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Review of Higher Education's Contribution to Regional Development in Romania

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Proposal for the Young Scientist Sessions

Review of Higher Education's Contribution to Regional Development in Romania

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Abstract:

The impact of higher education institutions on the regional economy is now more important than ever, due not only to their role as providers of education and research, but also to their linkages to the economic, social and cultural surroundings. The paper explores the relationship between higher education and regional development, bringing evidence from the development regions of Romania, according to the methodology proposed by OECD for the assessment of the local engagement of higher education institutions. The analysis reveals the need to improve the relevance of university education, to widen and strengthen the collaboration between higher education institutions and the business environment, to improve the flexibility of the workforce by re-skilling and up-skilling through lifelong learning. In collaboration with regional and local authorities, universities are in the need to develop and expand learning and skills development programmes, research activities and outreach efforts to support the cultural and creative industry development of the regions they are embedded in, taking also into consideration the international dimension by building stronger connections with students, researchers and professionals from Europe and abroad.

Keywords: regional development, higher education, higher education institutions (HEI), learning economy, development region

JEL Classification: O18, R11, I21

1. The Role of Higher Education in Regional Development

Higher education institutions (HEIs) can play a key role in human capital development and innovation systems. HEIs can help their cities and regions become more innovative and globally competitive. In the time of globalisation, growth and development continue to cluster

around specific regions that have a high concentration of skilled and creative workforce and infrastructure for innovation.

Many scholars emphasized the key role HEIs play in regional economic development over the years. Since Garlick (1998) and Thanki (1999) pointed out that the analysis of the linkages between regions and universities tell us very little about the real and sustained value of higher education to regional economy, scholars tried to capture the 'big picture' in their effort to analyse the complexity of the linkages between higher education institutions and the regions in which they are located (Garlick, 1998; Amin, 1999; Thanki, 1999; Chatterton and Goddard, 2000; Allison and Keane, 2001; Charles, 2006; Arbo and Benneworth, 2007; and others).

Universities' engagement with the regional development issues and the regional development community is taking place in the context of a wider set of changes in the external environment with which universities must cope with (Charles, 2006). These trigger changes in the educational role ascribed to universities generated by the move from elite to mass higher education (Delanty, 2002); changing funding regimes as states seek to control the education budget and increase the 'efficiency' of universities (Shattock, 2003); changes in the uses of technologies in education and research (Robins & Webster, 2002); a growing crisis of legitimacy around the academic role and identity of the university and its claims to a monopoly of certain types of knowledge and learning (Barnett & Griffin, 1997); changes in the regime of 'knowledge production' (Gibbons et al., 1994); and an increasing awareness of universities as having a major economic role: as an employer, as a source of technological know-how and as a source of human capital development in promoting a flexible and adaptable workforce (Goddard & Chatterton, 1999).

Universities are ascribed a key role in the promotion of the dynamism of local economic and technological development with the support of research and knowledge creation. The most noted reasons are the following: universities are specialized in learning, knowledge creation, and knowledge management, seen as central to development processes; they have the infrastructure, institutional frameworks, and organizational systems; a broad knowledge base formed by various discipline areas that crosses the boundaries of narrow sectoral interests, with the potential to play important integrative and facilitating roles; given their knowledge-transfer and diffusion role, universities are ideally suited to building capabilities in a region; they are already recognized as playing a key role in regional innovation systems. According to the theory of 'regional innovation systems' (Braczyk et al., 1998), which seen as a scaled-down version of the national innovation system to detect regional variations, knowledge institutions like universities and research institutes are more clearly involved.

Thanki (1999) was among the first scholars to review methodologies developed up to the time of her research and grouped them into three categories. The first major approach correlates the concentration of high-technology activity with various location factors perceived as inducing spatial clustering. The second approach takes the specific economic growth processes and looks at the role of university in these developments to discover university-induced growth. A third approach is represented by university impact studies that aim to estimate the direct, indirect and induced (economic) effects of universities in either small towns or metropolitan areas.

Nevertheless, the role of universities in regional development is seen beyond the technical and economic approach. Turok (1993) proposes an approach in which the key figures of linkage development can be measured. Analysing the linkages between universities and their region is important to determine the manner and the degree to which universities become embedded in the regional economy. Gripaios and Gripaios (1993) highlight some critical features of embeddedness that include: enterprise development, skills transfer, sourcing and supply chains, technology, research and development, partnerships and networks, and civic engagement. Chatterton and Goddard (2000) argue that the main contribution of a university to regional development comes through universities' capacities to manage processes regionally. The framework they propose focuses on the processes which link together all of the components within the university and the region into a learning system.

