GEOGRAPHICAL CONSIDERATIONS REGARDING THE ROMANIAN HIGHER EDUCATION

IOAN IANOŞ, CRISTIAN BRAGHINĂ, IGOR SÂRODOEV*

Le système national d’enseignement supérieur roumain était représenté au début de l’année universitaire 2004-2005 par 117 institutions, dont 57 d’État et 60 privées. Dans le cadre de toutes ces institutions, approximativement 600000 étudiants suivaient leurs cours, ce qui signifie une moyenne au niveau national de presque 3000 étudiants pour 100000 habitants. Le réseau national a été pendant la période antérieure à 1990 dans un processus continu de restructuration et adaptation à un marché déficitaire. L’apparition des nouvelles universités d’État (pendant les années 1991-1994) et l’accréditation de certaines institutions privées d’enseignement supérieur (29) a diversifié l’offre éducative au niveau territorial et structurel, en lui offrant une grande stabilité. L’analyse territoriale de la répartition des universités et de ses filiales, ainsi que du nombre d’étudiants, démontre l’existence d’un décalage entre Bucarest et toutes les autres régions du pays, mais aussi entre les régions du Centre et de l’Ouest du pays d’un côté, et celles du Sud et de l’Est de l’autre côté. La genèse des universités privées démontre leur forte liaison avec les universités d’État, liaison mise en lumière par l’utilisation pour une longue période de temps des professeurs provenant des universités d’État, ainsi que d’une grande partie de l’infrastructure. Toutefois, on remarque une significative corrélation entre la grandeur des villes et l’existence de certaines universités, fait qui confirme l’idée que l’apparition d’une université suppose une masse critique de population. Même si le processus de décentralisation des services universitaires a commencé, la capitale s’impose pourtant encore par un très grand nombre des universités (d’État et privées), mais aussi par le nombre d’étudiants scolarisés. Le passage de l’enseignement supérieur roumain à la structure par cycles apportera des changements fonctionnels importants dans le réseau national des institutions du domaine.

Key words: concentration, diffusion, territorial analysis, higher education institutions, Romania.

Introduction

After a period of arranging, which meant the opening of the educational market for other actors, budgetary or from the private field, the Romanian higher education had an evolution more and more focused on satisfying the request at national level. An important role within this complex process of re-arranging was held by the adoption of a legislation which, on the one hand, was able to cultivate quality within the education process, and on the other hand could establish very clearly the status of the actors from the educational market. In this respect, three laws were congruent: The Law regarding the authorising and the accrediting within the higher education (1993), The Law of Education (1995) and The Law regarding the status of the teachers and professors (1997). The further changes of these Laws allowed the recording of some certain qualitative elements (the financing, the promotion on superior positions, university scientific research). At the same time, there was a diminution of some standards, compared to those initially foreseen, as it was the case of accrediting the new private higher education institutions.

At the beginning of the third millennium, one could notice that the Romanian higher education records mutations which get it closer and closer to
the European education system. Romania’s joining the Declaration of Bologna (1999), regarding the fundamentals of higher education restructuring at continental level, and sustaining this process in all the future meetings, represents a political decision which will positively influence the national educational market. Moreover, the passing to the cycle structure (university degree, master’s degree, doctor’s degree) will lead to compatibility between the Romanian and European educational systems, making the access of the graduated students to the European labour market easier. In this respect, an important role will be held by the achieving of a European register of the agencies specialized in ensuring the quality within higher education, and which will ensure a framework for a unitary approach regarding the quality evaluation process in this field. The structural mutations taking place at international and national level can’t diminish the relation between the university and the space where the university inserts. Therefore it is necessary an analysis of territorial distribution of the university offer, its structure and the existent territorial discrepancies as well. This analysis becomes extremely useful for stating some suitable policies in the field, for ensuring equal chances of access to the tertiary education for all the country’s people. The new communication techniques and the unlimited access to information change learning into a process in which there isn’t always necessary a direct dialogue between professor and student, but an indirect one, too. At the same time, the dynamic of the labour market gives learning a permanent character all over its life.

The present study is mainly based on data provided by the National Statistics Institute, and also by the Ministry of Education and Research. The main ideas are centred upon the relation between the state education and the private education, between their dynamic and structure, divided on centres and areas of development, on individualization of correlations between some characteristic elements and the elements belonging to the university field.

The Higher Education Services Concentration

The national network of higher education institutions was counting, at the beginning of the university year 2004/2005, 117 entities, namely universities, institutes, academies or national schools, all of them ensuring educational services in all fields (Fig. 1). From among these, 77 were accredited and 40 were functioning under temporary authorization regime. 600,000 students were studying within these institutions, both in the state education system (approximately ¾) and in the private education system.

These institutions are placed in 60 localities, thus meaning a favourable indicator (350,000 inhabitants for a centre providing university services) at national level, taking into consideration the critical population mass necessary for the functioning of a university. In fact, only in 33 localities there were more than 1,000 students. Moreover, from among 60 centres, 18 were having less than 300 students. Taking into account these differences, we can estimate that the territorial impact is not achieved by means of a large number of university locations, but especially by means of the concentration degree of students within some of the big urban centre
The concentration level of the higher education services is very strong, if we consider the fact that the first 9 university centres of the country totalize 77.4% from the total number of students at national level. The capital itself concentrates 32.3% of the students registered in the whole country, from all the fields: starting from agricultural sciences, to art, theatre and film. The analysis in time of the weight held by the capital, regarding the total number of students, shows a diminution tendency; regarding the relative value, from 37.7% in the university year 1989/1990, this went up to a weight of 36.13% in 1989/1999, and in the university year 2004/2005 it slightly surpassed 32% (Table no. 1). However, in absolute value, there is a constant and consistent increase of the number of students, which has marked a volume of almost 3.4 times, between the two extremes of the interval presented above, which signifies 147,000 students.

