The influence of the knowledge-based economy agenda on the integration of Roma

-A case study of higher education in Slovakia-

Svenja Wissmann

Bachelor thesis
at the
Universiteit Twente
Faculty of Management and Bestuur

Submitted to:
Liudvika Leisyte
Submitted by:
Svenja Wissmann
s0211354
Date of submission: 20th of June, 2011
Acknowledgement

This thesis would have not been possible without the support of some people.

I would like to thank my supervisor Liudvika Leisyte for all her support, feedback and her patience with me. This thesis would have not been possible without your support.

In addition I would like to thank all my interview partners: Daniel Stanislav, Martina Mazurova, Eben Friedman, Nino Chelize, Mihai Surdu and Dr. Claire Gordon for their time and interest in the topic of the thesis.

Thanks to all my friends who believed in me when I did not.
# Table of Content

1. Introduction/Problem Statement ................................................................. 4

2. Conceptual framework ................................................................................. 7
   2.1 Knowledge-based economies ................................................................. 7
   2.2 Human capital theory ........................................................................... 11
   2.3. Access to higher education ............................................................... 13

3. Methodology ............................................................................................... 15

4. Slovakia and its education system .............................................................. 17
   4.1 Structure of the education system ......................................................... 18
   4.2 Roma in the education system of Slovakia ............................................ 21

5. The concepts of the “knowledge-based economy” and access in Slovak higher
education policies ....................................................................................... 24

6. The problems related to Roma access to higher education in Slovakia........... 29

7. Discussion .................................................................................................. 30

8. Conclusion ................................................................................................ 33

Literature list ................................................................................................. 34

Appendix: .................................................................................................... 37
1. Introduction/Problem Statement

More than ten million Roma live in the European Union (Beger & Grabbe, 2010). Many of them face discrimination and social exclusion. Although Roma face discrimination in several areas of society, the focus of this paper will be on Roma in the education system of Slovakia.

There are between 100,000 and 500,000 Roma in Slovakia thus being one of the largest minority groups (Roma Education Fund, 2007). Besides several attempts to end the discrimination of Roma it is still present today. Many Roma children are already segregated in primary school to special classes or schools for mentally handicapped children. Only 2.2% of Roma children finish secondary school as their highest education and only 0.4% complete higher education (Salner, 2005). This low level of education is one of the main problems of Roma and limits their access to the labour market (Grienig, 2010). The low level of education forms a vicious circle because it leads to discrimination in the labour market, which leads to a lower income of Roma households and thus less money to spend for the education of Roma children.

The main reason why Roma do not get access to higher education is due to their previous educational attainment (Roma Education Fund, 2007). In order to access higher education in Slovakia students have to pass the final examinations in secondary school. However, the attainment of the vysvedčenie o maturitnej skúške (as the certificate is called in Slovak) might not be the only entrance requirement. Institutions can require entrance examinations or set other criteria. (European Commission, 2010a)

The low level of schooling of Roma leads to a loss of human capital of Slovakia because Roma do not acquire the same knowledge and skills other citizens get. In order to face globalization however more and more human capital is needed to build “knowledge-based economies”. This is even more so now when Slovakia has become a member of the European Union. Human capital and knowledge are very important resources of economies in the EU.
As formulated by the Council (in Gomitzka, 2005): Europe should become „the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion” (p.17).

Human resources are important to stay competitive and build economic growth. Hence, Europe has to ensure that the social exclusion of citizens is limited to the smallest possible level, to not risk losing human capital. “Social exclusion occurs when a society fails to organize itself to ensure that all its members can participate” (Rodrigues, 2002, p.95). Socially excluded citizens lack several resources:

“They lack citizenshipship in the political sense as well as in social and economic terms. They lack access to power through those able to represent their interest and improve their status. They lack access to resources in general because the public institutions are not at their disposal but are rather more concerned to contain or control the problems which the socially excluded ‘create’. They have limited access to education and training beyond the state of compulsory schooling. They lack access to networks which help to mobilize mutual support and share information and advice. They lack access to an effective financial and social ‘safety net’” (Rodrigues, 2002, p.119).

Especially the provision of basic skills and education is important to reduce the risk of becoming socially excluded. Often the exclusion depends on the local community and can depend on a certain ethnicity or on political changes that lead to a disruption in the working life of a person and his family. Those factors have resulted in a high and long-term unemployment rate in Europe. Furthermore, there could be more direct financial and educational assistance to vulnerable groups and developing “back to work” strategies.

Globalization leads to an increasing interdependence and competition between nations in the world market which makes it necessary to decrease the social exclusion of citizens to a minimum level (Wende, 2003). As Rodriguez (2002) describes it in her book „knowledge is becoming the main source of wealth of nations, business and people“ (p.2f.). The speed of knowledge accumulation increased and „knowledge production, diffusion and utilisation“ (Rodriguez, 2002, p.4) are more important than ever before. Knowledge is becoming one of
the key resources of the 21st century. Many technological developments and industrial innovations are based on knowledge and the role of education is the building of knowledge to achieve „knowledge-based economies“. The framework of building “knowledge-based economies” is possible through the Open Method of Coordination, an intergovernmental instrument that makes cohesion in social policy fields, e.g. education, possible.

“The method included the following elements:

- Fixing guidelines and timetables for achieving short, medium and long-term goals
- Establishing quantitative and qualitative indicators and benchmarks, tailored to the needs of Member States and sectors involved, as a means of comparing best practices
- Translating European guidelines into national and regional policies, by setting specific measures and targets
- Periodic monitoring of the progress achieved in order to put in place mutual learning processes between Member States” (European Commission, n.d., para 2)

This instrument is used to harmonize policies that are primarily the responsibility of the member states within the European Union.

This paper deals with the importance of Roma integration in higher education to maximise human capital to achieve “knowledge-based economies”.

The main research question will be “If and how the EU knowledge-economy agenda influences higher education policies in Slovakia?” with the focus on access policies and the impact of the EU “knowledge economy agenda” on Roma access to higher education. The aim of this thesis is to draw a link between the European and national level and to assess the relevance of human capital theory in the 21st century. The study will use qualitative interviews and data on the Roma population and Roma educational attainment in Slovakia to assess the impact of the “knowledge-based economy” agenda on higher education policies in Slovakia.

A detailed description of the Methodology can be found in chapter 3.

