

AN ANALYSIS OF THE ROMANIAN MARKET OF HIGHER EDUCATION

Silvius Stanciu¹, Roxana Sârbu² and Raluca Crina Bucur³

¹⁾Dunărea de Jos University of Galati, Romania

²⁾³⁾The Bucharest University of Economic Studies

E-mail: sstanciu@ugal.ro; E-mail: sarburoxana@yahoo.com;

E-mail: ralucacrinapetrescu@yahoo.com

Abstract

In the last 25 years, Romanian higher education has been characterised by a number of transformations as a result of the need to modernise and to adapt to the business environment requirements, to the economic evolution, to the influence exerted by demographic factors or to the globalisation process. During 1995 – 2002, Romanian private higher education experienced a spectacular growth, followed by a sharp fall, which is manifest at present, too, due to the lack of qualified staff and of material resources adequate for an appropriate educational process. State universities had a relatively constant evolution in the analysed period, with slight fluctuations, which were mainly caused by demographic factors and the economic crisis. The present paper carried out an analysis of the national higher education system from the perspective of the tertiary education services market concentration degree (ISCED levels 6, 7 and 8), at an administrative and proprietary form level. The results of the study showed a high concentration degree of educational institutions at a local level. The market of higher education services, offered by state universities, is characterised by moderate values of the Gini Struck Index and by an average concentration degree.

Keywords: university, higher education, market concentration, Romania

JEL Classification: I21, I23, I28, D47

Introduction

After the change of the political regime, Romania has implemented a number of major educational policy reforms, which led to important transformations in the higher education sector. The main legislative provisions in the domain of Romanian higher education after the 1990s were as follows: Law 88/1993 (The Accreditation Law), amended by Law 144/1999; Law 84/1995 (The Law of Education, the first legislative provision after 1990); Law 288/2004, which enacted the implementation of the Bologna process stipulations and Law 1/2011 (The Law of National Education), which led to a new reform in the Romanian educational system. According to Law no. 288/2004, the organisation of higher education studies in Romania is made on three levels of education: Bachelor degree studies, Master's degree studies and Doctoral studies, each cycle being differentiated from the others by

means of distinct procedures of admission and graduation. The organisation of education level is the responsibility of each higher education institution and it must be approved by the Ministry of National Education (The Parliament of Romania, 2004). The external evaluation of the education quality is carried out by the Romanian Agency for Quality Assurance in Higher Education (ARACIS), an autonomous public institution, of national interest, with legal personality and its own budget of revenues and expenditure (ARACIS, 2017). ARACIS was created in 2005 as a result of the Government Emergency Ordinance no. 75/2005, approved with amendments by means of Law no. 87/2006.

The Report of the World Bank (WB) (2012) highlighted the fact that applying the Bologna Standards to the educational policies from Romania led to important changes in the structure of most educational programs and to a change in higher education financing, from the financing of input factors to a type of financing which relies on each enrolled student. This measure prompted a substantial increase in the global financing of education, and the application of the legislative provisions allowed a number of students to pay a tuition fee in state universities. Thus, a major income source became available for state universities, with positive effects on the extension and improvement of higher education quality. An increase in autonomy and in financing flexibility took place before the application of control measures. Also, according to the quoted report, the autonomy degree of tertiary education in Romania increased rapidly, mainly due to the minimal regulations imposed to the sector by the state, the period 1995 – 2005 being characterised by academic self-management and by an increased power of the higher education institution management.

An extensive presentation of the Romanian educational system is carried out by Drăgoescu (2013), who tries to make a connection between high school graduates and the higher education candidates. The application of the Engle-Granger test led to the conclusion that, between the data regarding the number of high school graduates, and the number of first year students in universities there isn't any causality relation. An analysis regarding the rural– urban inequalities from the perspective of the access to higher education was carried out by Voicu and Vasile (2010), who reached the conclusion that Romania is characterised by a low percentage of students who participate in tertiary education as compared to most European countries. The expansion of higher education initially led to an increase in the discrepancy between the urban and rural environments, phenomenon which has begun to fade lately. Nicolescu (2002) describes the changes that occurred in the Romanian higher education during 1990-2001, emphasizing the lack of a performant management at a national or local level. After 1989, Romanian universities received a *de facto* autonomy from the part of the resort ministry, yet only in a limited and inconsistent manner. Making reference to the local business environment requests and to the ability of the Romanian educational system to answer these requests, Nicolescu (2003) analysed the evolution and the performances of the graduates from the Bucharest state universities on the labour market. According to the study, it is necessary for the Romanian universities to lay the emphasis on the needs of the company, which are the main employers of higher education graduates, and to adapt the educational process to the business environment and to society requirements.

