate unemployment rate, which is calculated as the proportion of the number of unemployed graduates to the difference between the total number of graduates and the number of graduates continuing with the studies. [21]

The significant factor on the graduate unemployment rate is the diversity of job opportunities in the various regional markets. Therefore, it is not relevant to compare the university, for example, in Prague and Ostrava, according to the unemployment rate of their graduates. To mitigate the impact of the problematic districts, there has been introduced an indicator called the standardized unemployment rate, which takes into account the factor of in which region a graduate of a particular university looks for a job and how relatively difficult their situation on the labour market is. Based on the monthly data on the unemployment rate, there was introduced a coefficient of the “difficulty” of labour market in each district. The unemployment rate of the graduates has been adjusted by multiplying the inverse number of the coefficient depending on the district, where the graduate has been registered as unemployed. They are registered according to their place of permanent residence. The standardized unemployment rate has been obtained as the proportion of the adjusted number of unemployed and the relevant number of graduates. [21]



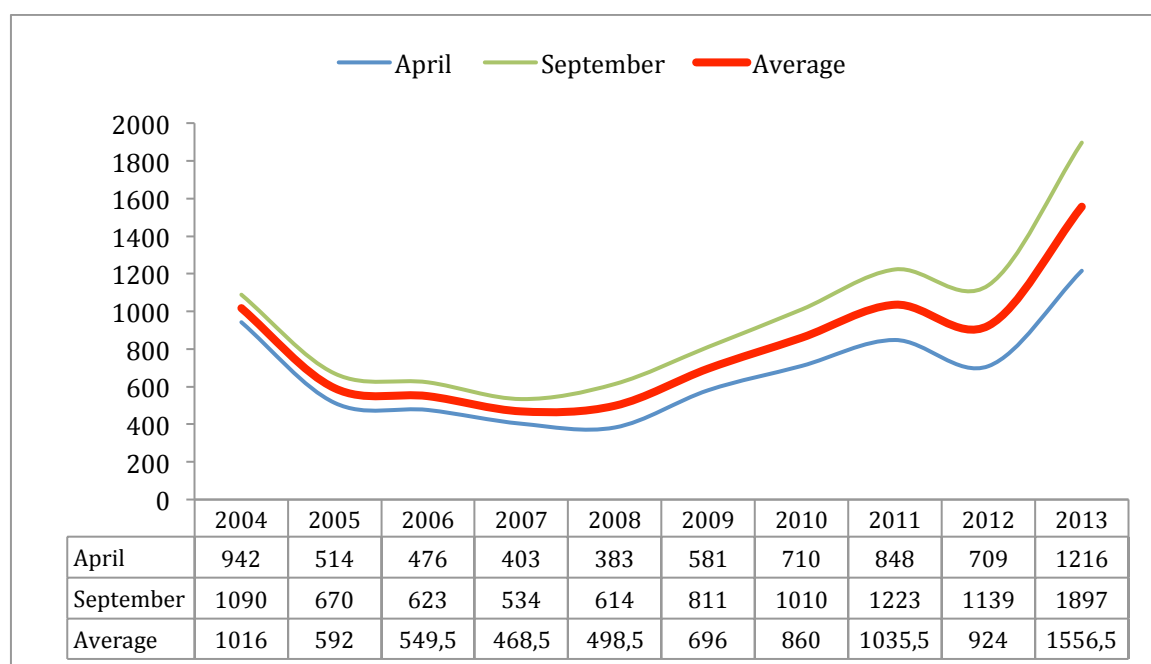
## 4.5. Unemployment development of the university graduates in the Czech Republic between 2004-2013

For the purposes of accessing the long-term unemployment of university graduates, the period has been defined from 2002 to 2013. As already mentioned, the data on unemployed graduates are recorded every April and September. In the following analysis, there has been used the average of both values for each year, and the standardised unemployment rate. The data used in this analysis relates to graduates who graduated from the university in the range of 1-2 years before the given year.

### 4.5.1. Number of unemployed university graduates between 2004 and 2013

The following chart shows the number of unemployed graduates. September values are always higher than values from April thanks to the high number of new graduates. The average calculated from both values represents the situation in a given period the most accurately.

