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Strategy of Slovak Republic´s government to use higher education as an investment in human capital

Master thesis

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Abstract

The Master thesis on the topic “Strategy of Slovak Republic´s government to use higher education as an investment in human capital” presents results to the following research question: To what extent is it a part of strategy of Slovak Republic´s educational policy to use higher education as an investment in human capital? The thesis specifically focuses on the idea of human capital contributing to growth of economy and society, however it does not oppose and refuse other importance and value of human capital. The thesis presents theoretical background of the concepts of human capital, higher education and the higher education as an investment in human capital. In the analytical part, there is research of Governmental strategic documents concerning higher education presented; international discourse and other related studies considered; and results of empirical research based on interviews with experts on higher education in the Slovak Republic presented. The results of analysis are, for example, that based on legislative regulation, long-term strategy of government serves only as a guideline for individual universities/colleges, which are obliged to prepare their own long-term strategies, including strategies regarding higher education as an investment in human capital. Theoretically, participants of higher education process, such as Government, universities/colleges, scientific academies, etc., consider the importance of quality and effective human capital. However, in practice no obligations, common goals and tools are defined and implemented, to create a cooperation framework for strategy of development of human capital using higher education.

Keywords

Human capital, Higher education, Slovak Republic, Educational policy, Strategy, Government, Labor market

Range of thesis: 79 pages

Declaration of Authorship

1. The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

2. The author hereby declares that all the sources and literature used have been properly cited.

3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

Prague 10 May 2016 **Bc. Erika Smereková**

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Contents

Introduction

Human capital is essential for an individual, society, as well as an economy. It has an influence on welfare, progress and competitiveness of a country and its citizens. Besides experience, training and skills, human capital depends on education. Education can be divided into informal knowledge taught by the family and other relatives and formal education taught at school/educating institutions. Even though primary education is fundamental for an individual to achieve other levels of education, secondary and higher education appear to be more important for the future usage of human capital of an individual and society as a whole. The thesis concentrates on the idea to use higher education as an investment in human capital, more specifically on the related strategies implemented by the government of the Slovak Republic. The research question of the thesis is: To what extent is it a part of the strategy of Slovak Republic´s educational policy to use higher education as an investment in human capital? The thesis does not concentrate on the economic analysis of financial investments to higher education and returns to education, but on the policy analysis of higher education strategies created by the government of the Slovak Republic (the Ministry of Education, Science, Research and Sports), regarding human capital.

Higher education in the country is managed by an educational policy which is part of welfare state policies of the state and governing party or coalition. Educational policy of a country is managed by a group of policy makers and officials from the Ministry who should be experts in this field. In the Slovak Republic, the Ministry is officially called the Ministry of Education, Science, Research, and Sports [hereafter Ministry of Education]. Educational policies are made to achieve a quality of education, equality among citizens and regions, financial plan of investments, administer an education, as well as to manage cooperation of education with other sectors of politics, economics and society. A good educational policy should not be made only with short-term goals of voters-seeking politicians; it should also

have the long-term strategic goals to make the welfare, production and competitiveness of the economy, society, state and an individual, grow. Besides the effect of education on an individual and his acquired knowledge, such as health standards, position in society, income, incorporation into various networks of society, happiness, etc., the significant effect of education and knowledge of human beings is its usage in the economic production. Human capital is a part of capital along physical and financial capital. The production makes the individual increase his income and increases development, profit, and welfare of state and society. The production of the country is nowadays a part of global market economy and competition. If the country wants to be successful in such global environment, it needs to grow, develop and follow trends and demands. Technology and physical capital can be transferred easily in the world. But if the country can use its own or transferred capital and make it grow, depends on people and their knowledge, experience and skills, thus on human capital. To achieve such a long-term goal the government should also have long-term strategies for citizens, to make them suitable and flexible for the labor market and production; support demanded and valuable human capital not only in the country, but also in the global economy. One of the tools is to use higher education as an investment in expert knowledge of various fields such as social sciences, technology, medicine, etc.

The thesis researches if the Slovak Republic has such long-term strategy of higher education concerning the importance of human capital and if one its goals are to develop higher education as an investment in human capital. I would like to research what is the approach of government to the idea of higher education being an investment in human capital. To see what the approach of the government is, I am researching its strategies of higher education regarding human capital. I am going firstly to make a theoretical qualitative analysis of the concept of human capital and education, and then I am going to make an analysis of strategic documents published by the Ministry of Education, and other Ministries,

such as Ministry of Finance. In the documents, I am going to look for the connection of higher education with labor market or human capital and see if the strategies are made with the awareness of the long-term goal to use higher education as an investment in human capital, to what degree there is such awareness, or if they dismiss such goal at all. I am going to support my findings by already made studies of academic institutions in SR regarding my research question, such as IHP – Inštitút Hospodárskej Politiky (Institute of Economic Policy). I would like to also support my claim with opinions of the experts in the field of higher education and its policy making, obtained by expert interviews.

My paper is the first kind of such analysis which examines the strategy of Slovak Republic to invest in human capital through higher education. The paper will contribute to qualitative literature about human capital of SR and strategy of higher education policy. Results will contribute to the debate about the quality of higher education in the SR and its cooperation with the economy of the country. Moreover, the analysis will also contribute to qualitative literature about the relationship between educational policy as part of the welfare state and human capital of the country.

After the introductory and theoretical part which consists of Introduction Chapter, Literature Review with most important theoretical works for the research, and methodology explanation; the main analytical part follows. It begins with Basic overview of main characteristics of higher education in the Slovak Republic, after which the main strategic documents of higher education reform are analyzed in the subchapters Reform of higher education of the Slovak Republic since 1998 and National Reforms Program. In 2002 the new Higher Education Act was implemented. Its overview and effect is made in Legislation subchapter which is followed by discussion about Bologna Process and how it affects strategies of higher education in the Slovak Republic regarding human capital. Main part continues by analysis of Long-term strategy for higher education and Strategy for

development of Slovak Republic`s society. In subchapter Connecting higher education to labor market I considered also an opinion and study of external actor in higher education of SR, which is Institute of economic policy (IHP). Even though there is not very well developed international debate about thesis topic, I incorporated the opinion and data of OECD and UNESCO into International Discourse subchapter. As an empirical research I made discussions with experts on higher education, namely Dr.h.c. mult. prof. Ing. Juraj Sinay DrSc., Prof. Ing. Ján Mikolaj, CSc., Prof. PhDr. Miron Zelina, DrSc., dr.h.c., Ing. Eugen Jurzyca and results are summarized in last subchapter of Analysis. The research is finally finished by summary of results and discussion.

1. Literature Review

This chapter presents theoretical background (publications about human capital, educational policy and the welfare state) to see a debate about educational policy, human capital and connection of human capital to higher education. Firstly, there is a (a) general summary of human capital theory. Then, there is a review of three works which are important for understanding (b) different approaches of governments towards education as a welfare state policy (Esping-Andersen, 1998; Hega, Hokenmaier, 2002; Beblavy, Thum, Veselkova, 2011). After that, the literature review is more focused on most important (c) publications about human capital and its connection to higher education. In the end, I add a review of the book by Liessmann (2015), which is a criticism of current debate about higher education.

a) Summary of Human Capital Theory

Human capital theory influences Western education for several decades since a group of economists, such as Becker, Mincer or Schultz, in mid-twentieth century came with an idea of human capital importance for the economy. We know various forms of capital, such as tangible capital in form of money, stocks, land, etc., or intangible in form of human capital

which is composed of various "capitals" a person owns and cannot be separated from him (knowledge, health, habits, values, etc.). To develop intangible capital, investment in form of education, medical care or training is necessary. According to Gary S. Becker (n.d.), education, training, and health are the most significant investments in human capital. He continues, that it is proved by various studies that high school and college educated people have higher income, even after netting out direct and indirect costs of schooling and adjusting for the fact that those people usually have higher IQs and educated richer parents. The studies proving the higher earnings of educated people are available all over the world while in less developed countries the difference in earnings of educated and non-educated is larger. In 1990s, college educated people in the US earned in average 75% more than high school graduates. With that high difference, also, the productivity of college educated people is greater. (Becker, n.d.)

A definition in political economy dictionary defines human capital as "practical knowledge, attained abilities and learnt skills, which increase his potential productivity and enables him to gain income in exchange for work". (cited in Dobeš, 2001, p. 11) Human capital can be divided into general and specific. The general human capital consists of general knowledge, abilities, and skills used in everyday life, whereas specific human capital consists of specific expert knowledge and skills used in specific area or activity. (Dobeš, 2001, pp. 11-12) Some characteristics of human capital are that it is complementary with technology, is nontransferable, is hard to be stored, is not exchangeable, is hard to be measured, and the returns are visible only in long-term. (Dobeš, 2001, pp. 20-21) The effects of human capital can be divided into individual, organization and social. Individual reflects his human capital in his productivity which increases his income. In aggregate level, the same happens to the productivity of society and its well-being, democratic values based on human rights and political stability. (Kwon, 2009, p. 5) As Acemoglu and Author explains (n.d.), besides

Becker`s view of human capital, there is the view of Shultz and Nelson, who stress the attribute of human capital to adapt to disequilibrium situations in changing environment. Moreover, according to Bowles and Gintis, "human capital is the capacity to adapt to life in hierarchical/capitalist societies". (Acemoglu and Author, n.d., p. 5) Schools are supposed to educate individuals approach towards life in terms of correct ideology, to work in organizations and be able to obey orders. If we mix it together, human capital is essential for society, economy and increases firm`s and country`s profits. Important is to have in mind that individuals are heterogeneous, and a part of their IQ is genetic, but the fact is that education raises innate abilities of an individual. More recent definitions of human capital are for example by Rastogi in 2002, who defined human capital as "knowledge, competency, attitude and behavior embedded in an individual". (Rastogi, 2002 cited in Kwon, 2009, p. 4) According to Rosen human capital is "an investment that people make in themselves to increase their productivity" (1999 cited in Kwon, 2009, p. 4) or according to Sheffin "human capital is the stock of skills and knowledge embodied in the ability to perform labor so as to produce economic value". (2003 cited in Kwon, 2009, p. 4) While according to Romer, human capital is "fundamental source of economic productivity". (1990 cited in Kwon, 2009, p. 4) To sum up, all of the definitions have common characteristic of human capital which is knowledge of individuals.

The money which a person could earn instead of higher education is called forgone income. The attractiveness of higher education is larger if earnings of high school graduates grow slower than earnings of higher education graduates and if the tuitions borne by the state or an individual are not growing faster than earnings of higher education graduates.

As it was already mentioned, we differentiate between informal education attained at home, by the family and relatives, and formal education taught at school or other educating institutions. After that, there is also lifelong education and training available, mostly on-the-

job-training. By training, higher education graduates get into practice, and older workers re-train their knowledge and skills. Investment into training is also essential because it raises earnings and production. Informal education mostly taught by parents, accompanied with values and habits, influence the individual`s performance in formal education and later in work and life. (Kwon, 2009, p. 5)

The realizations of human capital investments are informal and formal education, innate skills and attained skills, as well as training and lifelong education. Whereas the results of use of human capital regarding the economy are profits of an individual and a society as a whole. (Dobeš, 2001, p. 12) State invests in its citizens mostly by investment into educational institutions, such as schools of all levels, training centers, scientific academies, etc. The higher the investments in human capital are, the larger the profits are. The human capital of professors is also an inevitable part of the creation of human capital of other individuals, because human capital is passed from an individual to another individual. (Dobeš, 2001, p. 22)

Educated human beings do not only raise production directly, but also contribute to scientific and technological development which then raise production. To invent new technological and scientific advances, and be able to use it, a country needs human capital. Consequently, human capital is essential for and directly used in production process. The result is economic growth of the country and society, as well as of an individual. According to Becker, a great example of a use of human capital of the country are Asian Tigers, who lack natural resources and experience discrimination regarding exports by the West, they relied on well-trained, educated, hardworking and conscientious labor force who invent and use modern technologies and a result is rapid economic growth. (Becker, n.d.) The importance of human capital and its value can also be related to the principle of competitive advantage among

countries. In times of globalized capitalistic society where technological advances can be imported, the country´s advantage depends on people.

In economy, human capital is believed to be one of the determinants of economic growth, besides land, capital, technology and labor. It does not affect only the growth of economy, but also the growth and well-being of society. Human capital also affects the ability to use natural resources or imported and invented fixed capital. Because of that, the competitiveness of a country largely depends on its human capital, which is hard to import and still is not replaced by technology. (Dobeš, 2001, p. 5) The demands on human capital are raising with technological and scientific development, as well as the development is raising with human capital growth. The growth of human capital, technological and scientific growth are in causal relationship. Countries which experience economic growth, they also experience improvement in education and training. In order to start economic development and maintain it, a country has to invest in education and training as an investment in human capital. (Dobeš, 2001, p. 6) One of the methods to measure if the investments to human capital are profitable is to measure rates of returns. Even though it is hard to use this method in case of education because of so many variables, it seems to be reliable. Direct investments into education and gross income are used. (Dobeš, 2001, pp. 25-26) There are several empirical studies of returns to education. According to Heckmann (1998 cited in Dobeš, 2001, p. 26), the average rates of returns are 10%. According to Kendrick (1994 cited in Dobeš, 2001, p. 27), returns to education are between 11,3% to 12,5%. Other empirical studies showed that the higher investments to human capital are, higher are the returns. According to Griliches (1997 cited in Dobeš, 2001, p. 27), the increase in education of human capital of USA in last 50 years increased productivity by one-third. Whereas according to Mankiw, Romer and Weil (1992 cited in Dobeš, 2001, p. 27), increase in investments to human capital by 1% increase the output per worker by 0,6 %.

Even though this paper is not focused on financial investments to education and cost-benefit analysis, I would like to present returns to education in the Slovak Republic by data published in 2013. In Table n.1, the first row presents the average number of years it takes an individual to "return" public investments spend on his higher education, while the second row presents his average age when the investments are "returned".

Table n. 1

	2004	**2005**	**2006**	**2007**	**2008**	**2009**
Return period in n. of years	20	18	22	22	23	20
Return period based on age	38	36	40	40	41	38

Source: (Horváthová, 2013, p. 57)

The second table presents estimated rates of returns of public investments to higher education in the Slovak Republic, according to average gross income.

Table n. 2

2004	**2005**	**2006**	**2007**	**2008**	**2009**
8,888%	10,549%	8,737%	8,799%	8,489%	9,382%

Source: (Horváthová, 2013, p. 53)

b) Different approaches of governments towards education as a welfare state policy

Esping-Andersen (1998) researched a concept of welfare state, as a contribution to capitalistic society of free market economy. I would rather say a contribution, not an alternative, because nowadays we cannot talk explicitly about free market economy without state intervention or explicitly about the centrally-planned economy with a very strong welfare state. Esping-Andersen made a clustering of welfare states into similar welfare

regimes. He made three clusters, liberal welfare regimes, conservative welfare regimes and social-democratic welfare regimes. Of course, when a country is in one cluster, it does not mean the country`s welfare state has nothing in common with welfare state of the country from another cluster. Rather it had the most similarities with countries from the first cluster. In liberal welfare regimes, "means-tested assistance, modest universal transfers, or modest social-insurance plans predominate. Benefits cater mainly to a clientele of low-income, usually working-class, state dependents." (Esping-Andersen, 1998, p. 26) In the country, benefits are modest and de-commodification is minimized. Such countries are for example United States, Canada, and Australia.

