



Joint Study

**Main characteristics, findings, messages
of the coordinated audit of the Graduates'
Career Tracking Systems**

Joint Study

**Main characteristics, findings, messages of the
coordinated audit of the Graduates' Career
Tracking Systems**

TABLE OF CONTENTS

—▶ INTRODUCTION	5
—▶ DETAILED ANALYSIS	7
1. Main characteristics of the national audits	7
— 1.1. Bulgarian National Audit Office	7
— 1.2 State Audit Office of Hungary.....	8
— 1.3 Romanian Court of Accounts	8
2. Main findings and conclusions of the national audits	9
— 2.1 Main findings and conclusions of the Bulgarian audit	9
— 2.2 Main findings and conclusions of the Hungarian Audit	14
— 2.3 Main findings and conclusions of the Romanian audit.....	19
—▶ COMMON CONCLUSIONS AND MESSAGES	24
—▶ APPENDICES	27

INTRODUCTION

The resolution of the European Parliament adopted on 20th April 2012 on the modernisation of European higher education systems highlights the need to track fresh graduates' employment in order to measure the extent to which higher education meets the requirements of the labour market. The European Parliament calls upon Member States to collect and publish data showing the correlation between qualifications for different professions and the opportunities to find a job in those professions.

The declaration issued at the 2012 session of the Ministers responsible for educational affairs in Bucharest also set out the aim of improving fresh graduates' employment opportunities. The Ministers requested that detailed data be collected and compared with employment indicators.

Several documents of the European Parliament and the European Commission refer to the risk of 'brain drain'—especially for Member States in Central, Eastern and Southern Europe – as a result of an increasing number of fresh graduates deciding to work abroad. The European Parliament expressed concerns that working groups belonging to the Europe 2020 Strategy Framework on Education and Skills are not able to map the problems arising from unbalanced mobility precisely, and emphasized the need to find a solution to these challenges both at EU level and in the Member States.

As the aforementioned facts illustrate, tracking young graduates' careers, including instances in which they find a job in another Member State of the EU, is such a complex issue that it may require supreme audit institutions in the Member States to deal with it. For that reason, the President of the State Audit Office of Hungary stated during the 2014 EU Contact Committee Meeting of the Heads of SAIs that, in order to meet competitiveness objectives and identify problems in the EU labour market, relevant Member States could track graduates' careers within the framework of a cooperative audit. The detailed Hungarian proposal, 'Joint audit for the better utilisation of shared knowledge for competitiveness – revealing good practices of Graduates' Career Tracking' was presented at the joint seminar of the Fiscal Policy Audit Network and the EUROPE 2020 Strategy Audit Network in 2015.

As part of the Network on Europe 2020 Strategy Audit, as one of the Network's subprojects, the State Audit Office of Hungary (as coordinator), the Bulgarian National Audit Office and the Romanian Court of Accounts decided to carry out a coordinated audit to allow for better use of shared knowledge for competitiveness – revealing the good practices of graduate career tracking systems. The subject of the audit is closely linked to the main objectives of the Europe 2020 Strategy.

The Presidents of the three supreme audit institutions have set out the objectives, scope, methodology and other conditions of the cooperation in an agreement. The objective of the audit was to reveal good practices of

career tracking systems, with special regard to tracking the careers of graduates employed in another Member State. Its conclusions and recommendations should enable the sharing of relevant knowledge and experience.

The cooperative audit, which was coordinated by the State Audit Office of Hungary, was a performance audit focusing on effectiveness. The Romanian Court of Accounts also focused on efficiency in its country-specific audit. The State Audit Office of Hungary, besides carrying out the audit, performed an analysis as well. The SAIs participating in the cooperative audit had the option to conduct a compliance audit on the subject in question, but this was not part of the cooperative audit.


The Heads of the three SAIs agreed that the final product of the cooperative audit should be a joint study, whose conclusions are based on findings of international interest. In this present study we have formulated four conclusions and messages which are supported by the experiences and audit findings of all three SAIs. We would like to draw the attention of the Contact Committee of the Heads of SAIs of EU Member States and the European Court of Auditors to these conclusions. In addition, all three SAIs have summarised the main characteristics and findings of their national audits with special regard to those which may provide useful lessons for other Member States in developing graduate career tracking systems. Furthermore, all three SAIs have highlighted and presented three good practices that they collected over the course of the audits and which they would like to draw to the attention of other countries.

The coordinated audit, carried out in accordance with the previous agreement, has been completed. We all have learned a great deal from this joint audit. We wish to share the results of our work and the lessons learnt with the international community in the hope that they will be used by other European SAIs, government bodies and higher education institutions and that they will help others meet the objectives of the Europe 2020 Strategy.




Tzvetan Tzvetkov
President
Bulgarian National Audit Office




László Domokos
President
State Audit Office of Hungary




Nicolae Văcăroiu
President
Romanian Court of Accounts

1. Main characteristics of the national audits

1.1. Bulgarian National Audit Office

Audit period: 01.01.2013 – 31.12.2015

Audited entities:

- Ministry of Education and Science,
- Ministry of Labour and Social Policy,

In addition, information regarding the employment and migration of graduates was requested from the Ministry of Interior, the State Agency for Bulgarians Abroad, the National Evaluation and Accreditation Agency, all 51 universities in the country, and the various bodies responsible for verification of professional qualifications.

Audit methodology and aims:

The scope of this performance audit includes the multitude of state bodies and institutions that carry out activities related to monitoring graduate outcomes within the country or abroad. Performance audit means the review of activities pertaining to the planning, implementation and control at all management levels within the auditee regarding their effectiveness, efficiency and economy. The subject of the audit is the effectiveness of the monitoring process including collection, analysis, exchange and use of information.

Questionnaires were sent to all 51 public and private universities in Bulgaria regarding the information systems that they have for monitoring the career outcomes of their graduates. Forty-four of them took part in the study.

In assessing the benefit of the University Ranking System to prospective students, a survey was conducted among pupils in the 11th and 12th grade. A 10% sample from all 1 008 public and private secondary education schools was used. Ninety-eight of the surveyed 101 schools with a total of 9 095 pupils responded.

Legal basis of audit:

The performance audit was carried out in compliance with the Bulgarian National Audit Office Act and the International Standards of Supreme Audit Institutions. The audit subject is regulated in the Higher Education Act, Labour Migration and Mobility Act and the rules of procedure of institutions involved in collecting and/or exchanging information about graduates.

EU support:

The development of the Bulgarian University Ranking System was funded by the European Social Fund under the Operational Programme “Human Resources Development”. The initial project in 2010 received over 300 000 euro while the second project in 2013 for enhancing the system received about 850 000 euro. In 2016, the Ministry of Education and Science initiated a third project with estimated EU support of 1 275 000 euro which will be provided under the Operational Programme "Science and education for smart growth" 2014-2020.