Table 1. The Weights Dynamic of the University Centres with More Than 20,000 Students in the Total Number of Students at National Level (%)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bucharest</td>
<td>210,139</td>
<td>37.7</td>
<td>36.1</td>
<td>32.3</td>
</tr>
<tr>
<td>2.</td>
<td>Cluj Napoca</td>
<td>61,134</td>
<td>10.8</td>
<td>10.2</td>
<td>9.4</td>
</tr>
<tr>
<td>3.</td>
<td>Iaşi</td>
<td>60,273</td>
<td>14.8</td>
<td>9.9</td>
<td>9.3</td>
</tr>
<tr>
<td>4.</td>
<td>Timişoara</td>
<td>43,511</td>
<td>11.7</td>
<td>8.0</td>
<td>6.7</td>
</tr>
<tr>
<td>5.</td>
<td>Craiova</td>
<td>29,418</td>
<td>5.4</td>
<td>4.6</td>
<td>4.5</td>
</tr>
<tr>
<td>6.</td>
<td>Constanţa</td>
<td>28,048</td>
<td>0.4</td>
<td>3.1</td>
<td>4.3</td>
</tr>
<tr>
<td>7.</td>
<td>Braşov</td>
<td>26,372</td>
<td>4.4</td>
<td>4.1</td>
<td>4.1</td>
</tr>
<tr>
<td>8.</td>
<td>Oradea</td>
<td>22,126</td>
<td>0.5</td>
<td>3.0</td>
<td>3.4</td>
</tr>
<tr>
<td>9.</td>
<td>Sibiu</td>
<td>21,954</td>
<td>1.0</td>
<td>2.6</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Source: The Ministry of Education and Research, processed data.
The diminution tendency of the traditional centres weight maintains and increases, due to the coming out of new university centres with regional role, situated in areas with high human potential. This refers to historical regions, like Dobrogea and Crisana, ans other areas situated at the crossroads of some historical regions (Arad area, the south of Moldavia, Maramures etc), too. This explains the fulminating increase of students’ number within the regional centres of Constanta and Oradea. Regarding the traditional centres, although there is an important increase in absolute value, the relative value records a decrease, due to the weight of the new university centres. Two university centres follow, with a very high impact potential, having in view that each of them concentrates almost 1/10 from the total number of students, at national level. This refers to the cities of Cluj-Napoca and Iasi, which surpass 60,000 students each, having a large number of higher education institutions, both state and private universities. Thus, the university centre Cluj-Napoca comprises both universities with complex profile (The “Babeş-Bolyai” University, state and the „Bogdan Vodă” University, private), and other universities with specialized profile (The Technical University, The University of Medicine and Pharmacy, The University of Agricultural and Forestry Sciences, The University of Arts, The University of Music). There is a similar situation for Iasi, but here the private education holds more universities which are already accredited: the „Petre Andrei” University, the „Apolonia” University (specialized on dental medicine).

Concerning the dynamic of these university centres, we’ll notice that during the university year 1989/1990, Iasi held a much larger number of students than Cluj-Napoca, having approximately 15% from the total number of students in Romania at that time. The university centre Cluj-Napoca held only almost 11%, and among the two there is a consistent difference: approximately 6,500 students. The post-totalitarian evolution brings the city of Transylvania its force of first regional city, having in view the associated spatial extension, much larger than in the case of Iasi. The latter’s development within the interval analyzed above was of 3,45 times, compared to 2,47 times, for the „capital” of Moldavia. It is obvious that the latter, at least from the point of view of number of students, behaves like a regional city.

On the next position there is Timisoara, which held the third place within the national hierarchy of the university centres before 1990, when it held almost 12% of the total number of students. The increase of the number of students within around 15 years was very high (2,26 times), but it wasn’t explosive, like in Cluj-Napoca’s case. Timisoara has got 4 state universities (from among which a complex one and 3 specialized), and 3 private universities as well, from among which two are accredited.

To a certain distance, taking into account the weight within the total number of students at national level, there are other three university centres, with more than 25,000 students: Craiova, Constanta and Brasov. The three of them are part of the same category of regional cities, having in view their territorial role and their weight within the national economy. While the university centres Craiova and Brasov were situated on the fifth and sixth places within the period previous to 1990, Constanta developed afterwards, because at that time it had less than 700 students. This town’s evolution as a university centre was actually
Geographical Considerations Regarding the Romanian Higher Education

Thus, within the analyzed period, the number of students increased forty times, reaching today a weight of 4.3% from the total number of students at national level, from an initial weight of 0.4%. The setting up of the “Ovidius” University was essential, the other universities with a profile connected to the complex harbour function recording approximately constant values regarding the number of students. Besides the state universities, an accredited private university functions here, as well as branches of other private universities accredited in Bucharest.

The university centres Craiova and Brasov have developed in approximately equal rhythms, within both of them functioning private universities beside state universities, from among which only “Gheorghe Baritiu” University from Brasov is accredited. In Craiova, there are two state universities, out of which one is mixed and the other is specialized in the field of medicine and pharmacy. The disparity between these university centres, and the ones which have got over 40,000 students diminished considerably. For example, while the university centre of Craiova held, in the year 1989/1990, about 1/3 of the students of Iasi centre and less than half of the number of students of Timisoara, in the year 2004/2005, the university centre Iasi held a double number, and Timisoara had more students with only about 30%.

Within the hierarchy of the university centres with more than 20,000 students, Oradea and Sibiu detach, too, but with a difference – their dynamic was quite distinct. Oradea recorded a very rapid rhythm of extension, the number of students increasing 27 times during the analyzed interval, taking into account that it started from 825 students and today it surpasses 22,000 students. This fact reflects in the university profile, too, which is of a great complexity (from engineering, medicine, agriculture etc, to arts and music). Simultaneously, the university centre Sibiu started from a superior number of students (about 1,700) and developed in the same direction of complexity increasing. Within the same interval, the increase was of almost 13 times, so that today there are almost 22,000 students. In Sibiu, there is an accredited private university.

The territorial distribution of these major university centres provides the image of a relatively balanced space, compared to large historical provinces, as well as to large geographical units. These centres are placed either on top of the regional hierarchies (Iași, Cluj-Napoca, Timișoara, Craiova, Constanța), or at the immediate inferior level (Brașov, Oradea, Sibiu). Their territorial role was more or less affected by the spatial parasitization by means of the setting up of other university centres, after 1990, from among which some had a very fast evolution, affecting the basins of traditional recruitment of students.