Nevertheless, claims were raised that many of the traditional methods of regional economic analysis of universities' contribution are passive (Garlick, 1998). To overcome this concern, Allison and Keane (2001) propose an analytical framework to explore qualitatively the role of higher education institutions in regional development based on the concept of the learning region. They argue that the proposed conceptual is a rigorous tool to accommodate interviews and surveys designed to capture more clearly the impact of the higher education institutions at regional level.

In 2004, OECD proposed a framework to review higher education's contribution to regional development. The thematic review has focused on the interaction between HEIs and their cities and regions in three rounds (2004-2007, 2008-2011, 2010-2012) (OECD website, 2011). The participants are HEIs, their cities and regions, and public authorities responsible for regional and higher education development at the national and sub-national scale. The OECD review follows a common structure in order to ensure comparability across regions/city regions in different countries, investigating mainly qualitatively: the contribution of HEIs' research to regional innovation, the role of teaching and learning in the development

of human capital and skills, the contribution of HEIs to social, cultural and environmental development, the role of HEIs in building regional capacity to act in an increasingly competitive global economy (OECD, 2008). In what follows, the OECD methodological framework will be used to analyse the contribution of higher education institutions in Romania to regional development. This paper is part of a larger study, presenting selectively the main linkages identified between higher education and regional development in Romania.

2. Aspects of Regional Development in Romania

Romania is located in the Eastern Europe, on the lower stream of Danube, in the north of the Balkanic Peninsula, and on the western shore of the Black Sea. The Kingdom of Romania emerged when the principalities of Moldavia and Wallachia were united under Prince Alexander John Cuza in 1859. Independence from the Ottoman Empire was declared on May 9th, 1877, and it was internationally recognized the following year. At the end of World War I, Transylvania, Bukovina and Bassarabia united with the Kingdom of Romania. Greater Romania emerged into an era of progression and prosperity that would continue until World War II. By the end of the War, many north-eastern areas of Romania's territories were occupied by the Soviet Union, and Romania forcibly became a socialist republic and a member of the Warsaw Pact.

Preoccupations for regional development in Romania were the most intense after World War II, when the Communist Government guided the process of industrialization of the country. The industrial units were built across Romania's territory according to the following principles: proximity to natural resources or to main urban agglomerations, availability of the work-force especially in less developed areas, or the support provided to the development of new industrial platforms in urban areas. For instance, in the poorest counties like Bistri□a Năsăud, Buzău, Ialomi□a, Olt, Sălaj and Vaslui, branches of heavy and light industries, machine building industry, chemical industry, metallurgical industry, and textiles were developed. The uneven distribution of natural resources across Romania's territory and the localisation decisions made by the Communist Government long before 1989 lead to the specialisation of regions and cities in terms of economic activity. While the industrial activity was concentrated in certain regions of the country, especially where mineral and energetic resources were available, other regions are dominated by agricultural and service activities.

This resulted in many economic and social discrepancies at regional level during the entire state evolution of Romania (Dobrescu et al., 2001).

After the fall of Communism in 1989, the entire economic system of Romania entered collapse and raised serious economic and social problems. In addition to the traditionally underdeveloped areas, industrially declining areas appeared, most of which were eventually demolished. An industrial reorganisation process started in 1990, but it proved to be very slow and it solved only partially the problem of the losing State industrial units. During the 11 years of transition, the regional development politics have been based on certain national programs, created and promoted by the Government, in order to help certain disadvantaged zones. The results were not encouraging, because of the unsatisfying financial resources, the absence of a legal and institutional background for these changes and also because of the unitary view on the regional development. During the last years, important steps have been taken in the implementation of the principles and the aims of the regional development and also in the creation of the legal and institutional background of the regional policies (Dobrescu et al., 2001).

Being most of their history under Eastern rulers (e.g. The Otoman Empire, The Soviet Union) Romanians turned their face towards West. The country was assisted in the preparations for joining the European Union since 1991, beneficiating from financial aid under the pre-accession programmes: PHARE, SAPARD and ISPA.