1.2 State Audit Office of Hungary

Audit period: 01.01. 2011-31.10.2015

Audited entities:

- Ministry for Human Capacities
- Education Ltd. and Education Office, its legal successor
- Corvinus University of Budapest, Eötvös Loránd University, University of Pécs, Semmelweis University, Szent István University, King Sigismund University (in the audit period: King Sigismund College)

Audit methodology and aims:

The audit was carried out in line with professional auditing standards and in accordance with performance audit principles.

Evaluation of the information and documents needed to respond to audit questions involved the following processes: observation, formulation of questions (request for information), comparison and analysis. The audit was carried out by evaluating the responses to the questions, using data from certificates, and taking into account the legal provisions in force in the auditing period.

Legal basis of the audit:

Paragraph 5, Section 3 of Act LXVI of 2011 on the State Audit Office of Hungary

1.3 Romanian Court of Accounts

Audit period: 01.01.2013 – 31.12.2015

Audited entities:

- Ministry of National Education and Scientific Research
- 24 higher education institutions

Audit methodology and aims:

The general objective of this performance audit was the assessment of the implication and monitoring activity carried out by the Ministry and higher education institutions in creating and efficient operation of the IT systems to support the higher education graduates in finding employment. There were several specific objectives, like evaluating the efficiency and effectiveness of EU-funded grants on the development of career tracking systems and detecting deficiencies in the operation of these systems. Identify opportunities to strengthen harmony between labour market demand and offer training for better use of the knowledge acquired and improving the competitiveness of EU Member States.

Legal basis of audit:

The audit was conducted in accordance with the standards of the Romanian Court of Accounts, based on international audit standards of INTOSAI.

2. Main findings and conclusions of the national audits

2.1 Main findings and conclusions of the Bulgarian audit

Adopted regulations for graduate career tracking

Within the bodies responsible for carrying out the policy on higher education there is no established order or assigned obligations for collecting, analysing and evaluating information on graduate career outcomes. Information exchange among the various stakeholders is regulated only in principal. By way of signed framework agreements, the different government bodies exchange information, including on the career paths of graduates, for the purpose of carrying out the state policy on higher education.

Established and functioning systems for monitoring graduate career outcomes both on university level and on national level

In tracking the career development of their graduates, universities use career centres, alumni organisations and surveys among employers about the graduates' level of competence. - The data collection methods are often subjective and rely heavily on the good will of the students themselves to share up-to-date and accurate information. Some of the universities achieve better results through contacts with 3rd party professional and employer organisations.

Good Practice 1

The main method for universities to obtain information about the career development of their graduates is via surveys. Some of them, however, use more creative sources of information such as professional and employers' organisations, ministries and other institutions.

For example, some of the financial schools request information from all banks in Bulgaria. Certain medical universities inquire about the career paths of their former students from the Bulgarian Medical Practitioners' Union. One sports university obtains information about its graduates working as PE teachers in the education system from the Ministry of Education and Science.

The main method for universities to obtain information about the career development of their graduates is via surveys. Some of them, however, use more creative sources of information such as professional and employers' organisations, ministries and other institutions.

For example, some of the financial schools request information from all banks in Bulgaria. Certain medical universities inquire about the career paths of their former students from the Bulgarian Medical Practitioners' Union. One sports university obtains information about its graduates working as PE teachers in the education system from the Ministry of Education and Science.

The main tool for tracking graduates' career development on national level in Bulgaria is the University Ranking System.

The Bulgarian University Ranking System was developed in 2010 by the Ministry of Education and Science under a project funded by the European Social Fund. The project goal was to establish an objective basis to evaluate and compare the quality of higher education. A system of indicators was designed to measure the effectiveness of the education process in universities, including the career outcomes of graduates. The functionality of the ranking system was updated in 2013 by adding new indicators, data sources and additional online modules.

In 2016, the Ministry of Education and Science initiated a new project under the Operational Programme "Science and education for smart growth" 2014-2020. The project envisages further enhancements to the ranking system by introducing new features and capabilities.

The indicators are divided thematically into six groups according to the main categories which assess the quality of education in universities. Evaluating the career outcomes of graduates is done through the indicators in Group 6: Career Relevance to Labour Market and Regional Importance.

Achieving complete coverage of the entire population is practically impossible for any monitoring system. The sum of the values for the indicators *Contribution to social security system* and *Unemployment among graduates* for all 52 professional fields in 2016 shows that the University Ranking System covers 79% of all graduates. Outside the scope are 21% of the graduates, which is a comparatively good result when compared to the level of response that is normally achieved by surveys. The centralized state registers of the National Social Security Institute and the National Statistical Institute, as sources of information on the career development of graduates, give data high levels of reliability and objectivity, but do not allow for tracking graduates who cannot be found in those registers such as people working abroad.

The available data is most complete for professional field Military Science where 95% of the graduates have a social security status in the country (94.7%) or are registered as unemployed (0.3%). The lowest numbers are observed in arts where information is available for around 64% of graduates. The remainder up to 100% is assumed to be completed by those who are working abroad, freelancers working without a contract or unemployed persons who are not formally registered as such.

Some of the universities have asked for an indicator to be included in the system that can track the graduates' career development in the EU. Also, according to the methodology of the ranking system, data does not include non-Bulgarian graduates and is not subdivided according to levels of higher education (Bachelor's, Master's, etc.)

According to the data from the ranking system, the highest rate of applying the acquired degree (i.e. graduates are working on a position that requires a higher education degree) is achieved by graduates from the following professional fields: Military Science (99%), Pharmacy (95%), Medicine (95%), Stomatology (93%), Veterinary Medicine (73%) and Pedagogy (72%). Significantly lower is this rate for the two professional fields with the largest number of students – Economics (38%) and Administration and Management (37%).

Good Practice 2

The Bulgarian University Ranking System (<http://rsvu.mon.bg/rsvu3/?locale=en>) is a national database for the quality of higher education offered in the country. Its methodology allows tracking all graduates from all universities in the country by use of centralised administrative records. The wide range of available indicators track all aspects of career development including income, application of acquired degree, share of unemployed graduates, contribution to the social security system, regional significance and others.

The Ranking System offers various functionalities and tools for analysis and is updated annually. As of 2016, the system has information about the career outcomes of 79% of all graduates. The remaining 21% do not appear in the used administrative registers. Significant part of them is presumed to be working abroad.

In its 6 years of operation, the system has proved to be a major asset for policy makers, university management and the public to gain detailed information about the state of higher education in the country and apply it for their own purposes.