**Figure 9: Number of unemployed university graduates from 2004 until 2013**



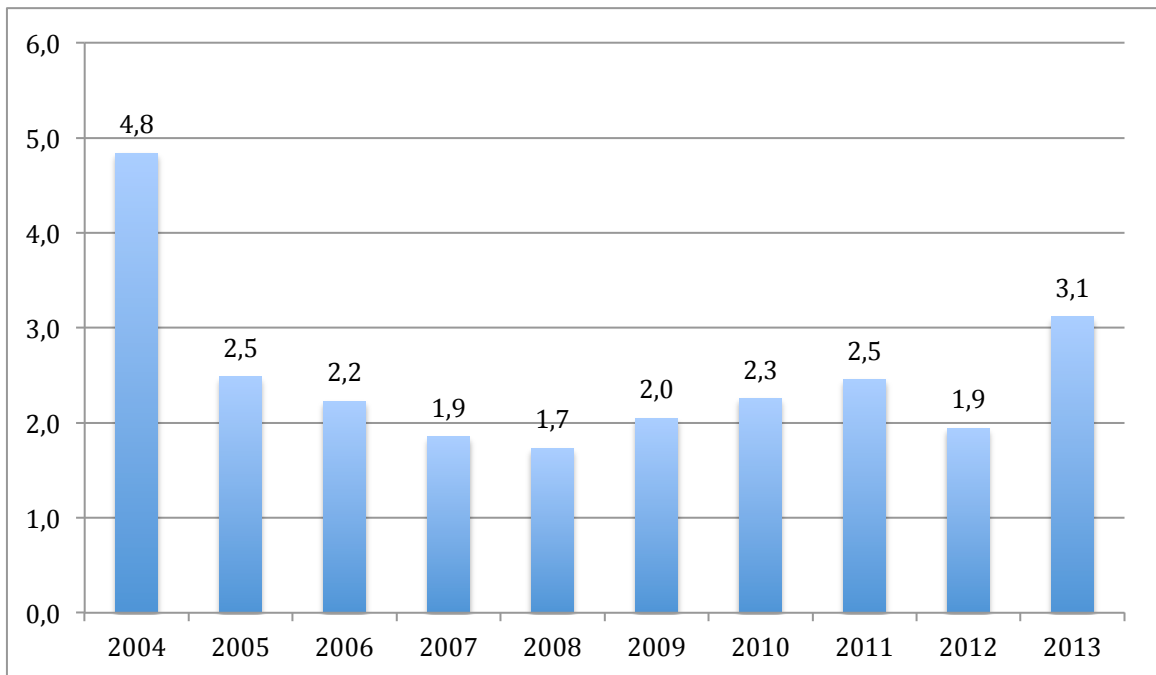
Source: SVP, own processing

The chart shows that the number of unemployed graduates and their absorption into the labour market still has been largely determined during the economic crisis and its reverberation. In the period of the economic prosperity until 2008, the situation on the labour market is relatively favorable for graduates. Due to the economic crisis, which has resulted in the growing unemployment in the Czech Republic, and due to the increasing number of graduates entering the labour market, this improving trend has changed during the following years. Since 2008, the number of unemployed university graduates significantly increased. The situation has improved in the period from September 2011 to April 2012. At the turn of 2012 and 2013, the situation is again worsening. The situation on the labour market is constantly changing due to the unfavorable economic situation, global economic recession, restructuring of the market and other factors. the period for graduates entering the labour market is very uncertain.

The significant increase in the number of new unemployed graduates applying for jobs has been explained by the fact that during the times of economic crisis, the university graduates were among the groups of people who are the most vulnerable to the unemployment. For comparison, between April 2008 and April 2011 the total number of unemployed people in the Czech Republic has increased by the 63% [11]. Whereas the unemployment of university graduates between these years has increased by 107%.

## 4.5.2. Unemployment rate of university graduates between 2004 and 2013

Figure 10: The unemployment rate of university graduates from 2004 to 2013



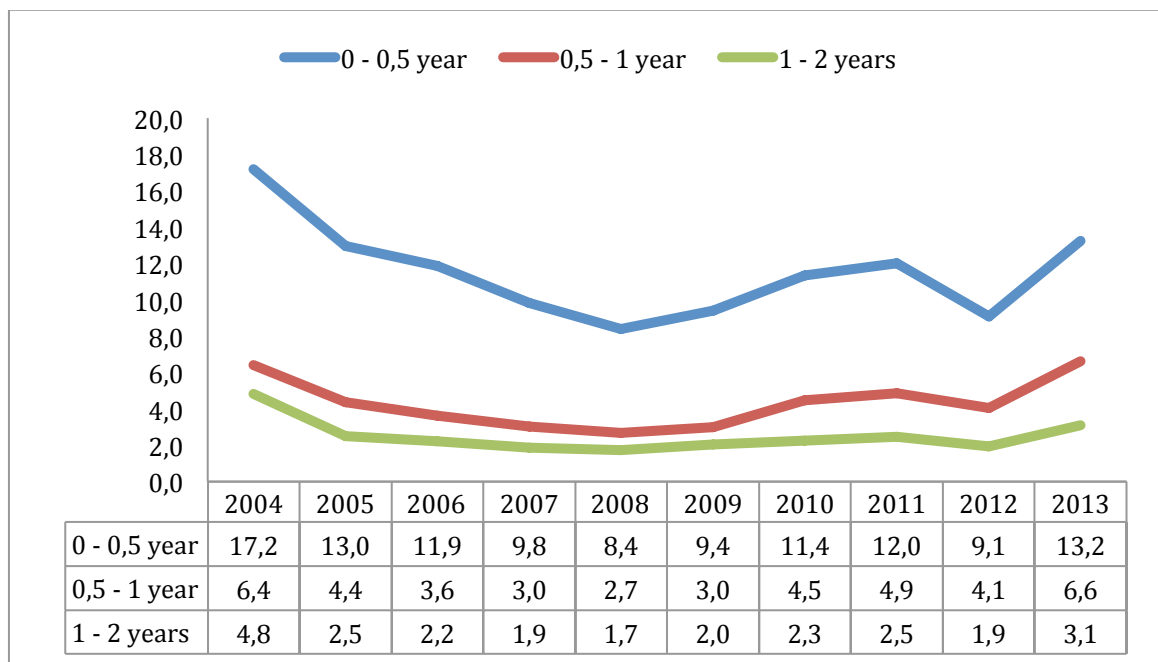
Source: SVP, own processing

The unemployment rate of university graduates declined until 2008, reaching its minimal value of 1,7. As previously mentioned, the economic crisis had an impact on unemployment. Since 2008 the unemployment rate had an upward trend, in 2013 peaking 3,1%.

