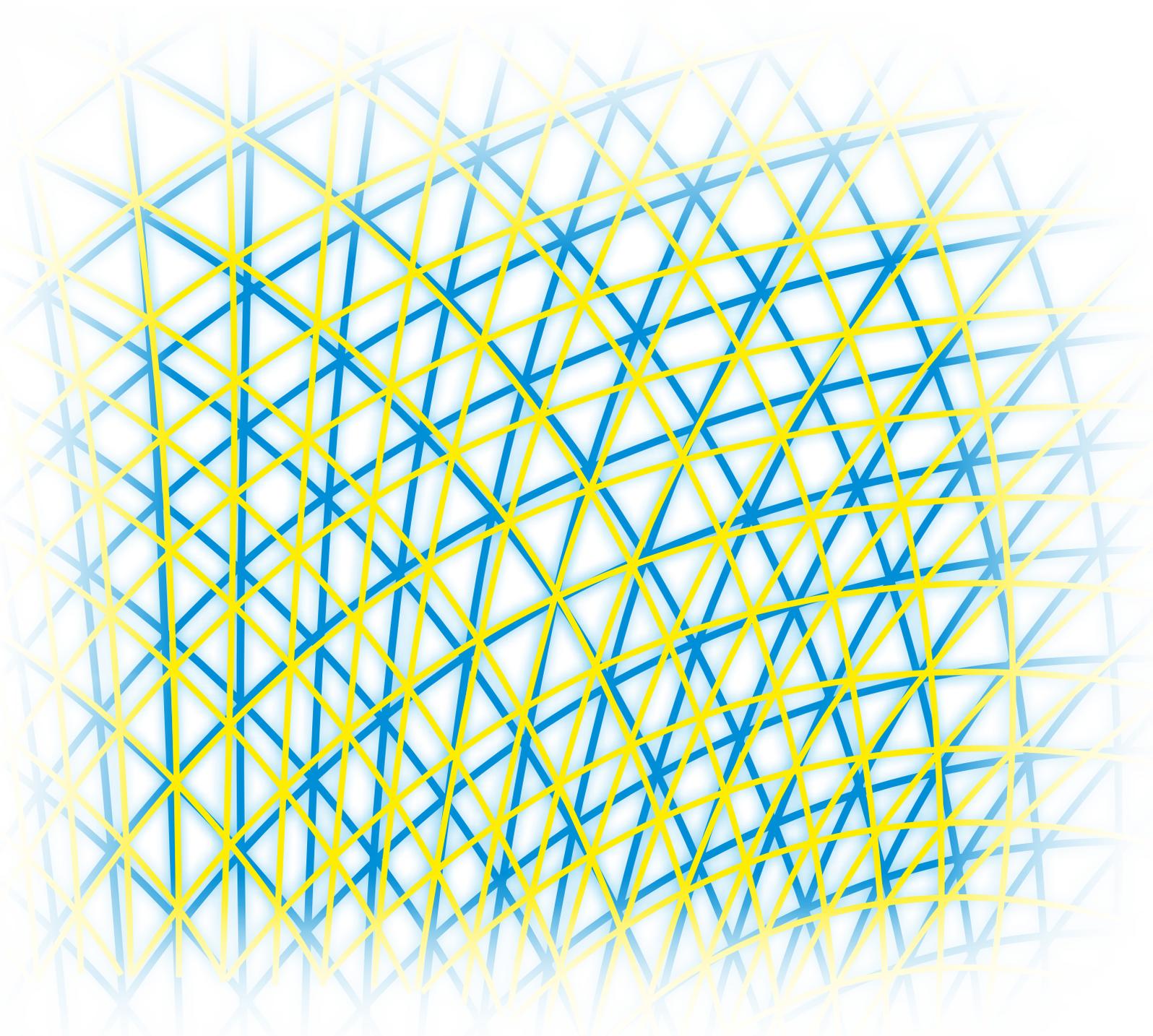


Strengthening the Impact of Higher Education in the Regions

Executive Summary of the Study



HEREG



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This study is a key outcome of the HEREG project - Strengthening the Impact of Higher Education in the Regions (559187-EPP-1-2014-1-SK-EPPKA3-BOLOGNA) that was supported under a restricted call of the Erasmus+ programme called „Support to the Implementation of EHEA Reforms“. Through the call the European Commission promoted higher education reforms in the European Higher Education Area. The project was coordinated by the Ministry of Education, Science, Research and Sport of the Slovak Republic, the Higher Education Department, in partnership with SAAIC – the National Agency for the Erasmus+ Programme in Education and Training Sectors. The project was implemented in the years 2014-2016 a co-funded by the European Commission and the Ministry.

Executive Summary

The socio-economic development of the regions traditionally depends on the activities of four key stakeholders: firms, households, government and universities. Several studies point out that universities are being regarded as the stakeholder who can at present in a significant way influence the competitiveness of the regions. Turbulent development of global economy lays new claims on people, companies and the public sector and requires changes at regional level. These changes are related to the demand for new qualifications, skills and creativity of the labour force, new technologies and innovations. At the same time they open social challenges to which the regions must react, such as changes in the environment, climate change, fighting social exclusion, migration and the cultural conflicts connected with it.

In addition to education and research, which present the two most important tasks of universities in the society, there is a third task, which consists of becoming involved in regional development. Up to the present the discussions about higher education in Slovakia have targeted education and research from the point of view of achieving national economic goals and the issue of their regional dimension has not been given sufficient attention. However, research has shown that a major part of the impact of universities is directed into their immediate environment. For this reason this study seeks to:

- provide an overview and a classification of the activities of universities in the field of regional development,
- analyse the evolution of higher education in the Slovak regions,