Users of information from the University Ranking System and the university information systems

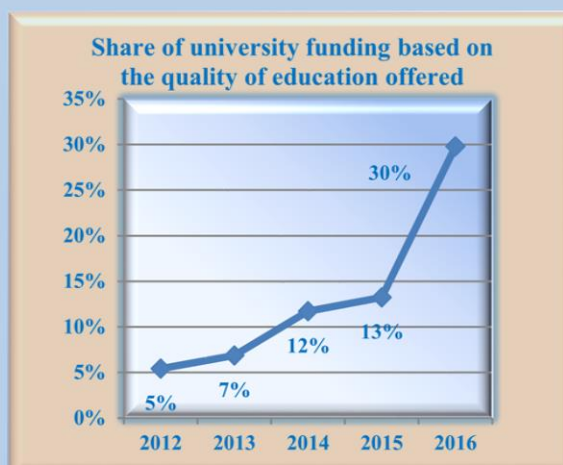
The Ministry of Education and Science uses the University Ranking System as one of the tools used in applying a university financing and admissions model that links the amount of funds to the quality of education offered. This allows universities that offer better education to receive higher funding amounts and higher admission quotas.

Using the University Ranking System serves the Ministry of Education and Science in optimizing the university network in the country and in improving the effectiveness of financial management in the higher education system.

The universities comprise another group of stakeholders that utilizes the data from the University Ranking System. The system serves as an impartial and objective instrument for gauging the effectiveness of the policies and activities that universities carry out. The ranking system identifies both weak spots that need to be improved and strengths that universities need to focus on and use as an advantage over other schools in attracting prospective students. Since the ranking system was launched in 2010, there has been a moderate trend for universities closing down poorly ranked, new or small professional fields.

Good Practice 3

In 2012 the Ministry of Education and Science introduced a new model for university funding which takes into account the quality of education offered. According to the Strategy for Development of Higher Education, by 2020 60% of the funds must be allocated based on the quality of education and the remaining 40% – based on the number of signed up students

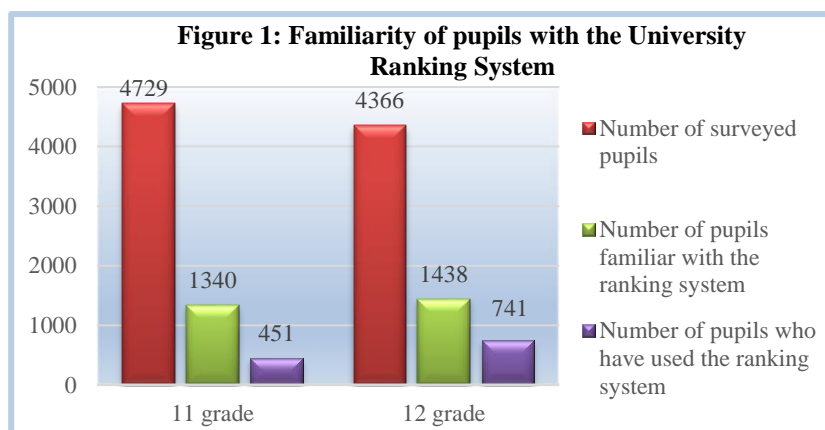


The quality of education is measured by objective quantitative criteria taken from the University Ranking System. The successful career development of the graduates is one of these criteria.

Since 2016, the data from the ranking system on graduates' career outcomes and the prognosis for supply and demand of labour in Bulgaria are among the factors that determine the allocation of admission quotas to universities. Linking graduate success in the labour market to admission quotas strengthens the role of the Ranking System in the admission model and in improving the profile of graduates entering the labour market.

One of the main purposes of the University Ranking System is to aid prospective students in making an informed choice on their future field of study and work. The audit team conducted a survey among pupils in grades 11 and 12 from 10% of all secondary schools in the country. The results from the survey show that 70% of the 9 095 respondents are not familiar with the ranking system. Only 13% of the students replied that they have actually used the system for one purpose or another (Figure 1). Further measures need to be undertaken by the Ministry of Education and Science to promote the system among prospective students.

The information collected by the universities is used by the National Evaluation and Accreditation Agency. In the accreditation process, the Agency monitors and evaluates the systems that universities created for tracking the career paths of graduates, but it comprises only a minor part out of the full accreditation criteria.



Monitoring migration of graduates abroad

Adopted state policy on managing migration of graduates abroad

The state policy on managing migration processes among university graduates is focused in two main directions - attracting Bulgarian emigrants back and attracting highly skilled foreign immigrants into the country. The two migration strategies that were in force during the audited period identified significant shortcomings in terms of the institutional framework and availability of data needed for effectively carrying out state policies.

The strongly fragmented nature of the policy on graduate migration, the lack of clear goals and actions in the relevant strategic documents and the insufficient responsibilities assigned for collecting and analysing data all hinder the effective monitoring and management of migration processes.

Established systems for tracking migration of graduates abroad

Migration strategies emphasize the need for undertaking measures that will produce comparable statistical data, analyses, studies and public surveys for the purpose of carrying out migration policies successfully. No such measures were undertaken in the audited period. The updated Employment Strategy also identifies the lack of quantitative or qualitative database as an obstacle to formulating adequate policy on managing migration of workforce.

No dedicated system for gathering data on the migration of graduates abroad has been developed on national or on institutional level and no comprehensive analysis on the workforce migration flows to and from Bulgaria has been performed. Target groups, identified as key by the migration strategies, including highly qualified Bulgarian emigrants, people of Bulgarian origin and foreigners who graduated from a Bulgarian university, are not being monitored.

In the absence of a unified state policy on managing migration of graduates and synchronized national efforts, each national body within its own responsibilities carries out individual activities that are relevant to migration of graduates. More than 27 institutions possess data on the migration of highly qualified workforce.

According to the Ministry of Interior and the Employment Agency, a total of 11 554 Bulgarian graduates were employed abroad in the 01.01.2011 – 30.09.2016 period. Access to the labour market in Bulgaria was granted to 1 970 highly qualified foreign citizens in that period.

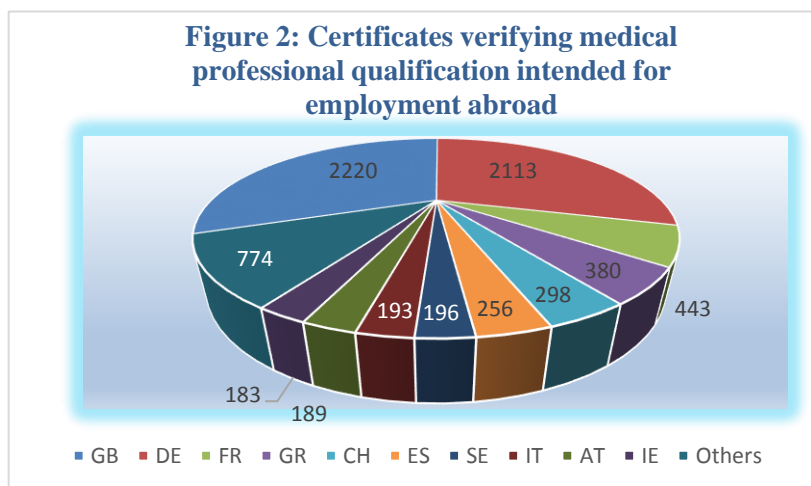
Regarding APOSTILLE¹ certificates issued on documents authenticating a higher education degree, the Ministry of Education and Science cannot distinguish between diplomas, certificates and other documents that were issued an APOSTILLE certificate.