Romania's accession process to the European Union brought the concept of 'regional development' back in the spotlight. Together with Bulgaria, Romania joined the European Union in 2007. Having a surface of 238,391 square kilometres, Romania is the ninth largest country of the European Union by area, and has the seventh largest population of the European Union with 21.5 million people. Bucharest, the capital and the largest city, is the sixth largest city in the EU with about two million people in the official records.

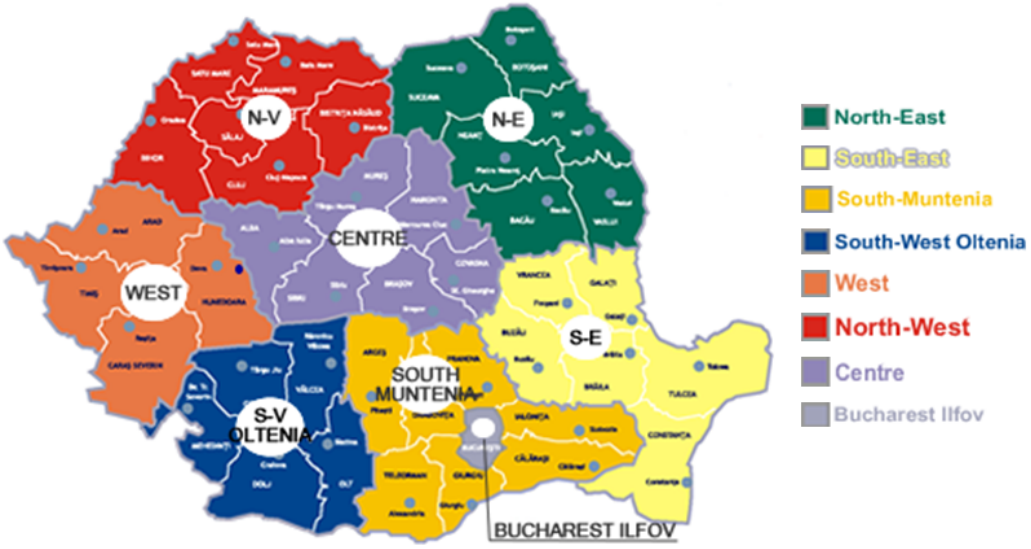
The Romanian regional development policy started to develop in 1996 in parallel with the PHARE programme and continued to develop with the emergence of the Law no. 151 / 1998 which settled the legislative framework: the objectives of the national policy, the institutions involved and their competences, the specific instruments for the regional development. The Law was further amended over the years by a series of laws and government ordinances. At present, the regional development policy comprises a set of planned measures, implemented by the local and central authorities, in partnership with actors of various types (private, public, volunteers) with the aim to ensure a dynamic and sustainable economic growth, for the efficient exploitation of regional and local potential so as to increase the quality of life. The

main aspects targeted by the regional policy are: enterprise development, labour market, attraction of investments, technology transfer, SMEs development, and infrastructure improvement, quality of the environment, rural development, health, education and culture.

Currently, the regional development is carried based on the Regional Operational Program 2007-2013 (REGIO), one of the operational programs Romania has agreed upon with the European Union. REGIO represents the tool for the implementation of the national strategy and policy in the field of regional development. The main objectives of this program are "to support and to promote the sustainable local development, both socially and economically, in Romania's regions, through the improvement of the infrastructure and the business environment, that sustain the economic growth" (Government of Romania, 2007). In other words, REGIO envisages the reduction of the economic and social disparities among the most developed and less developed regions of Romania. REGIO is co-financed in proportion of 84% of its total by the European Regional Development Fund that assists European regions with a GDP per capital under 75% of the European average.

According to the Law no. 151/1998 on regional development, eight development regions were established in Romania through the voluntary association of counties, unit appropriate to statistic level NUTSII (see Figure 2). Among these regions are major differences in terms of social and economic indicators.

Figure 1. Development regions of Romania



Regional disparities, in terms of economic and social development are increasing at national level, although in some cases the pace of change was so fast it made impossible the identification of structural patterns. Bucharest-Ilfov remains the most developed region of Romania, presenting signs of congestions. At the same time, a slight increase is registered in

the Western regions (North-West, Center and West) and not that much in the rest of the regions (North-East, South-East, South and South-West).