The Diffusion of Higher Education Services

The diffusion of university services may be analyzed by means of the increase, on steps, of the number of localities having higher education institutions or branches of the universities from different traditional centres. This diffusion process was generated, on the one hand, by the decentralizing policy, obvious after 1990, and on the other hand, by the legal coming out of some private institutions within the university field. As a result, in the university year 1990/1991, seven centres with activities of higher education came out. These were part of the category of large or medium-sized towns,
with a certain territorial prestige, such as Arad, Braila, Alba Iulia, Satu Mare, Bistrita, Ramnicu Valea, but also from the category of some medium-small-sized towns (Cugir), with branches specialized in the engineering field.

In the following four years, other ten localities with such kind of institutions came out, usually county residences (Buzău, Târgovişte, Târgu Jiu, Drobeta Turnu Severin, Botoşani, Deva), or towns which had a certain cultural role, along the time (Blaj, Lugoj, Vâlenii de Munte or even Caracal – the latter two will disappear starting with the university year 1996/1997). After 1992, some of these institutions change, by means of a government decision, into universities, thus coming out the universities “Valahia” from Târgovişte, “Constantin Brâncuşi” from Târgu Jiu. By means of the same procedure, other institutions from towns which developed higher education activities immediately after the fall of the totalitarian regime become universities (“1 Decembrie” from Alba Iulia, “Aurel Vlaicu” from Arad) or other institutions which functioned as sub-engineers institutes before 1990 (The University of Băceiu, The University of Baia Mare, The University “Petru Maior” from Târgu Mureş etc).

Between 1997/2001, there is a multiplying of the localities with higher education activities, so that, covering four years, other twenty-five centres come out. These are mostly part of the category of medium-sized towns, but of small-sized towns, too, or even rural localities. From among the medium-sized towns, we mention eight county residences (Foşani, Sfântu Gheorghe, Călăraşi, Piatra Neamţ, Zalău, Miercurea Ciuc, Slobozia and Giurgiu), eight medium-sized towns (Bărlad, Odorhei Secuiesc, Sighetu Marmaţiei, Câmpulung, Gheorgheni, Aiud, Târgu Secuiesc). The small-sized towns are situated in certain areas of Transylvania (Năsăud, Topliţa), of Crişana (Beiuş, Marghita) or of Banat Bâile Herculane, Făget), and the rural settlements are situated in the south of the country (Amara, Crevedia, Cernica).

This strong affecting of the traditional network of centres with universitary activities had its fundamentals in the multiplying of private higher education institutions, but also in the development of some branches of the state universities, meaning the approach of the university services offer to the areas with a specific request. Thus, there came out numerous branches of the “Babes-Bolyai” University, of the Academy of Economic Studies from Bucharest, of the University of Oradea, but especially of some private universities, situated in Bucharest, Arad and Iasi. The branches of the state universities and the explosive increase of their number of students relied on the introduction, starting with 1998/1999, of the fee-based state education.

Beginning with the university year 2001/2002, up to the end of the period we analyzed, there is a diminution of the number of higher education institutions, inclusively the disappearing of some centres like Vatra Dornei, Făget, Geogiu or Slobozia. An important part of the thirty-three institutions on the verge of closing up, starting with the university year 2002/2003, were situated in Bucharest or in the traditional university centres (Bucureşti, Iaşi, Timişoara, Braşov, Oradea etc).

The Comparative Analysis of the Higher Education Centres by Development Regions

The development regions represent a proper framework for a serious analysis of the university services distribution, as well as of the way these centres cover the needs of a region. A rapid look
upon the university centres distribution before 1990s brings out some quite important lacks which are still present within the actual dynamic of the territorial aspects connected to the higher education.

Most of the development regions possessed, in that period, two or three university centres. The exceptions were represented by the West region, which possessed four university centres, and the South-West region, with only one university centre. It is obvious that such a distribution was totally insufficient, as a gross average would have been of over 1,3 million inhabitants/centre.

The evolutions which followed after 1990 show, at least statistically, an improvement of this situation. Thus, the maximum limit, as an absolute value per university centre, records the highest value in the North-East region (623,970 inhabitants/centre). It is to be noticed that the number of centres with higher education activities multiplied faster in the West, North-West regions and in the centre than in the other regions. Thus, the former regions hold at least 10 such centres, whereas the regions from the east- and south-Carpathian area hold only 5-6 centres, on an average (excepting the South region, with 9 centres).

The multitude of centres and especially their development at infrastructure level made the number of students per development regions be extremely differentiated. Excepting the capital and the South region, we can notice a number of students which oscillates around 70-75,000 students per each region. The number is slightly surpassed in the case of the North-West region, where there are approximately 91,000 students. The big exceptions, as mentioned above, are represented by Bucharest and the South region, which in fact, from the point of view of the higher education, make up the same territorial structure.

The most interesting information is provided by the number of students per 100,000 inhabitants. This represents an indicator which is used at UNESCO and at the European Union level, in all comparative analyses. If we consider this number at Romania’s level (around 3,000 students/100,000 inhabitants), we can notice that, from this point of view, we get close or even surpass some states from the European Union (Greece, Hungary etc). Given this average, on development regions, the variations are extremely big, and they should be taken into account within the university infrastructure development process (table no. 2).