The National Centre for Information and Documentation verified the higher education degree obtained in foreign universities of 2 677 people in the period 01.01.2011 - 30.06.2016. The career development of these people in Bulgaria or abroad is not being monitored.

¹An APOSTILLE is a certificate issued by a designated authority in a country where the Hague Convention Abolishing the Requirement for Legalization of Foreign Public Documents, Apostille Convention, is in force. It is used on documents (often diplomas) for verification and authentication in foreign countries.

According to the bodies responsible for verifying professional qualifications, 8 405 certificates were issued to people who obtained professional qualification in Bulgaria with the intention to practice a regulated profession abroad. Predominantly, those are medical professionals - 7 245 (Figure 2). A total of 764 certificates of professional qualifications acquired abroad were issued to people in order to take on a regulated profession in Bulgaria, the bulk of them – 550 – are also medics. Comparing the number of medical professionals who left the country (7 245) to the number of medical university graduates (22 480) within the same period, shows a

significant imbalance that migration caused to the labour market. The medics who leave the country represent one-third of those who graduate with a degree in medicine. Naturally, it has to be taken into account that it is possible those medics who received a certificate intended for working abroad to have not actually departed the country. According to the reports of 11 universities, 2 220 of their graduates were working abroad in the period 2013 – 2015.



No regulation has been adopted on exchange information on foreign citizens employed in the country without having signed inter-institutional agreements, therefore information is not regularly exchanged among the bodies responsible for verification of professional qualifications due to lack of such regulation.

2.2 Main findings and conclusions of the Hungarian Audit

The aims of the Graduates' Career Tracking System are

- to provide information for decision-makers in public higher education, to help them make optimal decisions,
- to give feedback to higher education institutions about the quality and utility of their teaching and
- to give careers guidance to pupils.

The Hungarian Graduates' Career Tracking system consists of two levels. The central body organises the collection, integration and analysis of data across the country, sets up a database, develops the methodology and provides support to the institutions, while the higher education institutions collect and analyse individual data and prepare reports for the central body.

Creating the system and the legal framework

Act 139 of 2005 on Higher Education and then Act 204 of 2011 on National Higher Education are the legal basis for the Graduates' Career Tracking System (GCTS). The precise tracking method was defined by Governmental Decree No. 87 of 2015 and by the guidelines of the Minister responsible for higher education, published on the government website. The legal framework enables the GCTS to meet its objectives.

Central planning and coordination mechanisms operated by Educatio Ltd, and since 1 January 2016 by its successor, Education Office, are also run in accordance with the Career Tracking objectives. They help increase the system's efficiency. These objectives are also met by monitoring system data and developing IT infrastructure.

In terms of planning, Educatio Ltd

- published a users' manual for the system, which gives guidelines to institutions on, for example, how to write questionnaires, handle personal data, communicate, etc. and acts as a support tool for setting up an institutional organisation to operate the system.
- It also prepared methodological guidelines for questions and devised the obligatory part of the questionnaire to be sent to target groups.

As for the coordination activities,

- professors and heads of higher education institutions helped draft the methodology and marketing sections of the guidelines,
- organised professional conferences and prepared tutorials.

With regard to the monitoring system, Educatio Ltd has issued two reports. One in 2011 showed which institutions have implemented central instructions, and identified risks, opportunities and good practices and another one in 2014 summarised the conditions for the operation of the system.

Data integration, as a supplementary system tool, connects various public databases with a data storage system such as GCTS, so that the data can be used for statistical purposes. In practice, it refers to the connection of the Higher Education Information System (as the core aspect of data integration) with the Tax and Customs Authority and the National Healthcare Fund.

The audit found that the **institutional planning, coordinating and monitoring mechanism** of the System was efficient and in accordance with the objectives set. All the higher education institutions involved in the audit achieved or exceeded the required number of participants using data from the system. Furthermore, four institutions achieved the objective of involving 90% of graduates in the questionnaires (for 'Szent István' University, the target value was 92%), and two universities exceeded this target.

Collection and analysis of data, information to target groups

Data was collected by the institutions and reported to the central coordinator (Educatio Ltd) in accordance with the aims of the system:

- Data collection was harmonised with methodological guidelines and the institutions' contractual obligations (obligatory questions, targeted graduates), and
- data sent to the central body allowed Educatio Ltd to provide target groups (higher education institutions, pupils and their parents, decision-makers in higher education and the graduate labour market, employers) with the necessary information relating to how graduates' careers in different professions are progressing across the country.

Integration, processing, analysis and publication of data were in accordance with the aims of the system:

- Low and decreasing response rates were monitored (compared to total number graduates questioned nationwide) and the results of institutions were only published when the response rate was above 10% in order to avoid distortions.

- A country-wide database was set up by weighting the raw data sent by the institutions.
- A database for research and education purposes was also published (73 times).

There was enough data available both countrywide and at institutional level. Pupils facing a choice of various courses were able to obtain detailed information about career opportunities offered by the faculties of different universities, thereby rendering it easier to make decisions.

- **At institutional level**, all institutions had to communicate the results of their own Career Tracking data research. This obligation was set out in the contract. Overall, all the audited universities fulfilled this obligation. Some of the universities went beyond the legal obligations relating to the management of GCTS and established good practices to ensure the long-term sustainability of the system.
- **At central level**, Educatio Ltd. handed over the database upon request, for purely educational or research purposes. In addition, one example of good practice is that 'Info-Graphics', developed via information from the database, were published on its website. This shows the percentage of graduates still studying, working, studying and working, or searching for job and can be filtered for different faculties within a branch of science.

Examples of good practices

Good practice 1 - Dialogue with employers

King Sigismund University started to track the careers of its graduates in the mid-2000s. The “Dialogue-model” established by the university involves asking questions to employers and ex-graduates about the skills and competences necessary for the given profession, and identifying the extent to which graduates obtained these competences. Active students have to be questioned using a similar method about their opinions on the necessity of competences needed for their future profession, and the extent to which they have already obtained them. The institution informs the professors about the results and builds them into the education programme of the institution in order to strike a balance between desired and existing skills.

Good practice 2 - Results of the GCTS are built into the strategy

Szent István University and Semmelweis University summarised the processes and tasks to be implemented in connection with the graduates career tracking system in a user manual and in a strategic document. With the help of GCTS, recommendations are made relating to competitiveness, competencies, training directions and educational structure. Furthermore, it helps those participating in the system, thus creating guidelines for the implementation of tasks to be completed and a detailed description of duties in case of staff changes.