The next chapter will give an introduction to the conceptual framework used in this paper. Chapter 4 will provide the context of the research. It will give an introduction to Slovakia and
its education system. Then, chapter 5, 6 and 7 will present and discuss the findings of the interviews and the literature and set it in relation to the research question and the conceptual framework. Lastly, a conclusion will be provided in chapter 8.

2. Conceptual framework

This chapter gives an overview of the conceptual framework of the thesis. The first part will deal with the concept of “knowledge-based economies” and the second part will introduce the human capital theory. The third part will discuss literature on access to higher education and access problems of minorities

2.1 Knowledge-based economies

The Lisbon agenda

The goal of the European Union towards „knowledge-based economies” was manifested in the Lisbon Strategy. It was announced in March 2000 at the Lisbon Summit (European Commission, 2010c.). One goal of the Lisbon Strategy is to create competitive knowledge economies in Europe. Based on the Lisbon Strategy the European Commission set goals to reach for the year 2020:

“– Smart growth: developing an economy based on knowledge and innovation.
– Sustainable growth: promoting a more resource efficient, greener and more competitive economy.
– Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.” (European Commission, 2010b, p.3).

Besides the structural transformations within the European Union during the past years, there were also many technological changes and new technologies. However Europe has not benefited as much as other continents from these changes (Rodrigues, 2002). The economic
developments of the past years in Europe in relation to other countries outside Europe, e.g. USA and China, led to a discussion about the need of policy changes.

The Commission notes the need for new innovation policies showing:

“Europe’s failure in developing new products and new technology as a European technology paradox: excellence and strength in basic and fundamental research yet failure to translate this in commercial excellence and success. […] Europe seems to have missed its transition to the knowledge-bases economy” (Rodrigues, 2002, p.40ff.).

The goal of the Lisbon strategy is to create jobs and economic growth by investing in innovation, human capital and a green economy (European Commission, n.d.). According to the Commission (2010b) it is important that all European countries work together in a common framework because the European member states are dependent on each other. Economic reforms are necessary to stay competitive towards a globalizing world and ensure the financing of European welfare systems. “The Lisbon strategy sets out the general thrust for reforms and sets the objectives and priorities for action” (European Commission, 2010c, para. 3). The implementation of reforms is done by every member state and the EU monitors the process and gives recommendations.

Understanding knowledge based economy

In order to go further into the discussion about “knowledge-based economies” it is important to clarify what is meant by knowledge and a “knowledge-based economy”.

According to Rooney, Hearn, Mandeville and Joseph (2003) “a knowledge-based economy […] [is] an economy in which knowledge is the most important productive factor” (p.16). Rodrigues (2002) identifies three alterations that have been made concerning “knowledge-based economies”. First, the recognition that knowledge, like any other capital, can be accumulated, produced and exchanged. It is however locked in some person or organization. Second, there is a political and economic consensus emerging that recognizes the importance
of knowledge for economic growth and competition. This emphasizes the importance of “knowledge-workers” which embody the human capital, which is necessary to develop new technologies. Third, there is more emphasis on the production of knowledge within companies and markets.

One of the main definitions was made by the OECD in 1996: “economies which are directly based on the production, distribution and use of knowledge and information” (OECD, 1996, p.7). The OECD has established several indicators to measure “knowledge-based economies”:

- a. Investments in capital and knowledge
- b. Human resources (education)
- c. GERD
- d. Fundamental research
- e. Business R&D
- f. R&D in manufacturing industries
- g. R&D in services
- h. Innovation
- i. Venture capital” (Godin, 2006, p.27)

Knowledge is locked in persons and thus people, their skills and knowledge become more and more important for economic development and growth. Therefore investment in technologies, knowledge, education and training is needed (Rodrigues, 2002). According to Rodrigues (2002) the institutions need to be adapted to the “knowledge-based economy”, e.g. through an emphasis on the subsidiary principle. The subsidiary principle is an important principle of the European Union and is also enshrined in the Open Method of Coordination (OMC). It states “that the EU can only act in areas that are not better tackled at the national level” (Hix, 2005, p.126).

The Open Method of Coordination

The OMC was formally established in the Lisbon strategy. According to Rodrigues (2002) there were two main challenges present that had to be solved by the Lisbon strategy. First, how to make Europe a Europe of knowledge. Second, solving the problem of European states
seeing each other as competitors. There were “two main methods: intergovernmental cooperation and community integration” (Rodrigues, 2002, p.245) that had to deal with two challenges: an increase in the diversity of the European Union, through the Eastern enlargement and restructuring the governance system in order to act as one body to face globalization. Those two challenges led to the search for new methods, especially through the widening of competences that fall within the European Union.


The Open Method of Coordination has four main components. First, the Council establishes common guidelines. Second, there is mutual learning through benchmarking and good practices. Third, based on the previous two components national governments establish national plans. Fourth, the Council evaluates the results of every member state and can give recommendations. (Rodrigues, 2002)

The instrument is flexible because every member state can decide by itself how to design national action plans, which shows respect for practices of other member states. It has also a decentralised nature with a plurality of actors involved and is open to more integration in fields where there is no integration yet. (Hix, 2005)

The thesis builds on one of the possible influence areas of “knowledge-based economies” suggested by Godin (2006). He states that it would be of interest to have a look at what influence the concept has had on policy developments. Based on the OECD (1996) definition we operationalize knowledge economy as economies which are based on the distribution, the production and the use of knowledge. Therefore the research will be based on words like knowledge as well as education distribution. Education distribution refers to the distribution
of educational levels in a country among the society. Hence, the study will have a look at the
distribution of educational attainments in the labour market as well as its distribution
concerning unemployment. Furthermore, human capital, which will be defined in the next
chapter, will be seen as an indicator for “knowledge-based economies”.

2.2 Human capital theory

The origins of human capital theory date back to the 1960s. Schultz (1961) found out that
investment in human capital is one of the main explanations of economic growth and the
failure to explain economic growth before could be mainly explained by the failure to involve
human capital into the analysis. During the 1960s the human capital theory was contested
among scholars. Many of them claimed that men were reduced to “a mere material
component” (Schultz, 1961, p.2) and that men could not be seen as free persons if they were
regarded as a resource. However, according to Schultz (1961) “Laborers have become
capitalists [...] from the acquisition of knowledge and skill that have economic value” (p.3).
Schultz was one of the main scholars who first recognized that the difference in earnings was
related to differences in educational attainment and health. “Knowledge and skill [...] [are] a
critical investment variable in determining the rate of economic growth” (Schultz, 1961, p.7)
and investing in those will “yield a positive rate of return” (Schultz, 1961, p.8). There are five
categories where investments in human resources can be seen: health, on-the-job training,
education, study programmes for adults and migration of workers. Most is known about
investments in education and to answer the research question the focus will be on this
category.