<table>
<thead>
<tr>
<th>Development region</th>
<th>Total number of students</th>
<th>Number of centres with university activities</th>
<th>Number of students/100,000 inhabitants</th>
<th>Theoretical number of inhabitants, belonging to a centre with university activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>North-East</td>
<td>77,266</td>
<td>6</td>
<td>2.063</td>
<td>623,970</td>
</tr>
<tr>
<td>South-East</td>
<td>47,507</td>
<td>5</td>
<td>1.662</td>
<td>571,737</td>
</tr>
<tr>
<td>South</td>
<td>39,519</td>
<td>9</td>
<td>1.177</td>
<td>373,155</td>
</tr>
<tr>
<td>South-West</td>
<td>43,819</td>
<td>5</td>
<td>1.881</td>
<td>465,868</td>
</tr>
<tr>
<td>West</td>
<td>72,420</td>
<td>10</td>
<td>3.720</td>
<td>194,665</td>
</tr>
<tr>
<td>North-West</td>
<td>90,919</td>
<td>10</td>
<td>3.312</td>
<td>274,492</td>
</tr>
<tr>
<td>Centre</td>
<td>68,746</td>
<td>14</td>
<td>2.701</td>
<td>181,805</td>
</tr>
<tr>
<td>Bucharest-Ilfov</td>
<td>210,139</td>
<td>1</td>
<td>9.524</td>
<td>2,206,479</td>
</tr>
<tr>
<td>ROMANIA</td>
<td>650,355</td>
<td>60</td>
<td>2.992</td>
<td>362,226</td>
</tr>
<tr>
<td>South+Bucharest†</td>
<td>249,658</td>
<td>10</td>
<td>4.486</td>
<td>556,487</td>
</tr>
</tbody>
</table>

*For a more accurate assessment of the phenomenon, the South-region must be considered within a larger spatial area, including the region Bucharest-Ilfov.

Source: Processed data.
The first thing to be mentioned is that under the average at national level there are all the extra-Carpathian regions, except the area Bucharest-Ilfov, which surpasses this average with more than 3 times, and the Centre area.

The second thing to be mentioned is that the greatest discrepancy is represented by the capital, which has an extremely complex and very developed educational offer, thus allowing the registration of more than 200,000 students. The central position of Bucharest, compared to the South, South-West, South-East and even Centre regions, leads to the idea that Bucharest’s offer covers a part of the request within these spatial entities as well. However, the role played by the capital for the South region is obvious, therefore in the above table a special row was inserted in order to show the few indicators at the South and Bucharest-Ilfov region, gathered.

A third thing to be mentioned is that the West region seems to be over-sized, regarding the infrastructure in the field of higher education, consistently surpassing the national average. Having in view the fact that university services per centres are not intended exclusively to the population of that region, we must admit there are preferences for a certain centre from another region and that the spatial dynamic of the clients within the field isn’t always predictable. However, it is obvious that the regional proximity of the suppliers of tertiary education creates advantages for the potential students within that region.

Therefore, the large mass of students within a region prefer, from economic reasons, the centres which are situated closer. For this reason, the chances are not equal for the potential clients from the North-East region, compared to the West region. The former option for one of the closest centres from outside the region leads us to the idea this centre could be Bucharest. But this means very high supplementary costs, taking into account the life’s price in the capital, and the long distances as well (for example, between Botosani and Bucharest). The situation is reversed in the West region, where each component county has got at least one university centre, usually with a diversified offer.

The Region Centre is also situated under the national average. An important part of the request is satisfied by the educational offer of the North-West region and especially by the university centre Cluj-Napoca. This interaction between the two regions compensates the surpassing of the national average in the case of the North-West region, with a number slightly under the national average in the region Centre.

The Students’ Number Differentiated Dynamic per Regions

The analysis of the evolution of the number of students per regions shows a relatively evident difference between them, taking into account, on the one hand, the existence of some traditional centres, inclusively private centres. At the national level, it could be noticed an increase of the number of students, between 1990 and 2004, of over 3 times, and in the university year 2004/2005 there were recorded over 650,000 students (table no. 3).

Both at national and regional level one can notice that between 1995/2000 there was an important increase regarding the total number of students. This “positive breach” was due to the passing, starting with the year 1998/1999, to the fee-based regime within the state universities, to which there added the excessive multiplying of the licence
specializations and of the branches number, both within the private higher education (thus, there are to be noticed the universities: “Spiru Haret” from Bucharest and “Vasile Goldiş” from Arad, and within the state higher education (The “Babeş-Bolyai” University from Cluj-Napoca)

Table 3. The Increase of the Number of Students during the Interval 1990/2004, per Development Regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of students in the university years:</th>
<th>Relative increase (%) 1990/2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>North-East</td>
<td>29.721</td>
<td>43.448</td>
</tr>
<tr>
<td>South-East</td>
<td>10.828</td>
<td>17.240</td>
</tr>
<tr>
<td>South</td>
<td>5.222</td>
<td>11.417</td>
</tr>
<tr>
<td>South-West</td>
<td>10.525</td>
<td>18.682</td>
</tr>
<tr>
<td>West</td>
<td>25.723</td>
<td>37.032</td>
</tr>
<tr>
<td>North-West</td>
<td>22.838</td>
<td>46.130</td>
</tr>
<tr>
<td>Centre</td>
<td>12.553</td>
<td>25.848</td>
</tr>
<tr>
<td>Bucharest-Ilfiov</td>
<td>75.400</td>
<td>136.344</td>
</tr>
<tr>
<td>Total</td>
<td>192.810</td>
<td>336.141</td>
</tr>
</tbody>
</table>

*Source: The Ministry of Education and Research*

The smallest increase within the analyzed interval was recorded in the North-East Region, represented by the same important university centres which existed during 1990/1991 as well: Iaşi, Suceava and Bacău. Other towns, like Botoşani, Vaslui, Piatra Neamţ or Huşi, are only small branches with a few hundreds of students. Despite the fact that, at the level of the year 1990, this region concentrated the highest number of students, after Bucharest, in 2004 it was behind the North-West Region, at a considerable distance.

An increase which was lower than 3 times can be noticed in the case of Bucharest region, which continues to concentrate about 1/3 from the total number of students at national level, and in the case of the West Region, with a very high number of students in 1990 and with a relatively reduced population, compared to the other regions of the country. Whether the relative diminution is justified in the case of these regions, due to the excessive degree of university services concentration, in case of the North-East region, this quite slow increase may be due to the lower wages, compared to the other regions of the country and the more reduced number of the students which are studying within private universities, inclusively within state universities, in a fee-based regime. In this respect, we must underline that the North-East Region is the poorest in the country, with a Gross Domestic Product per inhabitant lower than 2,000$ (1980, 7$ in 2003), much under the average per country (2,738$/inhabitant).