### 4.5.3. The unemployment rate according to the time elapsed since obtaining the diploma

The university graduates may be divided into three groups according to the period before which they have graduated. Specifically, the period of 0-0,5 year, 0,5-1 year and 1-2 years.

**Figure 11: Unemployment rate by the time since graduation**



**Source:** SVP, own processing

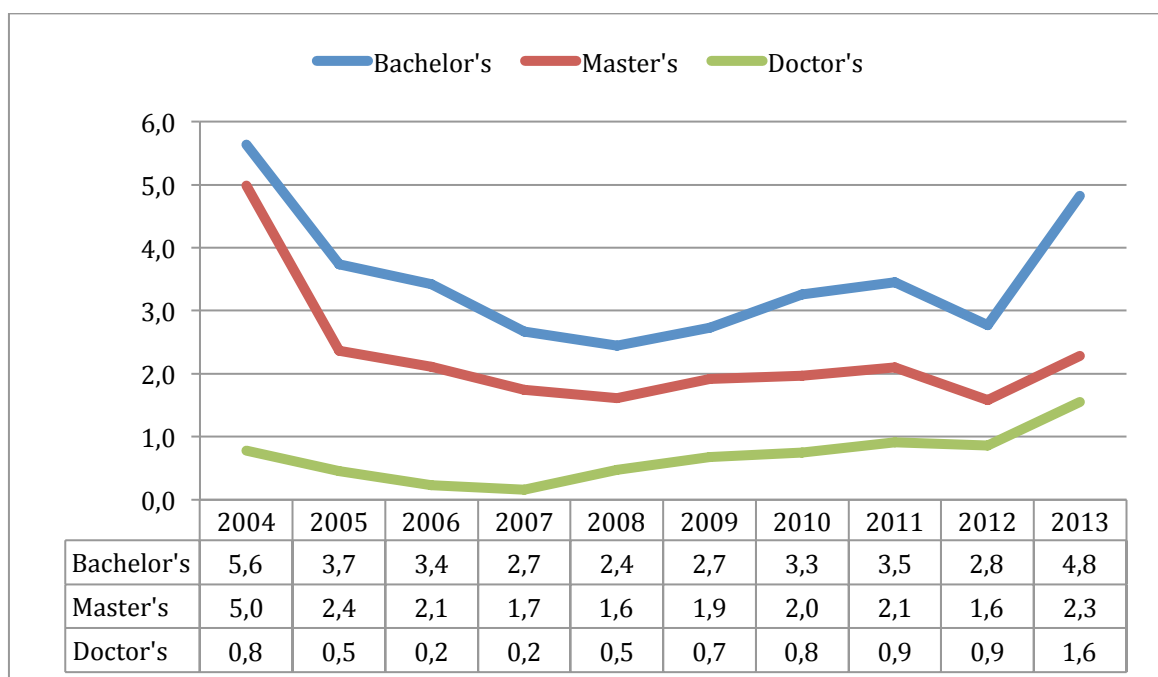
The chart shows the unemployment development during the transition from the university to the labour market. The highest unemployment rate is evident during the first six months after graduation. In the second period, between half a year and 1 year, the unemployment significantly decreased. For example in 2013 the unemployment rate of graduates who successfully completed their studies in half a year was 13,2%. The unemployment rate of those who graduated in half a year to 1 year was 6,6%, and the rate of those who still could not find the employment after one year since graduation was 3,1%. It follows that the most suitable indicator is a period of 1-2 years, because using the unemployment rate of recent graduates, whose unemployment often has a frictional character, is for the purpose of analysis somewhat misleading.

However, this chart demonstrates the problem of a large percentage of recent graduates who have considerable problem when entering the labour market.

#### 4.5.4. Unemployment rate according to the level of education

Educational qualifications are still the best insurance against unemployment, which clearly increases the lower the level of education attained. [24]

**Figure 12: Unemployment rate according to level of education**



**Source:** SVP, own processing

It is evident that graduates with a bachelor degree have the highest unemployment rate. Until 2008 the unemployment of both the bachelor and the master program has decreased. Since 2008 the number of unemployment at all levels of education increases. Within three years, the unemployment rate of bachelors increased by 46%, while the rate of masters by 31%. Further development showed that unemployment rate of bachelors rose from 3,5% in 2011 to 4,8% in 2013. The rate of unemployed masters has shifted only from 2,1% to 2,3%. The unemployment of bachelors during these two years has increased by 37%, while the unemployment of masters by 10%. The overall unemployment rate of all graduates is reduced by the unemployment rate of graduates with a doctor's degree. Their unemployment rate moves in the lowest level, but since 2007 it is also increasing. In 2014