Good practice 3 - A GCTS as a tool for students to choose a future profession

Educatio Ltd uses info-graphics to illustrate career opportunities of the individual faculties and professions on the website www.felvi.hu/diplomantul. Before graduating or taking a decision about their careers, students can easily obtain information through the ‘Info-graphics service’ about the opportunities offered by different higher education faculties. The service provider shows the number of graduates in a given faculty, gender ratio and the rate of students continuing their studies at masters’ level. Based on GCTS data, the graphics indicate the university at which the given course is available. The block entitled ‘Beyond the degree’ shows the percentage of graduates of a given course working or looking for a job at the time of the survey. The average monthly gross salary and rate of employment in jobs requiring a degree are also displayed. The data summarised by faculty and professions is sufficiently detailed and helps students make a decision on their choice of future career. Applicants are familiar with info-graphics and use them when making decisions. At the 2016 Educatio exhibition, there was a significant increase in the number of visitors interested in info-graphics compared to the previous year.

Tracking the career of graduates who work abroad

Although the objectives of GCTS do not include facts and figures relating to students graduating in Hungary and then employed abroad, the questionnaire of the Career Tracking System did contain data relating to the **migration of graduates**. The final studies of Educatio Ltd, published every year between 2011 and 2015, and the GCTS database contain data relating to the number of graduates working abroad by branch of higher education and by target country. They also contain data regarding the match between the diploma and the job of the graduates. Although the data is available, the Career Tracking objectives for graduates working abroad have not yet been worked out. Relevant data is available through the system database, however it is not possible to measure use from the perspective of strategic decision-making.

Regarding the rate of graduates working abroad, the GCTS database does not allow for a reliable estimation as the response rate was even lower than that of graduates working in Hungary and thus cannot be considered a representative response rate. However, the trends can be estimated. Based on data, we found that the rate of fresh graduates working abroad in the audited five years increased, in spite of a slight drop in 2015 (Figure 3).

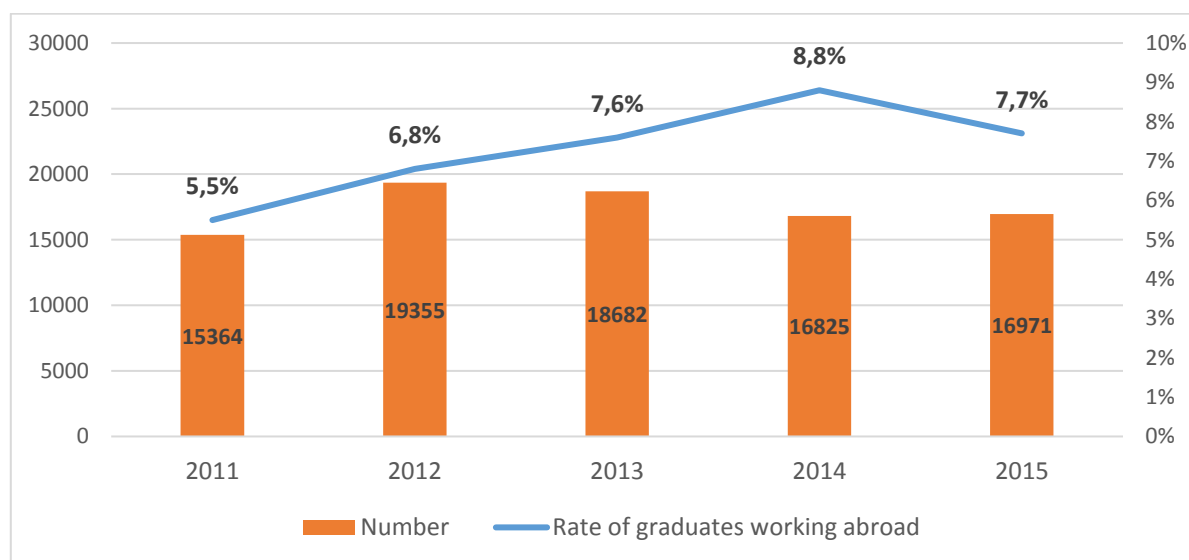


Figure 3: Proportion of graduates employed abroad as a proportion of all employees

The proportion working abroad is highly dispersed among the various professions. It is higher among graduates in medicine and healthcare, sport sciences, art and art mediation, while among graduates in agriculture, law, public administration and pedagogic skills it is lower than the average proportion of graduates working abroad (Figure 4).

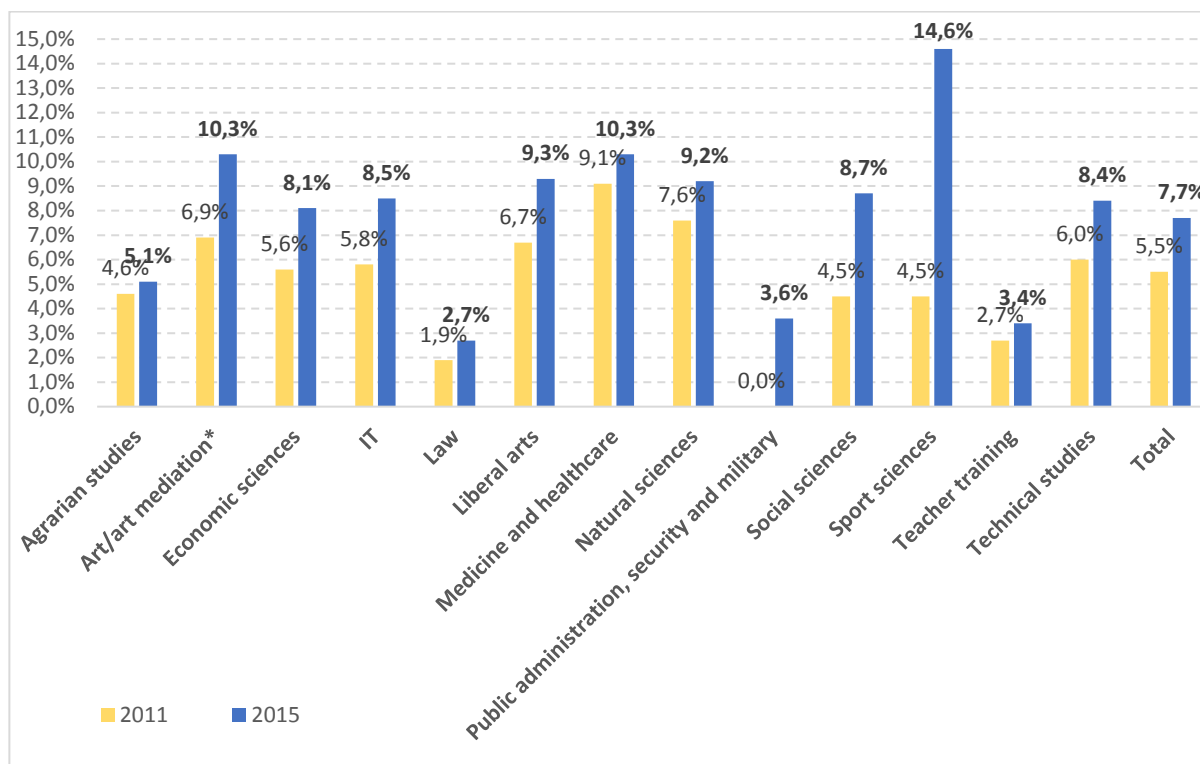


Figure 4: Proportion of graduates working abroad by profession

Sustainability of the System

The system needs to be operated until the end of the fifth year, i.e. 31 December 2019, after concluding the incentive project.