A very important increase is recorded in the regions from the southern part of the country, especially in the South Region. In this region there were recorded, in 1990, only 5,222 students, and in the year 2004 they reached almost 40,000 of students, meaning an increase of about 7,6 times. The explanation of such a phenomenon is due to the pressure of some small university centres (Pitesti) and specialized (Ploiesti), to become, for their sub-regions, real attraction poles within the higher education field. This is why in the following years these two centres diversified their educational offer.
Whether the university centre Pitesti was inclined to an increased diversification, Ploiesti was known as a centre of the technical education, specialized in training specialists within the oil field. The diminution of the request on the internal market and the loss of the external services market in this field determined a diversification of the higher education in Ploiesti, which today produces specialists in many fields: philological, economic, judicial sciences etc.

Besides the two existing university centres from the socialist period, starting with 1992 there came out the “Valahia” University from Targoviste, which gradually recorded an increased number of students, with a more and more complex profile: from engineering sciences to socio-humanistic sciences. Besides these three university centres, with a well outlined area of students’ attraction at the given counties level (Arges, Prahova and Dambovita), but with students coming from the entire southern part of the country as well, during the interval after 1990 there came out branches of the different universities, private and state, in centres like: Giurgiu, Campilung, Alexandria, Calarasi, Amara. All these changes originally led to this increase of the number of students, although the university centre Bucharest provides much more diversified educational services. Its selective attraction is also imposed by the very high life costs from the capital, compared to a countryside town. This element was essential within the viability of these university centres or branches, developed in the very reception basin, aforetime exclusive for the university centre Bucharest.

On the next place, having in view the value of relative increase, there is the Region Centre, where the number of students in the year 2004 was 5.5 times larger than in the year 1990. This extremely rapid evolution was the result of many changes within the dynamic of the already existent university centres (Brașov, Târgu Mureș and Sibiu), of the coming out of some new state and private universities. Besides the “Transilvania” University from Brașov, which diversified its study fields, including fields from the technical domain to medicine, music and theatre, the “Lucian Blaga” University from Sibiu had the same development trajectory, and the same fields are practically found here. In the university centre Târgu Mureș, besides the older universities of medicine and theatrical and cinematographic art, after 1992 the “Petru Maior” University came out, with a more and more complex profile. In the same year there came out the “1 Decembrie 1918” University, in Alba Iulia, which is now being in a multiplying process regarding the study fields.

The network of educational offers was rounded with some branches of the state universities from the region (Mediaș, as a branch of the University from Sibiu, and Toplita, as a branch of the University from Brașov) or from the outside (the “Babeș-Bolyai” University has got two branches: Sighetuara and Gheorgheni).

The private higher education is represented within this region by three accredited universities (the “George Baritiu” University from Brașov, the Romanian-German University from Sibiu and the “Dimitrie Cantemir” University from Târgu Mureș) and by many other authorized private institutions, from among which the most representative one is the “Sapienția” from Miercurea Ciuc.

The dynamic of the students’ number within the studied interval underlines the existence of 3 regions which marked an increase of approximately 4 times
(South-East, South-West and North-West). These are totally different from the point of view of a territorial structure and of an evolution way. Both the South-East and South-West Regions are based upon two state university centres each. Whether the first region developed starting from the centres Galati and Constanta, which existed before 1990, but with a certain specificity (the first one is specialized in naval engineering, and the second in merchant and military marine), the second had as a main centre the University of Craiova. Out of this University, in 1999, the University of Medicine and Pharmacy from Craiova detached, and a part of the professors had an important role in the setting up of the “Constantin Brâncuşi” University from Târgu Jiu. As a matter of fact, this is the second university centre of the region. Well developed branches of the University of Craiova and the University of Bucharest are at Drobeta Turnu Severin, and at Râmnicu Vâlcea and Călimăneşti as well.

In opposition with such kind of achievements, exclusive in the case of the South-East Region (with only two university centres) and extensive in the case of the South-West Region, the North-West Region knows a mixed development, combining the acceleration of the process of the university centres which functioned within the socialist period with a multiplying of these universities branches. Thus, branches of the state universities function in centres like: Bistriţa, Zalău, Sighetu Marmătiei, Marghita, Beiuş, Turda etc. Moreover, we must notice the spectacular evolution of the university centre Oradea, which reached, from 825 students in 1989, a number of 22,000 students in 2004.

The private higher education is represented by two accredited universities (“Bogdan Vodă” from Cluj-Napoca and “Emanuel” from Oradea) and many private universities (“Avram Iancu” from Cluj-napoca, “Vatra” from Baia Mare, “Academia Comercială” from Satu Mare etc) or branches of some private universities from Bucharest (The Christian University “Dimitrie Cantemir”) or from Arad (the “Vasile Goldiş” University).

On the whole, regarding the comparative dynamics of the number of students per development regions, one can notice a tendency of diminution of the differences between Bucharest region and the other regions. Thus, during the university year 1990/1991, the Bucharest-Ilfov Region surpassed more than 6 times four regions, whereas during the year 2004/2005 the value was surpassed in only one region (Table 4).

<table>
<thead>
<tr>
<th>The report between regions</th>
<th>University year 1990/1991</th>
<th>University year 2004/2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucharest/ North-East Region</td>
<td>2.5 times</td>
<td>2.7 times</td>
</tr>
<tr>
<td>Bucharest/ South-East Region</td>
<td>7.0 times</td>
<td>4.5 times</td>
</tr>
<tr>
<td>Bucharest/ South Region</td>
<td>14.4 times</td>
<td>5.2 times</td>
</tr>
<tr>
<td>Bucharest/ South-West Region</td>
<td>7.2 times</td>
<td>5.0 times</td>
</tr>
<tr>
<td>Bucharest/West Region</td>
<td>2.9 times</td>
<td>3.0 times</td>
</tr>
<tr>
<td>Bucharest/North-West Region</td>
<td>3.3 times</td>
<td>2.2 times</td>
</tr>
<tr>
<td>Bucharest/Centre Region</td>
<td>6.0 times</td>
<td>3.2 times</td>
</tr>
</tbody>
</table>

Source: Calculated data
As shown in the above table, the tendencies of approach and diminution of the process of hypertrophy of the regional university services is obvious. A slight increase of the disparity appears in the case of the North-East region, compared to which Bucharest region increased its initial disparity. In this situation, although the number of students significantly increased in the North-West Region, too, the increase rhythm was inferior to that recorded by Bucharest. It is also remarkable the diminution of this disparity between Bucharest and the South Region, due to the contribution of the three intra-regional university centres: Pitești, Târgoviște and Ploiești. As a result, this disparity reduced 3 times, still remaining significant.