- conduct a survey about the activities of universities in the area of regional development in SR (the Slovak Republic),
- launch a discussion on the importance of universities for regional development and a better use of their potential in the development of the regions in SR,
- formulate framework guidelines and recommendations for policy-makers.

The extent and focus of this study neither enabled to quantify the regional impact of universities in detail nor to draw a direct comparison among the individual universities. In this area systematic data collection making this kind of research possible does not exist. Nevertheless, it is one of the outputs of the study to suggest a set of indicators that can contribute to documenting the impact of universities in more detail in the future.

On the other hand, the study primarily dealt with the mapping of activities that Slovak universities carry out in four aggregated regions in SR (the Bratislava region, the Western, Central and Eastern Slovakian regions). The study is divided into six main sections. In chapters 3 and 4 we offer an overview of activities of universities in the field of regional development in a foreign country. In chapter 5 we provide a basic overview of the evolution of higher education in SR in the Slovak regions based on the available statistical data. The following two chapters are based on the information obtained from a survey conducted at universities in SR, eight focus groups involving representatives of universities and other regional stakeholders from the four Slovak regions and the information we obtained from freely accessible sources. At the end of chapter 8 we suggest recommendations for policy-makers in the area of higher education in SR and regional development. The annexes contain a classification of the activities of universities with a proposal of indicators and detailed results of the survey by questionnaire.

Universities and regional development: What kind of activities?

Universities carry out a number of activities that respond to the needs of the labour force and businesses and they influence the quality of life of the inhabitants in the region. With their activities in the field of education universities contribute to increasing the level of qualification and skills of the labour force. Research and development foster technological development and innovations in companies. Finally, universities organize activities for the community which increase the social cohesion among the inhabitants, the quality of life and they improve the environment and the quality of regional institutions as well.