One of the first attempts to define human capital was made by Gary Becker in 1964. For him
„expenditures on education, training, medical care, etc., are investments in [human] capital“
(Becker, 1993, p.16) with education being one of the main investments. Becker, as Schultz
has found out before, underscores the role of education in increasing the income of people.
The role of education in income distribution and economic growth can be seen in the education of women. In the 1960s women mainly worked in households and only received the education necessary for their work. When the level of schooling for women in the USA was increased they started to enter many other jobs and “the value to women of market skills” (Becker, 1993, p.19) increased.

Human capital theory is still a contemporary theory. Especially the Organisation for Co-operation and Economic Development (OECD) has used it during the past decades. The OECD defined human capital as „the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activity“ (OECD, 1998, p.9). The OECD underlines the importance of lifelong learning for economic growth and stresses the need for social cohesion especially for those groups that are disadvantaged. As noted by Becker in 1964 the OECD (1998) points out the influence of “social settings in which […] [human capital] is created and used: schools, organisations, labour markets, communities, and national institutions and cultures” (p.10).

Measures for human capital should therefore be based on all of those settings:

“i) the role of each in producing human capital, quantitatively and qualitatively; ii) efficiency measures of each, relating the different settings to cost considerations; iii) measures of access and equity; iv) investments currently made in these different settings, and by whom; v) returns to investments in human capital in these different settings, and for whom” (OECD, 1998, p.12)

In order to stay competitive and build economic growth human capital is one of the most important factors. Human capital can be gained through education. Governments are responsible to ensure a good education of their citizens. Therefore they need to establish policy reforms in the field of education. The recognition of the importance of human capital can be important for the policy making of governments to claim that they are a “knowledge-based economy”. Due to the importance of education, human capital, in this study, will be measured through the variable educational attainment. However, it should be acknowledged
that this is not the only resource of human capital, but many of the other indicators, like innovation, research and development are based on education. This can lead to the assumption that a low level of education will lead to less human capital in the country and thus to not coming closer to the goal of “knowledge-based economies”. Therefore, the access to higher education can be an indicator for human capital development.

This thesis deals with the proposition that the goal of knowledge-based economies will lead to an increase in the inclusion of minorities into higher education to advance the human capital of Slovakia. It is therefore assumed that the Slovak government will be more open concerning access policies towards higher education institutions.

The underlying conceptual framework is assumed to be as follows:

The conceptual framework will be reviewed and eventually modified at the end of this thesis.

### 2.3. Access to higher education

Witte (2004) defined access as “the percentage of school leavers qualifying for and admitted to HE” (p.416).

“Access to higher education is seen as public good” (Wende, 2003, p.199) by many European countries. However, the rise in demand for higher education since World War II has led to the problem that no longer all students who want to attend higher education can directly get access to it (Thomas, Alexander & Eckland, 1979). This leads to the problem of equity in relation to access. On one side access to higher education should be equal on the other side there is only a limited number of places for university. Thomas et al (1979) study the impact of certain socio-economic factors on the access to higher education. They say that when
having equal opportunity to access it should be like a lottery system, but this is not granted by admission structures of universities. Those are based on educational attainments with the justification that those students will be most likely to profit and succeed in higher education. Thomas et al (1997) found out that although ethnic origin does not have a direct impact on college access it has an indirect one, since most black students, which were the basis of their study, attain lower school results or results in entrance tests. According to Khumoetsile-Taylor (n.d.) there are several barriers for minorities, in their study for African-Americans, to access higher education in the USA. First, they lack appropriate preparation for assessment tests. Second, there are financial barriers for school supplies etc. This affects poor families in general and not a certain ethnic minority. However, often people from certain ethnic minorities are more likely to belong to the poor.

The impact of socio-economic factors in relation to access to higher education in the United Kingdom was studied by Leisyte (2007). She found out that students from independent schools are more likely to get a place in a top university than students from state-schools. The British government wants to increase the access of underrepresented groups in universities through policy development. Those policy developments include financial aid and the creation of the Office for Fair Access (OFFA) (Leisyte, 2007). The OFFA (2006) set three goals to improve access in their strategic plan:

- support and encourage improvements in participation rates in higher education from low income and other under-represented groups.
- To reduce as far as practicable the barriers to higher education for students from low income and other under-represented groups by ensuring that institutions continue to invest in bursaries and outreach.
- To support and encourage equality of opportunity through the provision of clear and accessible financial information for students, their parents and their advisers. (OFFA, 2006, p.3)

Macedonia is one of the countries which made several reforms in their admission procedures
to give minorities a better access to universities. As key target for these reforms they set the “mobilization of the country’s existing human capital” (OECD, 2004, p.24f). “Poverty, geographical location, ethnic origin and mother tongue, and gender are factors affecting equity of access to all levels of education” (OECD, 2004, p.29). Macedonia made several reforms to ensure equity in access (OECD, 2004). There are universities that teach in the mother tongue of minorities. In addition there are quotas for minorities that make it easier for minority students to access higher education and the higher education system was made more flexible. Macedonia recognized the need of improving their higher education system to fully participate in European and improve their human capital (OECD, 2004).

3. Methodology

For the case study Slovakia was picked because it has one of the highest percentages of Roma. Furthermore, it belongs to the Euro zone and has deeper roots to Europe than some of the other East European countries.

This study used qualitative methods to answer the research question. The data sources include scientific articles, interviews, statistics and information provided by NGO’s.

The sampling strategy for the semi-structured expert interviews was maximum variation of professions and research background of interviewees with the aim to find a common pattern within the answers from interviewees from different backgrounds. Interviews were conducted between the 2nd of May and 20th of May. For the exact dates, interview partners, their profession and their expertise please see table A in the appendix.