I present here only two indicators of unemployment, being directly correlated with the quality of human resources, which is influenced by the educational system. The evolution of unemployment confirms the regional disparities. Long-term unemployment in Romania has grown in both absolute and relative terms in the last few years, indicating a major problem to be addressed as soon as possible, European structural funds proving to be good instruments for this. Priority should be given to projects from the underprivileged regions in this respect, such as Center and South (see Table 1).

Table 1. ILO Long-term Unemployment (over 12 months) (%)

Development Region	2004	2005	2006	2007	2008	2009
Center	5.9	4.5	5.6	3.9	3.4	4.11
South	5.7	5.4	5.5	4.2	3.2	2.8
South - East	5.9	4.2	5	4.4	3.3	2.4
West	4.6	3.8	3.5	3	2.7	2.1
North - East	3.6	3	2.9	2.6	1.8	1.9
South - West	4.6	4.1	4.5	3.5	2.6	1.6
North - West	3.5	3.1	3	1.8	1.1	1.4
Bucharest - IF	4.2	4.1	2.2	2	1	0.4

Source: National Statistics Institute of Romania, 2011

As regards the youth long-term unemployment, it varies from 15% in the Center region to 4.4% in Bucharest-Ilfov; in 2009, as compared to 2008, it recorded a dramatically increase in Center (from 11.8% to 15%), and a significant decrease in Bucharest-Ilfov (from 8.2% to 4.4%) and South-East (from 14.2% to 9.8%) (See Table 2).

Table 2. ILO Long-term Unemployment for Youth (over 6 months) (%)

Development Region	2004	2005	2006	2007	2008	2009
Center	16.7	13.1	15.6	16.7	11.8	15
South - West	13.6	13.2	18.1	16.3	12	12.9
South	17.8	17.1	17.9	14.7	12.5	12.2
West	13	11.9	10	11.6	12	11.4
South - East	15.2	12.3	16.9	18.5	14.2	9.8
North - East	12.1	10.5	11.2	9.8	7.1	8.6
North - West	10.8	11.6	12	8.5	5.9	6.3
Bucharest - Ilfov	15.1	15.7	8.2	10	8.2	4.4

Source: National Statistics Institute of Romania, 2011

I believe that it is the role of higher education to create a quality workforce by growing, training, and attracting the finest talent, that will prove their value on the labour market. Higher education helps individuals achieve their potential. "Just as 'no child should be left behind' in getting a good education, … no worker should be left behind in having the skills

necessary to find a good job in the 21st century workplace" (Sampson, 2002). This is why in what follows I present an overview of the higher education system in Romania, bringing evidence of HEIs attempts to contribute to the regional development through the: support of current business and industry, improvement of learning and teaching, taking visible roles in regional initiatives, dissemination of research and promotion of technology transfer, enhancement of the technology infrastructure, promotion of communities, and employment of a diverse workforce (OECD, 2008).

2. Higher Education's Contribution to Regional Development

The **educational system** in Romania underwent much restructuring over the last years. In the period 2007-2010, the education sector was characterized by significant measures aiming at the consolidation of the legal framework and decentralization. Thus, the Ministry of Education, Research, Youth and Sports (MECTS) developed the Strategy for the de-centralization of the pre-university, vocational and technical education. In addition, the new National Education Law (Law no. 1/2011) was released and entered into force, bringing major changes to the educational system in Romania.

In Romania, higher education is provided by a total number of 108 higher education institutions (HEI): 56 public HEIs and 52 private HEIs. Private higher education emerged in Romania after 1990, registering a spectacular evolution.

Participation in higher education (HE) has constantly increased in the last 20 years, with the exception of the last two years. The number of total enrolled students recorded a peak in 2007/2008 when 907,353 students were enrolled in tertiary education, but now the number of enrolled students is slightly decreasing: 891,098 students in 2008/2009 (-1.79%), and 775,319 students in 2009/2010 (-14.55%, as compared to 2007/2008). Actually, 2007 was the year when the first signs of the economic and financial crisis hit Romania.

However, this trend is given by the decreasing number of students enrolled in public HEI, as we can observe in Figure 2 (data from INS, 2011) a steady increase in the number of private HEI's students. In 2008/2009, the number of students enrolled in private HEIs was 410,900 students, representing almost half (46,1%) of the total number of students in Romania. As demonstrated below, private HEIs play a major role in providing distance education.