Among the most relevant studies which reviewed the activities of universities in the field of regional development rank the studies published by the OECD and the European Commission. In the year 2007 the OECD published the report *Higher Education and Regions: Globally Competitive, Locally Engaged*, in which the authors focussed on universities' motivation in regional involvement and identification of financial, institutional and managerial barriers. In the year 2011 the European Commission published the report *Connecting Universities to Regional Growth: A practical guide*, whose objective was to help public authorities to promote the active involvement of universities and other higher education institutions in regional innovation strategies for smart specialization in cooperation with research centres, businesses and partners in the civil society. We also used studies that dealt with the definition of a set of indicators, such as *European Indicators and Ranking Methodology for University Third Mission (3M project)* and *Measuring Third Stream Activities Final Report to the Russell Group of Universities (SPRU, 2002)*. For the purpose of this study, which examined the activities of Slovak universities in the field of regional development in SR, we suggested to divide the activities of universities into three areas, within which we classify the activities into more detailed groups:

1. Education aiming at improving skills and increasing qualification of the labour force:

- a. Matching the needs of the regional labour market,
- b. Retaining graduates in the region,
- c. Increasing participation of local inhabitants in education,
- d. Supporting entrepreneurial activities in the region.

2. Research oriented at technological development and innovations in companies:

- a. Improving cooperation between universities and regional companies,
- b. Promoting innovative entrepreneurship in the region,
- c. Commercialisation of intellectual property and equipment.

3. Community development aiming at improving social cohesion, quality of life, environment and a better functioning of institutions:

- a. Increasing civil participation in the region,
- b. Improving the facilities of the sports and cultural infrastructure in the region,
- c. Demonstration activities.

The area of **education aiming at improving skills and increasing qualification of the labour force** includes activities that are related to matching the needs of the regional labour market, retaining the graduates in the regions and increasing the participation of the local inhabitants in education. To the main activities conducted by the universities in order to harmonize with the needs of the labour market belong for instance surveys about the (future) needs of employers, internships of students in firms, transformation of educational programmes in cooperation with potential employers or company sponsorship for students. One example of an activity focussing on the participation of local inhabitants is e.g. specialized educational programmes for the local population, continuing education or educational programmes for marginalised groups. The graduate retention programmes particularly concentrate on retaining the graduates in the region.

The second area of activities aims at **research oriented at technological development and innovation in businesses**. In the first place the activities of universities focus on improving the cooperation with regional companies in the form of joint research projects, contracted research but also on activities that indirectly support the innovation activities of companies such as provision of consultancy services or fostering staff mobility between firms and universities. The promotion of companies founded by students, graduates or academic professionals, the foundation of technological incubators and science and technology parks and the support of spin-off and start-up businesses lead to improving the innovative entrepreneurship. Universities also focus on the commercial use of intellectual property and their facilities. They offer services in the area of licensing of intellectual property and technologies and rental of facilities. This is connected with information, legal and trade services.

Finally, universities promote **community development aiming at improving social cohesion, quality of life, environment and a better functioning of institutions**. A number of civic associations operate at universities and these associations organize volunteer projects for local inhabitants, universities offer the public their sport facilities or cultural infrastructure, they operate hospitals and organize events for the people from the town and the surrounding neighbourhood.

The output of this section includes a set of proposed indicators that enable to evaluate the quality or the impact of the activities conducted by universities (they are listed in Annex A of the study). At the same time we documented the activities by examples of good practice from abroad.

Regional dimension of higher education in SR

In 2014 in Slovakia there were 36 universities with 131 colleges. A major part of them are public universities. Altogether in 19 Slovak towns there are seats of a college of a university. Although higher education is represented in every region up to one third of all the universities operate in the Bratislava region. Before the year 2009 the higher education sector recorded a massive increase - the number of students rose threefold compared to the beginning of the 1990's. This is the result of an increased offer and access to higher education, as well as an increase of demand, which is linked to the demographic processes and growing interest in education (especially in the external form of study). The decrease after the year 2009 concerned mainly the external form of education and affected less the Bratislava region. This trend also copied the evolution of the numbers of university graduates. In the case of the Trenčín and Prešov regions the number of graduates per 1000 inhabitants amounting to 4 and 5 graduates respectively is significantly lower than the average in SR (11). On the contrary the number of graduates per 1000 inhabitants in the Bratislava region (37) is three times higher than the average in SR. The increase in importance of higher education in the Slovak economy is not only connected with the numbers of students or graduates but at the same time we can observe an increasing importance of universities as research institutions. The share of universities in research and development expenditures amounts to 34.4 %, whereas in the year 2002 this share was lower than 10 %. However, the increased importance of universities in research and development is not evenly distributed among the regions. Remarkable differences exist from the point of view of distribution of capacities, as well as from the perspective of outputs and research and development productivity in the Slovak regions.