The second cluster is conservative/corporatist welfare regime. There is a strong historical corporatist-statist legacy in modern post-industrial class structure. It is shaped by the predominant preservation of status differentials, especially rights, shaped by the Church or traditional familyhood. "The principle of subsidiarity serves to emphasize that state will only interfere when the family`s capacity to service its members is exhausted." (Esping-Andersen, 1998, p.27)

The third cluster is social-democratic welfare regime where de-commodification and principles of universalism are predominant. They

> "promote equality of the highest standards, not an equality of minimal needs…Services and benefits be upgraded to levels of commensurate with even the most discriminating tastes of the new middle classes, and equality be furnished by guaranteeing workers full participation in the quality of rights enjoyed by the better-off". (Esping-Andersen, 1998, p.27)

"The ideal is not to maximize dependence on the family, but capacities for individual independence." (Esping-Andersen, 1998, p.28) It serves both, market and a traditional family. The regime takes responsibility for caring for children, the aged and the helpless, thus

also has very well developed educational policy. Such countries are mostly Scandinavian. Finally, Esping-Andersen stresses, that history and class coalitions in the country established welfare regime types in the country, as well as will direct its future. According to historical and Christian family tradition of the Slovak Republic, country belongs mostly to conservative welfare regime cluster, as well as its policies does. However, because recently there is majority government of social-democratic party, policies are being modified and focus on social benefits and rights of the people.

The work of Esping-Andersen (1998) is essential to understand what types of governments choose various types of welfare state policies, including educational policy. His theory helps me to analyze educational policy of Slovak Republic which should have similarities with educational policies of other countries from the same welfare regime cluster. Along the empirical facts from strategic documents I am able to understand the decisions of Slovak Republic´s government to incorporate importance of human capital into the strategy of higher education or not. Even though welfare regime typology of Esping-Andersen is more than 25 years old and it suffered much criticisms, in my opinion it is still the broadest and most quality clustering regarding welfare state in general, we know.

In the paper *The Welfare State and Education: A comparison of social and educational policy in advanced industrial societies*, Gunther M. Hega and Karl G. Hokenmaier (2002) explore a trade-off thesis developed by other authors such as Francis Castles or Hugo Heclo. In their analyses, they argue that there exists a trade-off between government´s investment into public education versus spending for social policy. Hega and Hokenmaier follow in the research by exploring the trade-off and relationship between public education and social programs for 18 democratic industrial nations since the 1960s. Their findings indicate a strong association between educational policies and social programs in researched nations, as well as the evidence of a trade-off, and correlation between types of

welfare-states described by Esping-Andersen and particular profiles of educational policy. They found out that there is a tendency in welfare-states to choose between educational opportunities or social insurance programs as alternative policy strategies.

The findings of the paper provide "additional support for the different kinds of social security states and that particular kinds of welfare states have distinctive educational policies." (Hega, Hokenmaier, 2002, p. 17) According to authors (Hega, Hokenmaier, 2002), social democratic nations invest at higher levels into education and social insurance programs than liberal and conservative regimes. Conservative states invest more into social insurance programs than liberal ones, but less into education. When we consider educational expenditures as a share of total public spending, social democratic and liberal nations spend relatively same levels and more than conservative nations. In real education dollars per capita, social democratic regimes spend the most, followed by liberal and then conservative nations. However, liberal nations show the greatest preference to invest more into education as a future investment and opportunity, than social democratic or conservative nations do. As a result, liberal nations stress the importance of education of human capital the most, as well as social-democratic nations do. It is expected that those kinds of governments would have a tradition to develop strategies of higher education regarding human capital. On the other hand, conservative governments see the lower importance of education influencing human capital, so they are not focused on the strategical development of higher education as an investment in human capital.

There is another theoretical paper examining the relationship between education policy and a welfare state, which provides me with a better understanding of the government`s decisions regarding higher education. In the paper called *Educational Policy and Welfare Regimes in OECD Countries*, a group of authors (Beblavy, Thum, Veselkova, 2011) examine the relationship between education and welfare state policies as measure of intervention in the

process of social stratification, as well as weather this intervention is driven by "stratification culture" of the country or some other factors. Moreover, they also consider whether it is the state, the market or family that provide education and welfare. Even though their work is more focused on the research of social stratification and equal opportunity in education, they also examine a trade-off between intervention in education and welfare. The findings of the study indicate that post-communist countries are divided into two groups according to their history and geography. Countries close to Slovakia, which is the Czech Republic and Hungary, they belong to the Germanic group. Whereas Czech Republic has more equalized pension system and stratified education, Hungary had both, pension system and education, stratified.

c) Publications about human capital and its connection to higher education

Jacob Mincer is one of the founders of debate about human capital. Human capital of individuals is formed in various ways, such as knowledge acquired at home, training, experience, but also formal education at school. Mincer (1981) pointed out, that parts of human capital can be also inherited, but a significant part is thought at school and this education differs from country to country. He also states that growth of human capital is not only a condition of economic growth but also a consequence. While human capital provides income growth for individual, the same it does at the national aggregate level. Even though human capital is an economic term and it is mostly related to market economy, the significant part, which is education, is a non-market activity. However, "the central idea of human capital theory is that whether deliberate or not, these activities (formal, informal education, training, experience) involve costs and benefits and can, therefore, be analyzed as economic decisions, private or public." (Mincer, 1981, pp. 3) Because the costs of these activities are immediate, but benefits are long-term, we have to talk about long-term investment when it comes to education.

> "Resources in child and child development represent pre-school investment. These overlap and are followed by investment into formal school education. Investments in labor market mobility, job choice, job training, and work effort occur during the working life, while investments in health and other maintenance activities continue throughout life." (Mincer, 1981, p. 3)

Important is to realize that costs of school education are not only tuition and other school expenditures, but also forgone earnings. The years he could be earning, while going to school instead of employment, forgone earnings are the largest cost of education. The investment should be supported if the future earnings would exceed the losses. There is not only the monetary gain in the future, but also the enjoyment of life which is important for an individual. It can be called as positive externalities, such as informed and responsible citizenship, communication skills, lawful behavior and health standards. (Mincer, 1981, p. 6) Education also serves in terms of redistribution of the poor. Furthermore, some say that education does not only serve as a source of knowledge, but also as a filter of abilities or people. "Human capital is augmented both by learning and by selection. The interaction of the two is efficient: The more able student learn more at the same cost." (Mincer, 1981, p. 15) Mincer made a good example of how physical capital was beneficial thanks to human capital, and it was a Marshall Plan. In Europe, there was industrial and commercial organization, as well as skilled people, but the physical capital was missing and needed to be created. Only thanks to the people, the plan was successful in many countries. (Mincer, 1981, p. 15)

Here described OECD (2001) publication is very useful as a basic background knowledge about human capital, not only from the perspective of labor productivity and contribution to national well-being, but also from the perspective of individual and how knowledge improves his life. The human capital is defined in this work as: "The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of

personal, social and economic well-being." (OECD, 2001, p. 18) In OECD countries, higher education is more important in relation to economic growth than primary and secondary education. Even though my work is focused on connection to economic well-being, I will also discuss personal and social well-being. The authors stress that knowledge is not only essential due to economic benefits for society, but also for smooth organization and functioning of networks and societies. The problem comes if the researchers need to measure human capital. The educational tests are only narrow-focused, as well as examinations like PISA are not sufficient. They might measure the earnings of individual and relate it to human capital. However such measurement is very weak and does not take into account many variables. The effect of human capital on the economy can be measured by individual´s rates of return or by the national growth of productivity. The quality of education as a measure of quality of human capital seems to be powerful, as well.

The book of Becker (1993) is some kind of conceptual basement for the concept of human capital. He was one of the first along with Mincer or Schultz who introduced the debate of human capital in economy and state in the 1960s. Since that time his work was often criticized as revolutionary, irrelevant, etc., however, there is no better new definition of human capital than those scholars did in that time. The third edition which I use as my source for theoretical background is renewed by Becker in 1993. His work introduces the idea that human capital, which is also created by education, is important input of economic production. Moreover, schooling and training according to him "improve health, raise earnings, or add to a person´s appreciation of literature over much of his or hers lifetime." (Becker, 1993, p. 15) Moreover, the analyses made by him showed that "earnings of more educated people are almost always well above average, although the gains are generally larger in less-developed countries." (Becker, 1993, p. 17)

Barro (2001) analyzes the role of education as a determinant of long-term economic growth. He uses quantity of education (years of schooling) and quality of education (internationally comparable examinations). His analysis shows that growth of production, growth of human capital and growth of physical capital are related as a circle. The results came to conclusion that both quality and quantity of education are important for the long-term economic growth, but quality is more important what was also proved by international examination. The more significant for economic growth is secondary and higher education of men than their primary education, as well as it is more significant than education of women.

A book by Liessmann (2015) is a recent controversial view on modern education debate. Even though his ideas are often not academically based, they are at least worth giving a thought. His general view is that issues in education which are now debated in Europe, are unnecessarily created, support anxiety about future of education and negative atmosphere. According to him, new trends in education, such as Bologna Process or use of Power point presentations has a negative effect on education process. He does not question the importance of education for an individual, economy and society, but he says that current methods have many unnecessary weaknesses.

Here are some of his ideas, for example, that international examinations such as PISA have many weaknesses, biases and are not representative of real quality of education, but often the results boost and direct debates about quality of education. The comparisons and international examinations produce anxiety and nervosity in academic debates, what is contra productive and competition leads to overworking. He also criticizes the Bologna Process, its ineffectiveness in fulfilling the goals and de-academization of university due to introduction of unscientific bachelor programs. Reforms, such as Bologna process, are often contra productive as well, because they are not based on real proven problems. He criticizes the incompatibility of too specific academic knowledge with labor market demands, needs of an

individual. But on the other hand, he questions whether there really needs to be some compatibility. Is education here for the sole purpose of economic productivity of human capital, employability, competitive advantage of a country, or does it have some more sophisticated sense such as happiness of an individual, responsibility of his citizenship, moral values, etc.? According to him we have to realize that education cannot solve all of the problems society faces, it is not salvation. Education should rather slow down, and be stable and safe in global changing world. Actually, the focus on productivity and too narrow specification can make a person and society limited. There is a trend to be something more than average, to be special, hardworking, more productive and always better than others. It boosts hate, competitiveness, stress, anxiety and often leads to failure. In fact, it is not a weakness to be normal, so education should be satisfied by producing normal citizens, who do not have to use in their careers everything what they were taught. Education serves people to better understand the world and behavior, situations and relationships in the world. Education should support also individuals with talents not solely economically useful, such as various forms of Art. Even though his words are just ideas, it helps to understand ineffectiveness of often unnecessary strategies of higher education and lack of simple strategic goals before we move to some revolutionary reforms based on global trends.

2. Methodology

The research question of the thesis is: To what extent is it a part of strategy of Slovak Republic´s educational policy to use higher education as an investment in human capital? The thesis topic belongs primarily to the political science research, with contribution of the economic research. To answer the research question, I need to analyze the higher education policy of the Slovak Republic, but also the human capital. Moreover, I will combine a theoretical analysis and empirical analysis of data. In the first part of my thesis, I do a discourse analysis of expert literature in the field of human capital, welfare state and

educational policy. To do a discourse analysis I use mostly qualitative secondary literature. In the main empirical analysis of data and policies, I combine a research of governmental documents with opinions of experts. I will use qualitative sources such as strategic documents, legislation and expert analysis, as well as interviews with experts as empirical data. I am going to focus on the higher education, because based on the literature outcomes, secondary and higher education gives the biggest additional marginal value to the human capital. In this thesis, I am going to focus on higher education of the Slovak Republic, in order to make a quality analysis rather than broad analysis of all levels of education.

Following hypotheses are going to be analyzed.

Hypotheses:

1. The strategy of higher education of the Slovak Republic is not systematically prepared and implemented.
2. The strategy of higher education of the Slovak Republic does not comprise demand and changes of the labor market. The educational policy makers do not cooperate with economic and labor market experts of the Slovak Republic enough.
3. Joining of the European Union and cooperation of member countries regarding education influenced the strategy of higher education of the Slovak Republic.

3. Analysis

There are 10 subchapters in this main analytical part. Subchapters 3.1 to 3.9 present research of strategic documents (3.2-3.3; 3.6-3.7), important theoretical overviews (3.1; 3.4-3.5), external analyses (3.8) and international discourse (3.9), while subchapter 3.10 presents results of my empirical research based on interviews with experts on higher education of the Slovak Republic.

3.1 Basic overview of main characteristics of the Slovak Republic`s higher education

In the beginning, I would like to make a basic overview of higher education in the Slovak Republic and its main characteristics regarding my research topic. Higher education in the Slovak Republic is directed by the Higher Education Act n. 131/2002. Currently, there are twenty public universities/colleges in SR, which are established by mentioned legislation. In addition to that there are three state colleges focused on military, police and health service education in order to prepare students for future career in state services. There are twelve private colleges which are corporate bodies providing education and research under the approval of the state of SR. Private colleges are also directed by the legislation of SR. Moreover, there are six foreign universities/colleges in SR which are directed by the legislation of their residence country. Universities/colleges have to be accredited by Accreditation Committee of SR based on the Higher Education Acts. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, n.d.)

Slovak Republic is a member and signatory of Bologna process, which is an agreement of countries and their universities, teachers and students, and others participating in education to introduce common three cycle system of higher education – bachelor, master and doctorate – in order to assure comparability and quality standard of higher education of European Countries. (European Commission, n.d.) Consequently, higher education in the Slovak Republic is also divided into three levels. The first one is bachelor, usually studied for three or four years, which is finished by achieving academic degree Bc. The second level, master, which is usually studied for two years or together with bachelor studied for five or six years is finished by achieving academic degree Mgr., or according to special externalization with academic degree Mgr. art. – Master of Art, Ing. – Engineer, Ing. arch. – Engineer of

Architecture, MUDr. – Doctor of Medicine, MDDr. – Doctor of Dentist Medicine, MVDr. – Doctor of Veterinary Medicine. The third level in SR is usually achieved in three or four years and a student gets an academic degree Phd. or ArtD. [10] (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2013, p. 52)

In the Slovak Republic, universities/colleges are organizations with high degree of autonomy from the state. State controls and manages higher education of universities/colleges only by defined legislative measures, defined financial measures or by control of Accreditation Committee in order to assure the quality of higher education. Ministry has also administration duties of such competencies. The Minister accredits universities/colleges based on the advice of Accreditation Committee and propose Professors or Rectors to The President of the SR. The administration and management of the individual university/college, as well as financial management is mostly done by university/college itself. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2013, pp. 53-55) The autonomy is significant, while enforcement of legislation and standards difficult. More detailed specification of government´s responsibilities in higher education is defined in chapter Legislation. Even though financial investments of government in higher education and redistribution of money is very essential topic for debate of higher education, in the thesis I will not focus on this topic primarily, because it is a very broad topic for the Master Thesis to summarize investments of government in case of each university.