- **At central level**, sustainability is guaranteed by the financial resources available, as well as the technical and professional background.
- **At institutional level**, the obligations for sustainability have been met and good practices support long-term sustainability.

2.3 Main findings and conclusions of the Romanian audit

In Romania, there were a number of initiatives aiming at the reformulation of policies and strategies for the higher education system and its correlation with the labour market requirements. They have resulted in:

- Studies/surveys – for punctual knowledge of certain aspects regarding the correlation between higher education system and labour market;
- Specialized structures established at universities – to provide specific management for counselling and career guidance;
- Informatics systems with national applicability – developing studies and creating necessary database in order to increase the efficiency of higher education management.

Romanian Studies Regarding University Graduates and their Integration on the Labour Market

In the audited period, and previously, there have been made a series of monitoring studies on the integration in labour market of the graduates of high education in Romania, studies that played the role to provide the necessary information to improve the high education system. These studies aimed to explain what factors are behind graduates' professional success and to analyse the influences of various characteristics of the higher education system.

The studies were focused on:

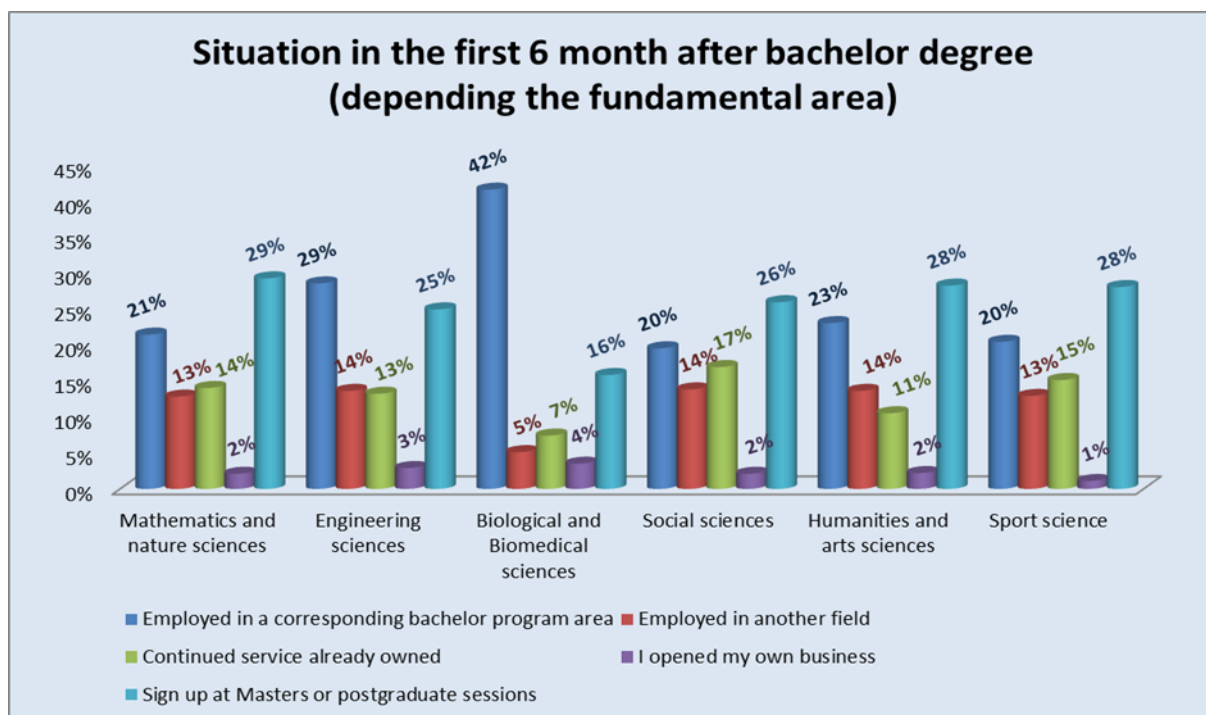
- Establishing the correlation between educational route and the acquired competences along its and socio – biographic profile of the student;
- Establishing the level of the acquired competences by the graduate during his educational route;
- Establishing the level of use in the professional career of the knowledge and acquired competencies during his educational route.

The conduct of those studies resulted in inquiries based on sending questionnaires on-line/by mail to different promotions graduates (all or a representative sample) and to employers.

The most representative studies for the analysed period are:

- *National study of monitoring the insertion into the labour market of university graduates*, was conducted within the grant *Graduates and labour Market*. This study, attended by 48,602 graduates, followed the socio – professional path of graduates' immediately after graduation and after a period considered sufficient to achieve a certain professional level and outlining an individually perceptions of professional and employment needs. According to this study, 32% of the graduates had jobs partially related to the studied domain, 39% worked in very different domains and 35% worked in the studied domain.
- The study *Students, Graduates and Labour market* has been conducted within grant *Polices based on evidence and labour market impact (INFO-HE)*, and aimed to analyse the correlation of educational offer to labour market requirements.

This is the most eloquent study regarding the connection between the educational offer and the labour market requirements and **it was conducted on the total number of graduates (bachelor degree studies) at national level** (281.922 persons who graduated in 2010 and 2014, from all higher education institutions regardless of ownership – public and private). Regarding the insertion of high education graduates on the labour market, the 6 months post-graduation situation shows that:



Graphic No.1 – The situation in the first 6 months after bachelor degree (based on the basic domain)

Good Practice 1 - Consecutive national studies for monitoring the insertion of higher education graduates on the labour market conducted by the Ministry of National Education and Scientific Research through its subordinated institutions

Through the projects **The Graduates and the Labour Market** and **INFO – HE**, tools for monitoring the socio-professional path of graduates of higher education were developed and used and studies being carried out on the cohorts of graduates from 2005-2009, 2006-2010 and 2010-2014.

The Graduates and the Labour Market project benefited from the outcomes of PHARE TVET-RO 2005 program, through which there were developed methodologies and tools for monitoring the higher education graduates' insertion on the labour market, results subsequently implemented in the Ministry's activity.

Later, **INFO – HE** used the previous studies experience as the main source of information for developing a methodology in line with previous study methodologies, in order to preserve the relevance and comparability of data, as well as to strengthen the longitudinal character of the study.