Material and methods

The statistical data regarding Tertiary national education (ISCED levels 6, 7 and 8) were collected from the National Institute of Statistics (NIS) database, the Ministry of National Education (MEN) (by relying on the Educational Integrated Register - REI, and on the

Single Matriculation Register RMU), from the WB Report, from ARACIS, or from the analysed universities' reports. The collected information was statistically analysed by using the methodology recommended by Săvoiu, Crăciuneanu and Țaicu (2010), based on the Gini-Struck Index calculation. The results were graphically represented and interpreted. For comparison and documentation, we used the relevant domain-specific literature.

The evolution of Romanian higher education institutions during 1990 - 2015

After the change of the political regime from the 1989s, private higher education institutions in Romania could be legally founded, especially in the economic and legal domains. According to the NIS information (2017), in 1995, there were 36 private higher education institutions in Romania. In 7 years' time (1995-2012), due to a number of permissive legislative regulations, there was a spectacular increase in the private university system, in 2002 being reached a historic high of 70 private higher education institutions. The NIS data shows that the period 2002-2006 is characterised by a 20% decrease in private universities, followed by a slight increasing trend until 2009 -2010, with a number of 52 registered private universities. The current phase, which began in 2010, is characterised by a decreasing trend in private education, in 2015 operating legally 43 institutions in Romania, almost the same number of accredited private universities as in 1996. The decrease in the private education system in Romania can be due to the demographic evolutions, to the development of the tuition fee system, and to the economic crisis, which led to a decrease in revenues and to an impossibility to pay the tuition fees. Also, the activity of the ARACIS, played a major role in this decrease, starting an intense evaluation process of Romanian higher education institutions. In parallel with the evolution of the private higher education during 1990 – 1993, one may notice a 20% increase in the number of public higher education institutions, followed by a relative stabilization during 2012 – 2015 with 56 state higher education institutions. Correlated with the number of higher education institutions in Romania, one could also notice an increase in the number of public or private faculties, which increased from 186 (registered in 1990) to 770 in 2007, and 567 in 2015. As compared to private education the budgeted domain has a much greater number of faculties, which is sometimes two times or three times greater than the number of private faculties (figure 1).

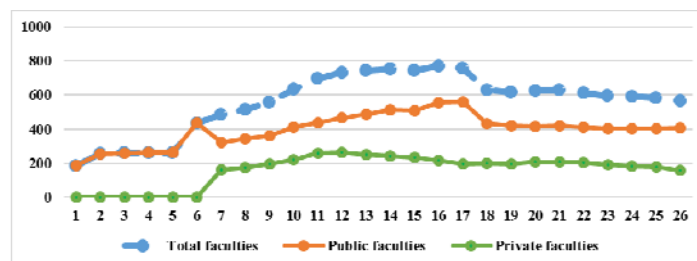


Figure no 1: The evolution of public and private faculties in Romania
Source Author, by using NIS Data (2017)

Thus, the number of students enrolled for Bachelor degree studies ranged between a minimum number of 192,810 in 1990 and a historic high of 907,353 in 2007. In 2015, there were 410,697 students enrolled for Bachelor degree studies (figure 2).