Universities and regional development: practical experience in SR

By means of an electronic survey by questionnaire targeting 35 universities in SR, we mapped **the activities of universities in SR in the field of regional development in three areas**: education, research and community development. Sixteen universities actively participated in the survey with a clear dominance of public universities. The survey results showed that **in the area of education** the universities to a greater extent monitor the needs of future employers and cooperate with companies in the preparation of study programmes. The number of students having an internship in companies or in organisations and company-sponsored studies are on the rise. Nevertheless, there are significant differences among the universities, which result from their different orientation. On the other hand, activities in the area of lifelong learning are not that expanded, which is for reasons attributable to the system and lack of financial resources. In this respect the activities in the field of senior education present an exception. Several institutions operating in this area have been established such as the Slovak Academic Association for Lifelong Learning and the Association of the Universities of the Third Age in Slovakia. The promotion of entrepreneurship by universities has the form of business incubators, courses of entrepreneurial education, organisation of events and creation of consulting centres. Interestingly, the survey results revealed that the activities of the universities are not tied solely to the region in which they operate, and nor are the partners with whom they operate only from the hosting region.

The cooperation between universities and companies **in the area of research** has various forms, yet the major part of this cooperation takes place without any institutional framework on an individual basis in form of consultations. The offer for cooperation in the area of research on the part of the universities is limited by a lower interest of companies. Joint research projects represent the most developed form of cooperation. The universities also created other mechanisms that display their research capacities (Internet databases of competences, technologies, etc.). The promotion of innovative entrepreneurship can be particularly seen in the foundation of science parks, however these parks are mostly in the initial stage of creation and their contribution is unclear, yet Technological incubators (STU InQB) and local cluster initiatives (e.g. the IT Valley in Košice) can look back on a longer history. The commercialization of intellectual property of universities has been supported by the creation of the National Technology Transfer Portal (NPTT). Activities related to patents and licensing exist only in a restricted form. The activities of universities are not preferentially bound to the hosting region.

In **the area of community development** universities carry out a wide range of activities that are oriented at the use of the cultural and sports infrastructure by the public. Additionally, numerous activities take place, such as the organisation of exhibitions, concerts, festivals and other events, public lectures, various popularizing activities, volunteer activities, children universities, open door days, children hotline, antidrug campaigns and activities, advisory services for the third sector or in cooperation with it. The events and activities organized for the public and the use of the infrastructure by the public concern particularly the universities' immediate environment and in the majority of cases these activities form a natural part of the regional or community development.

Universities and regional development: regional specifics

The last section of the study concentrated on individual studies of 4 Slovak regions. The impact of the activities of universities on regional development is namely to a significant extent influenced by the socio-economic characteristics of the region, as well as its orientation, size and spatial distribution of universities in the region. In this section we quote the qualitative statements of the representatives of universities, companies and other organisations regarding mutual cooperation and potential contribution. The cooperation itself among the regional stakeholders is namely also conditioned by their attitude and experience.