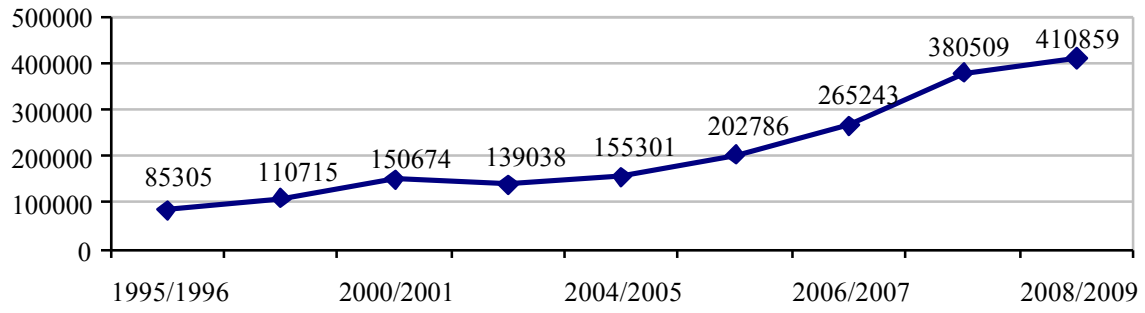


Figure 2. Evolution of the number of students enrolled in private HEIs

Human capital development

The regional analysis of the total number of enrolled students in higher education underlines the fact the Bucharest-Ilfov region has lost in two years of economic crisis more than one quarter of the students enrolled in higher education (-26.63%). Another development region with large university campuses - the North-West region with main campuses in Cluj, Oradea, Baia Mare – registered a decrease (-10.36%) in the number of students enrolled in 2009/2010 as compared to 2007/2008. Center – where regional branches of universities are more present - is the only development region that recorded an increase of 8.07% in the number of enrolled students, which may lead us to the conclusion that students preferred higher education studies in regional institutions closer to home and / or less competitive and / or strongly embedded in the region. (See Table 3).

Table 3: The Evolution in the Number of the Enrolled Students per Development Region (2004/2010)

Development Region	Students enrolled						Variation 2007/2008 = base	
Academic Year	**2004/ 2005**	**2005/ 2006**	**2006/ 2007**	**2007/ 2008**	**2008/ 2009**	**2009/ 2010**	**2008/ 2009**	**2009/ 2010**
Bucharest-Ilfov	210,139	253,247	302,248	389,769	388,397	285,971	-0.35%	-26.63%
Centre	68,746	75,782	84,734	96,589	105,602	104,386	9.33%	8.07%
North-East	77,266	78,970	79,762	83,518	79,034	77,065	-5.37%	-7.73%
North-West	90,919	97,616	98,063	99,788	92,028	89,454	-7.78%	-10.36%
South	39,519	39,609	36,780	37,232	33,150	36,154	-10.96%	-2.90%
South-East	47,507	51,101	55,192	62,739	62,863	59,172	0.20%	-5.69%
South-West	43,819	45,138	47,521	52,450	50,572	50,993	-3.58%	-2.78%
West	72,420	75,001	81,206	85,268	79,452	72,124	-6.82%	-15.41%
TOTAL	**650,335**	**716,464**	**785,506**	**907,353**	**891,098**	**775,319**	-1.79%	-14.55%

Source: National Statistics Institute of Romania, 2011

An overview of the distribution of HEIs, schools and students enrolled over development regions of Romania show a concentration of higher education in Bucharest where are located almost one third of the total number of HEIs (public and private) from Romania. The **North-**

West region comes second, with two major university centres: Cluj-Napoca (10 HEIs with 60,371 enrolled students in 2009/2010), Oradea (4 HEIs with 19,182 enrolled students in 2009/2010), Baia Mare (2 HEIs) and Satu Mare (1 HEI).

Table 4. The Distribution of HEIs, schools and students (2009/2010)

Development Region	HEIs		Schools		Students	
	Count	%	Count	%	Count	%
Bucharest-Ilfov	34	*31.5*	166	*26.6*	285,971	*36.9*
North-West	17	*15.7*	97	*15.5*	89,454	*11.5*
North-East	15	*13.9*	75	*12.0*	77,065	*9.9*
West	14	*13.0*	79	*12.7*	72,124	*9.3*
Center	13	*12.0*	75	*12.0*	104,386	*13.5*
South-East	7	*6.5*	53	*8.5*	59,172	*7.6*
South-West	4	*3.7*	42	*6.7*	50,993	*6.6*
South	4	*3.7*	37	*5.9*	36,154	*4.7*
Total	**108**		**624**		**775,319**	