Higher education in the Slovak Republic is divided into program departments and studies, such as Education; Humanity Studies and Art; Social, Economic and Law Studies; Natural Sciences; Construction, Technology, Production and Communication; Agricultural

[10] Besides that, students with master degree can do a so called "rigorózna skúška" to get a non-standard degree in Europe, "small doctorate", which does not mean higher education, rather higher prestige. Academic degrees like that are for example RNDr. – Doctor of Science/Natural Science, PharmDr. – Doctor of Pharmacy, PhDr. – Doctor of Philosophy, JUDr.- Doctor of Law, PaedDr. – Doctor of Education and ThDr – Doctor of Theology. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2013, p. 52)

and Veterinary College; Medicine; Service; Information Sciences, Mathematics, Information and Communication Technologies. Universities/colleges create study programs by themselves among these departments. The programs must be accredited, based on criteria, by the Committee and finally by the Minister. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2013, p. 57)

Since 2002 Ministry of Education with its experts has to prepare an annual report of higher education. At the same time, Ministry of Education has to prepare and actualize every year also an answer to the annual report, which is long-term strategy of higher education. However, such document was made only once, in 2010. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2013, p. 55)

In order to better understand the topic of higher education as an investment in human capital and labor market, I provide also an overview of basic Slovak Economy data. In general, there is pace in growth of SR since 2014, especially driven by domestic demand. However, there are still problems on the labor market after last crisis. The investments in SR remained low, as well as the competitiveness of the country due to bad business environment in terms of taxes and boundaries for starting business. The biggest economic problems for the country still remained high unemployment (especially long-term unemployment), low investments which fell sharply after crisis in 2008 and resulting low competitiveness. In 2014, the real GDP grew by 2,5%. In 2015, GDP per capita was 14, 392 EUR, and GDP growth increased to 3,6%, what is pretty high in comparison to real GDP growth rate of EU in 2015- 1,9%. Unemployment rate in 2015 was 11,5%.(Focus Economics, 2016) Latest unemployment rate in February 2016 was 10,09% (326 075 people), one of the highest in EU countries, while unemployment rate of EU-28 in February 2016 was only 8,9 %. (Dlžník.sk, 2016; Eurostat, 2016) In the following Table n. 3, you can find a summary of most important Slovak Economy data available.

Table n. 3

Slovak Economy Data	2011	2012	2013	2014	2015
Population (million)	5.4	5.4	5.4	5.4	5.4
GDP per capita (EUR)	13,065	13,401	13,645	13,949	14,392
GDP (EUR bn)	70.4	72.4	73.8	75.6	78.1
Economic Growth (GDP, annual variation in %)	2.8	1.5	1.4	2.5	3.6
Consumption (annual variation in %)	-0.6	-0.4	-0.8	2.4	-
Investment (annual variation in %)	12.7	-9.2	-1.1	3.5	-
Industrial Production (annual variation in %)	5.3	8.0	5.2	3.7	5.9
Unemployment Rate	13.7	14.0	14.2	13.2	11.5
Public Debt (% of GDP)	43.3	51.9	54.6	53.5	-
Inflation Rate (CPI, annual variation in %, eop)	2.3	3.0	0.4	0.2	-0.2
Inflation Rate (HICP, annual variation in %)	4.1	3.8	1.5	-0.1	-0.3
Inflation (PPI, annual variation in %)	2.3	3.9	-0.1	-3.5	-4.3
Exchange Rate (vs USD)	1.30	1.32	1.38	1.21	1.09
Trade Balance (EUR billion)	0.0	2.5	3.0	2.9	-
Exports (EUR billion)	54.7	60.2	62.1	62.6	-
Imports (EUR billion)	54.7	57.7	59.1	59.7	-
Exports (annual variation in %)	17.6	10.0	3.3	0.7	-
Imports (annual variation in %)	17.4	5.4	2.5	1.1	-

Source: (Focus Economics, 2016)

3.2 Reform of Slovak Republic`s higher education since 1998

In this part of analysis I analyze the strategic documents of higher education regarding human capital of the Slovak Republic, which are the most significant until 2010, namely Conception of development of education in Slovak Republic for next 15-20 years -Project Millennium (Gov., 1998), Conception of following development of higher education in Slovakia for the 21st century (Gov., 2000) and "Project of Competitiveness" (Bruncko, 2005).

Before 2004 when SR joined European Union and 2002, when the new Higher Education Act was introduced, there were several important changes made in educational policy of SR. Already in 1998, the government gave a task to experts to make a strategy for the development of education in the new "millennium", called Conception of development of Education in Slovak Republic for next 15-20 years or "Project Millennium" (Gov., 1998). In the beginning of this document, there is a statement of the government of SR that education is priority and should be used as a tool to make society and citizens prosperous in long-term future, not only at domestic environment, but also in competitive environment of Europe. The strategy has to be made in order to achieve this goal, even though the governments are changing over time. (Gov., 1998, p.1) In this strategic document they provide the historical overview of higher education in SR, summary of changes since the fall of Communism in 1989 and some statistics (in 1998, only 10% of population had higher education), but they do not elaborate on connection between higher education and human capital more, except for few words. (Gov., 1998, p.6) Authors argue that absolvents of education do not have knowledge and experience required at the labor market, what means that the curriculum of education has weaknesses. (Gov., 1998, p.8) Other arguments are that a decline in quality of education must be stopped, the education needs to be developed and follow global trends, but no solutions are proposed. The experts elaborate on the importance of education for the growth of the state, society and individual, as well as on the benefits of joining European Union regarding

education, but do not propose direct strategies for cooperation between higher education and labor market actors. Moreover, already at that time they reflected opinion of public and employees of higher education that the quality of education is in decline and the value of education as well. (Gov., 1998, p.7) The first strategic document (Gov., 1998) of the government starting the reform of education in 1998 mentioned the theoretical importance of education for growth of economy and society, e.g. the students should be educated to gain emotional, social, cognitive, creative, civic, technological, communication and critical skills; but this document seems to rather be a philosophical academic essay without any real solutions proposed, except the advice to make a creative environment for students in order to prepare them for global competitive world. I found this document to be a qualitative concept of the importance of higher education, but without direct solutions for higher education providers to be implemented. However, the document mentioned also the importance to connect the educational policy with other important areas such as economy, sociology, and other actors which are influenced by education. I expect the proposed values and ideas are developed in the other strategic conceptions or legislation.

The second important reforming strategic document is the "Conception of following development of higher education in Slovakia for the 21st century" (Gov., 2000). Already in the beginning of this document, the authors are skeptical about the possibility of the Ministry of Education to control the quality of higher education and control the importance of values (moral, intellectual and emotional) of higher education. They stated that the Conception is inspired by the publication of UNESCO-World declaration of higher education for the 21st century and that the Conception is again only a guiding document based on which the legislation was going to be developed. Similarly, the importance of higher education in terms of human capital is broadly mentioned, as well as the importance of human capital for global environment and competition. In the beginning they list the weaknesses of higher education of

Slovak Republic - the low compatibility with new demands and trends; and lack of strategy of higher education and individual universities are most often. As the main goal of higher education is stated to be the development of harmonic personality, knowledge, wisdom and creativity of citizen which will contribute to development of society. The goal has been going to be achieved by several principles, such as moral educated civic personal with expert knowledge-professors, support of research and science, lifelong education, acceptance and maintenance of values of cultural diversity and democracy. Other principle is for example the importance of an absolvent to be successful in the society. Important step to be fulfilled were differentiation of universities/colleges according to their goals and quality, use of technologies, research and scientific potential, and international cooperation.

It is a paradox, that even though Ministry of Education gives little attention to the strategy of higher education, in the document they claimed that strategy of higher education, along with legislation and financing of higher education, should remain in their responsibility. (Gov., 2000) But when it comes to the "mission" and strategy of individual university/college, it should be created and controlled by university/college itself. It means that there is no common standard among universities/colleges and some kind of central system to reach common goals. What I noticed often not only in this document, but also in other strategic documents of the Slovak Republic, is that one of the goals should be to increase the number of people who attend higher education and successfully finish it. But, there is no mention of the quality of higher education to not be decreased by increased amounts of students, or no notice of the fact whether it is necessary to have so many students attaining higher education.

The first notice of the importance of higher education for human capital in the document is development of cooperation between universities/colleges and business sector in order to develop and modify the curriculum of higher education to provide more actual knowledge to students. The strongest support regarding human capital is delivered to higher

education science and research, by increased financial support and more sophisticated strategy in this field developed. Science and research serves as development of scientific human capital, as well as contributes to development of society and economy. It means that science and reserach should be developed and supported by universities/colleges more, especially by development of Phd. programs. One of the main goals is to develop and innovate research and scientific potential of the people as the crucial part of national human capital. The connection of science and research to business sector has to be supported and developed, as well as work of Accreditation Committee in research and science needs to be improved. One of the advice mentioned is also new diversification and structuralization of higher education to make it more effective, especially new framework of study programs should be introduced. I agree with the criticism of too wide framework of higher education with repeating programs and subjects, what is time and price consuming. Universities should develop their knowledge attributes according to trends in science, technology and art, and they should also follow trends and needs of regions of their residence and developments of business sector.

One of the proposed goals is the incorporation of Bologna process goals (explained in Bologna Process chapter) in order to make it available for students to enter labor market in EU and welcome labor capital to Slovak market from other countries. Also the introduction of Bachelor`s degree with no continuation to master studies was a good point in order to make it possible to students to enter labor market earlier, for those who do not believe it is necessary to study longer than 3-4 years of bachelor program. The advice to develop cooperation of universities-knowledge and employers-experience would contribute to development of human capital, social and economic growth of society as well as competition. The business sector should actively contribute to systematization of higher education according to current market needs and development of knowledge being educated. Universities/colleges should develop such education of knowledge compatible with the needs and growth of region and state. After

finishing studies universities/colleges should also evaluate the success of their absolvents in labor market.

Essential is lifelong education of professors, active incorporation of academia, alumni and students into higher education creation, and development of strategy of cooperation between universities/colleges and business sector. Furthermore, it needs to be developed and supported by legislation process. To sum up, I found this document quite sophisticated and written with high degree of quality, being the first one to also mention some solutions to the issue. (Gov., 2000)

The Ministry published also a Report (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2012) of fulfilling the goals set by "Conception of following development of higher education in SR for the 21st century". The main aim was to make education more practical and valuable for future life and career, but also to react on demands and trends of labor market. However, the authors admit goals were set but no implementation strategy and obligation was made, thus the goals were not fulfilled enough.

Third strategic document analyzed was a Strategy of Competitiveness of Slovak Republic until 2010 published by Ministry of Finance (Bruncko, 2005). The author gives significant attention to the importance of science and research, and education for the economic growth of the state. There is a stress to support talented scientists in SR in order to be competitive in the global environment and also to develop cooperation with business sector in order to use the capital of talented scientists at domestic market. The main priorities in order to achieve this goal were defined as followed:

- "Education and support of quality scientists,
- Research of international quality with adequate connection to business sector,

- Effective public support of business activities focused on development and innovation.” (Bruncko, 2005, p. 11)

Motivation of scientists must be improved in order to make the scientific career attractive, with good working and financial conditions. Required is connection of scientific research and higher education. The main financial support is advised to be provided by grants, not by annual financial support for whole institutional organization, except support of universities/colleges and SAV (Slovak Scientific Academy), as well as competition environment to choose the best scientists has to be created. The basic research should follow the scientific global trends and application research should follow economic trends and contribute to economic growth. Priorities of research are to be chosen by cooperation between research and science with business sector, to follow trends in innovation and development of human capital. To improve the cooperation of higher education and labor market, development of cooperation of Ministry of Education, Finance, Economics and other interested actors is needed. (Bruncko, 2005, pp. 11-12)

In the chapter called Education and Employment, they stress the importance of quality human capital to achieve high employment and thus good growth and living standards of the country. All of the citizens must have an opportunity to be educated. Educational policy should be also used to prevent intergenerational poverty, children must have an opportunity to use their potential. One of the main three priorities of higher education regarding human capital are modern educational policy with required reform of education, increased quality of professors and focus on international languages, technologies and economic literacy. Other main priorities of higher education are stated to be increased capacity and quality of universities/colleges. In order to achieve it, universities/colleges should respond to labor market demands, demands of young people and be able to compete in international academic environment. Universities/colleges should also contribute to the social and economic

development of their region of residency. The main tools to achieve these goals are, for example, financial support, grants and tuitions, increased quality of professors and their scientific growth, competitive environment of universities/colleges, mobility of students and higher standards of quality knowledge achieved. (Bruncko, 2005, pp. 15-16)

3.3 National Reforms Program

In the beginning of new millennium and new era of Slovak politics building in the way of democratic values, the government decided to make a system and structure to new reforms introduced, including educational reform, in form of National Reforms Program (Gov., 2008). One of the main reforms of higher education was the adaptation of supplied study programs of universities/colleges to demands of labor market, and put them into structural framework. The new system of cooperation between: public sector, central organ, educational and labor resorts, social-work and family resorts, and employers is being made in order to connect labor market demands to knowledge provided by formal education. Moreover, there was being prepared the legislation of dual education (vocational training/internships), what develops cooperation of employers and educational institutions, and provide practical experience to students. (Gov., 2008, pp. 6-7) In the other parts of document (Gov., 2008) they often stress basic assumptions of the importance of education for human capital, labor market and thus economy of the country. Also other attributes of education are stressed, such as quality of personal life and development, self-realization and integration into society. One of the main arguments for development of human capital and investment into it are successful experience from other economically developed countries. However, policy makers were still more focused on development of scientific human capital for research and science activity, than human capital of people and society, in general.

Quality of education needs to be improved and financial support increased in comparison to other EU countries. One of the proposed measures to evaluate the progress are numbers of absolvents and participants of higher education. Such method has many weaknesses, mostly low representativeness of students and does not necessarily show quality. More often there are opinions that international examinations (e.g. PISA), are subjective and not predictive, as well. The problem of employment of absolvents which occurs in society means that fresh graduates are not compatible with labor market demands. However, policy-makers are more focused on the increase of percentage of citizens obtaining higher education, which is low in comparison to other EU countries. (Gov., 2008, pp. 22-23)

There is higher stress on support of business education of Slovak students, but mainly on High Schools level.