**Geographical Differences of the Training Potential**

The university centres and the branches of the universities record a different potential training, depending on the predominant profile, the existing tradition within the higher education field, the weight of the private education etc. The training potential is decisive within the education process quality, as well as within the increase of a university centre’s attractiveness. The evaluation of the training potential is based upon many criteria and indicators, which must be correlated to the real possibility of getting them. For their assessment, we must consider that three important elements are sufficient: the professors, the available space and its equipment. The professors represent the university’s “treasure”, and if we have indicators to also certify its quality, then we have an essential element for determining the training potential. When evaluating the space where the educational activities are taking place, we used the number of seminar rooms and of the laboratories. For the equipment level, we considered the number of computers and the percentage of their connection to the INTERNET.

Synthetically, within the analyze for showing the main types of higher education centres by training potential there were used the following indicators: the average number of the students from a university (taking into account the existence of more universities in some university centres), the number of students per educational staff, the number of students per professor, the professors’ weight within the didactic personnel and the number of students per computer.

By means of the “cluster” analysis the main types were taken, following the two kinds of higher education state and private. Depending on the resemblance of the indicators value, there were obtained, in both situations, 5 significant categories:

A. In case of the **state higher education** (Fig. 2), the main categories are characterized as follows:

a) The category of the university centres with **very high training potential** includes big universities, with an average of almost 8,500 students. The values of the indicators are the most favourable for the education process: big universities, the number of students per educational staff and per professor is the most favourable for the education process unfolding and the professors’ weight within the educational staff is the highest. These reflect the existence of some premises capable to raise the level of students’ preparing. The highest values are characteristic to the capital and to some centres of some of the big historical provinces. To these university centres Brasov is added, enjoying its position at the edge of the historical province, enhanced by its traditional industrial potential. These characteristics allowed the development of the state
higher education up to the level of the recognized centres. The infrastructure of the state higher education in these towns is based upon a big university, with a tradition ("Al.I.Cuza in Iasi, "Babes-Bolyai" in Cluj-Napoca etc.), a technical university, a medicine university to which other specialized universities are added.

b) The category the university centres with high training potential includes 7 centres, with universities in which there study about 8,600 students. The towns from this category are characterized by average values of the indicators, close to those from the first category. They are different by the higher stress of the educational personnel. Different university centres like Craiova belong to this category; Craiova has got an important mixed university and one of medicine, but centres with universities once specialized as well (The University "Oil and Gases" from Ploiesti). These centres are placed at best distances from the centres from the first category, thus the possibility of "coming into conflict" with these, regarding the potential students' attraction.

c) The next category groups 6 university centres with average training potential. The higher
education institutions have got a low average size, of about 4,600 students. The specific feature of these centres lies in the better equipment with computers and the small number of professors, which leads to the idea of a deficit of performable didactic staff, inclusively potential deficiencies within the educational process. The university centres which are placed closer to the centres from the first category rather than from the second, being influenced by the centres from both categories, belong to this third category.

d) The category of the university centres with low training potential includes 4 university centres. The average size of the universities is the biggest (over 11,000 students), the number of didactic staff is too reduced, and the equipment with computers is precarious. All these point out the very increased effort of the didactic staff, which can reflect upon the quality of the students’ training. Moreover, the students’ very limited access to computers, inclusively to information, by means of using the INTERNET, can affect the educational process.

e) The last category of the higher education centres is atypical and includes a single centre Blaj. The Theological Institute from Blaj, very small as dimensions, has the most favourable indicators for the unfolding of the didactic process. The education quality seems to be affected only by the didactic staff with a professor status. Their absence was the cause of the separate enclosing of this centre within a particular category.

In conclusion, it can be noticed that the most favourable conditions for the high level didactic activity (within state universities) are hold by the university centres with a long tradition university, big universities and with a complex education (university, technical, medical etc). The five centres within the first category can be considered the basis of the state higher education from Romania, compared to which the other university centres or branches of some universities from the country evolve.

B. The Private Higher Education is different from the state higher education by the much bigger variation of the indicators, as well as by the distribution of university centres (Fig. 3). From the analysis of the private university centres, using the same cluster method, there still resulted five categories.

a) The first category includes only one centre, Buzau, already on the verge of closing up. Formally, this centre seemed to have favourable indicators, except the one regarding the computers. In fact, this centre wasn’t authorized to function temporarily according to the legislation in force.

b) The second category including 8 private university centres, with a high training potential, records an average of the number of student per university under 2,000 people. The values of the indicators are among the most favourable to the educational process of quality. If we can speak about a network of private higher education, then these centres represent its basis. The comparative analysis with the centres considered the basis of the state higher education leads us to the conclusion that the two corresponded only partially. The analysis of the indicators shows that in Bucharest and in the west of the country the education of quality doesn’t deny the possibility of the existence of the private education, at a close level.

c) The next category includes 7 university centres with an average training potential, and the average size of the universities surpasses the number of 2,600 students. The values of the
indicators which characterize these centres differ a lot from those from the second category: the number of students per professor is of more than 780 people, and the weight of the professors within the didactic staff is of only 8% etc. All these have a negative impact upon the quality of the students’ training. This category includes towns with important state universities (Iasi, Brasov), and centres without a university tradition (Baile Herculane, Lugoj) as well.

d) The last but one category includes only two university centres with low training potential and with universities which record an average of about 1,500 students. The numbers of students per didactic staff, the absence of the professors and the insufficient equipment with computers reflect upon the training potential and create little favourable conditions for a qualitative education.

e) The last category includes five university centres which have a common particularity: they don’t have proper didactic staff and proper spaces for the education process. As a result, their training potential can only be very unfavourable.