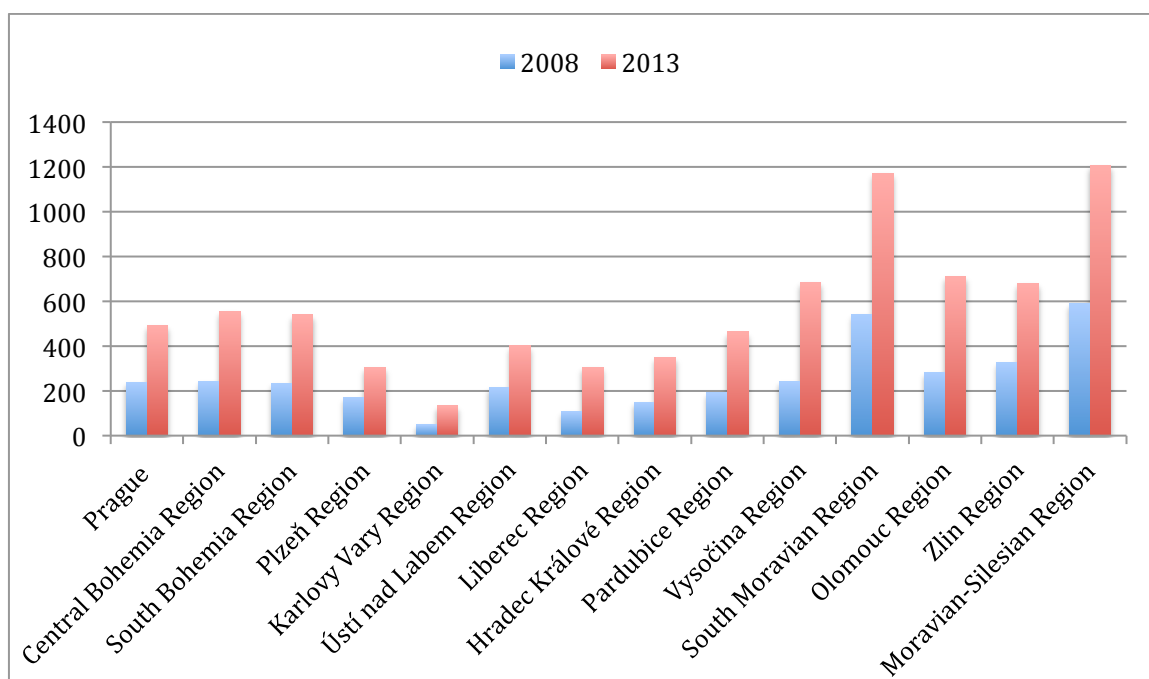
it has reached the historic maximum, i.e. 1,6%. Over the last three years, their unemployment rate has doubled. Generally we can say that the higher education graduates have the lower is their unemployment.

#### **4.5.5. Unemployed university graduates according the Czech regions**

The Czech labour market has a strong regional character. Different geographic, demographic, social and especially economic conditions in various regions noticeably affect a wide range of employment. These conditions significantly affect the professional and sectoral structure, and ultimately the unemployment rate in the regional labour market. Unemployment affects some areas more than others, especially the economically underdeveloped regions with a high proportion of job in agriculture or traditionally heavy industry are affected the most. The highest proportion of industry is located in Liberec Region, Zlin Region, Pardubice Region and Vysocina Region. Central Bohemia and Usti nad Labem Region are characterised by above-average proportion of employment in transportaion and warehousing. Central Bohemia has also a high concentraion of logistic centres, mainly on the edge of Prague city. Thanks to the spa resorts, Karlovy Vary Region has a high levels of employment in the accommodation and food services, and health and social care. Region Usti nad Labem, Moravian-Silesian and Karlovy Vary Region are the greatest mining centres. Vysocina Region has a very high share of agriculture and the capital Prague has the highest proportion of services, industry, cultural centres, universities, and thus the highest number of job opportunities.

Each region has different conditions for hiring new employees, which is reflected in the employability of university graduates. The following graph shows the comparative unemployment in the individual regions and the comparison of 2008 and 2013.

**Figure 13: Unemployed university graduates in the individual regions**



**Source:** MLSA, own processing

The year 2008 was characterized by the lowest unemployment rate in the observed period due to the economic prosperity in the country. A significant increase of graduates in 2013 is reflected in the overall increase of the unemployment of university graduates. Also the economic recession has contributed to the increasing unemployment during this year.

The lowest unemployment is reflected in Karlovy Vary Region, which could be the result of the lowest concentration of universities in the Czech Republic. The highest number of unemployed is recorded in the South Moravian Region and the Moravian-Silesian Region, which may be caused by both the highest overall unemployment in the Czech Republic and the highest concentration of graduates in these regions. In 2013 the Moravian-Silesian Region has registered 1206 unemployed university graduates, the South Moravian Region almost equal number of 1173 graduates, and on the contrary Karlovy Vary Region just 133 unemployed graduates.