> "The aim of the prepared reforms is to create study environment for young people, where along the development of their personal attributes and expert knowledge, they gain also business skills in various fields of national economy, based on which they would be able to creatively contribute to innovative activities, consider and accept risk, proactive manage the projects, effectively represent the company and effectively negotiate." (Gov., 2008, p. 24)

Policy makers proposed better differentiation of higher education levels into bachelor, master and doctorate, according to Bologna Process. Their definition of the levels is that bachelor level provides adequate and enough education for people who want to enter labor market of specific professions. Whereas master`s education should be focused on people who want to contribute to research and science of society and economy. Because of that, bachelor programs focused on profession education were going to receive higher support.

"Long-term strategy in educational, research, innovation, art and other creative activity of higher education until year 2014" was prepared, inspired by previous strategic goals dealing

with higher education process, development and strategy. The long-term strategy of higher education was supposed to be made for 5 years and actualized every year. It is defined to be a guideline for evaluation of individual strategies of universities/colleges and redistribution of higher education financial support. (Gov., 2008, p. 24-25)

3.4 Legislation

Higher education institutions in SR obtain high degree of autonomy. However, they are still partly regulated by measures defined in legislation. In order to understand the legislative impact of government on universities/colleges, here is an overview of main points of Higher Education Act, concerning research issue. Right in the beginning, Article 2 states the main mission of higher education.

> „The mission of colleges and universities, which are part of European Higher Education Area and Common European Scientific Area, is development of harmonic personality, knowledge, wisdom, good and creativity of person and contribute to development of knowledge, science, culture and welfare of whole society, and by that contribute to development of educated society. The fulfillment of this mission is the main subject of higher education institutions.“ (Higher Education Act, 2002)

Furthermore, article 4 adds:

> “Higher education institutions fulfill their mission by a) education of experts with high knowledge possessed, high moral values, civic and social responsibility, b) education according to democratic values, humanism and toleration and by development of student`s creative, critical and independent thinking, healthy confidence and national pride, c) education towards understanding, maintaining, spreading and development of national cultural heritage and various cultures in terms of cultural pluralism, d) development, saving and spreading of knowledge through research, innovation, art and other creative activity, e) provision of lifelong education, f) contributing to development

> of education at all levels, starting from the elementary education to higher education, especially by education of teachers from elementary schools, secondary schools, higher education institutions and other schooling institutions, cooperation in education of exceptionally talented students of elementary and secondary schools, g) contributing to prevention and treatment of illnesses, h) taking part in the public debate of social and ethnic questions about creation of civic society, i) creation of theoretical models of development of society, economy, culture and art, especially the needs of state bodies, regions and cities, j) cooperation with bodies of state administration, regions and cultural and economic establishments, k) development of international, especially European cooperation by support of shared projects with international higher education institutions and other international institutions, mobility of employees and students of universities and colleges, and common acceptance of achieved education and its declarations.“ (Higher Education Act, 2002)

The Act states that it is in the competency of university or college to develop its own long-term strategy. It has to be developed by its university/college experts and management (Rector, Administrative Board, Academic Senate) in cooperation with Ministry of Education, in a way assigned by Ministry. The Act gives the responsibility of quality, including the compatibility of knowledge with practical experience, to the university/college and its management. The special focus has to be put on the study programs and their concept regarding demands on human capital. As the article 102 says, Ministry only: “creates, annually actualizes and publishes long-term strategy of education, research, innovation, art and other creative activity for higher education sector, long-term strategy is made for five to ten years in advance.“ (Higher Education Act, 2002) However, the strategy was officially made only once, in 2010, since the Ministry passed this Act and is not being actualized. Another part of the Article states that Ministry also manages the submission of long-term strategy of individual universities/colleges and discuss it with them. Because the Ministry

does not make its national long-term strategy of higher education regularly, there are doubts if it controls and discusses the individual long-term strategies of individual universities/colleges. The same Act is binding in case of public as well as private schools. (Higher Education Act, 2002)

3.5 Bologna Process

The Government of the Slovak Republic underwent several steps to fulfill the requirements of Bologna Process. In this chapter I make a brief definition of Bologna Process and how it affects the research issue. Bologna Process was an effort made in cooperation of universities/colleges, professors, students, public authorities, international organization, institutions and others incorporated, including European Commission. The Process was established by Sorbonne Declaration in 1998, issue of Magna Charta Universitatum, and signing of Bologna Declaration in 1999 by 29 countries, including the Slovak Republic. The main points of the Process are the introduction of the three cycle system of bachelor, master and doctorate studies, assurance of quality standards and "easier recognition of qualifications and periods of study". (European Commission, n.d.) One of the goals is to support students` mobility and labor mobility among countries` markets. Another main goal was the "modernization of education and training system to make sure these meet the needs of changing labor market". (European Commission, n.d.) The latest goals to be achieved were set in May 2015 in Yerevan, and they are following:

- "enhancing the quality and relevance of learning and teaching;
- fostering the employability of graduates throughout their working lives;
- making our systems more inclusive;
- implementing agreed structural reforms." (European Commission, n.d.)

The aim of the Bologna Process was to reunite the cooperation of European Higher Education Area. The first priority to achieve it was to establish and put to work the European Higher Area, but now, since 2010 with 50 participating countries the main areas of priorities are:

- Social dimension
- Lifelong learning
- Employability
- Student-centred learning
- Education, research and innovation
- Mobility
- Data collection
- Multidimensional transparency tools
- Funding. (EHEA, 2009a)

There are Ministerial Conferences organized every two or three years to see how the program works and to set the goals for next years. Bologna Process is done in cooperation with several institutions, such as European Commission, the Council of Europe, EUA, UNESCO, Education International, etc. Along with Ministerial Conferences, there is Bologna Follow-up Group, Board and Secretariat which oversee and administrate the Bologna Process. Moreover, there are also Working Groups, Networks, Ad-Hoc Groups and Seminars to support the work of participants. (EHEA, 2009b)

3.6 Long-term strategy for higher education of the Slovak Republic

The major reform of higher education in SR began in the beginning of new millennium and main strategic points were set already at that time. New Higher Education Act was introduced in 2002 and in 2004 Slovak Republic joined EU. Since that time the obligation by legislation to publish every year a new long-term strategic document or actualize the current one is not fulfilled regularly, in 2010 there was published the only

official long-term strategy of higher education made by Ministry of Education, Science, Research and Sports of the Slovak Republic, called "Dlhodobý zámer vo vzdelávacej, výskumnej, vývojovej, umeleckej a ďalšej tvorivej činnosti pre oblasť vysokých škôl do roku 2014", which can be translated as Long-term strategy in educational, research, innovation, art and other creative activity of higher education until year 2014 (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010). At the beginning of the document the main mission statement is stated, the same as it is stated in Higher Education Act: „The mission of universities/colleges is to develop harmonic personality, knowledge, wisdom, good and creativity of person and contribute to knowledge, science, culture and health for welfare of society." (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, pp. 1-2)

In general, this document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) contains the idea that higher education universities/collages educate students to be able to solve the problems of society of SR, especially in the area of social and cultural growth, economic growth, quality of environment and other regional, state and international issues. Higher education organizations are primary sources of scientific human capital of the Slovak society. Graduates after they finish higher education can contribute to living standards of society, their own, and also to economic growth. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 2) The point 11 of the document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) mentions important issue, which is that the profile of absolvent needs to be shaped and developed also according to needs of employers and the market trends. The main requirements of employers are:

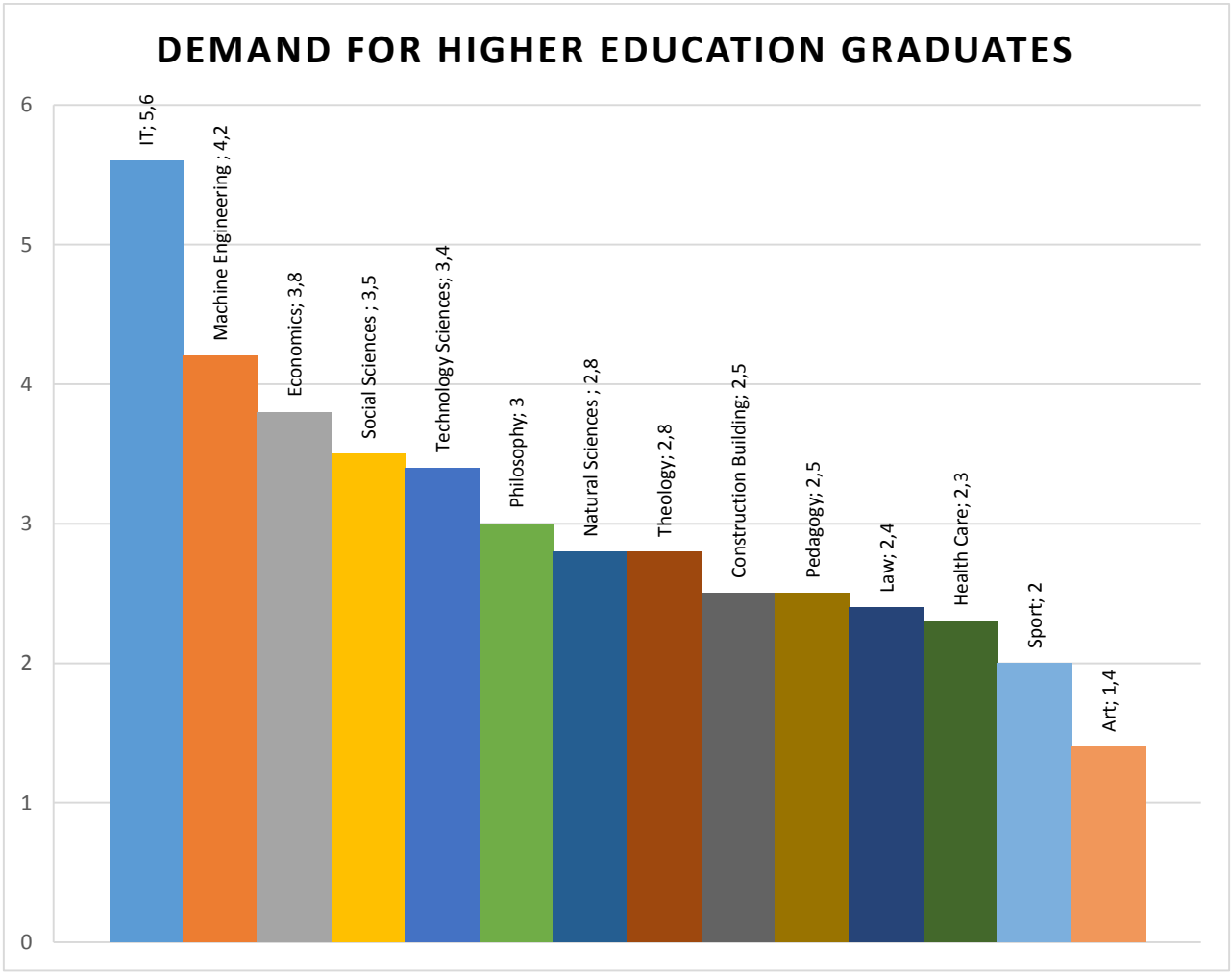
- "expert knowledge and experience for performing special profession activities in certain corporation,
- long-term high effort and initiative (including overtime work),

- flexibility and ability to identify and solve problems,
- enjoyment of profession activity,
- lifelong education in the field of profession,
- ability of social interaction with colleagues with special focus on creation of progressive interpersonal relations,
- ability to maintain good health,
- other requirements derived from corporation environment and subject of profession activity.“ (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 3)

Furthermore, point 12 of the document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) signifies the importance to start cooperation of education and business sector to find their equilibrium and unity. The main cooperating equilibrium is reached by the intersection of current labor market demands, knowledge requirements of employers on the specialized professions, graduates with required qualities and their ability to shape according to market trends and environment. However, there also needs to be avoided too narrowly focused specialization of absolvents which makes it hard for a person to be employed if his specialization becomes not demanded. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 3) You can see a Graph n.1 presenting Program Framework of Higher Education Absolvents in 2010 in %, in Appendices as Appendix 3.

In the graph n. 2, you can see the employers´ demand for higher education absolvents in 2014. The figures on y axis indicate how many different employers looked at graduates´ CV of IT and other programs, in the online job database Profesia.sk. The biggest demand is on the IT graduates, Engineering graduates and graduates of Economy and only fourth comes demand on graduates of Social Sciences.

Graph n. 2



Source: (Profesia, 2015)

The incorporation of empirical facts about market environment of the Slovak Republic into the strategic document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) shows that basic research to analyze the market was made by the government. One of the main issues is that the employers do not take into account the division of higher education levels according to Bologna process, meaning they do not accept bachelor degree as sufficient higher education. The dual (vocational training/internship) education of students to gain practical experience is needed, as well as analyses of market trends and its implementation is demanded by public, students and employers. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 4)

Advisory activity in higher education is in the responsibility of Accreditation Committee which evaluates individual universities/colleges and provide them with recommendations for improvement. However, the authors of document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) are skeptical about the ability of Committee to implement market needs into advice, because members of the Committee are mostly from the university academic environment. The members of Committee are not obliged and forced to improve their academic knowledge about the trends in education and they experience the conflict of interests if they are also employers of some university/college. The document (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010) states it is important that universities/colleges have developed tools used to innovate methods and curriculum of education and knowledge according to demands and needs of employers and students. However, again no further solutions and goals were set in the document. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 5) The point 30 says government will support the cooperation of employers and universities/colleges in order to create demand for Bc. students, shape the profiles of absolvents and develop cooperation with science and research. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 7) One of the tools for cooperation proposed is alumni cooperation of university/college and former students. One of the goals set by the Ministry is:

> "content of education, as well as methods of education used should ensure readiness of absolvents for the labor market and transfer of the newest facts into practice. Absolvents of bachelor degrees should be compatible with demand of labor market to perform specific profession and absolvents of master and doctorate degree should be able to ensure innovation of products and should be used primary for this purpose by employers." (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, p. 7)

The Ministry is going to work on following tools mainly to achieve previous goal:

a) Projects initiated by Ministry to develop regular dialogue between employers and universities/colleges, in order to innovate curriculum of higher education, especially the modification of bachelor degrees which will create graduates ready to enter labor market, with only a part of them continuing to master degrees.

b) Actualization of study programs framework and their definition, in order to contribute to growth of society and economy.

c) Projects initiated to develop education of academic professors and other employers according to trends in education and support the research in this field.

d) Projects initiated by Ministry of Education in cooperation with employers, which aim is to monitor readiness of absolvents of higher education to meet demands of labor market and motivate universities/collages to take part in this process.

e) Ministry will support projects which aim is to collect information about position of absolvents at the labor market and compatibility of absolvents with labor market needs.

f) Ministry will support vocational training/internships of students during their studies.

g) Ministry will support activities to improve English language skills of higher education professors.
(Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, pp. 7-8)

Therefore the study programs should be shaped according to mentioned priorities and market demands. Cooperation needs to be developed also between industries, corporations and employers to discuss their demands, as well as with research and science as the main source of scientific human capital. Inspired by this ideas, the long-term strategies of individual universities/colleges are in their own responsibility, they have to discuss them with Ministry of Education and then the financial budget is created for the university/college. (Ministerstvo školstva, vedy, výskumu a športu Slovenskej Republiky, 2010, pp. 12-13) To sum up, this long-term strategic document is much more developed than previous documents and notice the issue of higher education and human capital the most. However, there is a question to what degree were the goals implemented and the document actualized according to fulfilled goals and achievements.