The study aimed at finding common pattern and used 6 interviews. This multilateral approach is important since the concepts used in the study cannot only be explained by economists or politicians. It is important to ask both to get a full picture and find common patterns. However, the short notice of some interview partners that they will not be able to do the
interview limited this variation to most interview partners coming from NGO’s. The interviewees have been contacted based on their job position and their area of research. For deciding which person to contact the internet was used to gather information about the persons and find out whether they have the necessary expertise to contribute to the study. Afterwards they were contacted by mail and asked whether they would be interested in an interview. Although the initial attempt of this thesis was to do face-to-face interviews the interviews were conducted via telephone, since the experts were living and working all over Europe and it would have not been feasible to carry out face-to-face interviews. Those who confirmed interest were contacted again to find a date and time for the telephone interview. The attempt of this study was not a generalization but a concrete view on the influence of the knowledge economy agenda on higher education in Slovakia with a focus on the access of Roma. The interview questions were open-ended and adapted to every interviewee. This ensured that the interviews were based on every single expertise. Nevertheless, some questions were similar to easier find a common pattern. The interviews were done via telephone during working hours of the interviewees. For the recording of interviews via Skype the software powergramo was used. The data was analyzed based on the method by Mayring (2010) described in the book “Qualitative Inhaltsanalyse”. First, the interviews were transcribed, and then relevant parts in all interviews were coded and generalized. This ensured that common patterns were found. In terms of ethics interview partners were contacted and ask for their permit to use any direct quotes.

In addition to the interviews data from other studies, especially from the study “The Cost of Non-Inclusion: The key to integration is respect for diversity” by Anton Marcinčin and Ľubica Marcinčinová (2009) were used to cross-check the data from the interviews that were conducted. Those studies were selected through extensive internet research as well as recommendations from interview partners.
Furthermore, the aim was to use educational policy documents to see whether the “knowledge economy” agenda had an impact on them. However, this approach was limited due to a language barrier since many policy documents of Slovakia were only available in Slovak. Therefore, the main higher education law: The Act on Higher Education and on the Change and Supplement to some Acts, was the basis for the analysis.

4. Slovakia and its education system

This chapter will give an introduction to Slovakia and its education system. In addition the development of educational levels of Roma during the past will be shown. Furthermore, the data, which has been collected by scholars during the last years in order to see differences between Roma and Slovaks in the education system of Slovakia, will be summarized.

Slovakia is a landlocked country in Eastern Europe. It is a relatively new country. Before 1993 it was called Czechoslovakia and had the area of today’s Slovakia and the Czech Republic. Both countries decided to separate in 1993 after the fall of the Soviet Union. In 2004 Slovakia joined the European Union. In 2009 it became member of the Euro zone. Slovakia covers an area of 49,032 km² with a population of 5,477,038. The population is relatively young with a median age of 37.6 years. 55% of the population live in urban areas with Bratislava being the capital and biggest city. Roma make up 1.7% of the total population thus being the second largest minority after Hungarians (9.7%). Most Slovaks are Catholic (68.9%) another major religion are the Protestants (10.8%). (CIA, 2011)

The school life expectancy, which is the mean of all children in Slovakia, is 15 years, meaning that a child can expect to be in school for 15 years. Slovakia spends 3.6% of its GDP on education, compared to other countries this is in the lower second third. (CIA, 2011)

The GDP per capita is $22,200 with services being the highest contributor (61.8%) after the industry (35.6%). Most people are employed in the service sector but there is also a high
unemployment rate (13.5%). Although the public debt is 41%, Slovakia uses 22.2% of its GDP for investments. The main goods that are produced for export are machinery, electrical equipment (35.9%) and vehicles (21%). The main imports are machinery and electrical equipment (31%) and mineral products (13%). (CIA; 2011)

The total number of students in all educational programmes in 2008 was 1,202,644 (OECD, 2011a). When having a look at the change over years this number slightly decreased since 1999. 72,998 students finished upper secondary education in 2008, compared to 90,738 in 1999 (OECD, 2011b).

There are a total number of 20 public higher education institutions in Slovakia, 3 state universities and 10 private universities (SlovakiaSite, 2011). In 2004/2005 there were a total of 160,040 students, 156,561 in public higher education institutions and 3,479 in private higher education institutions. In 2005 there were 168,000 students enrolled in an undergraduate programme in university, thus the number increased from 27.2% (in 1989) to 61.4% of 18 year-olds. However, “Slovakia’s share of the population with a tertiary education still reaches only 58% of the EU-25 average” (European University Association, 2008, p.14). In postgraduate studies the number rose from 600 (1990) to 10,400 (2005) students. In 2005 Slovakia only spend 0.51% of its GDP on research and development, which is less than half of the EU-27 average which is 1.84%. (European University Association, 2008).

4.1 Structure of the education system

Compulsory education starts at the age of 6 and lasts for 10 years. Students attend primary education for 9 years but may change to different forms of schooling after the first 4 grades (see table):
In order to be able to attend gymnasium students must successfully complete the fifth grade and pass an entrance examination. The same criteria apply to the art and dance secondary schools. For bilingual gymnasium they must pass the 8th grade of primary school and pass an entrance examination. The average size of a class is relatively low with an average of 19 students.

The most recent policy is the New Education Act which came into force on 1st September 2008 and set a new curriculum for compulsory education and gave schools more autonomy in implementing it. At 9th grade there is a nationwide test which outcomes make the attendance to a secondary school possible. (European Commission, 2009/2010)

Post-compulsory education is possible in various forms (see table).
Access criterion is the successful passing of 9th grade of primary school and an entrance examination. The final examination is the *maturitná skúška* which is one requirement to higher education.

Higher education is divided into Bachelor, Master and PhD programs. Students have to send an application to their university of choice. Entrance criteria are set by the universities themselves. Students have to pass their *maturitná skúška* as minimum entrance requirement for higher education. Most universities conduct entrance examinations in addition. State higher education is free of charge but students might have to pay for material resources and admission costs. (European Commission, 2010a)

Currently there are some ongoing reforms in the education system. The parliament adapted the life-long learning strategy in 2009 and is currently working on the implementation of the European Qualification Framework which will probably be implemented in 2013. However according to the European Commission (2010a) there are no recent policy reforms that promote equity or social cohesion. There have been several reforms in the sector of higher education with the focus on:

“modernisation of accreditation system, financing, differentiation of higher education institutions as well as provision of grants to higher education institutions according to performance criteria” (European Commission, 2010a, p.12).