Source: National Statistics Institute of Romania, 2011

In the **North-East** region we find major university centres at: Iasi (11 HEIs), Bacau (2 HEIs), Roman and Suceava (both cities with one HEI each). The **Western** development region has Timisoara as major university centre (8 HEIs), followed by Arad (2 HEIs), Deva, Lugoj, Resita and Petrosani (with one HEI each). In the **Center** region HEIs are more evenly dispersed in four cities: Sibiu (4 HEIs), Targu Mures (4 HEIs), Brasov (3 HEIs) and Alba Iulia (2 HEIs). In **South-East** we find HEIs in Constantza (5 HEIs) and Galatzi (2 HEIs), two cities with maritime tradition; in **South-West** in Craiova (3 HEIs) and Targu Jiu (1 HEI) and in **South** in Pitesti (2 HEIs), Ploiesti and Targoviste with one HEI each. We note that in both North-West and North-East two largest cities act as poles for higher education: Cluj-Napoca (60,371 enrolled students) and Iasi (58,418 enrolled students), whereas in the south and centre of Romania the poles of higher education are: Bucharest (185,998 enrolled students), Brasov (39,941 enrolled students), Craiova (13,287 enrolled students), and Galati (7526 enrolled students)[1] (see also Figure 3).

[1] All data is for the academic year 2009/2010 provided by the National Statistic Institute of Romania (INS, 2011)

Figure 3. Major University Centres in Romania

Source: Data from National Statistics Institute of Romania (2011)

In recent years, many universities have started using Internet-based facilities to support education. E-learning platforms were developed mainly for distance education students, providing learners with: a general view on the educational offers of the university, the means to get informed and to communicate, a collaborative environment for the performance of the current educational activities, a way to evaluate students' educational performances, a deposit of online curricular materials, an environment of virtual networking and so on. Examples are provided by major universities from Romania, among which we can mention: The Academy of Economic Studies of Bucharest, "Valahia" University of Târgovişte, „Al. I. Cuza" University of Iaşi, USAMVB Timişoara, University of Galatzi, University of Oradea, University of Tg. Jiu etc.

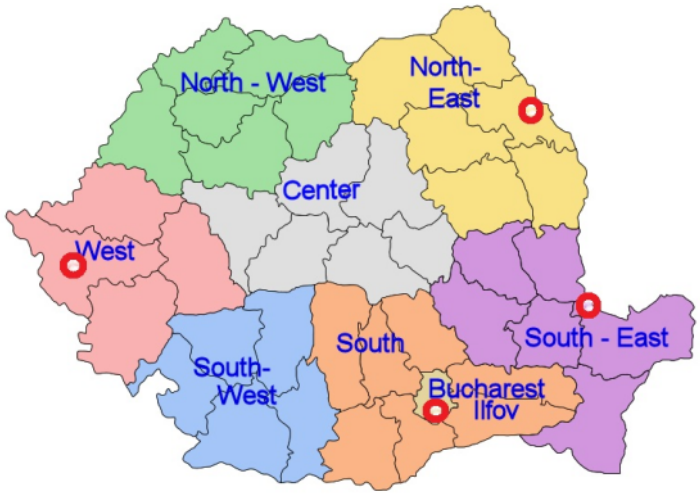
The dissemination of research results and the enhancement of technology transfer

Higher education plays a key role in regional innovation. The role of universities in this respect is likely to further increase given the development of a knowledge-based economy and society, both in terms of the expansion of the knowledge sector itself and in terms of the growing focus on information and knowledge in all sectors and activities. At the same time, universities benefit of a good research infrastructure that can be used in joint research programs with the business environment, especially with SMEs. As a consequence, several universities from Romania have been seeking to join their efforts with other private and public actors to access financial resources, share research infrastructures and provide research services to the business environment. The joining of efforts materialized in the establishment

of consortiums that operate *science and technology parks*. According to ANCS (2011)[2] only four science and technology parks were authorised to function at the end of 2010.