3.7 Strategy for development of Slovak Republic`s society

There are not only strategies for specifically higher education made, the Slovak government prepared also a general strategy for development of Slovak Republic`s society (SAV, 2010), which incorporates strategies for development of higher education, as well. According to authors, two of the current challenges society faces are technological development and the ability of labor force to use technologies, and demographic aging of population. Higher education is seen as one of the tools to contribute to solutions, by educating labor force. The document stresses that higher education contributes to development of society and economy and several steps have to be made to support it. Strategy of higher education contributing to human capital is also important to increase employability.

> "For gaining the opportunity to be employed they [citizens] need to be able to adapt to changes of changing environment; renew, enlarge, deepen or change their current qualification according to demands of labor market; maintain the job; acquire a new job, communicate in world language; work with digital technology; be innovative, cooperative, entrepreneurial; as well as able to maintain employment in labor market of SR and abroad." (SAV, 2010, p. 274)

The improvement of information about higher education is needed, to make it available and easier for people to decide what and where to study, according to study field and references. Other main priorities are for example access to education for everyone, increase of the number of absolvents, increase of quality and support of compatibility of supplied education to demands of economic and social development. (SAV, 2010, p. 276) To achieve these priorities it is important to improve mobility of knowledge, by improvement of communication skills, critical thinking or methodological skills; curriculum needs to be reformed; re-education of professors to follow these demands is needed; as well as the ability to use communication and information technologies; and the increase in numbers of doctorate students as part of research and scientific

human capital is demanded. Improvement is also necessary regarding the innovation of framework and systematization of the structure of study programs. While preparing the new structure, policy makers should cooperate also with business sector, local and regional governments, labor and civic unions. In 2007, the social science freshmen comprised 67,6 %, natural science only 7,6% and technical science 10,3%. However, those numbers did not meet the labor market demands. Especially the technical science programs should increase capacity, and become more attractive and promoted. (SAV, 2010, p. 278)

For the first time, proposed is to improve the system of realization of strategies of education. Based on the legislation, central regulation does not have strength, decentralized direction is preferred, even though individual institutions are not prepared enough for it. Authors of the document (SAV, 2010) proposed to develop a central binding strategy with goals to be achieved in given time framework. It should be based on the various analyses, quantitative and structural goals, priority tasks, development programs and effectivity of realized programs. It should contain following:

„a) priorities of development of education and methods of its implementation, b) goals and tasks for each areas of education, regarding structure of study programs, types of schools and its capacities according to demographic growth of population and trends in development of labor market, c) proposals of development programs including participation at international projects, d) forms of cooperation of state organs, local regional governments and others participating at education process, e) financial plan of proposed strategies.“ (SAV, 2010, p. 285)

The new strategy should be based on available documents and analyses of human capital development, financial budget of government, development of regions, employment and socio-economic trends. The financial investment should increase from 4,6% of GDP in 2016 to 5,5% in 2020. The plan should be prepared by Ministry of Education every second year, and discussed

with other participants in educational process. After that it should be proposed to government and published. It should include reports of strategies implemented; and regional governments should prepare and discuss with Ministry their own strategies, based on this central binding program, their specific demands, such as demands of regional labor market, development and quality of educational system of the region. (SAV, 2010, p. 286)

3.8 Connecting higher education to labor market

Slovak Institute of economic policy made an analysis (Kleštincová, 2011) of higher education regarding labor market, which I think is the best external secondary source for my thesis based on credibility and tradition of the Institute. The main point of analysis is the low information cooperation of labor market and higher education. IHP (Kleštincová, 2011) adds, that one of the main weaknesses of higher education regarding labor market is incompatibility of labor market demands with supply of absolvents. For example, there are too many social sciences absolvents on labor market while there is shortage of technical sciences absolvents. Overall, the quality of absolvents and their knowledge after graduation is not compatible with supplied jobs enough, consequently the public opinion is that value of higher education decreases. (Kleštincová, 2011) Already after 1989 low cooperation of higher education and labor market was visible. There was high increase in higher education absolvents, but the labor market and market in general was not ready for that amount of educated people, thus the quality and value of education started to decrease, because there was surplus of higher education absolvents in the market who had to finally accept jobs of secondary school requirements. (Kleštincová, 2011, p. 5) Recently, the supply of social sciences programs offered by universities/colleges increases, because it is easier to provide it. Demand by students also increases, because the public opinion is that it is easier to study social sciences than natural or technical sciences. Whereas the technical programs demanded by employers, remained behind of interest of new students. (Kleštincová, 2011, p. 6) The main fields where there is shortage

of absolvents on labor market were in 2007 Chemistry, IT, Electrotechnics, Engineering and Mechanical Engineering. (Kleštincová, 2011, p. 7) "The biggest interests of students remain and increase for studying of social sciences…Much lower amount of students apply for technical, natural or agriculture-forestry sciences." (Zvalová et al, 2007 cited in Kleštincová, 2011, p. 8) While the market points out the need of quick supply of technical science graduates. Zvalová et al. (2007 cited in Kleštincová, 2011, p. 8) add, that in future, the most demanded graduates by market are going to be from the areas of technology, construction, industry engineering, logistics, planning and production management. Currently, there is the shortage of such absolvents on labor market. The reason is that higher education institution do not analyze demands of market enough and they are not aware of such facts. Or, they do not want to see them for some reason. The structure of study programs do not correspondent to structure of economy of SR which is based on production and development of technologies.

In table n. 4, there are free working places according to economic activity supplied by labor market from 2008 till 2015. The biggest supply is in case of Public Administration, Defense and Social Security, however the biggest proportion in this group is expected to go for free places in Defense which experience shortage of personnel comparing to other EU countries. Another groups with significant amounts of free working places are Industry, Industry Production where technological knowledge is needed and Construction Building.

Table n. 4

Free working places according to economic activity

	2008	2009	2010	2011	2012	2013	2014	2015
Free working places – average								
Economy all	24 798	17 310	13 424	14 165	14 072	15 048	16046	17198
Agriculture, Forestry, Fishery	192	136	100	51	49	68	104	103
Industry all	5 477	2 223	2 430	2 459	2 134	2 211	2916	3176
Exploitation of natural resources	143	62	46	50	49	32	24	70
Industry production	4 728	1 474	1 846	1 899	1 609	1 506	2082	2382
Supply of electricity, gas, vapor and cold air	474	479	310	313	345	550	643	598
Supply of water cleaning and waste-water diversion, waste and services for waste liquidation	132	208	228	197	131	123	167	126
Construction building	1 623	898	628	487	457	412	498	410
Wholesale, retail business, servicing of automobiles and motorcycles	2 693	1 895	1 891	1 486	1 187	1 170	1202	1184
Carrying trade and storage	1 582	1 104	800	1 121	1 009	899	1102	1277
Accommodation and gastronomy	720	483	285	400	152	447	432	525
Information and communication	228	240	246	386	303	320	221	328
Financial and insurance services	924	534	541	569	622	575	788	954
Real estate services	128	37	106	113	132	65	40	12
Special, scientific and technical activities	638	388	303	420	291	340	831	635
Administration services	326	126	129	176	171	412	155	265
Public administration, defense, social security	8 369	7 359	4 338	4 971	6 281	7 161	7056	7304
Education	420	450	270	294	251	149	151	171
Medicine and social support	990	1 114	1 079	1 000	771	620	374	600
Art, entertainment and recreation	290	178	167	143	193	135	134	126
Other activities	198	145	113	89	69	64	42	128

Source: (Štatistický Úrad Slovenskej Republiky, 2016b)

In table n. 5 you can see amounts of freshmen according to study programs. There is significant difference visible between students accepted for Technical Sciences and twice as much students accepted for Social Sciences. In general, number of students accepted decreases, but variations and incompatibility with labor market demands is still visible.

Table n. 5

Number of higher education first year students-freshmen					
	2010	**2011**	**2012**	**2013**	**2014**
Natural Sciences	3 633	3 319	3 286	3 118	2 806
Technical Sciences	14 617	14 340	13 526	12 604	11 563
Agriculture, Forestry and Veterinary Sciences	2 178	2 110	1 897	1 944	1 812
Medical and Pharmaceutical Sciences	2 357	2 721	3 029	3 035	3 227
Social Sciences	26 989	27 924	27 006	25 972	24 147
Culture and Art	1 465	1 394	1 414	1 326	1 243
Military and Security Studies and Sciences	1 405	1 378	1 395	1 273	1 096

Source: (Štatistický Úrad Slovenskej Republiky, 2016a)

While, in table n. 6 you can see higher education graduates according to study programs. Again, there is huge difference in number of Social Science graduates and other graduates, for example highly demanded Technical graduates or Agriculture graduates.

Table n. 6

Higher education graduates according to study programs					
	2010	**2011**	**2012**	**2013**	**2014**
1 Natural Sciences	2 729	2 503	2 414	2 382	2 271
2, 3 Technical Sciences	10 362	10 257	9 911	9 713	9 180
4 Agriculture, Forestry and Veterinary Sciences	1 480	1 408	1 365	1 449	1 357
5 Medical and Pharmaceutical Sciences	1 951	1 996	2 128	2 169	2 356
6, 7 Social Sciences	25 196	24 143	24 129	22 448	22 414
8 Culture and Art	1 271	1 318	1 291	1 279	1 137
9 Military and Security Studies and Sciences	883	1 028	1 255	1 261	1 238

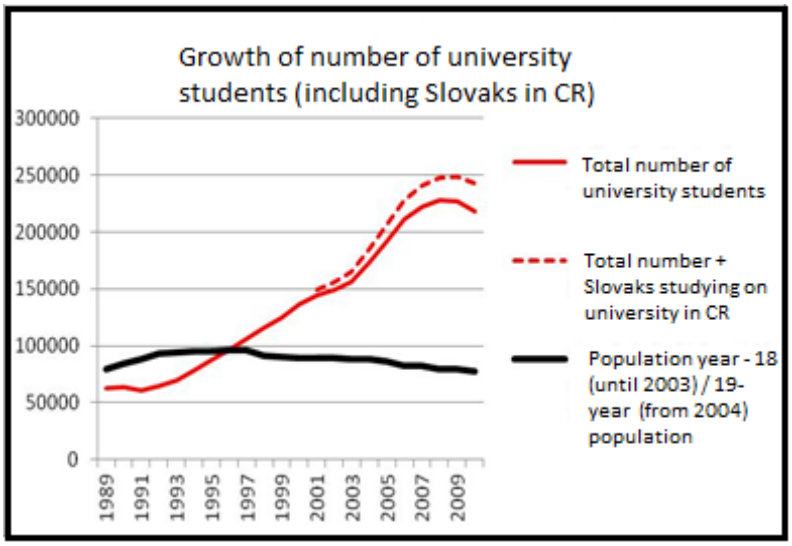
Source: (Štatistický Úrad Slovenskej Republiky, 2016a)

There is currently no mechanism or system of cooperation of educational sector and labor market sector made and implemented, so the demands of labor market are not fulfilled by higher education. (Kleštincová, 2011, p. 8) Isolation of labor market and higher education, devaluation of higher education and its massification are main causes of unemployment of absolvents. One of the proposed tools to meet the demands of labor market are for example incomes analyses. According to them, students and providers of higher education would see which of the market fields experience surplus of labor force and provide low average incomes and which of them are demanded and provide higher incomes. (Kleštincová, 2011) IHP

(Kleštincová, 2011) also points on the problem of training in higher education. Absolvents are not prepared enough for the labor market because they have low practical experience which are demanded by employers. Whereas 89% of professors think absolvents are practically prepared, 46% of absolvents had no chance for vocational training or internships during their studies. (Kleštincová, 2011, p. 11)

Low quality of education and low compatibility with labor market are results of increased numbers of higher education students in international comparison with low stress on quality or demand of labor market, low financial support, and insufficient acceptance of bachelor´s degree by market and society. (Kleštincová, 2011) Even though demographic curve of population is in decline, number of supplied higher education places is not changing. In 2006 75% of admissions were accepted, what almost doubled since 2002. (Kleštincová, 2011, p. 17) Institutions and policy members want to reach levels of EU countries in numbers of participants and absolvents of higher education, but they forget about decreasing quality coming with that.

In the graph n. 3 you can see the number of higher education students (in red) in contrast to demographic decrease of 18/19 years old population. While the number of students increases, amount of 18/19 years olds decreases. The free supplied places for new students are not decreased with demographic decrease. **Graph n. 3**



Source: (Kleštincová, 2011, p.6)

The main weaknesses of absolvents entering labor market are mostly low practical experience, low IT technology skills, low communication and foreign language skills. (Kleštincová, 2011, p. 17) The value of degree is being devaluated by increased numbers of absolvents, lower quality of education, easier requirements to finish studies, isolation of education and labor market, and lower usage of knowledge gained by higher education in future careers. (Kleštincová, 2011, p. 17) Moreover, authors support already mentioned idea that bachelor programs should be modified to be in a position of general higher education; and master programs should serve mostly for those talented and those willing to participate at science and research.

One of the tools in an analysis (Kleštincová, 2011) proposed to solve the problem of cooperation of labor market and higher education is monitoring of absolvents and their successfulness at the labor market. According to results, adaptation of higher education supply and quality will be made. Absolvent should be monitored already after entering labor market, and again after his assimilation at labor market in 3 years. Analyses should be made every two years. Absolvent should be monitored by his basic information (age, gender, family status, number of children and education of parents), studies he attended and their process, current job and duration of job, characteristics of current profession, duration of his unemployment experience, his preferences when looking for a job, usage of his knowledge and experiences gained by higher education, and his working history after studies. Monitoring can be done by mailing, but also online, and should be done at certain security and privacy level. The results of monitoring could be either used by state at legislative and advisory process, or passed to the responsibility of individual institutions, such as universities, colleges, alumni, think tanks or labor unions. (Kleštincová, 2011, pp. 24-27) Besides educational institutions or state, the results could be used and coordinated by third body, as it is done in Italy by AlmaLaurea. In SR, this

work can be done by Accreditation Committee, but its objectivity and independence needs to be improved in order to take such resposibility. (Kleštincová, 2011, p. 29)

Often, educating institutions and public sector prefer the autonomy of universities/colleges and lower state intervention. Thus, the labor market demands can be presented also by market competition methods, using several independent statistics and analyses, providing the future applicants and their parents with information about their choices. IHP (Kleštincová, 2011) proposes introduction of an institution to coordinate cooperation of labor market and higher education, either by the state Institute for information and prognoses of Education (ÚIPŠ), by higher education institutions or by the third sector. Helpful would be also cooperation of Ministry of Education and Ministry of Labor. It is upon the Ministry of Education to define the value and binding obligations of these relationships. The proper definition of such cooperation and analyses is needed in order to conduct and develop them, and use of results to effective improvement of higher education policy. It should mainly serve to pass information between labor market demands and higher education trends, supply and priorities, in order to adapt the structure, aims and content of higher education. According to Prades and Rodríguez (2007 cited in Kleštincová, 2011, p. 22); and Zvalová et al. (2007 cited in Kleštincová, 2011, p. 22), the main aims of such cooperation and analyses are: a) monitoring of trends in labor market of absolvents, effectivity and applicability of their gained knowledge potential in the market, b) identification of structural incompatibility of supplied absolvents and demanded labor market jobs, c) improvement of quality of universities/college management, and increase of their individuality in competitive environment of higher education institutions, d) better information for students applying, as well as for higher education employers when they choose their field of study and research, e) management of educational policy and its creation (structures and content) according to labor market demands.