The Bratislava region is the centre of higher education in SR and is concentrated in the town of Bratislava. In the year 2015 in the Bratislava region there were altogether 13 universities, out of which 6 public and 5 private and 2 state universities. As to the structure of education it is the colleges oriented at medicine, economy and technical disciplines that prevail and the representation of students at art and law colleges is above the average. In comparison with the SR average the percentage of graduates is approximately three times higher and the universities dominate when it comes to volume and quality of research and development. The universities put more emphasis on their national and international standing and impact rather than their regional position. The universities in Bratislava attempt to support the entrepreneurial skills of their students and a number of them offer courses oriented at motivating the students to run a business and to become self-employed. The system of internships is being developed and the system of continuing education functions as well. However, a higher degree of flexibility in education is limited by administrative constraints, for example by the content of the study programmes and the lacking flexibility to alter them. Research activities deal predominantly with basic research but at present several initiatives are being implemented, which can result in a higher degree of commercialisation of research outputs. From the point of view of the local and regional self-government there is a demand for internships for students, yet their short-term nature is detrimental. The research profile and the competencies appear to be unclear for external organizations. Cooperation is frequently based on personal relationships rather than systematic institutional relations. The limitations of the cooperation are on the one hand administrative and on the other hand there is also the system of higher education funding that does not motivate to cooperate with the practice.

In the region of **Western Slovakia** there are in total 11 universities (7 public, 4 private). They are situated in 8 different towns. The biggest centres are the towns of Nitra and Trnava. Most students study at colleges teaching social sciences, technical disciplines and philosophy. In comparison with the Slovak average the students of agriculture, philosophy, social science and pedagogy are more strongly represented. The region is the second biggest as to the numbers of graduates. However, the volume and quality of research is lower compared to the average in SR. The universities located in the regions of Western Slovakia have their activities linked to their third mission in most cases laid down in strategic documents. Nonetheless, its realisation is held back by lack of funding and a too narrow scope of higher education funding in the field of education and research. The universities in the region of Western Slovakia monitor the placement of their graduates on the

labour market and they have developed a system of internships in companies. The universities see a problem in the mismatch between the offered study programmes and the demand of local firms, as well as the financial and human capacities at universities and also the different perception of time by the academic and the private sectors. Although regional demand for continuing education of universities exists it collides with insufficient capacities of universities or lack of interest due to not including these activities into the accreditation process. Cooperation with secondary schools takes place in the region in form of preparation of learning materials and participation in the activities of secondary schools. Cooperation in the area of research exists mainly in the field of applied research. The universities take part in the drafting of strategic documents for regional and local governments and prepare analytical materials, this however frequently on an individual basis due to the administratively complicated mechanism of institutional cooperation. The system of assigning diploma and dissertation theses for the practice is applied as well. The activities or initiatives of the universities in the western Slovak region have the character of social and cultural events, organized in collaboration with the local and regional self-governments, the use of the universities' sports and cultural infrastructure for the public, organisation of cultural, artistic and philanthropic events, expert events etc.. In addition to this it is also events aimed at popularising science and various services for the public, while very often the premises of commercial centres are used for this purpose.

In the region of **Central Slovakia** 6 public universities, at which 97 % of students study, have the dominating position. The number of students studying at 2 state universities and 1 private university is only marginal. The majority of students study at colleges offering technical, economic and pedagogical education. The relative ratio of graduates is the second lowest in SR, however the research capacities are the second highest in SR. The productivity and quality of research lag behind the Slovak average. The universities in this region declare their goals in the area of popularising education, science and research yet the public does not regard them as natural authorities. A higher degree of interconnection between the regional needs and the possibilities of universities is limited by the centralisation of the higher education system. The universities in a systematic way monitor the placement of their graduates in the labour market. As far as the system of the creation of study programmes is concerned, they collaborate with regional companies. The companies express their interest in the cooperation with universities, while this cooperation is mostly based on personal contacts and only sporadically has the form of entrepreneurial activities of universities. Cooperation with the regional self-government exists in the creation of strategic documents; the universities get involved in the cooperation with secondary schools and carry out senior education, too. The dual education system is developing; however a more elaborate system of profession-oriented education is missing. There is a demand for services in the area of research on the part of public administration (contract research) but also the companies sporadically contact the universities. However, the prevailing part of company-based research is carried out outside the region. The creation of institutions promoting technology transfer and intellectual property commercialisation is shaping up well. The attitude of universities in this area is changing and they are more open towards supporting such activities. As far as the cooperation with the local and regional self-government is concerned it focuses on the elaboration of strategic documents and analytical and expertise papers. There is a lack of information regarding the competencies of universities and their research activities. The universities operating in the region organize a number of local and regional cultural and sports events and activities for the public, such as presentations, concerts, sale exhibitions and events for children.