The higher education laws are set in the Act on Higher Education and on the Change and Supplement to Some Acts No 131/2002. This Act was amended 18 times between 2002 and 2010. It will be the basis for the analysis of this thesis. Chapter 5 will discuss its content in relation to the conceptual framework of this thesis.
4.2 Roma in the education system of Slovakia

Roma often diverge from the educational path described above. Many studies point to a disadvantage of Roma children in the education system of Slovakia. According to those studies Roma often do not enroll in pre-schools, they drop out of school early and have to repeat classes more often than Slovaks. Furthermore, they are more often enrolled in special schools and secondary specialized training and less likely enrolled in general secondary schools. A special school is a school for children who have physical or mental handicaps or learning difficulties (Cambridge Dictionary Online, n.d.). Only an insignificant number (0.19%) of Roma finish higher education. In general one can speak of a lower school performance level. (Roma Education Fund, 2008)¹

All interview partners noted the precarious situation of Roma in the education system of Slovakia and most mentioned that the Slovak government did not try to integrate Roma within the educational system or that it has not been successful in these terms because they do not believe that there is a systematic failure or because of the lack of political will. Regarding the level of education that would be most important three interview partners named the pre-school to be the most important educational level because pre-school education would close the language barrier and decrease the risk of Roma children being behind Slovak children when they start primary school. Daniel Stanislav said that “in order to have one integrated society we need to see Roma in banks, offices, basically everywhere and for this we need Roma to be educated in all fields and at all levels”.

Table 1 shows that most Roma (45.41%), that means only about every second child, attended primary school. Compared to Slovaks Roma are underrepresented in all forms of secondary schooling. Even compared to other minorities a difference can be seen. In higher education

¹ It is important to notice that statistics are often based on self-declaration by Roma. Therefore they often do not grasp all Roma because not all of them declare themselves as Roma. In addition, research in Slovakia is often based on pupils from socially disadvantaged environments (SED) instead of being based on minorities. Therefore, data on Roma can never be certain.
only a small number of Roma can be found. Even when adding all forms of higher education
only 0.19% of Roma, that means two students from 1,000, attend a form of higher education.
Most Roma are either under 16 and therefore have not finished compulsory education or only
finished primary school. This shows the huge disadvantage of Roma in the education system
of Slovakia. This discrepancy becomes higher when the segregation is taken into account.
44.2% of Roma living in segregated settlements did not finish primary school and only 8.45%
finished secondary school (Roma Education Fund, 2008). In comparison 23.5% of Roma
living in local communities have not finished primary school and 19.1% finished secondary
school (Roma Education Fund, 2008). This shows the high influence of whether Roma live in
a local community or in a segregated Roma settlement. This can also be seen when having a
look at numbers in different regions. Those are not provided for Roma but for students from
Socially Disadvantaged Environments (SED). Especially in the regions Banská Bystrica
(19.11%) Košice (24.88%) and Prešov (19.18%) there is a higher number of SED students in
elementary school than in other regions² (Roma Education Fund, 2008).

Table 1: Educational Attainment by Ethnic Origin (2001)

<table>
<thead>
<tr>
<th>Educational Attainment/ Ethnic Origin</th>
<th>Slovak</th>
<th>%</th>
<th>Roma</th>
<th>%</th>
<th>Other Minorities</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary and lower secondary (also incomplete)</td>
<td>907,115</td>
<td>19.66%</td>
<td>40,831</td>
<td>45.41%</td>
<td>177,277</td>
<td>27.37%</td>
</tr>
<tr>
<td>Secondary vocational (without certificate)</td>
<td>914,475</td>
<td>19.82%</td>
<td>5,925</td>
<td>6.59%</td>
<td>136,614</td>
<td>21.03%</td>
</tr>
<tr>
<td>Secondary specialized (without certificate)</td>
<td>182,109</td>
<td>3.95%</td>
<td>1,017</td>
<td>1.13%</td>
<td>19,116</td>
<td>2.94%</td>
</tr>
<tr>
<td>Complete secondary including:</td>
<td>1,228,354</td>
<td>26.62%</td>
<td>1,088</td>
<td>1.21%</td>
<td>141,775</td>
<td>21.82%</td>
</tr>
<tr>
<td>apprentice</td>
<td>231,181</td>
<td>5.01%</td>
<td>378</td>
<td>0.42%</td>
<td>19,393</td>
<td>2.98%</td>
</tr>
</tbody>
</table>

² A detailed overview about SED students in different regions can be found in Table B in the appendix.
Although those numbers have already improved since 1991, where only 363 students finished secondary school, 56 students university and 4579 students were without education\(^3\), the situation of Roma is still precarious.

Within schools Roma are often segregated from other pupils. According to the Roma Education Fund (2008) this segregation can take four different forms. First, Roma settlements often lead to segregation between schools. Many Roma are sent to the one school in their district which often causes a Roma only school. Second, Roma have a higher fertility rate which often causes Roma only classes or even Roma only schools as soon as a certain level of Roma pupils is reached. Third, Roma are often placed in special schools. The number of Roma in special schools is highly contested based on different measuring techniques. It reached from 19% up to 80% (Roma Education Fund, 2008). Nevertheless, all numbers show that Roma are more likely to attend special schools than all other ethnic groups in Slovakia. Fourth, segregation within a school can occur, e.g. different lunch times or extracurricular activities.

\(^3\) A comparison of Roma students in the education system in the years 1991 and 2001 can be found in Table C in the appendix.
activities. This often leads to the problematic that Roma do not get the necessary certificate to enroll in higher education in Slovakia.

As the table shows only a very small number of Roma attend tertiary education. Those Roma who want to attend university can apply to one of the scholarship programmes, which are based on the income of the students and their parents, in Slovakia. One that especially promotes Roma students is the Roma Memorial University Scholarship Program (RMUSP) established by the Open Society Institute in 2001. Between 2001 and 2010 7,600 scholarships for Roma were granted in Eastern Europe (Roma Education Fund, n.d.). Unfortunately there is no data on the different countries. In addition there are national scholarship programmes for socially disadvantaged students and scholarship programmes from the higher education institutions. Roma have to apply for these scholarships, which cover tuition fees and daily living expenses (e.g. accommodation and catering).

5. The concepts of the “knowledge-based economy” and access in Slovak higher education policies

In the Act on Higher Education and on the Change and Supplement to Some Acts No 131/2002 there are some references to the importance of knowledge. Article 1 s1(2) states that the mission of higher education is the development of knowledge in man to contribute to the development of science, education etc. for the welfare of the whole society. Higher education is responsible to carry out research for new technological developments (Art. 1 s2(12)). This shows that the government recognized the need of knowledge for development and the role of higher education in developing human capital. In amendment 363/2007 Article 1 s1(2) was enhanced. The developments should also contribute to the development of a “knowledge-based” society. Furthermore, the amendment states that Slovak higher education institutions are “part of the European area of higher education and of joint European research

4 In the following referred to as Act on Higher Education.
area” (Art. 1 s1(2)). The amendment made in Article 1 s1(2) clearly shows that the
government included the “knowledge-based economy” agenda in their laws and set the task of
developing a “knowledge-based economy” agenda to higher education institutions.