The following table shows the increase of the unemployment of university graduates in 2013 compared with 2008. The lowest rise of unemployment was recorded in Plzeň Region and Usti nad Labem Region. Also the low unemployment increase was recorded in Prague with the number of 105,9%. The metropolitan character of Prague causes the

greatest opportunities for graduates of the universities thanks to the highest concentration of vacancies in the labour market. In comparison with other regions, there is the highest concentration of services that require high qualifications, and the most scientific researches. The biggest increase of unemployed graduates was in Vysočina Region with the number of 184,2%. This may be caused by the agricultural character of the area where the worst job opportunities for graduates with university education are. Furthermore, the highest increase was recorded in Liberec and Karlovy Vary Region.

**Table 1: Unemployed graduates in 2008 and 2013**

	Year		Increase in %
	2008	2013	
Prague	239	492	105,9
Central Bohemia Region	242	555	129,3
South Bohemia Region	233	539	131,3
Plzeň Region	172	306	77,9
Karlovy Vary Region	50	133	166,0
Ústí nad Labem Region	215	401	86,5
Liberec Region	109	305	179,8
Hradec Králové Region	150	349	132,7
Pardubice Region	191	463	142,4
Vysočina Region	241	685	184,2
South Moravian Region	542	1173	116,4
Olomouc Region	283	709	150,5
Zlín Region	327	681	108,3
Moravian-Silesian Region	590	1206	104,4

**Source:** MLSA, own processing

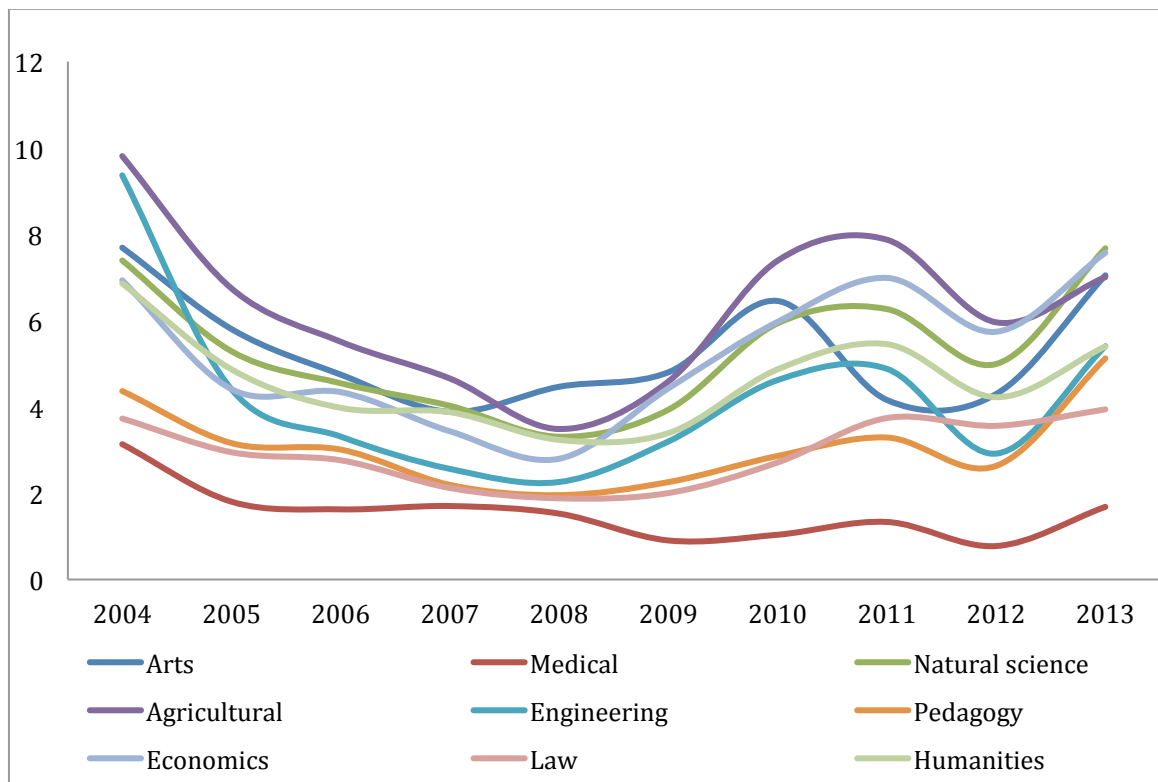
Statistics of the number of unemployed university graduates is based on the database of records of the individual labour offices. University graduates in each region are reported to the labour offices according to their permanent place of residence. This means that they may appear as unemployed in another region than they studied in.



#### 4.5.6. Unemployment according to the field of study

The unemployment of university graduates can be evaluated in terms of the field of study. It is evident that the unemployment rates of graduates from the medical and law faculties are generally the lowest. The unemployment of graduates from medical faculties was even in times of economic crisis decreasing. Graduates of agricultural and arts faculties have the biggest problem with the employment on the labour market. In the long term, all fields of study had noticed the gradual increase of employment until 2008. Until this year the unemployment was increasing with the highest values in 2010/2011. A significant deterioration of employment noticed graduates of agricultural, economic and natural science faculties, which was also caused by the effects of the economic crisis. The unemployment rate of graduates of arts faculties is due to the low number of graduates markedly fluctuates.