Another tools proposed to improve the relationship between higher education and labor market is to base accreditation of study programs on employability of absolvents in labor market. When the employability is lower, Committee will accredit less places for applicants to that specific study program at the university/college, in order to meet market demands. (Klestincova, 2011, p. 22)

The future cooperation of university/college and its absolvents is proposed; with analyses based on working experience of recent absolvents. It could serve to obtain empirical recommendations by absolvents for development and improvement of higher education, its content and application of knowledge. The information can also serve as marketing to attract new participants, such as students and employers. Currently, empirical information and studies about rates of returns of specific degree and diploma and its value for future life are not available in SR. For public, such cooperation can serve as a source of information about quality of education and general education environment. The employers will also gain the general overview about labor market of absolvents, knowledge, skills and experience of absolvents. It can also serve as a source of information for investors, sponsor or organizations, who would like to cooperate with universities/colleges, employ students as interns or employ absolvents in their field of business. (Kleštincová, 2011, p. 23)

3.9 International discourse

Even though OECD and its field of educational research experience many criticism recently, it is an organization with the biggest amount of credible international studies about education available. Because of that, I have chosen to look for their opinion on the strategy of higher education in the Slovak Republic and its connection to human capital. I was not surprised that they are not focused particularly on this topic, but I find their analyses of Slovak higher education in general helpful, as well.

The Slovak Republic has higher amount of citizens who attained upper secondary education, than OECD average is. While in 2011 94% of both genders attained upper secondary education, at this point, usually the education is finished. SR is ranked second among OECD countries with amount of people having only upper secondary education. In 2011, only 26% of 25-34 years-olds had a university degree. In OECD Education at Glance 2013 (OECD, 2013) they provided statistics, that employment rate of tertiary educated people in SR was 82% in 2011, comparing to OECD average 83%. Unemployment rate of tertiary educated 25-64 years olds was in 2011 only 5,2%, in 2014 it increased to 5,8%. People without upper secondary education, they had unemployment rate of 39%, highest in OECD countries. In 2012, this number even increased to 42%. (OECD, 2013, pp. 1-3; OECD, 2015, p. 4) Earnings of tertiary educated people are 1,7 times higher than earnings of people with upper secondary level education. In 2014, percentage of people with tertiary education was 20%, but there were high expectations on young people attaining Bachelor`s degree in their lifetime - 56% and Master`s degree – 39%, one of the highest figures in OECD countries. (OECD, 2015, p. 1) Apart from statistical facts, OECD was not focused on connection of higher education to labor market and strategies of higher education in SR.

The higher education policy in the Slovak Republic is also inspired and guided by World Declaration on Higher Education for the Twenty-first century, made by UNESCO (1998). Already the first sentence of declaration stresses the importance of human capital of educated human beings.

> "On the eve of a new century, there is an unprecedented demand for and a great diversification in higher education, as well as an increased awareness of its vital importance for sociocultural and economic development, and for building the future, for which the younger generations will need to be equipped with new skills, knowledge and ideals.". (UNESCO, 1998)

There is a stress on the significance of higher education and research institution, which produce critical, educated and skilled human capital, especially in case of undeveloped countries. Authors (UNESCO, 1998) call for an international cooperation, sharing of knowledge and new technologies in order to reduce the gap between developed and undeveloped countries. Unfortunately, I think this gap is beneficial for western leaders, because uneducated undeveloped periphery countries can produce manual goods and do manual jobs at lower prices.

> "Higher education has given ample proof of its viability over the centuries and of its ability to change and to induce change and progress in society. Owing to the scope and pace of change, society has become increasingly knowledge-based so that higher learning and research now act as essential components of cultural, socio-economic and environmentally sustainable development of individuals, communities and nations. Higher education itself is confronted therefore with formidable challenges and must proceed to the most radical change and renewal it has ever been required to undertake, so that our society, which is currently undergoing a profound crisis of values, can transcend mere economic considerations and incorporate deeper dimensions of morality and spirituality." (UNESCO, 1998)

Stressed is also long-term orientation of higher education based on its relevance. Orientations to social aims, values and needs, cultural and environmental protection. to its role to serve society, and to development of whole educational system, but also to creation of "non-violent and non-exploitative society-consisting of highly cultivated, motivated and integrated individuals, inspired by love of humanity and guided by wisdom." (UNESCO, 1998) UNESCO is calling on the educational institutions to "define its mission according to the present and future needs of society". (UNESCO, 1998) While defining the mission, they should keep in mind that higher education is important for every country and its regions, to reach and sustain environmentally sound economic, social and cultural development, to increase and develop the

living standards, internal and international harmony and peace, in respect of human rights, democracy and tolerance. Among others, they stress also the importance to

> "set up the relations with the world of business on a new basis involving effective partnerships with all social actors concerned, starting from a reciprocal harmonization of action and the search for solutions to pressing problems of humanity, all this within a framework of responsible autonomy and academic freedoms". (UNESCO, 1998)

3.10 Skepticism expressed by Slovak higher education experts

A part of my empirical research are interviews with experts on higher education of the Slovak Republic and here are presented the most important results. The expert interviews were done with two former Ministers of Education of the Slovak Republic - Prof. Ing. Ján Mikolaj, CSc., dr.h.c., Ing. Eugen Jurzyca;, and Dr.h.c. mult. prof. Ing. Juraj Sinay DrSc., Prof. PhDr. Miron Zelina, DrSc., dr.h.c., who actively participate in academic environment of the Slovak Republic. You can find the interviews transcripts in Appendices, as Appendix 10. The results of interviews are, that the cooperation between various Ministries regarding strategies of higher education and human capital is only limited, as well as international cooperation on this topic. If there is some cooperation between Ministry of Education and other Ministries or individual universities/colleges done, it is not systematical, rather by ad hoc projects. There is no systematic cooperation between, for example, research of universities/colleges, institutions and Slovak Academy of Science, thus there is no method how to implement strategic goals. Slovak Academy of Science should become more open to practical use of science and research, and start to cooperate with universities/colleges and business sector. The labor market and its demands are not analyzed, what results in shortage of labor capital in car industry or agriculture. What is a positive exception sometimes is development of cooperation between universities/colleges and business sector, especially in the fields of technological engineering and various industries.

The strategical documents are not possible to be implemented, because they do not contain special goals and steps to be followed, most of the time universities/colleges do not know how to follow the guidelines and they are not oblige to follow them due to high autonomy of universities/colleges. Universities/colleges create their own strategic goals according to self-interests or, in reality, skip the recommendations by government. The importance of higher education for human capital, growth and competitiveness is very significant according to experts, but there needs to be difference between supplied study programs framework and demands of market solved. As a huge weakness they stressed low financial support in comparison to OECD or EU countries. There was an interesting opinion expressed by Prof. PhDr. Miron Zelina, DrSc., who agrees with moral and philosophical importance of higher education, but he thinks that at the current level of quality of universities/colleges in SR, the human capital in form of students is wasted at most of the universities/colleges. Accreditation Committee does not evaluate the quality of teaching, rather individual research careers of professors, so there is low control of quality of higher education and no significant improvement. Thus the time of students spent for studying at low quality universities/colleges could be used for other production.

In spite of the fact that education is not directed centrally by the European Union, the former Minister of Education Prof. Ing. Ján Mikolaj thinks that all of the strategies are based on guidelines of European Union. On the other hand, according to Dr.h.c. mult. prof. Ing. Juraj Sinay DrSc., European Union does not have an impact on the higher education of SR. In fact, the EC`s recommendations to increase the financial investments to higher education are ignored by the Slovak Government, as well as the fact that evaluation of Accreditation Committee should be independent of state. In SR it is a state institution, evaluating and advising higher education. SR positively entered higher education environment of EU,

participates at debates, but the negative impact is increasing amount of students leaving SR to study in other EU countries, while most of them stay working abroad after their studies.

4. Results and Discussion

Below, you can see a table which presents the results of my analysis in summary of main strategic goals and tools proposed to their implementation, after that I comment on the results and develop a discussion. In the blue highlighted lines are the most important goals, below the highlighted lines are tools proposed for their achievement. It is a summary of most commonly mentioned strategic goals of higher education of SR regarding human capital and tools proposed by authors to be used to successfully implement the goals. Often, there were same tools proposed for several goals. This summary structural table of results, which you can find in following page, presents to what extent the government and other policy makers incorporate importance of human capital to strategy of higher education and in what sense they understand this importance.

Cooperation of Ministry of Education with other Ministries (Finance, Labor), business sector and public sector

- No exact tools proposed

Structure/Framework of universities/colleges and their study programs

- Cooperation of business sector, local and regional governments, labor and civic unions to reach an equillibrium

Reform of curriculum of higher education, based on market and public demands

- Cooperation of higher education sector and business sector, Ministry initiated projects to support it
- Increase in quality of professors and their scientific growth
- Competitive environment of universities
- Reform of study programs framework and its definition
- Projects monitoring absolvents

Dual education-vocational training/internship

- Cooperation of higher education and business sector

Science and Research

- Financial support and long-term strategy
- Support of business activities focused on development and innovation
- International quality research
- Motivation of scientists-good working and financial conditions, competitive environment
- Cooperation of higher education and business sector, cooperation of Ministries of Education, Economy, Labor, Finance, etc.

Bologna Process goals

- Structuralization of study programs, modification of 3 cycle higher education system
- Bachelor as sufficient and accepted higher education degree to enter labor market

Cooperation of higher education and business sector

- Cooperation of university/college and its absolvents
- Ministry initiated projects
- Projects monitoring absolvents
- Dual education

Realization of strategies of higher education

- Central binding strategy with goals to be achieved in given time framework

Increased numbers of participants and absolvents

- Respond to labor market demands and preferences of applicants
- Improve quality of professors, communication and information technology
- Increase attractivness and marketing of higher education

The introductory part of analysis called Basic overview of higher education in SR, as well as the Legislation subchapter, give us insight into the framework of higher education in SR. The main feature is relatively high degree of autonomy of universities or colleges. Even though both public and private universities/colleges are regulated by legislation, it passes most of the responsibilities to them. Among responsibilities of Ministry of Education we can find creation, control and actualization of legislation, the financial budget, its administration and redistribution, the work of Accreditation Committee, but also the publishing of annual reports and long-term strategies with actualizations. Already the legislation set the conditions how the higher education is going to be managed, strategies made and implemented. Similarly as it has an obligation to prepare and publish annual report every year, it also has an obligation to prepare or actualize the long-term strategy every year. However, this strategy serves only as some kind of moral guide with trends and goals of society to be followed, but concrete strategies with concrete goals need to be made by universities/colleges itself, and discussed with Ministry of Education.

The first problem of this system is that as long as all the sources are available at the website of Ministry of Education, the long-term strategy was made and published only once since 2002, in 2010, without any actualizations made in following years. We can expect, that if this obligation is not followed, the preparation of long-term strategies of individual universities/colleges and its discussion with Ministry is hardly believed to be followed as well, while no reports are published to contradict my result. Another problem is that there is no framework for cooperation of individual universities/colleges made, managed either by Ministry, or a third party, thus they have lower chances to cooperate, set common goals and find the best optimal solution for growth of society and follow demands of society, public, international community and market demands. As a result, already at the beginning of educational process, there are significant weaknesses in possibility to incorporate importance

of quality and growing human capital of whole society as a common aim with specific goals for higher education process. The relationships between various actors of society are not built, and the strategic process is not managed. Universities/colleges act individually in their strategies and the process is ineffective for human capital goals and demands of labor market. Universities/colleges make their study programs individually, without any common vision which programs are more demanded, more needed, which are shortage on the market, etc.

Nearly in all of the strategic documents and other publications, they stressed the importance of higher education for an individual, country, society and economy, especially for growth and prosperity. An individual should possess harmonic personality, wisdom, knowledge, creativity and good, moral values, civic and social responsibility and develop knowledge, culture and welfare of society. Universities/colleges are advised to act in order to educate individuals in such values. It is important to set these values in order to educate prosperous human capital in form of citizens, but there is no legislative obligation for universities/colleges in SR to act in this manner and actually, there is no way to measure it.

I found 9 main goals regarding human capital which were most often set by government or other authors of strategic publications. The first one is Cooperation between Ministry of Education and other Ministries, such as Economy or Labor. The specific tools were not set, but by this cooperation, the other two important actors (Ministry of Labor, Ministry of Economy) in the concept of human capital could shape human capital building by education. Ministry of Labor should have analyses of labor market and know where there is surplus on the market, where shortage is, what are the trends and weaknesses of employees and what is demanded by employers. Ministry of Economy should map the needs of economic growth of the country and predict contribution of human capital. Their arguments and facts should be incorporated to the strategy of higher education by the Ministry of Education, especially the study programs framework and content of programs could be shaped according

to that. Also the cooperation of Ministry of Education with business and public sector is demanded. Even though the strategy set by Ministry is not binding, such cooperation could contribute to human capital development by analyzing the most important demands of business sector and also demands of public sector. By equilibrium, a compromise solution regarding higher education and human capital could be made and advised to be implemented by individual universities/colleges.

Second significant goal is the rebuilding of structure and framework of study programs supplied by various universities/colleges. The structure has to be made according to market demands and trends, as well as long-term labor market development. Analysis shows, that supply of graduates often do not correspond to demand of market and the effect might be more significant in long-term. As a result, unemployment of graduates increases and value of higher education decreases. Essential tool for the solution is cooperation of business sector, regional and local governments, and civic and labor unions to find the equilibrium in demand of various fields of market, needs of the regional development and welfare of society, to ensure future growth. Universities/colleges should then cooperate among themselves to not supply much what is not demanded and increase supply of high demanded study programs. Long-term trends and developments must be considered and competitive environment created.