Access to higher education is regulated by the Act on Higher Education. The admission
procedure falls under the scope of self-government of higher education institutions. They can
decide about the number of applicants admitted to a programme, the procedure of admission
and the conditions (Art. 1 s6(1)(b)). Section 56 (1) of Article 1 sets the minimum criterion for
admission to a Bachelor programme on the completion of secondary school with a certificate
that gives access to higher education. However, higher education institutions are allowed to
set additional criteria to ensure that applicants have the required abilities for the course of
study (Art. 1 s57(1)). These laws show that there is no direct discrimination of Roma in
relation to access of universities.

There is no law concerning minorities in the Act on Higher Education. However, section 55
sets some important general provisions. It gives every person the right to education when
he/she meets the access criteria mentioned above. The second part of section 55 adds that:

“rights set out by this Act shall be equally guaranteed to all applicants and students in
agreement with the principle of equal treatment in education [...]. In agreement with the
principle of equal treatment the discrimination is likewise prohibited on the grounds of sex,
denomination or faith, marital status and family status, colour, language, political or other
convictions, trade union activity, national or social background, disability, age, property,
descent or other status.”(Art. 1 s55(2))

This Section shows that the laws ensure an equal treatment of all applicants, therefore
including Roma. Yet the following parts of the section show that this equal access can only be
guaranteed when there are enough places for students. If that is not the case the university can
decide on whom to admit, based on who is most likely to succeed in the course (Art. 1.
s55(7)). If a student thinks his rights to admission was violated then he/she can demand legal
protection (Art.1 s55(4)). The general provisions of section 55 guarantee an equal treatment and no discrimination but it also shows that if demand outstrips supply then the universities are likely to pick those students with good grades. As we have seen before Roma often do not have good grades and this is a huge barrier to access higher education.

The Act on Higher Education shows that the Slovak government knows about the importance of knowledge and the creation of human capital.

**Importance of human capital for Slovakia**

The interviews confirmed the importance of human capital to reach “knowledge-based economies”. Yet, before talking about Roma as human capital Eben Friedman states that “education policies [have to] recognize that Roma are equal in participating in a knowledge-based economy and this has been a real problem in the past where representatives of the ministry of education generated genetic arguments about Romani children being incapable of taking standard education”. Dr. Clair Gordon sees higher education as one of the sectors which are important for the building of “knowledge-based economies” and human capital is very important for this. This was also found in the Act on Higher Education which underlines the importance of higher education for innovation and technological developments. Dr. Claire Gordon however thinks that Roma are basically “non-existent” concerning human capital in Slovakia. Mihai Surdu stresses the importance of university studies in order to get a job on the labour market. With Roma being nearly 10% of the population of Slovakia, and this number will even be growing in the coming years, “we will see a lot of people in Slovakia which are actually not useable for the labour market because they don’t have adequate education” (Martina Mazurova).

The research of Anton Marcinčin and Ľubica Marcinčinová (2009) tries to find out how high the cost of non-inclusion will become in the future and was mentioned by several interview
partners. Anton Marcinčin and Ľubica Marcinčinová (2009) analyze several datasets and come to the following conclusions. First, in 2030 10% of the population of Slovakia will be Roma from which 16% will be in the productive or school age (Marcincin&Marcincinová, 2009). Second, only about 10% of Roma are employed in the job market and they are highly depended on welfare benefits. They estimate that the “inclusion of Roma in Slovak society would bring anywhere from 7 to 11% GDP per year” (Marcincin&Marcincinová, 2009, p.5). The main reason for this high number is the increase of employment workforce. This study therefore shows the high loss of human capital due to not integrating Roma in the education system which leads to high unemployment rates because Roma do not acquire the necessary knowledge which they need to get a job. De Laat (2010) came to similar results within Europe when he studied the costs of non-inclusion in Bulgaria, Romania, Czech Republic and Serbia. Although he did not study Slovakia, one can assume that the results would be similar. He concluded that governments are losing hundreds of millions through not educating Roma because this leads to a low participation of Roma in the labour market. In his study de Laat found out that Roma who completed secondary education earn between 50% and 144%, depending on the country, more than Roma who only completed primary education. His findings are therefore similar to those of Marcincin and Marcincinová.

This means that in the long run the costs of non-inclusion will be higher than the costs of integrating Roma. According to Dr. Claire Gordon “investing money into Roma although in the long run it is of crucial importance is not a priority [for the Slovak government] at the moment”. This lack of political will from the Slovak government can be seen in several quotes:

“the Slovak government did not try, in my opinion, to integrate Roma within the educational system” (Martina Mazurova)

“national strategies were […] poorly implemented […] and I would put this down to a lack of political will both at EU level and the member state level” (Dr. Claire Gordon)
“a small number of persons in this position [university degrees] is a signal that it’s not very successful” (Mihai Surdu)

“the Slovak government has not been particularly interested in integrating Roma through education policies” (Eben Friedman)

“[…] no significant measures were taken” (Daniel Stanislav)

“the government does not believe that there is any systematic failure leading to segregation of Roma in education” (Daniel Stanislav).

European knowledge based economy agenda in Slovakian policy agenda

When asking the interviewees about the impact of the “knowledge-based economy” agenda on national governments in regard to Roma integration all interviewees stated that the impact is low or cannot be seen or estimated yet. It could also not be found in the laws on higher education. Only the general provision of equal access is incorporated into the law, but no specific ones concerning Roma integration. The problem is that education is a prerogative of member states, which means that the EU can only have a limited influence on educational policies. The Open Method of Coordination is the instrument under which educational policy coordination works in the EU. The problem is that “the Open Method of coordination is a voluntary soft law tool which relies on collaboration, discussions, exchange and policy reviews and there is no real sanction beyond naming and shaming, which is not that powerful in the context of Roma” (Dr. Claire Gordon).

The main area of influence, according to four interview partners is through funding mechanisms, e.g. the structural funds. The money flows should be more carefully monitored because both the Roma Education Fund and Amnesty International stated that some institutions that are actually using structural funds are segregating Roma children.

Currently the European Social Fund is used for programmes promoting employment growth, social inclusion of minorities, educational reforms, measures to establish a “knowledge-
based” society and supporting special needs education (European Commission, n.d.). In total Slovakia receives 1,449,603,156€ (between 2007 and 2013) from the European Community of which 617,801,578€ are used for education. The national government has to fund these projects as well with 264,635,856€. This shows that there is a high money flow on which the European Union could have a high impact. (European Commission, n.d.)