**Figure 14: Unemployment rate of university graduates according to the field of study**



**Source:** SVP, own processing

The following table evaluates the number of graduates and the number of unemployed graduates in the various fields from 2004 to 2013. It is evident that during this period the economic faculties have produced the highest number of graduates. In comparison with 2004, their number in 2013 grew by 156,8%. For that reason, the number of unemployed graduates was also the highest of all fields. The second highest number of graduates had the field of engineering, except of 2007 when the number of graduates was the highest of all fields. The percentage increase of this field between 2004 and 2013 was 118,8%. The largest percentage increase among these years has reached the field of humanities with its 202%. By contrast the field of law represented the lowest increase, which has been 70%. Over the entire period the field of arts represented the lowest amount of graduates overall. Since 2006 the field of law produced the second lowest number of graduates. The agriculture field of study produced almost the same amount.

**Table 2: Number of graduates (G), unemployed graduates (U) according to the study programme**

	2004		2005		2006		2007		2008	
	G	U	G	U	G	U	G	U	G	U
Arts	1010	48	1133	41	1219	39	1485	35	1568	41
Agricultural	1417	236	1713	180	2244	150	2656	133	2815	107
Economics	9590	666	11224	515	13319	539	15358	422	18940	358
Medical	2730	108	3113	67	3460	65	3837	75	4256	73
Engineering	8529	903	9200	500	11843	388	15642	313	17971	309
Law	1712	85	1920	75	2000	76	2240	60	2396	55
Natural Science	2957	163	3364	126	4496	117	4888	112	5328	100
Pedagogy	5588	393	6612	302	7638	306	8965	233	10045	217
Humanities	5011	354	6214	269	7457	248	8928	256	10153	237

	2009		2010		2011		2012		2013	
	G	U	G	U	G	U	G	U	G	U
Arts	1846	46	2011	66	2267	48	2464	58	2434	95
Agricultural	3054	142	3077	239	3244	278	3546	237	3418	318
Economics	22023	625	24086	926	25765	1171	25923	1022	24629	1435
Medical	5046	46	4923	60	5360	85	5453	50	5500	113
Engineering	18230	493	18171	724	19313	770	18603	477	18663	894
Law	2632	61	3071	90	2990	130	3281	126	2917	143
Natural Science	5532	118	5989	176	6007	195	6494	170	6758	281
Pedagogy	11455	270	12985	355	13313	436	13014	358	12468	671
Humanities	12205	293	14040	480	14988	601	15437	522	15145	733

From the previous data in table 2, there is calculated the percentage of unemployed graduates in each field of study. There is also visible that the overall rate of unemployment prevails among graduates of the agriculture field of study. The highest value reached 16,7% in 2004 and 9,3% in 2013. The engineering field was in 2004 and 2005 on the second place with the highest number of unemployed graduates. Its situation improved over time. During the last year, the rate of unemployed graduates of economics, pedagogy and humanities fields has increased. The deterioration in the economics field can be explained by the overall high number of graduates. In terms of employability of graduates, the medical field is doing the best with its lowest values of 0,9%.

**Table 3: Unemployment of graduates according to the study programme (in percentage)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Arts	4,8	3,6	3,2	2,4	2,6	2,5	3,3	2,1	2,4	3,9
Agricultural	16,7	10,5	6,7	5	3,8	4,6	7,8	8,6	6,7	9,3
Economics	6,9	4,6	4	2,7	1,9	2,8	3,8	4,5	3,9	5,8
Medical	4	2,2	1,9	2	1,7	0,9	1,2	1,6	0,9	2
Engineering	10,6	5,4	3,3	2	1,7	2,7	4	4	2,6	4,8
Law	5	3,9	3,8	2,7	2,3	2,3	2,9	4,3	3,8	4,9
Natural Science	5,5	3,7	2,6	2,3	1,9	2,1	2,9	3,2	2,6	4,2
Pedagogy	7	4,6	4	2,6	2,2	2,4	2,7	3,3	2,8	5,4
Humanities	7,1	4,3	3,3	2,7	2,3	2,4	3,4	4	3,4	4,8

Source: MEYS and MLSA database

## 4.6. Employer requirements on the university graduates

### 4.6.2. Advantages and disadvantages of university graduates from the employer's prospective

The National Institute of Education examines the needs of employers and preparation of graduates to enter the labour market in the Czech Republic. One of their projects was the questionnaire survey of employers who have investigated the reasons that affect the acceptance or the rejection of graduates into the employment.