Curriculum of programs needs to be rebuilt, because it does not follow trends of knowledge and education, methods used, and demands of employers, innovators and scientists. Graduates finish schools educated, but their knowledge is different than what is currently demanded. In order to be able to use human capital for production effectively, the people need to possess the newest knowledge and be able to educate themselves in future. To be able to change and identify new curriculum, creators need to cooperate with business sector, consider their demands, newest innovations and also provide lifelong education for professors. To be able to achieve it and follow global development, academia has to improve

their international language skills and use technologies in order to grow. Competitive environment of universities/colleges is advised, in order to improve the quality of international level. Ministry of Education could initiate and manage projects financed by private investors, to support quality improvement.

Another goal which is connected to curriculum, is dual education. Incorporation of vocational practical training/internship to almost every program is highly demanded by market, public and students. It is a huge problem when graduates leave school with expert knowledge, but unable to use it because they have no practical empirical experience of using the specialized knowledge. As a result, employers are afraid to offer them jobs and graduates often end up doing different, secondary level jobs. Vocational training/internships should be offered by universities/colleges as part of study programs to make knowledge more valuable and useable, taking an example from abroad universities/colleges.

As a part of international community and Bologna Process, a part of strategy has to be also to fulfill goals set by Bologna Process. Even though officially the very first goal to adapt 3 cycle system (bachelor, master, doctorate) was achieved, universities/colleges still have a lot to improve. The main focus now is to shape bachelor programs to be a sufficient higher education degree, with general higher education knowledge, accepted by society, public and most importantly, employers. Bachelor graduates should be able to get adequate jobs and income. Master programs should be relieved and focused mostly on human capital willing to contribute to innovation and development.

In my opinion, a problematic is a goal to increase number of participants and absolvents. It is a challenge to meet international standards, but the quality must be ensured, as well with increasing numbers of students. This is often not true in case of higher education institutions in SR.

The significant focus is put on science and research. Most of the policy makers relate human capital to the innovative scientists and focus their attention primary on them. Scientific career needs to be made more attractive, with better working and financial conditions, research needs to reach international quality, take part in international community and the cooperation of business sector and science needs to be supported in order to make work of scientists effective and productive.

The last, but in my opinion most important goal set by policy makers is realization of strategies of higher education by central binding strategy with set goals in given time framework. There is visible self-reflexing that current system of strategies does not work and in order to make higher education effective for human beings which are essential labor force for production and growth of society and economy, better framework, binding for all universities/colleges is needed to be initiated, created, implemented and managed by Ministry of Education as a leader in this process.

Finally, I would like to summarize results to hypotheses set in the beginning.

Hypothesis 1: "Strategy of higher education of the Slovak Republic is not systematically prepared and implemented", was supported by analysis. By legislation, the strategies of individual universities/colleges are in their own responsibility, while they have obligation to discuss it with Ministry of Education. Ministry of Education must prepare long-term strategy of higher education, or actualize the current one, every year. This obligation was fulfilled only once, in 2010. Strategic goals set up by Ministry of Education, serve only as a directive, not obligation. In general, there is no common national strategy of higher education, no common strategy of higher education regarding human capital and cooperation of higher education actors (Ministry of Education, Ministry of Finance, Ministry of Labor, universities/colleges, research and science institutions, business sector, etc.) is very poorly developed.

Hypothesis 2: “Strategy of higher education of the Slovak Republic does not comprise demands and changes of labor market. The educational policy makers do not cooperate with economic and labor market experts of the Slovak Republic enough”, was supported by analysis. The educational policy makers often avoid this topic in practice. There is a stress on importance of labor market demands on human capital, however no solutions and tools were clearly defined, made obliged and implemented. When it comes to ad hoc projects and cooperation initiated by universities/colleges and business sector, there is a positive increase. However, such cooperation lacks national level framework, common strategy, goals and tools proposed to be followed in order to reach common goal of human capital contributing to economic and social growth of the country.

Hypothesis 3:”Joining of the European Union and cooperation of member countries in terms of education influenced strategy of higher education of the Slovak Republic”, was supported by analysis only partly. The most influential was the Bologna Process which changed the structure of higher education in SR and improved students and labor mobility among countries. However, besides Bologna Process and some inspirational influence of European Higher Education Area, European Union has no impact on higher education of SR and there is low cooperation of SR with other countries in terms of higher education and its quality.

Conclusion

The research showed that already in the beginning of the process, the government pass the responsibility of concrete strategies, including strategies regarding higher education as an investment in human capital, to individual universities, while preparing only guidelines to be followed. Consequently, government understands the importance of higher education for

human capital, but does not act as a mentor and leader. By the goals set in various documents, I was searching for incorporations of human capital concept and its importance in the higher education process, to be able to see to what extent and in what way the concept of human capital is incorporated into the higher education. The results are that all of the actors understand the importance of higher education for human capital, for society and economy. Even though still most of them prefer importance of scientific human capital. There are individual goals set and ad hoc steps underwent, but there is no common strategy made, steps created and tools implemented to follow common goals in building of prosperous human capital. The whole process lacks framework of universities/colleges, business and public sector; and management of the system with the government as leader.

In my future studies, I would like to research the quality of education in the Slovak Republic regarding human capital, in general. To discuss the topic of quality of education, claims that there are weaknesses in the quality of higher education of the Slovak Republic which start already at the beginning of the education process, which is policy making of education, need to be proven. Besides that, the future research may concentrate on effectivity of existing strategies, effectivity and quality of individual projects, analysis of strategies of individual universities/colleges regarding human capital and essential financial investments into higher education.

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Glossary

CV – Curriculum Vitae

EU – European Union

EUA – European University Association

GDP – Gross Domestic Product

IHP – Inštitút Hospodárskej Politiky (Institute of Economic Policy)

IT – Information Technology

Ministry of Education – Ministry of Education, Science, Research and Sport of the Slovak Republic

OECD – Organization for Economic Co-operation and Development

PISA – Programme for International Student Assessment

SAV – Slovenská Akadémia Vied (Slovak Academy of Science)

SR – Slovak Republic

UNESCO – United Nations Educational, Scientific and Cultural Organization

US – United States

ÚIPŠ – Ústav informácii a prognóz školstva

List of appendices

Appendices

Appendix 1: Returns to education in the Slovak Republic by data published in 2013. (Table n. 1)

	2004	**2005**	**2006**	**2007**	**2008**	**2009**
Return period in n. of years	20	18	22	22	23	20
Return period based on age	38	36	40	40	41	38

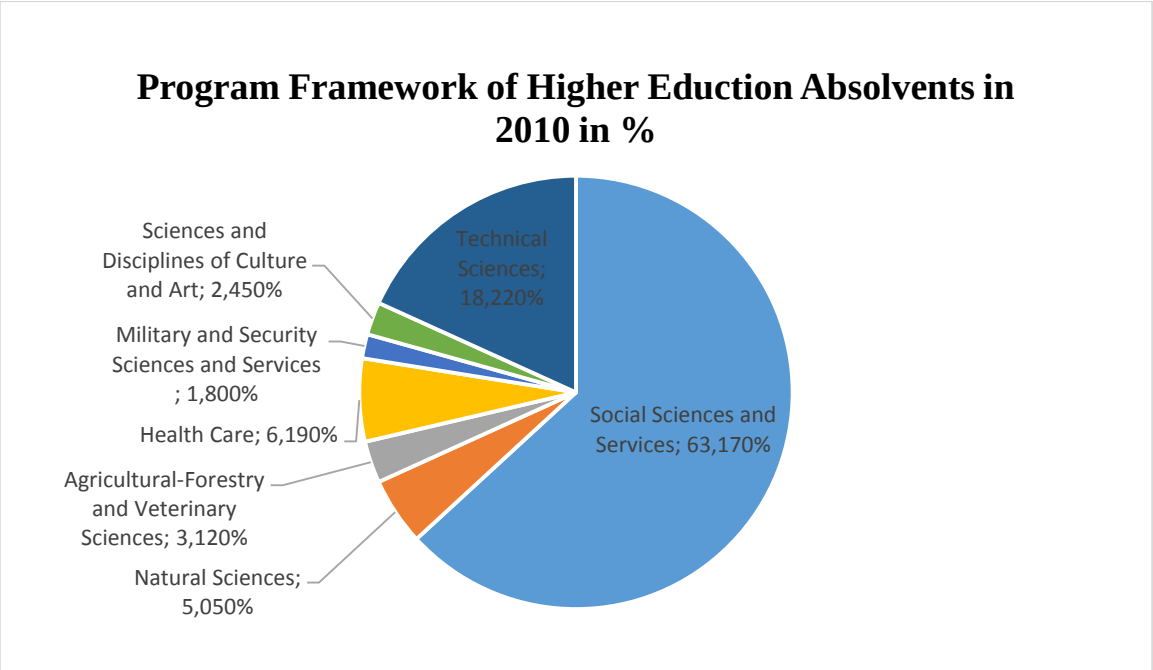
Source: (Horváthová, 2013, p. 57)

Appendix 2: Rates of returns of public investments to higher education in the Slovak Republic, according to average gross income. (Table n. 2)

2004	**2005**	**2006**	**2007**	**2008**	**2009**
8,888%	10,549%	8,737%	8,799%	8,489%	9,382%

Source: (Horváthová, 2013, p. 53)

Appendix 3*:* Program Framework of Higher Education Absolvents in 2010 in %. (Graph n. 1)



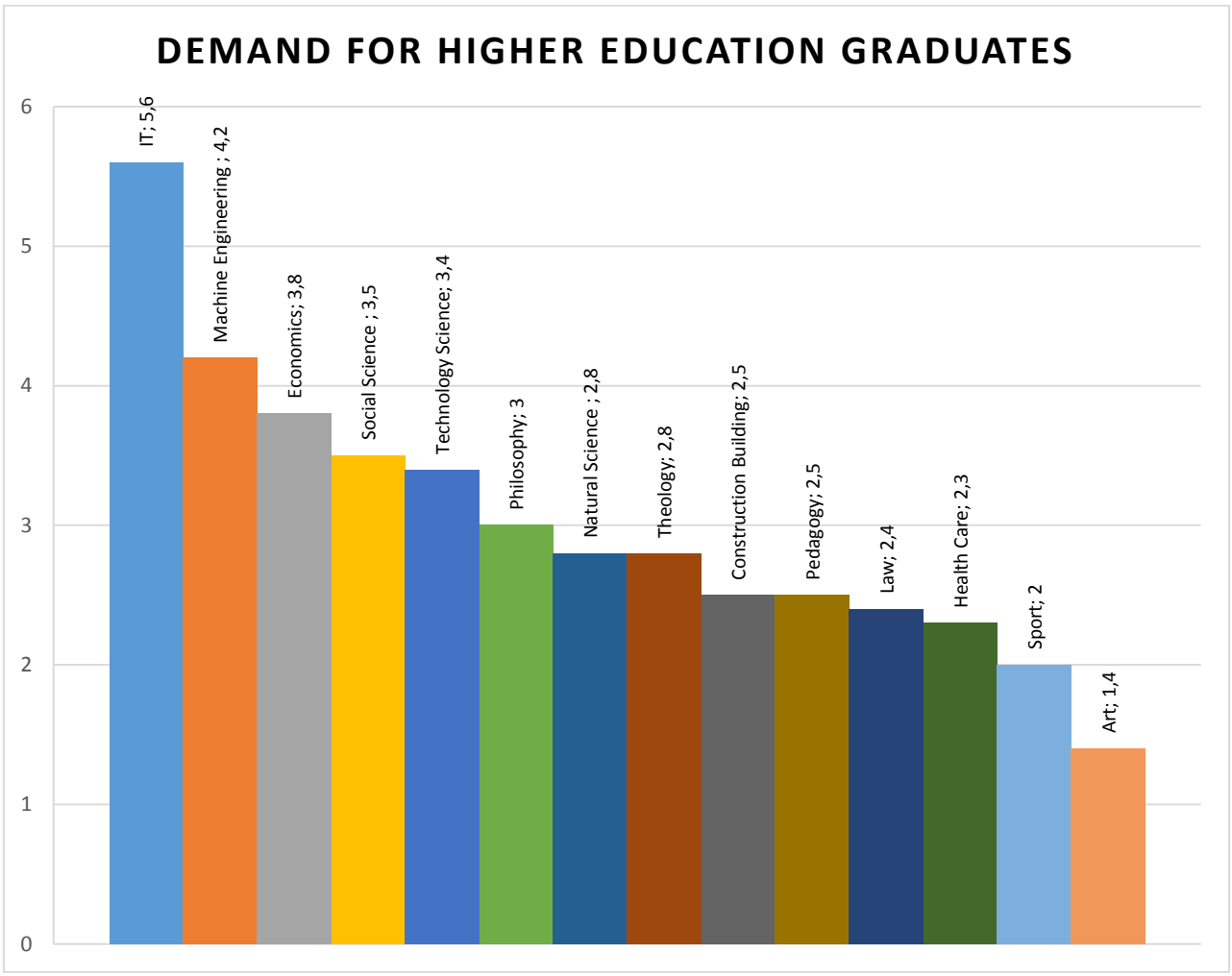
Source: (ÚIPŠ cited in Kleštincová, 2011, p. 7)

Appendix 4: Slovak Economy Data. (Table n. 3)

Slovak Economy Data	2011	2012	2013	2014	2015
Population (million)	5.4	5.4	5.4	5.4	5.4
GDP per capita (EUR)	13,065	13,401	13,645	13,949	14,392
GDP (EUR bn)	70.4	72.4	73.8	75.6	78.1
Economic Growth (GDP, annual variation in %)	2.8	1.5	1.4	2.5	3.6
Consumption (annual variation in %)	-0.6	-0.4	-0.8	2.4	-
Investment (annual variation in %)	12.7	-9.2	-1.1	3.5	-
Industrial Production (annual variation in %)	5.3	8.0	5.2	3.7	5.9
Unemployment Rate	13.7	14.0	14.2	13.2	11.5
Public Debt (% of GDP)	43.3	51.9	54.6	53.5	-
Inflation Rate (CPI, annual variation in %, eop)	2.3	3.0	0.4	0.2	-0.2
Inflation Rate (HICP, annual variation in %)	4.1	3.8	1.5	-0.1	-0.3
Inflation (PPI, annual variation in %)	2.3	3.9	-0.1	-3.5	-4.3
Exchange Rate (vs USD)	1.30	1.32	1.38	1.21	1.09
Trade Balance (EUR billion)	0.0	2.5	3.0	2.9	-
Exports (EUR billion)	54.7	60.2	62.1	62.6	-
Imports (EUR billion)	54.7	57.7	59.1	59.7	-
Exports (annual variation in %)	17.6	10.0	3.3	0.7	-
Imports (annual variation in %)	17.4	5.4	2.5	1.1	-

Source: (Focus Economics, 2016)

Appendix 5: The employers´ demand for higher education absolvents in 2014. (Graph n. 2)



Source: (Profesia, 2015)

Appendix 6: Free working places according to economic activity supplied by labor market from 2008 till 2015. (Table n. 4)