However, the results revealed a weak adequacy of educational content and learning outcomes to the requirements of the labour market regardless the domain.

- The study **Higher Education Quality Barometer** was conducted in Romania for three years (2009, 2010 and 2015) as part of projects "*Quality assurance in higher education in Romania in the European context. Development of academic quality management at system and institutional level - ACADEMIS*" (2009, 2010) and "*Development and strengthening of the quality culture in the Romanian higher education*

system - *QUALITAS* "(2015). Inquiries have included the following topics: evaluating the education process; building skills and competencies; Personal Development; professional career; lifestyle, values; sociodemographic data.

- The study **Recent graduates of higher education and their integration into the labour market** was conducted within the grant "*Development of an Operational Qualifications System of Higher Education – DOCIS*". This study aimed to answer the following questions:
 - o What happens to graduates after graduation?
 - o To what extent the graduates are using their knowledge acquired during university?
 - o Is the public and private money spent in such manner that graduates will constitute a human resource for a quality economy?

Among the conclusions presented in this study, we present below some considered representative:

- In finding a first job, transversal competences (autonomy and responsibility, social interaction, desire for personal and professional development) are more important than the specific ones;
- For the whole sample, graduates consider that more than half (55%) of the knowledge and skills they need in the workplace were acquired or learned exactly in the workplace, about a third (32%) were acquired during faculty and 14% have been acquired in other circumstances;
- Both employers and graduates consider that, at present, the higher education system succeeds to provide graduates the theoretical knowledge they need, but not practical skills.
- Employers are more interested in skills that graduates have, their previous experience working, and less of graduate specialization or the prestige of university.

The Centres for Counselling and Career Guidance

In Romania, the activity of counselling and career guidance for students was introduced, as an obligation, at national level in 1998, when it has been decided for each university to have a Counselling Department for professional path selection and placement on the labour market. These departments were reorganized in 2005 as "*centres for counselling and career guidance to support students in taking appropriate decisions in structuring their own educational path*".

The Centres for Counselling and Career Guidance are structures established at universities level whose organization and operation methodology was approved in 2014. They have as fundamental objective the offering of new hiring opportunities to the young people, through counselling and career guidance mainly targeting:

- a) guidance and counselling of pupils / students so that they can be able to optimally plan and manage their own educational route;
- b) reducing the university abandonment caused by professional reasons or career guidance, as well as personal reasons or adaptation to university environment;
- c) facilitating the relationship between students and the labour market, so that they know the real needs and challenges of the labour market;
- d) Increasing the employability of students in the area of graduated studies.

The conclusion of the performance audit was that these structures are still underdeveloped at university level. This reality requires organizing from professional perspective of career counselling and orientation services, into a homogeneous and synchronized structure, meeting the same standards and principles and in the same time the correlation of the existing legislation, such that the counselling career centre services from the secondary / high school and university level to be linked with the public occupation services for an efficient response to the needs of the clients (pupils, students, unemployed) in relation with the labour market needs.

Information Systems Developed for Supporting Graduates in Finding a Job

Regarding the support for graduates to find a job, it was found that, for the development of information systems there are three types of approaches for correlation of higher education with labour market requirements and integration of students / graduates with higher education, to the labour market:

- the approach based on universities` and graduates` volunteering, in virtue of decentralization and university autonomy;
- the approach that starts from the necessity of the existence of evidence of human and material resources involved in higher education to formulate sustainable policies in this area;
- the approach based on regional character of the educational offer.

In conclusion, in the analysed period there were concerns on monitoring insertion in the labour market of university graduates, both at central and institutional level, but the lack of a national aggregations of individual efforts made by all actors involved in this process led to different approaches and a less efficient use of resources.

Good practice 2

Through the INFO – HE project, integrated tools at national level for tracking the educational path of young people and the employability of graduates (REI, RMU, SAPM) have been developed, aiming to improve the capacity of the higher education system to support economic and social development and to increase its relevance for the labour market.

The implementation of these instruments at national level helped to ensure the uniqueness and consistency of data on the higher education system, having an important role in medium and long-term sustainability of public policies and strategies in this field.

Nowadays, there is an extensive process of uploading databases on persons registered in the higher education system – state and private, that ensures the long-term sustainability of these instruments.

The Overall Conclusion of the Performance Audit Mission

Regarding the *informatics system for tracking the educational and professional route of graduates*, it notes that were created and implemented applications / systems / informatics platform representing component parts of it. The functioning of these "modules" in full agreement will lead to strengthening the management of higher education system, also the interconnection with the informatics systems managed by other state institutions will allow obtaining primary information on the educational and professional route of graduates, essential information to formulate policies/strategies regarding correlation higher education system with labour market.

COMMON CONCLUSIONS AND MESSAGES

- 1. All three countries recognise the importance of setting up and managing a graduates' career tracking system. This has been implemented in various ways. Each solution has its advantages and disadvantages. Identifying and presenting those helps us to learn from one another and to improve the systems in each country. The audits revealed several good practices.**

In Hungary and Romania the law stipulates that a graduates' career tracking system (GCTS) should be set up and managed. In Bulgaria the process is mandated through secondary legal acts such as ministerial ordinances for calculating university funding and admission quotas. The career tracking involves two systems in each country: a questionnaire-based system, and another one based on administrative (social security, labour administration) statistics. The two systems complement one other. The system based on administrative statistics is only suitable for queries relating to a limited data set, however it contains a record of every fresh graduate working, unemployed or entitled to social care in the country. However, this system does not contain data on graduates working abroad. Meanwhile, the questionnaire-based survey can include any question relevant to career tracking, however only a small proportion of the targeted group provide a response. Graduates residing abroad are also involved in the survey.

In Bulgaria, centralised tracking is carried out through the University Ranking System, which uses data and statistics from the social security records of all graduates over the past 5 years. This method removes the subjectivity of questionnaires and provides concrete and verifiable information about graduates' employment and social security status, the connection between degree and field of work, income, regional comparisons, etc. The system does not contain data on graduates working abroad.

In addition to national tracking through the University Ranking System, there is a decentralised model in Bulgaria, in which the system is operated individually by the higher education institutions. The national audit found that the data collected by the universities is not always reliable or comprehensive and is not always available on time. The data collection methods are often subjective, and the extent to which respondents provide precise responses depends on the graduates themselves. Some universities achieved better results through cooperation with professional or employers' organisations.

The Hungarian regulation also assigns the task of setting up and operating the graduate career tracking system to the higher education institutions, although it does provide central support and coordination, mainly through operative programmes financed from EU funds. The established system is able to deliver data relating to the nature of graduates' employment, and allows universities to include their own questions in the questionnaire. This decentralisation increases motivation to sustain the system and use the data received, and has resulted in several examples of good practices as well. However, the relatively low and declining response rate is jeopardising this sustainability.