The localizing of the private higher education institutions point out that these are concentrated in the capital and in some regional “cities”. In the same time, we must notice that the private education training potential is much behind the state education. The absence of proper didactic staff and the low number of computers may affect the quality of the education process.

Fig. 3. Distribution of Private Universities by Training Potential
As a result of the analyses which were made, it is obviously shown that Bucharest, Cluj-Napoca and Timisoara have many alike particularities. Iasi is placed near these, but it is different regarding the private higher education, which is extremely developed. This particularity of the university centre Iasi results from an unbalance of the territorial repartition of the state universities, inclusively from the limited access of the inhabitants of the historical province Moldavia to all types of university services. Generalizing, it can be said these towns represent main elements of the national network of universities. It is interesting that Bucharest surpasses all other towns in absolute values (the most striking difference is noticed in the case of private higher education), but by the relative values, it belongs to the same category. In the case of many university centres, the differentiation state-private is obvious, due to the different level of the training potential. On the whole, these differences are somehow covered by the reciprocal completion of the state and private universities, attenuating the drawbacks (especially of the private universities).

For this, it was made the correlated analysis, within which it was taken into account the diversity of the education, expressed by means of the number of universities/faculties, and the effect of agglomeration with its two sides: the relationship between the property form and the relationship between the centre size and the number of the town population (table 5). Due to the fact that the samples distribution is log-normal, within the equation of the regression line, the data are expressed as logarithms of real values (x and y). It is also to be mentioned that, for the analysis of the relations by the property form there were taken into consideration only those centres which record the values of the independent variable and the values of the dependent variable as well.

The variables which take into consideration all study centres repartition (respectively universities and their branches) reflect the real situation of the educational offer distribution, but also of the places where the process of higher education takes place. These directly show the localizing of the university services, without taking into account the administrative status of the education system. The data referring only to the territorial repartition generalize the spatial characteristic of the education process, emphasizing the importance of the university centres, compared to their branches.

The correct analysis of the parameters of regression equations shows that the localizing of private universities is somehow more related to the number of state universities within a centre, while the repartition of the faculties demonstrates tendencies of more independence. The thoroughness of the first assertion is demonstrated by the fact that 75% of the private universities depend on the state universities presence and number. In case of
faculties, only 62% of the private faculties follow state faculties, showing that private universities branches are situated in many territorial niches than state universities. On the whole, it results that we face a good correlation in both cases, this reflecting the quite tight connection between variables.

Table 5. The Statistical Parameters of the Indicators which Characterize the Structural Relations within Higher Education in Romania

<table>
<thead>
<tr>
<th>Variables</th>
<th>The correlation coefficient (r)</th>
<th>The significance degree (r²)</th>
<th>The equation of the regression line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facult</td>
<td>0,789</td>
<td>0,623</td>
<td>( \lg y = 0,72 \lg x + 0,04 )</td>
</tr>
<tr>
<td>Fstud</td>
<td>0,744</td>
<td>0,554</td>
<td>( \lg y = 0,62 \lg x + 0,95 )</td>
</tr>
<tr>
<td>Univ</td>
<td>0,860</td>
<td>0,740</td>
<td>( \lg y = 1,02 \lg x + 0,01 )</td>
</tr>
<tr>
<td>Ustud</td>
<td>0,628</td>
<td>0,395</td>
<td>( \lg y = 1,03 \lg x - 0,96 )</td>
</tr>
<tr>
<td>PFS</td>
<td>0,784</td>
<td>0,651</td>
<td>( \lg y = 1,47 \lg x - 4,01 )</td>
</tr>
<tr>
<td>PUS</td>
<td>0,629</td>
<td>0,395</td>
<td>( \lg y = 1,22 \lg x - 2,52 )</td>
</tr>
</tbody>
</table>

Note:
Facult: independent variable (x) – the number of the faculties within state universities; dependent variable (y) – the number of the faculties within private universities.
Fstud: independent variable (x) – the number of students registered within state faculties; dependent variable (y) – the number of students registered within private faculties.
PFS: independent variable (x) – the number of town population; dependent variable (y) – the number of students registered within these towns.

For these first correlations the data per university centres and branches are analyzed.
Univ: independent variable (x) – the number of state universities; dependent variable (y) – the number of private universities.
Ustud: independent variable (x) – the number of students registered within state universities; dependent variable (y) – the number of students registered within private universities.
PUS: independent variable (x) – the number of town population; dependent variable (y) – the number of students registered within these towns.

For these last three correlations, data are analyzed only per university centres. The data regarding the branches are included within the university centres to which they belong.

When referring to the size of the university centres (except the branches), the correlation between these, by the property forms, is somehow weaker. Regarded from the faculties’ angle, the correlation is much more powerful; thus, only in 40% of cases the private universities size can be explained by means of the size of the state universities.

The relationship between the number of students and the number of town population is relatively powerful in case that both university centres and the universities branches were analyzed, resulting the fact that in 65% of the cases the number of students who study effectively in a town depends on the town size. The coming out of new university centres, inclusively in medium or even small-sized towns, makes the size of the university centres depend on the size of the towns, only in proportion of 40%.

Having as a background these more or less powerful influences, some characteristics of the universities localizing process result. State and private universities try to place their headquarters together, in order to profit from the agglomeration process. This leads to the increase of competition within the university centres, but creates the real opportunity for private universities to use the professors and even the infrastructure of the state universities (the central university libraries, the hostels, the seminar rooms, the lecture rooms and even the specialized laboratories). At the same time, avoiding competition, state universities try to bring the study basis, respectively the branches closer to the client (potential student).
This localizing is achieved by taking into account the relation state/private in proportion of 55%. In this situation, competition decreases due to the fact that the placement strategy is more flexible. It is based upon the complementarity principle within the respective study centre. Despite a relative branches “blossoming”, sometimes appearing under camouflage, as territorial centres for the open education, the most important part of the activities takes place near the universities headquarters.