Free working places according to economic activity

	2008	2009	2010	2011	2012	2013	2014	2015
Free working places – average								
Economy all	24 798	17 310	13 424	14 165	14 072	15 048	16046	17198
Agriculture, Forestry, Fishery	192	136	100	51	49	68	104	103
Industry all	5 477	2 223	2 430	2 459	2 134	2 211	2916	3176
Exploitation of natural resources	143	62	46	50	49	32	24	70
Industry production	4 728	1 474	1 846	1 899	1 609	1 506	2082	2382
Supply of electricity, gas, vapor and cold air	474	479	310	313	345	550	643	598
Supply of water cleaning and waste-water diversion, waste and services for waste liquidation	132	208	228	197	131	123	167	126
Construction Building	1 623	898	628	487	457	412	498	410
Wholesale, retail business, servicing of automobiles and motorcycles	2 693	1 895	1 891	1 486	1 187	1 170	1202	1184
Carrying trade and storage	1 582	1 104	800	1 121	1 009	899	1102	1277
Accommodation and gastronomy	720	483	285	400	152	447	432	525
Information and communication	228	240	246	386	303	320	221	328
Financial and Insurance services	924	534	541	569	622	575	788	954
Real estate services	128	37	106	113	132	65	40	12
Special, Scientific and Technical activities	638	388	303	420	291	340	831	635
Administration Services	326	126	129	176	171	412	155	265
Public administration, defense, social security	8 369	7 359	4 338	4 971	6 281	7 161	7056	7304
Education	420	450	270	294	251	149	151	171
Medicine and social support	990	1 114	1 079	1 000	771	620	374	600
Art, Entertainment and Recreation	290	178	167	143	193	135	134	126
Other activities	198	145	113	89	69	64	42	128

Source: (Štatistický Úrad Slovenskej Republiky, 2016b)

Appendix 7: Amounts of freshmen in the Slovak Republic, according to study programs. (Table n. 5)

Number of higher education first year students-freshmen					
	2010	**2011**	**2012**	**2013**	**2014**
Natural Sciences	3 633	3 319	3 286	3 118	2 806
Technical Sciences	14 617	14 340	13 526	12 604	11 563
Agriculture, Forestry and Veterinary Sciences	2 178	2 110	1 897	1 944	1 812
Medical and Pharmaceutical Sciences	2 357	2 721	3 029	3 035	3 227
Social Sciences	26 989	27 924	27 006	25 972	24 147
Culture and Art	1 465	1 394	1 414	1 326	1 243
Military and Security Studies and Science	1 405	1 378	1 395	1 273	1 096

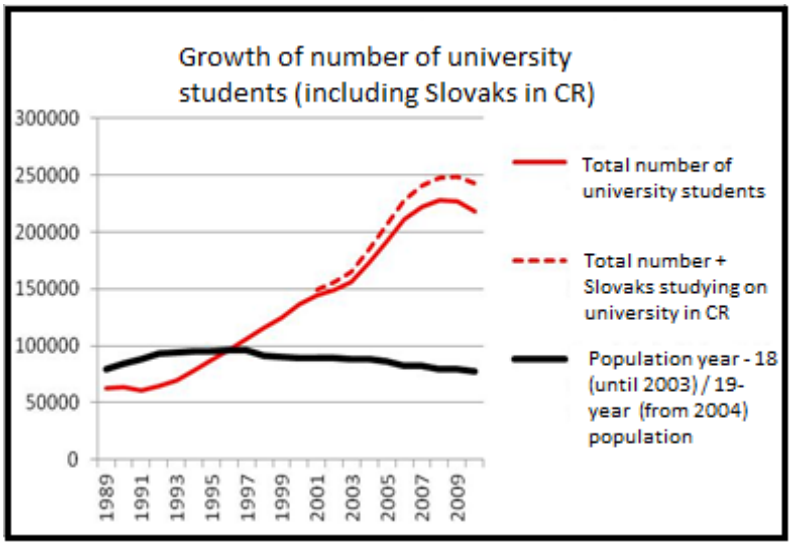
Source: (Štatistický Úrad Slovenskej Republiky, 2016a)

Appendix 8: Higher education graduates in the Slovak Republic, according to study programs. (Table n. 6)

Higher education graduates according to study programs					
	2010	**2011**	**2012**	**2013**	**2014**
1 Natural Sciences	2 729	2 503	2 414	2 382	2 271
2, 3 Technical Sciences	10 362	10 257	9 911	9 713	9 180
4 Agriculture, Forestry and Veterinary Sciences	1 480	1 408	1 365	1 449	1 357
5 Medical and Pharmaceutical Sciences	1 951	1 996	2 128	2 169	2 356
6, 7 Social Sciences	25 196	24 143	24 129	22 448	22 414
8 Culture and Art	1 271	1 318	1 291	1 279	1 137
9 Military and Security Studies and Sciences	883	1 028	1 255	1 261	1 238

Source: (Štatistický Úrad Slovenskej Republiky, 2016a)

Appendix 9: The number of higher education students in contrast to demographic decrease of 18/19 years old population. (Graph n. 3)



Source: (Kleštincová, 2011, p. 6)

Appendix 10: Expert interviews

Prof. Ing. Ján Mikolaj, CSc., dr.h.c. 2016. *Strategy of Slovak Republic´s government to use higher education as an investment into human capital.* Interviewed by Erika Smereková. [e-mail communication] Prague, March 2016.

1. What is the role of documents regarding strategy of higher education in Slovak Republic published by Ministry of Education, science, research and sport in functioning of individual autonomous institutions that provide higher education in Slovak Republic?
   Answer:
   Fundamental. Documents are usually implemented into legislature and statutes, which control the entire system of education.
   In case of colleges, it is mainly about autonomy of academic environment, absolute freedom when opening new study programs, even without considering employability of graduates. On the other hand, system of accreditation and methodology of distribution of financial resources to individual schools.
   Strategic documents establish system for these activities and their relative ratio.

2. Do these strategic documents consider role of higher education being a long-term investment into human capital?
   Answer:

That is very hardly applicable to regulation. Rather, it is about indirect tools such as amount of financial resources assigned by state to higher education, science, research, e.g.

3. Are the needs of the market, trends in development and human capital monitored and mapped for that reason?
   Answer:
   Yes, for main statistical indicators. However, not as a dynamic tool for governing.

4. Do exist any co-operations between Ministry of education, science research and sport and other organizations that work with human capital such as Ministry of Agriculture, firms or research institutions?
   Do these co-operations contribute to long-term strategies and mission of higher education?
   Answer:
   Only partially. Each resort has its own focus of work, to which it is dedicated to. Inter-resort programs are rather rare.

5. Which strategic documents published by Ministry of education, science, research and sport or other Ministry, regarding higher education do you consider most important and best implemented?
   Answer:
   Personally I consider all strategic documents to be good. Every document involves a lot of work, effort and consultations. All the documents are conducted to standard of EU programs (such as Bologna process or to suggestions of OECD).

6. How are the objectives of these documents implemented? Do you think that this system works well?
   Answer:
   Implementation is effective through incorporating into strategic programs and regulation. Another way of implementation is through structural funds and grant schemes, where objectives can be chosen in conformity of priorities within the scope of strategic programs. This system works quite well. What does not work so well however, is that schools themselves are not able to implement the strategic documents. For example: strategic document says that it is necessary to increase literate readability. Prompts and so on are written down. But the teachers themselves can only very hardly apply these new methods, because they are not prepared for it and can't manage the goals.

7. In your opinion, what importance does the higher education have for human capital of Slovak Republic?
   Answer:
   Major. Only we need to solve disproportions among freedom of study programs and needs of the state.

8. Did entering the European Union have influence on long-term strategy of higher education?
   Answer:
   Of course, enormous. All documents are based on suggestions of the EU.

Ing. Eugen Jurzyca. 2016. *Strategy of Slovak Republic´s government to use higher education as an investment into human capital.* Interviewed by Erika Smereková. [e-mail communication] Prague, March 2016.

1. Are the needs of the market, trends in development and human capital monitored and mapped for that reason?
   Answer:
   Yes, but not enough.

   Ing. Eugen Jurzyca refused to answer the other questions.

Dr.h.c. mult. prof. Ing. Juraj Sinay DrSc. 2016. *Strategy of Slovak Republic´s government to use higher education as an investment into human capital.* Interviewed by Erika Smereková. [e-mail communication] Prague, March 2016.

1. What is the role of documents regarding strategy of higher education in Slovak Republic published by Ministry of Education, science, research and sport in functioning of individual autonomous institutions that provide higher education in Slovak Republic?
   Answer:
   Principle of autonomous governance of colleges as it is defined in bill of higher education, allows to adapt into long-term plans of development of individual institutions those parts of development strategy of higher education, which the school considers to be of the highest value. The development strategies are mostly of suggestive character. It solely depends on each university or college, which of these suggestions it implements into its own strategic documents.(Note: In Slovak Republic, the long-term strategy documents were conducted only recently, which was also reproached to SR by European Commission in its evaluation notes. Consequently, colleges and universities developed their plans of long-term development according to their own conditions).

2. Do these strategic documents consider role of higher education being a long-term investment into human capital?
   Answer:
   Even though we silently start with this philosophy in mind, during the development stage of strategic materials is this premise provided for only marginally.
   To meet this condition, it is important to conduct an analysis of financial resources used for higher education and their added value, as a significant factor of long-term capital for development and competitiveness of Slovak society. This situation also documents a fact that SR belongs among the countries with lowest state financing of higher education within the EU.

3. Are the needs of the market, trends in development and human capital monitored and mapped for that reason?
   Answer:
   Even though we could conclude that these areas are analyzed, I do not believe that until now they were considered in process of defining strategies for development of colleges and universities. Applying conclusions from Bureau of Labor in regard to analysis of labor market needs, did not provide any significant results within functioning of

universities, not even in field of financing. The elementary problem as I see it, is that tools to extract relevant quantifiable information from labor market simply do not exist.

4. Do exist any co-operations between Ministry of education, science research and sport and other organizations that work with human capital such as Ministry of Agriculture, firms or research institutions? Do these co-operations contribute to long-term strategies and mission of higher education?
   Answer:
   Discussions between above mentioned institutions do not consider systematic approach. During last years (for example thanks to EU project: "Universities as engine for development of competitive society") we look for ways of communicating between employers and universities. These are however ad hoc and not systematic solutions. Nevertheless, we can conclude that that within individual, mainly technical universities, there is a dialog established between universities and employers. Results of these discussions are a part of strategic goals for universities. Currently an intensive dialog is lead between industrial employers and universities regarding increasing ratio of practical experience to theoretical studies within the studies. For realization of these goals however, we do not have corresponding regulation in the Bill of universities.

5. Which strategic documents published by Ministry of education, science, research and sport or other Ministry, regarding higher education do you consider most important and best implemented?
   Answer:
   Even though it is not a strategic material, the most important information available are in Reports of activities of universities for individual years, which are brought forward during government discussions. Part of these – even though not exactly, is information regarding areas that need to be monitored and improved for conditions of SR.

6. How are the objectives of these documents implemented? Do you think that this system works well?
   Answer:
   As I have already mentioned, there is information in conditions of Slovak higher education documents, which is formulated in such way, that it can be effectively implemented in conditions of individual universities.

7. In your opinion, what importance does the higher education have for human capital of Slovak Republic?
   Answer:
   Without effective higher education which reflect needs of society – in SR mainly need of industry – we cannot expect the society to be competitive and to maintain growth. Quality human capital with higher education is one of the conditions for meeting this target.

8. Did entering the European Union have influence on long-term strategy of higher education?
   Answer:
   Even though it may be surprising, according to my opinion only marginally. We can document this opinion for example via. The accreditation committee for judging the quality of universities, which are almost in every state independent. In SR it is an advisory organ of the SR government – thus dependent on government. Another

example is financing of universities is among the poorest within the EU member states, while the government has been dismissing advice of European Commission formulated in conclusions of reports of quality of education in SR, to increase financing.

Prof. PhDr. Miron Zelina, DrSc., dr.h.c. 2016. *Strategy of Slovak Republic´s government to use higher education as an investment into human capital.* Interviewed by Erika Smereková. [e-mail communication] Prague, March 2016.

1. What is the role of documents regarding strategy of higher education in Slovak Republic published by Ministry of Education, science, research and sport in functioning of individual autonomous institutions that provide higher education in Slovak Republic?
   Answer:
   The documents need to be separated into facultative and obligatory. What is obligatory and controlled, mainly via accreditation committee, universities try to fulfill, however unfortunately, many issues are left to autonomy of universities as free institutions with legal subjectivity. Then so happens, that due to this "enthusiasm" from quasi freedom, they create their own criteria for example for awarding degrees and titles.

2. Do these strategic documents consider role of higher education being a long-term investment into human capital?
   Answer:
   Only within the strategic documents there are claims – in reality there is insufficient financial support for universities, science and research, especially in comparison with other countries of EU, or OECD.

3. Are the needs of the market, trends in development and human capital monitored and mapped for that reason?
   Answer:
   I am afraid that nor human capital, or needs of labor market are sufficiently monitored, mainly from log-term perspective, which results in lack of labor for automobile industry and agriculture.

4. Do exist any co-operations between Ministry of education, science research and sport and other organizations that work with human capital such as Ministry of Agriculture, firms or research institutions?
   Answer:
   Problem of cooperation is lack of clarity in coordination of science and research in departmental institutions of universities and Slovak Academy of Sciences. To date released governmental statement indicates that it is necessary to transform Slovak Academy of Sciences – open it more for practice and reformulate law of science, to establish rules for cooperation in science among departments and institutions. According to my experience such cooperation is not existent at the moment.

5. Which strategic documents published by Ministry of education, science, research and sport or other Ministry, regarding higher education do you consider most important and best implemented?
   Answer:
   Higher education act, act of science, act of sport are the most important documents. There are objections mainly toward the act of higher education, which will be

innovated, or perhaps developed new one will be developed. Also act of science is criticized. Act of sport is new and time will show its quality when its put into action.

6. How are the objectives of these documents implemented? Do you think that this system works well?
   Answer:
   Strategic documents are implemented mainly by universities and Slovak Academy of Sciences. Lower the level of realization, the more disputable the effectiveness. For example teaching of human rights is stressed in strategic documents, in practice less qualitatively executed. Or for example strategic intension of inclusive education which was signed by our government already in 2012, has not yet been applied to higher education acts

7. In your opinion, what importance does the higher education have for human capital of Slovak Republic?
   Answer:
   It is of great importance in abstract and bureaucratic language, including political statements. On the other hand we waste human capital in universities, because the quality of higher education is not monitored! Accreditation committee evaluates rather scientific activity of teachers in universities and does not monitor quality of education. Processes of accreditation is bureaucratic to a degree of caricature, similarly criteria of career paths of university teachers.

8. Did entering the European Union have influence on long-term strategy of higher education?
   Answer:
   It definitely had influence, in my opinion rather positive. It opened a useful confrontation other than ways of education… Number of Slovak students leaving to not only study abroad but to stay and work abroad is alarming.