- The Scientific and Technological Park "TEHNOPOLIS", located at Iasi, was established by a consortium formed by four universities: The Technical University "Gheorghe Asachi" of Iasi, The University "A.I. Cuza" of Iasi, The University of Agronomical Sciences and Veterinary Medicine "Ion Ionescu de la Brad", The University of Medicine and Pharmacy "Gr.T.Popa"; the County Council, and the Local Council of the city of Iasi. TEHNOPOLIS aims to increase the usage of the research results, the employment of advanced technologies and the participation of higher education institutions in the process of economic and social development through science and technology. Within the science park there are located three labs established in collaboration with partner universities and equipped with modern research infrastructure: for cryogenics, environmental assessments and biotechnologies.

Figure 4. Location of Science and Technology Parks in Romania



Source: Data from ANCS (2011)

- The "Software Park" located at Galatzi, was established by a consortium formed by University "Dunarea de Jos" of Galatzi, the County Council, the Local Council of the city of Galatzi, and S.C. Navrom S.A. Galatzi[3]. This scientific park aims to contribute to the development of the industrial sector of high technologies, to promote the transfer of technology, and to create jobs in the South-East region. At present, a number of 34 companies are located in the software park, with around 300 employees. The University "Dunarea de Jos" of Galatzi is involved through offering: counselling and expertise by the faculty, courses of high specialisation in IT&C, collaboration in joint

[2] http://www.ancs.ro/uploads/sistemul-de-cercetare/infrastructura-itt/lista-pst-autorizate-7-12-2010.doc
[3] http://www.softwarepark-galati.ro/

research, development and technological transfer contracts, involvement of students in the research projects developed within the science park through internships.

- The Scientific and Technological Park for Micro and Nano Technologies "MINATECH-RO" located at Bucharest, was established by a consortium formed by The "Polytechnic" University of Bucharest, The National Institute for Research and Development in Microtechnologies (IMT) and SC ROMES S.A. The park enhances technology transfer and innovation, and provides education and training to companies. The facilities provided to companies in the park include offices, priority of access to scientific and technological services provided by IMT and the "Polytechnic" University of Bucharest, as well as services exchange and cooperation in small-scale production.
- The Scientific and Technological Park "TIM SCIENCE PARK", located at Timisoara, was established by a consortium formed by the Western University "Vasile Goldis" of Arad, the National Institute for Research – Development in Electrochemistry and Condensed Matter (INCEMC), the Foundation for Culture and Learning "Ioan Slavici" from the University "Ioan Slavici" of Timisoara, the Trade, Industry and Agriculture Chamber of Timisoara, SC ELBA SA, and others. The aims of the science park are: the development of scientific, economic and technologic potential at regional level, the technological transfer of the research results to interested companies, the valorisation on the market of the research results, the retention of Romanian researchers and teachers, the creation of new jobs, the youth formation, the enhancement of universities' orientation towards the economic and social environments and the attraction of foreign investors.

A closer look at science parks' performance in the past years, we note the fragile situation in which the last two (MINATECH and TIM SCIENCE PARK) find themselves in. Table 5 below presents the net turnover the science parks registered in 2009 and their profitability.

Table 5. P&L Indicators of Science Parks in Romania (in EUR, 2009).

Science Park	Net turnover	Profit / Loss
TEHNOPOLIS (Iasi)	250,429	20,222
SOFTWARE PARK (Galati)	136,984	7,855
MINATECH (Bucharest)	7,155	-954
TIM SCIENCE PARK (Timisoara)	22,624	-42,719

Source: Data from Ministry of Finance (2011)[4]

[4] Ministry of Finance, www.mfinante.ro

HEIs partnerships with business environment in joint research & development programs are another way to identify universities' involvement in the development of their regions. Specific incentives have been introduced to encourage university researchers to engage with the problems and opportunities that their regions face, and to do so in collaboration with actors of the business environment. The Structural Funds, the creation of Regional Development Agencies charged with a mandate to foster knowledge-building and interaction between local universities and their proximate industry bases are examples in this respect. In Romania, faculty work together with businesses' employees on joint research programs, under the umbrella of the university. By this, we mean that Research Centres are established within universities to provide research services and research infrastructure to the business environment. For instance, University of Bucharest has 79 research centres[5], University "Babes-Bolyai" of Cluj – 47 research centres[6], Academy of Economic Studies – 22 research centres[7], University of Medicine and Pharmacy "Victor Babes" of Timisoara – 10 research centres[8]. Seeing the large number of research centres, one may think that the collaboration between university and the business environment is flourishing. In reality, most of them have a reduced activity, mostly depending on the availability of funds through national or internal competitions. In other words, private funds attracted for research and development activities have a much lower share in the total research funds. Table 6 presents the case of the Academy of Economic Studies Bucharest, the largest university of economics in Romania.