**Figure 15: Reasons of not hiring the graduates**



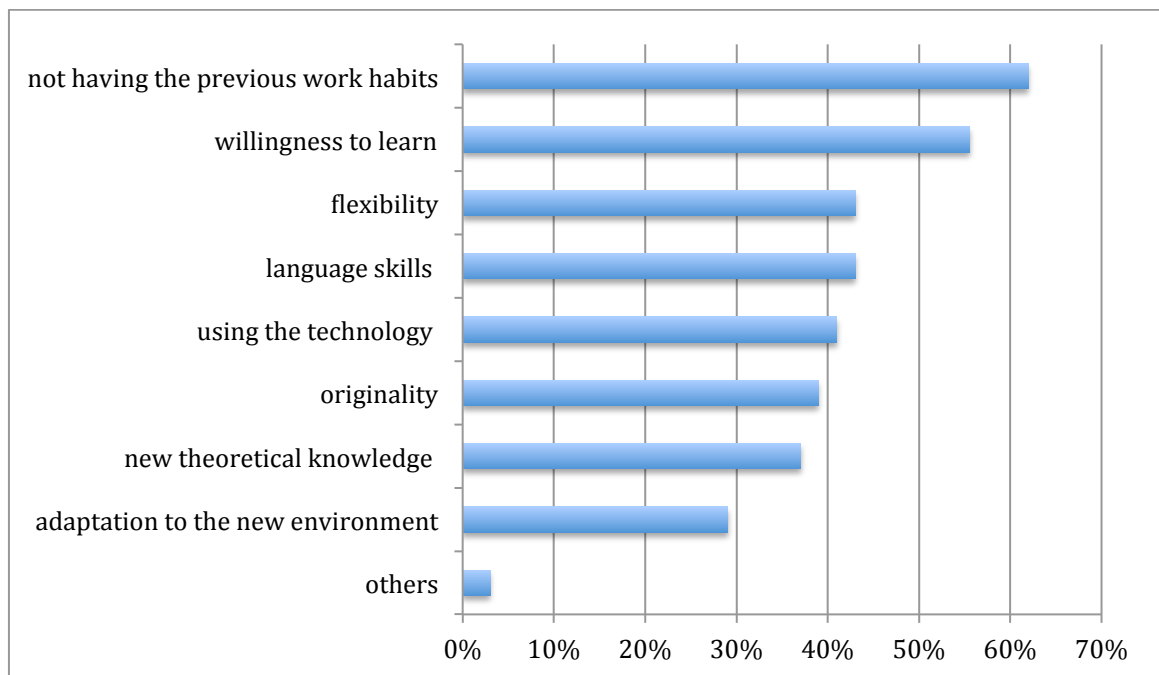
**Source:** Národní ústav pro vzdělávání (2014), *Potřeby zaměstnavatelů a připravenost absolventů škol*, available online, own processing

The main disadvantage of graduate is the unrealistic expectations about salary, working hours and job assignment. Another big disadvantage appears to be the lack of practice and work experience. Most employers prefer people with experience more than graduates with no experience. For companies it is more convenient and profitable to hire an employee with the experience than investing into the unexperienced graduate. The

whole system gets into a circle, where both finding employees and getting the experience is difficult.

Some companies on the contrary favor the graduates. Reasons are presented in the following chart.

**Figure 16: Reasons for hiring the graduates**



**Source:** Národní ústav pro vzdělávání (2014), *Potřeby zaměstnavatelů a připravenost absolventů škol*, available online, own processing

Companies that are inclined and open to the graduates present among the main reasons the advantage of not having the previous work habits, willingness to learn, flexibility, language skills and using the technology and originality. They appreciate the fact that graduates have new theoretical knowledge and good orientation in the field of new information and communication technologies.

Also there is often highlighted the fact that the recent graduates are affected by the routine, which brings more positives, such as easier adaptation to the new environment, energy and desire to work, which they can spend on the solving business tasks. Finally there should be mentioned that some features such as reliability, responsibility and

diligence, are related primarily to the individuality of a person. Therefore it is not possible to assign these features only to the age or education. [8]

#### **4.6.1. A necessary competencies for the employment**

One of the important factors which university provides are competencies. This is the set of skills and knowledge required in the labour market. Especially for the graduates it is important to be adequately prepared for the requirement and needs of the future employers. Also their knowledge, skills and abilities should correspond more closely with the employer's expectations.

Competencies required of all university graduates are the key competencies. They allow the greater flexibility, the ability to perform different types of work or change various professions without any problem. Competences, which are closely tied with the specific expertise, are called professional competences. The ideal is a balance of both professional and key competences. From those with a university education the highest level of competences is expected. The responsibility, communication skills, problem solving skills and decision-making are among the most important. The ability to communicate with the people and willingness to learn is also important. Equally important are the language skills. Employers prefer active professionals capable of directing the project, working in a team, using the technology and willing to pursue lifelong learning. [15]

## 4.7. Tools for the employment of university students and graduates

From the previous chapter arises one of the most important criteria of the employment of the university graduates is their current working experience. Therefore many projects that promote better employability of graduates arose.

At the end of 2013 total of 3812 employers across the Czech Republic showed the interest in joining the project *Professional experience for young people under 30*. The project was created thanks to the Human Resources and Employment OP and it is mostly financed by EU funds and partly from the state budget. Within this project 5180 vacancies were offered to the graduates and young people under 30 years old. The objective of this project started in July 1<sup>st</sup> 2013 was to enable people to gain the experiences, which would increase the chance of finding employment. The labour office was able to provide a monthly contribution to the employer for the total labour costs up to 24 thousands CZK. This contribution was used for the creation of socially beneficial working environment or offering the retraining of participant. Priority was given to graduates registered at the labour office for more than 4 months. The contract between candidates and the company was closing in the range of 6 to 12 months. After the contract expires, both the employer and the employee had the advantage of continuing cooperation. [25]

Another tool that graduates can use to boarden their experiences are the internships. In the Czech Republic in the period from 2012 to 2015, there were projects *Internships for young 2* and *Internships in companies* realized by the *Fund of further education*. Among others, there are plenty of international companies in the Czech Republic offering the internships for students and graduates.