In Romania the questionnaire-based system has thus far been used, while the system based on institutional administrative statistics is currently in the process of being implemented.

At national level, there are two approaches for carrying out the monitoring. They can choose to coordinate the research centrally, which means that universities follow predetermined procedures without making a significant contribution to the design of the process, or they can opt for universities to have more autonomy in this regard, which requires the development of local expertise. National experience has shown that a

functioning institutional structure which monitors graduate careers can ensure that research is carried out at all levels of the university on a regular basis. Such structures are at the centre of counselling and career guidance, but they are still underdeveloped.

The centralised implementation of monitoring studies does not take into account institutional or domain specificity when developing the graduates' tracking survey questionnaire.

At central level, the use of the questionnaire-based system has obtained the information required to determine the correlation between the courses on offer and labour market requirements. Similar systems have also been used at universities, and these are tailored to their needs.

The data integration of administrative statistics has also been carried out in Hungary. This allows the most important features of graduates' careers in Hungary to be tracked. The data obtained from this system is used to complete the information gained from the questionnaire more precise and render it more precise.

2. The data provided by the graduates' career tracking system is used in each country in government decisions and in the careers guidance provided to secondary school students. The most motivated universities used the information as a source of feedback on their performance.

In Bulgaria, the results from the University Ranking System, including the success of graduates in finding a job, are also taken into consideration in the funding of universities and in the definition of the admission quotas. The university rankings are also available for secondary school students and they provide important information for those choosing a profession. However, only a small proportion of students know and use this system. Some universities also use the information relating to their own graduates to identify weaknesses to improve on or strengths to build on. This is most often achieved through modifying curricula on unsuccessful courses and conducting marketing campaigns for successful ones.

In Hungary, GCTS data is used in decision-making both at government level and at universities. The online information system established on the basis of GCTS data provides detailed information for students preparing for entrance exams into universities/colleges about the chances of employment after graduation. Many people visit the website displaying this information.

National studies conducted in Romania have been designed in such a way that their results are useful for a wide range of partners and for the specific interests of these partners on the links between studies and employment: Government, employers, employment agencies, professional associations, academics, trainers in vocational and technical education, managers of higher education institutions, future students and their parents, students, graduates. Information on publicity / awareness of the opportunities for facilitating the transition between school and work life has increased and universities now play a more prominent role in assessing the knowledge, skills and abilities required to allow graduates to engage in the labour market, develop a business, continue university studies and learn in the long-term.

At the same time, results regarding the integration of graduates into the labour market are the basis for calculating the tuition figure for undergraduate, master and doctoral degrees. This indicator is also based on the objective of the Europe 2020 Strategy to increase the percentage of the population aged 30 – 34 successfully completing tertiary education. Based on forecasts, Romania can reach the 2020 horizon by restructuring its undergraduate degree programmes in line with labour market requirements and by

diversifying the number of master programmes to increase their relevance in terms of quality and improve the integration of graduates into the labour market.

- 3. A satisfactory solution for tracking the careers of fresh graduates working in another EU Member State has not been found in any of the three countries. The situation would be improved if systems integrating the domestic administrative and statistical data could be extended to include the data on employees taking a job in another EU Member State. This would require closer cooperation between EU Member States. In principle, the survey system allows for the employment of graduates abroad to be tracked, however this option is not widely used and is not sufficiently reliable.**

All three audits found fundamental deficiencies in the career tracking of fresh graduates who find a job in another EU Member State. The systems based on administrative statistics are not sufficient by nature to observe employment abroad, because they contain data only about domestic employment.

The Bulgarian audit showed that sending questionnaires is one way for finding out graduates' migration and employment status. However, the scope of the information is limited by low response rates, obsolete residential and email addresses of graduates, and subjectivity of information.

The Hungarian audit and additional analysis found that the questionnaire-based survey would in principle be able to monitor employment abroad as well, however higher education institutions and the central coordinator of the GCTS have not paid much attention to this issue. Only limited conclusions can be drawn because of the low response rate.

In Romania the career tracking of graduates working abroad is carried out sporadically on the basis of individual surveys conducted by universities, without centralising this information at national level. As a result, the phenomenon of the migration of intellectuals ('Brain drain') could be quantified relatively fairly.

- 4. The SAIs participating in the audit agreed on the audit type and the areas they should focus on. However, because of the aims of a cooperative audit it was a good idea not to harmonise the audit programmes. In spite of that, the coordinated audit allowed for the effective exchange of experience and knowledge.**

We would like to draw the attention of other countries' supreme audit institutions to this method of coordinating cooperative audits, because a more detailed comparison of different countries' systems is not possible due to the profound differences between the systems, even if the audit is based on a detailed common audit programme.

APPENDICES

Appendix No.1

Table 1:
Characteristics of the Ranking System of the Bulgarian Universities

Indicator	2013	2014	2015	2016	Data
Insurable income of graduates	✓	✓	✓	✓	NSSI
Unemployment among graduates	✓	✓	✓	✓	NSSI
Application of acquired higher education	✓	✓	✓	✓	NSSI
Contribution to the social security system	✓	✓	✓	✓	NSSI
Proportion of insurable income of graduates compared to the average salary for the region	✓	✓	✓	✓	NSSI NSI
Regional significance	✓	✓	✓	✓	Polls
Importance of career development as judged by professors	✓	✓	✓	✓	Polls
"I acquired confidence that I will succeed in life"	✓	✓	✓	✓	Polls
"I made important contacts and friendships"	✓	✓	✓	✓	Polls
Application of acquired higher education, including positions taken by vocation		✓	✓	✓	NSSI
Taxable income of graduates			✓	✓	NSSI
Regional career development			✓	✓	NSSI
Regional career development including application of acquired higher education			✓	✓	NSSI
Unemployment among graduates compared to the regional average unemployment (ratio)			✓	✓	NSSI NSI
Unemployment among graduates compared to the regional average unemployment (difference)			✓	✓	NSSI NSI
"Attractiveness of the university for prospective students in the municipality"				✓	MES
"Attractiveness of the university for prospective students in the region"				✓	MES

NSSI – National Social Security Institute;

NSI – National Statistical Institute;

Polls – questionnaires among students and university staff;

MES – Ministry of Education and Science

The joint study was prepared by:

On behalf of the Bulgarian National Audit Office

- Detelina Hadjieva
- Boriana Dimova
- Dimitar Dimitrov

On behalf of the State Audit Office of Hungary

- Noémi Právitzné Pejkó
- Gyula Zoltán Pulay
- Balázs Timár
- Orsolya Török

On behalf of the Romanian Court of Accounts

- Corina Chivulescu
- Emilia Căndea
- Sever Ovidiu Pepenel
- Laura Ana Paul Barbu Stănică
- Andreea Antoneac
- Mihai Cristian Ecobici
- under the coordination of the Chief of Department – Dr. Nicu Marcu