All interview partners state that the EU should have a coordinating and monitoring role. According to Daniel Stanislav at the moment the EU has “a lack of will to punish governments for not using money well”.

6. The problems related to Roma access to higher education in Slovakia

Regarding higher education many interview partners mentioned that it is quite hard to get into university in Slovakia and that the main way to get into university is through educational attainments obtained in secondary school. This can also be seen in the Act on Higher Education, explained in Chapter 5. The prerequisite for accessing higher education is the leaving certificate of secondary school. If there are more applicants than places universities decide for those ones with the best grades and thus the highest chance to succeed in the course of study. Therefore the main problem of Roma who do not get access to university is their low educational attainment at other educational levels. “If it is a good school [university] it is difficult [for Roma] to get there because of the school results and if it’s a bad school it is difficult to get there because you don’t have money to pay the corrupted teachers” (Daniel Stanislav). Mihai Surdu sees the biggest barrier in poverty and the problem of paying costs related to schooling.

The Act on Higher Education allows public universities to set tuition fees but only for students exceeding the standard length of study (Art.1 s92). Hence, this is not a barrier for
Roma students to attend university. However, as Mihai Surdu says there are costs like housing, meals and study materials that have to be paid and those costs are a barrier for Roma students, who mostly come from poor families, who receive welfare benefits. Scholarships are one mechanism to enable Roma to access higher education. Based on the income of the student and the family, all students with a permanent domicile in the Slovak Republic are entitled to a social scholarship provided by the state (Art 1 s96). In addition there are scholarships from the higher education institution, scholarships on catering an housing and for sport and cultural activities (Art. 1 s97, 98, 99). Furthermore, there are scholarships programmes, for example from the Roma Education Fund. According to Nino Chelize from the Roma Education Fund Slovakia belongs to one of the countries where the demand for scholarships should be higher than it is. But even if Roma students receive a scholarship the problem of not good enough grades still exists. Thus it is important that Roma are better integrated in all forms of education and get support to achieve good grades.

7. Discussion

The study has shown that the influence of the “knowledge-based economy” agenda of the European Union on Slovak higher education policies, with regard to the access of Roma, seems to be rather low. This can be seen in the Act on Higher Education which states that higher education should promote “knowledge-based economies” but does not mention the role of minorities in that process. The laws provide equal opportunity to access higher education (Art. 1 s 55(2)), however if there are less places than applicants those who have the best grades will be admitted. One major problem is that many Roma do not even go to secondary school or do not have the necessary results to go to higher education. Therefore the influence of the “knowledge-based economy” agenda on Roma cannot be high, even if there would be an impact. Another problem is that from the information gained in the interviews the Slovak government seems to not recognize Roma as potential human capital resources and therefore
does not see the necessity to integrate them in the education system in order to build their human capital which is a major part of a “knowledge-based economy”. Although the study by Marcincin and Marcincinová (2009) found out that “non-inclusion of Roma […] means enormous direct and indirect loss for Slovakia, [while] direct loss includes higher costs of welfare, education and healthcare [and] indirect losses include non-produced and unconsumed national product” (p.32) from what the study found out the Slovak government does not yet realize the potential they lose.

Through amendment 363/2007 one can see that the “knowledge-based economy” agenda had an impact on the higher education laws and was included as a mission for higher education institutions in Article 1 s1(2).

The “knowledge-based economy” agenda was set by the member states of the European Union. Those member states are very diverse and have to tackle the goal differently. This is generally provided under the framework of the Open Method of Coordination, however the problem is, as mentioned earlier, that it is a soft law instrument without any real sanctions.

The study by Marcincin and Marcincinová (2009) and the interviews confirm that Roma could be valuable for the economy if they would be educated in the same way as nationals. As Dr. Clair Gordon stated Slovakia has a small open economy and basically no natural resources, therefore human capital is especially important for Slovakia. According to the CIA Factbook (2011) the most exports of Slovakia are in the sector of machinery and equipment (35.9%) and vehicles (21%) where knowledge and skills are needed.

Based on the analysis of the Act on Higher Education and of the interviews the Slovak government has not yet realized the potential they lose. A reform of the existing education system would be needed, starting at pre-school level. Only if Roma increase to attend all forms of mainstream schooling and decrease to attend special schools they are more likely to
attend higher education. In addition financial incentives to attend higher education and scholarships might be useful in order to avoid that Roma get caught into the poverty trap.

The research question “If and how the EU knowledge-economy agenda influences higher education policies in Slovakia?” can only be partially answered. The main problem is that the “knowledge-economy agenda” is a recent development and can therefore not be assessed easily. Another problem is the lack of data concerning Roma in Slovakia, this leads to a high uncertainty when making predictions and also leads to the risk that the government underestimates the number of Roma. Yet, from higher education regulation, the interviews and the study by Marcincin and Marcincinová (2009) it can be assumed that there is a low impact on the policy-making of the national government with regard to the integration of minorities. The “knowledge-based economy” agenda was included into higher education law by amendment 363/2007, showing the effort of the Slovak government to translate the agenda into national law. This however has not been done with the human capital argument, since neither the document analysis, the Act on Higher education or the interviews showed this. Education is very important to create human capital which is one of the most important factors to create a “knowledge-based economy” which will lead to economic growth. However, the proposition that the goal of “knowledge-based economies” will lead to an increase in the inclusion of minorities in higher education to advance the human capital of Slovakia has to be negated because the analysis has not shown any impact on the inclusion of minorities in higher education. According to the data above the Slovak government has not taken into consideration arguments used at the EU level for human capital as well as” knowledge economy” in their national regulation when addressing the questions of access to education of minorities.
8. Conclusion

This study aimed to understand how the “knowledge-economy agenda” is translated into the national higher education regulation with regard to the integration of Roma in the higher education system of Slovakia. The conceptual framework pointed to the importance of knowledge and human capital and the chapter about Slovakia and its education system showed the problematic situation of Roma in the Slovak education system. The data confirmed that situation and clearly showed that the national government does not seem to have a lot of interest in changing it. This lack of political will is due to different factors, e.g. the belief system of some politicians that Roma are less valuable than Slovaks. Roma are not yet seen as human capital of Slovakia although they become more and more important.

According to the results of Marcincin and Marcincinová (2009) Roma should be integrated to increase the economic growth of Slovakia. They use the argument that educated citizens will more likely be able to participate in the labour market, which is one of the main arguments of the human capital theory.