One of the programs, which currently take place in the Czech Republic, is the *Leonardo da Vinci* program. It is led by the European Commission under the Lifelong Learning Programme and allows their candidates to work in the field in a foreign country. They can improve both the foreign language and the experiences and skills. This program is also a benefit for the labour market in terms of greater competitiveness. The amount of

grant by the European Commission varies according to the duration and the destination country. [26]

One of the most popular projects of the European Union is Erasmus+ program. It provides scholarships to more than 4 million people for studying, training, work or volunteering abroad in 2014 to 2020. A stay abroad can last from a few days up to one year. [27]

Since April 2013 project *Youth Guarantee* has been created within the EU. The European Commission helps each EU member to integrate the young people aged less than 25 years old into the work. They should gain within 4 months since graduation the professional experience, training or further studies. The research has found that the cost of unemployment among young people is more expensive for EU funds (annually about 1,21% GDP) than funding this project, which cost around 0,22% of GDP. [28]



## 5. Evaluation of results

This bachelor thesis was focused on the problem of unemployment of university graduates in the Czech Republic. Its aim was to analyze the developments in the period from 2004 to 2013. Based on this analysis it was necessary to draw the measure that could effectively prevent rising unemployment of university graduates and to help them to achieve success in the labour market. The thesis was divided into two sections consisting of the theoretical and practical part.

Several insights have emerged from the practical part. The lowest unemployment rate of university graduates over the researched period was in 2008. Then it started markedly rising due to the economic crisis. In the period between 2004 and 2013 the number of universities has increased by 68%. Which has resulted in the increase of graduates produced by these schools. Their high concentration in the labour market due to the small amount of vacancies, where they could apply their skills, also caused an increase in their unemployment rate.

Based on the analysis of different regional results in the number of unemployed graduates, the author concluded that it is not easy to justify those measured differences. Individual regions have their own geographic specifics. They differ in size, population, number of universities, and representation of industrial, agricultural and other sectors. The worst employability of graduates was in Moravian-Silesian and South Moravian Regions. The lowest unemployment of graduates was in the Karlovy Vary region. Prague thanks to a metropolitan character has also low unemployment.

The unemployment of graduates was also reflected in the time since graduation. The unemployment rate was the highest among those who have completed their studies half a year previously. Subsequently, the unemployment rate decreases and the period of two years since the graduation was the lowest.

Also the level of education is reflected in the measured data. Graduates of bachelor programmes were the worst off. I have also examined the employability of the graduates by the field of specialization studied. For the entire period, the field of agriculture and arts

showed the lowest employment. Generally, the best situation in the labour market is for doctors and lawyers.

From the survey of the opinions of employers on the requirements, which they take into account when picking the university graduates, was evident that at highest consideration was being unencumbered by the previous work habits. Conversely the reason for non-acceptance was excessive demands and missing experience. The author also highlights the advantages and disadvantages of university graduates.

Then, the author also pointed out the importance of their competence and continuous upgrading of skills. As one of the most important chapters, obtained on the basis of a survey of websites. The author then considers the tools for the unemployment of university graduates. This appears to help the state through an active employment policy (AEP) for the integration of graduates into the labor market. Projects such as *Leonardo da Vinci*, *Professional experience for young people under 30*, and *Youth Guarantee*, organized by the European Commission and the EU funded.

## 6. Conclusion

Even though the unemployment is to a certain extent a common phenomenon of any society. Its constant increase has adverse impacts on both the individual themselves, as well as the whole society, and the economy of the state. Data and information dealing with this issue, the author concludes, have been used to form strategies to help improve these situations.

The author thinks that one of the biggest influences on streamlining the labor market and the employment of university graduates are surveys of the labor market and analysis with respect to prognosis in subsequent periods. Institutions involved in this activity should be able to respond quickly and thoroughly inform job seekers about supply and demand in this sphere.

The government could increasingly participate in the financing of the whole education, which would result in raising educational standards. Also the contribution of the students themselves financially to their studies would help not only the education, but also the student would value the education more due to the inserting their own funds.

My analysis also shows how important is the choice of study. Ideal for deciding which branch the student should choose would be enough media coverage and easy access to information regarding the nature of the labor market of their field.

Universities should have access to and use up-to-date relevant information from the labor market which is ideal for schools to prepare graduates for the labor market.

The analysis also uncovered an important requirement for accepting graduates to the tertiary sector - their experiences. Companies that offer vacancies in their field should be able to cooperate with universities. It would be beneficial to all parties, the company could be presented on the campus, and also could offer training, internships, retraining, or allowing students to write their diploma theses. Students, who have completed the practice in the company, could after graduation enrich this company with its abilities by completing their studies in coordination with them.

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