Table 6. Value of the research contracts concluded with the business environment (EUR)

Year	2005	2006	2007	2008	2009	2010	2011*
Value	103,588	76,057	257,380	232,165	311,060	131,856	261,268
Percentage of total funds	15%	4%	7%	4%	8%	3%	

* preliminary data

Source: Academy of Economic Studies, Department of Economic Research (2011)[9]

Teaching and Learning is considered the traditional role of higher education institutions. Mass education and ever widening access to HEIs, increased numbers and diversity of student population alongside accountability for investment has forced HEIs to focus more on all aspects of student learning. By their very nature, universities have capacity to innovate and design curricula which address regional needs. As seen in the first part of the paper, cities and

[5] http://www.unibuc.ro/uploads_ro/images/400/Centre_acreditate_UB.pdf
[6] http://cercetare.ubbcluj.ro/centre/fisiere/Centre.pdf
[7] http://www.dce.ase.ro/centre.php
[8] http://www.umft.ro/newpage/cercetare/link_centre.htm
[9] www.dce.ase.ro

regions of Romania are specialised in certain industries or sectors. The universities in these cities follow closely the specialisation of the respective cities or regions, i.e. they were established to address the particular needs of the local and regional work force. At present, universities need to be in close contact with the environment they are embedded in and to design the educational offer in relation to the local or regional needs. In general, universities adapted their offer by designing master programmes tailored to regional needs, on the occasion of the adoption of the three degree according to Bologna process in the academic year 2005-2006.

Orientation towards lifelong learning

A present trend is the concern for lifelong learning, inherently a feature of a constantly changing global economy. HEIs obviously have a major contribution to make here, although the role is still poorly developed and there are opportunities for new initiatives. The term of „lifelong learning" was recently introduced in Romanian educational and training policies. The adoption of the concept was mainly connected with EU trends but it lacks an integrated and coherent, with a view on the whole educational progress of an individual. Educational levels and segments, and active unemployment measures have developed their own legal framework, which includes some principles of lifelong learning. Higher education's offer for lifelong learning consists mainly of courses for further and continuing education; there is little evidence of tailor made courses for vocational / work-based education provided in close cooperation with (public and private) employers. This is consistent with the low rate of participation in adult education in Romania (for instance, the percentage of persons aged 25-64 participating in LLL in Romania is 1.6 percent, as compared to 9.9 percent in EU 25 countries) (World Bank, 2007).

HEIs visible roles in regional initiatives and **community involvement** Universities in Romania understand the need to be closely connected to the community. Although this can be done in a multitude of ways, two examples can me mentioned here: First, the largest university in the North-West region, the "Babes-Bolyai" University, is promoting the regional initiative "Cluj – European cultural capital of 2020" employing human resources and the material infrastructure. Second, the organisation of the "Academic Days of Arad" by the University "Vasile Goldis" of Arad on 20-22 May 2011 is a recent event that promoted the communication between the academic environment and the community.

Conclusions

This paper presents an overview of the higher educational system in Romania, and a review of several actions universities performed in collaboration with the business environment and the community that has an impact on the development of the regions. It presents the preliminary findings of a larger study that tries to capture the contribution of higher education to regional development in Romania. Universities' efforts to connect with the environment are becoming visible. Unfortunately, the unemployment rates (both long term unemployment and youth unemployment) are high in less developed regions, although they have a good higher education system. This indicates a relatively insufficient correlation between the educational offers / qualifications provided by initial training and education, including university education, on the one hand, and requirements of the labour market, on the other hand.

Timid efforts were identified regarding the collaboration between higher education institutions and other actors (public or private), considered to be 'timid' due to the establishment of only four science parks, of which only two are profitable. This is almost insignificant considering that Romania is the ninth largest country of the European Union by area, and has the seventh largest population of the European Union.

Traditionally, universities in Romania have a narrow view of their role in the development of the region or community. This requires a change in perspectives and attitudes, and more efforts need to be made. Universities affect their surrounding territories several ways. On one hand, expenditures of the working staff, the students and the institution itself generate demand in the economy. On the other hand universities undertake the role to accumulate human capital through higher education, trainings and knowledge transfer. The complexity of the efforts and linkages universities have to develop with the regions they are embedded in and the community are very difficult to capture and measure.

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