The influence of the European Union on higher education policies in Slovakia is rather low. As was mentioned by several interview partners the EU could take a more important role in terms of financial mechanisms such as the Structural funds. The EU could have more influence on where the money goes in Slovakia, how it is used and monitors it carefully. This impact on the money flows would be an interesting subject for further research. In addition to this the role of the “knowledge-based economy” should be observed further during the coming years to see whether there has been any impact on Roma integration.

Through the demographic change in Slovakia, which leads to a higher share of Roma in the total population, Roma will become more important in the future. It has to be awaited whether this change will have an influence on the policy-making of the Slovak government.
Literature list


**Appendix:**

**Table A: Interview partners**

<table>
<thead>
<tr>
<th>Interview partner</th>
<th>Working for</th>
<th>Background Information</th>
<th>Date of Interview</th>
</tr>
</thead>
</table>
| Daniel Stanislav  | European Roma Rights Center as research advocacy with a focus on the Slovak Republic, Czech Republic and Macedonia | - is Roma and studied in Slovakia  
- did internships at the Council of Europe and the Office of the Government in Slovakia | 2nd of May |
| Martina Mazurova  | Amnesty International as a campaign coordinator | - leads the campaign on Roma rights to education | 3rd of May |
| Eben Friedman     | Roma Education Fund as an Advisor on Policy Development | - wrote his dissertation about Explaining the Political Integration of Minorities: Roma as a Hard Case”  
- worked for the European Center of minority issues | 10th of May |
| Mihai Surdu       | Roma Education Fund as an Research and Policy Development Manager | - worked for the Research Institute of Quality of Life in Bucharest  
- wrote extensively on Roma issues and segregation | 19th of May |
| Nino Chelize      | Roma Education Fund as REF Scholarships Programme Manager | - worked for the Ministry of Education and Foreign Affairs in Georgia  
- worked for US Peace Corps as an Education Project Manager  
- worked for many different scholarship programmes | 19th of May |
| Dr. Claire Gordon | London School of Economics and political science as teaching fellow in history and politics | - doing research on the role of EU conditionality in Central Eastern Europe, the role of the EU as conflict manager in post-Soviet countries and the position of Roma in the EU  
- recently worked on a report for the EU Parliament with the title: “Measures to promote the situation of Roma as EU citizens in the EU” | 20th of May |
Table B: Students from SDE in Elementary Schools by region (2006)

<table>
<thead>
<tr>
<th>Region</th>
<th>Elementary school (first level: grades 0-4)</th>
<th></th>
<th></th>
<th>Elementary school (second level: grades 5-9)</th>
<th></th>
<th></th>
<th>Elementary school (all grades)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>SDE</td>
<td>%</td>
<td>Total</td>
<td>SDE</td>
<td>%</td>
<td>Total</td>
<td>SDE</td>
<td>%</td>
</tr>
<tr>
<td>Banská Bystrica</td>
<td>10,415</td>
<td>2,538</td>
<td>24.37</td>
<td>13,300</td>
<td>1,994</td>
<td>14.99</td>
<td>23,715</td>
<td>4,532</td>
<td>19.11</td>
</tr>
<tr>
<td>Bratislava</td>
<td>2,837</td>
<td>77</td>
<td>2.71</td>
<td>3,402</td>
<td>62</td>
<td>1.82</td>
<td>6,239</td>
<td>139</td>
<td>2.23</td>
</tr>
<tr>
<td>Košice</td>
<td>26,166</td>
<td>8,432</td>
<td>32.23</td>
<td>32,861</td>
<td>6,251</td>
<td>19.02</td>
<td>59,027</td>
<td>14,683</td>
<td>24.88</td>
</tr>
<tr>
<td>Nitra</td>
<td>11,913</td>
<td>1,325</td>
<td>11.12</td>
<td>16,775</td>
<td>1,220</td>
<td>7.27</td>
<td>28,688</td>
<td>2,545</td>
<td>8.87</td>
</tr>
<tr>
<td>Prešov</td>
<td>28,079</td>
<td>7,351</td>
<td>26.18</td>
<td>36,285</td>
<td>4,994</td>
<td>13.76</td>
<td>64,364</td>
<td>12,345</td>
<td>19.18</td>
</tr>
<tr>
<td>Trnava</td>
<td>6,901</td>
<td>193</td>
<td>2.8</td>
<td>10,778</td>
<td>286</td>
<td>2.65</td>
<td>17,679</td>
<td>479</td>
<td>2.71</td>
</tr>
<tr>
<td>Žilina</td>
<td>8,548</td>
<td>436</td>
<td>5.1</td>
<td>11,949</td>
<td>384</td>
<td>3.21</td>
<td>20,497</td>
<td>820</td>
<td>4</td>
</tr>
<tr>
<td>All Slovakia</td>
<td>101,693</td>
<td>20,926</td>
<td>20.58</td>
<td>135,536</td>
<td>15,830</td>
<td>11.68</td>
<td>237,229</td>
<td>36,756</td>
<td>15.49</td>
</tr>
</tbody>
</table>


Table C: Educational Attainment of Roma students in 1991 and 2001

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>1991</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Primary and lower secondary (including incomplete)</td>
<td>32,931</td>
<td>40,831</td>
</tr>
<tr>
<td>2 Secondary vocational without certificate</td>
<td>3,468</td>
<td>5,925</td>
</tr>
<tr>
<td>3 Secondary specialised without certificate</td>
<td>260</td>
<td>1,017</td>
</tr>
<tr>
<td>4 Complete Secondary, including</td>
<td>363</td>
<td>1,088</td>
</tr>
<tr>
<td>apprentice</td>
<td>57</td>
<td>378</td>
</tr>
<tr>
<td>specialised</td>
<td>239</td>
<td>508</td>
</tr>
<tr>
<td>general</td>
<td>67</td>
<td>202</td>
</tr>
<tr>
<td>5 University</td>
<td>56</td>
<td>174</td>
</tr>
<tr>
<td>6 Without education</td>
<td>4,579</td>
<td>1,963</td>
</tr>
<tr>
<td>7 Without indication of educational attainment</td>
<td>1,287</td>
<td>2,204</td>
</tr>
<tr>
<td>9 Children up to 16 years of age</td>
<td>32,858</td>
<td>36,718</td>
</tr>
<tr>
<td>Total</td>
<td>75,802</td>
<td>89,920</td>
</tr>
</tbody>
</table>