Higher education in the region of **Eastern Slovakia** is concentrated in two towns, Košice and Prešov. Altogether in the region there are 6 public universities and 2 private universities. In comparison with the Slovak average the profile of the universities is more oriented at agricultural, economic, philosophic, technical and theological disciplines. Up to 72 % of all students of theological colleges study in this very region of Slovakia. The number of graduates per 1000 inhabitants ranks among the lowest in SR. The research capacities are lower compared to the Slovak average; however the quality indicators of research outputs exceed the average. The regional universities are engaged in regional activities and they see their role in strengthening regional and institutional identity as well as in linking education with the needs of the practice. The representatives of the universities unanimously regard as very positive for the region of Eastern Slovakia their complementarity, long-term cooperation and mutual understanding, of which the other stakeholders in regional development are also aware. The activities of universities in the area of practice-oriented education face the problem of graduates leaving the region due to the limitations of the local labour market. The cooperation with local companies is developing, yet the companies are more interested in narrowly specialized graduates in order to cover their needs rather than long-term investments into science and research in the region. A relatively well-developed cooperation exists between the regional self-government in the area of internships, excursions, project cooperation, and translation work but also the work of students in charitable organisations and social services. Intensive cooperation was developed in the preparation of the regional strategy of smart specialisation and in the project Košice – the European Capital of Culture 2013 but also in other projects. Universities also become

involved in continuing education, interest-based adult education and they collaborate with primary and secondary schools. Although the cooperation with firms in the area of research is developing it is confronted with a complicated administrative system in the education sector, due to which individuals prefer individual cooperation to institutional. The creation of work places for transfer of knowledge and technologies in the region will require further investments in order to assure their functioning in the mid-term and long-term perspective. The cooperation with companies in the field of research is restricted by different expectations with regards to the outputs of research – the firms expect outputs that are directly commercially usable. Several support mechanisms such as the innovation voucher and the support of start-ups or internships in firms have proven successful. Activities in the cultural, social and environmental area are relatively wide and have the form of organising events for the public, exhibitions, competitions, discussion meetings, participation in public fundraising.

Universities and regional development: recommendations for policy-makers

With a population of approximately 5 million inhabitants Slovakia represents a small economy, which is however characterized by big regional differences. The higher education system in SR is affected by two principal factors – the heritage of a centrally planned economy and the subsequent transformation process. The natural connection between universities and regional companies, the civil society and other regional stakeholders is in the process of creation. Universities are not inevitably attached to their immediate environment and the degree of cooperation significantly differs among the regions. On the other hand, universities carry out a wide range of activities, which go beyond their narrow specialization in technological development and orientation at economic growth.

At national level the key institution is the Slovak government and the respective ministries. With regards to the relatively new area it is in the first place important that the government declare its interest in the development and support of an active participation of universities in regional development. A higher degree of cooperation among the regional stakeholders is conditioned by their mutual communication regarding the needs and possibilities and therefore it is necessary to promote the creation of communication platforms. The second proposed area is general institutional support with the objective to fulfil the mission of the university that is defined together with the regional stakeholders the regional self-government and potential customers of the outputs of universities. The current system of accreditation of study programmes focuses on the internationally accepted scientific productivity of staff, which however does not necessarily provide for universities' adapting to the needs of the Slovak regions.

The local and regional self-governments represent natural partners for universities, yet the forms and the scope of cooperation with universities vary significantly. Direct financial support of universities by the self-government does not take place as it is only primary and secondary education that lie within the competencies of the self-government. A potential area of cooperation is in particular the preparation of strategic documents and analytical materials for self-governments.

The full text of the study in the Slovak language is available at
<http://www.minedu.sk/projekt-posilnenie-ulohy-vysokych-skol-v-regionoch/>.