As already shown, the universities headquarters are placed in larger towns, with a proper size to provide didactic activities. On the other hand, the branches are placed in smaller towns, being more sensible to the variation of town population number. This explains why the correlation between towns population is weaker in the case of universities and stronger when taking into account the population of the towns where the branches are placed.

Regarding the process of spatial de-centralization of the universities, we can notice some differentiations between state and private universities. Firstly, state universities had two types of challenges to which they had to respond: on the one hand, the financing system, and on the other hand the private universities more and more powerful competition, and especially of the strong private universities. The state education sub-financing conditions led to the modifying of the Education Law no. 84/1995, in the sense of giving the state universities the right to school tuition fees students, over the number of places financed from the state budget. This measure affected the students’ recruitment basins for private universities, which recorded, in some cases, a decrease of the number of students or led them to a policy of diminishing the schooling fees.

As the attraction of the tuition fees students from the big urban centres, which are university centres with a tradition has some limits, many of the state universities took a policy of getting the educational offer close to the potential students (Fig. 4). In this case, the most evident policy of de-centralizing and attracting funds from such sources was held by the “Babeş-Bolyai” University, which set up, after 1998, branches in numerous county residences from Transylvania (Bistriţa, Zalău) or in small and medium-sized towns (Georghehni, Sighetu Marmăției, Sighetu Măcin, Năsăud, Turda, Dej). At a lower level, the same phenomenon can be noticed in the case of the University of Bucharest, the University of Oradea or the “Lucian Blaga” University from Sibiu. Whether this de-localizing is made within the same historical province or within spaces with direct accessibility, then it can be beneficial, too, but when it happens at long distances, it appears unexplainable (for example, the branch from Husi of the “Lucian Blaga” University from Sibiu).

The traditional technical universities mostly maintained the initial branches, which they held before 1990, too (the “Politehnica” University from Timișoara or the Technical University from Cluj-Napoca). In other situations, these detached and made up independent universities (Resita). Under territorial aspect, private universities were localized in big university centres, taking advantage at least initially of the existence of a didactic staff available within state universities, as well as of education spaces, unused within pre-university education, but also in smaller urban centres or without university tradition, where there existed education spaces, rented at low prices and where local authorities encouraged this phenomenon. As a result of some closeup and fusion by absorption processes, their number diminished, so that today the strongest private universities, which have got chances to resist national competition, and international competition as well, are placed within big universities towns.

After the accrediting of the 20 private universities, it could be noticed a phenomenon of
students’ orientation mainly towards these and a diminution of the students who preferred only authorized universities. The existence, within the same university centre, of more accredited private universities, generated a tight competition between these, but also between private and state universities. As a result, the approaching of the educational offer to the potential students made up a priority for some of the private universities. Having in view the big number of branches and “territorial centres” for the education at distance, the “Spiru Haret” University from Bucharest detaches, totaling over 30,000 students, spread all over the country. This highly contributes to the present configuration of the relationships between private universities from Bucharest and their branches from the territory (Fig. 5).
Other universities with territorial branches and less with other types of university pseudo-locations are the Christian University “Dimitrie Cantemir” from Bucharest and the “Vasile Goldiş” University from Arad. It is surprising the non-existence of such tendencies of de-centralizing in the eastern half of the country, and especially in Moldavia. The lower income of the population within these regions may not constitute a favourable element for de-localizing the higher education activities within private universities from Iasi and from other regions as well. It can be noticed that private universities from Bucharest were mainly oriented towards the central-southern and central western part of Transylvania.

The development of the new education types, and especially of the open education, makes branches multiply, in perspective. At the same time, as a result of competition, the process of fusion of state and private universities and of private universities between them will lead to concentrating the universities headquarters in certain centres.

Conclusions

The Romanian higher education recorded a spectacular development between 1990-2004, which allowed the leap from a very low value (about 840 students) at continental level of the students number per 100,000 inhabitants, to a value which situates Romania, today, within the superior medium echelon (about 3,000 students/100,000 inhabitants).

The spectacular development was due, on the one hand, to the increase of the places financed from the budget (with approximately 80,000 inhabitants), but especially to the development of private higher education, and after 1998 it was due to the state universities facility to school tuition fees students. This last category’s contribution is of about 150,000 students, who add to the 135,000 students schooled within private universities. An important role within the decentralizing process of the university education had the coming out of the universities and the others’ development, previously set up, but having an insignificant number of students (the universities of Oradea and Constanta). Although the students’ average value per 100,000 inhabitants is relatively high, it records numerous differences at regional level. From among these, the disparity between the intra and extra-Carpathian regions imposes, where the value is less than half of the national average. These big discrepancies could be explained by the capital’s hypertrophy, which, by its educational offer induces a massive void within all extra-Carpathian regions, except the North-East region. However, an objective analysis obviously shows the absence of a coherent policy of spatial optimization of university services, an extremely difficult access, with very high costs, of the potential students from the extra-Carpathian regions to these services, concentrated in a reduced number of higher education centres. On the whole, it must be noticed that in Romania the localizing of universities depends on the size of the towns where they are situated, which can be beneficial for universities and population, who take direct benefit from this reality. The localizing of the universities in big cities (inclusively the dependence of universities on them) leads us to the idea of a localizing model of French type (before decentralizing) or rather of Russian type. In contrast with these models there are the German and British types of university localizing within smaller towns or situated around a big city. The explanation can also consist in the fact that the French type, but
especially the Russian type of organizing public and state life is characterized by authoritarian central traits, and the Romanian type would be just a continuation of the organizing previous to the year 1990. At the same time, this situation can be only a coincidence and it is about the inertial force of tradition, which imposed the big urban centres of Romania on the position of first rank university centres.

A second characteristic of the Romanian higher education lies in the domination of the state higher education (over 3/4 from the total number of students). The private education, being very young, only partly imposed itself on the educational market. Both in absolute and relative values, state universities surpass private universities and they cannot be directly compared.

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