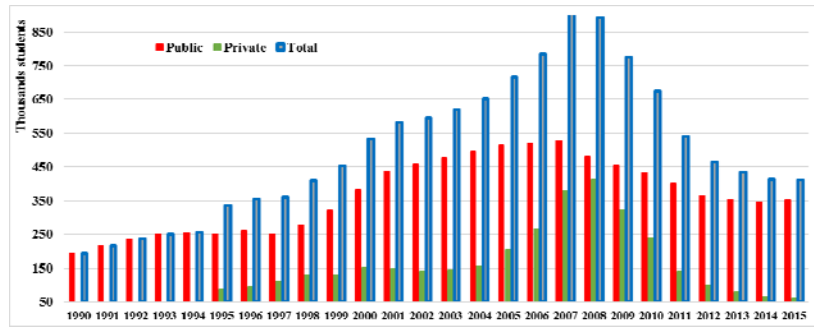


Figure no 2: Students enrolled for Bachelor degree studies in the education institutions

Source Author, by using NIS Data (2017)

In the analysed period, the percentage of students enrolled at private education institutions varied between a maximum value of 46.1%, in 2008, and a minimum value of 14.4% in 2015, much below the 25%, with which private education entered the official statistics in 1995. The increase in the number of enrolled students also led to an increase in the number of teachers employed (figure 3), although there was a certain discrepancy between the number of students and the number of teachers employed, and the material facilities required by the educational process.

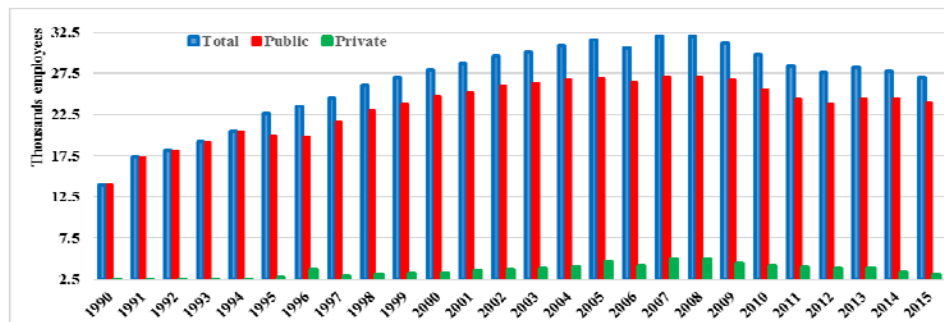


Figure no 3: Teachers employed in the Romanian higher education system

Source Author, by using NIS data (2017)

In the analysed period, there was a constant discrepancy between the material facilities from state and private universities (classrooms/lecture rooms and laboratory class) (figure 4). Therefore, in the period 1990-1995, the lecture rooms and laboratory classrooms from the Romanian higher education were present only in state universities, those from private education being virtually non-existent in official statistics. Together with the development of the private educational system, we may notice an increase in its material facilities, which are, nevertheless, below the material facilities from the public system.

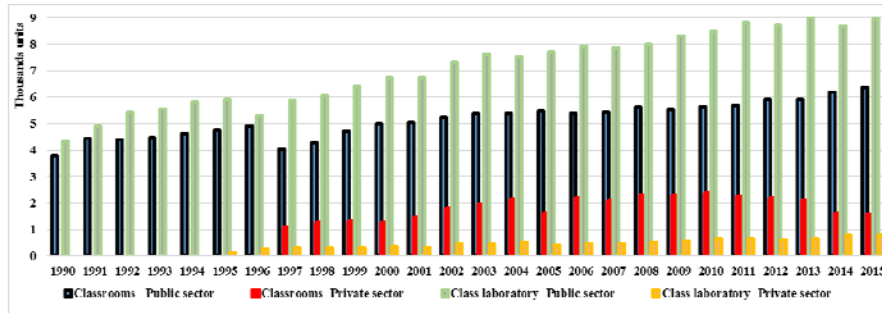


Figure no 4: Classrooms/ (lecture rooms and laboratory classrooms) in the higher education

Source Author, by using NIS Data (2017)

A similar situation is encountered in equipping universities with computers. Thus, from a total of 102,529 PCs from the Romanian higher education system in 2015, almost 90% belonged to the state education. Comparing the number of students to the total number of PCs per educational system, only after 2010 the values of the indicator begin to be close for the two forms of higher education. According to the NIS statistics (2017), in the private education system, there were 50 students per PC for each academic year, a situation which is slightly better than in 2001, when there were 57 students/PC.

The evolution of the ratio number of students/tenure teacher is presented in figure 5. The average for all the national higher education domains ranges from 12.55 to 28.39 students/teacher. The data shows significant differences between the number of students/teacher within the public and private education systems. For the private higher education there is a spectacular evolution of the analysed indicator, with a marked increase in the number of students enrolled during 2005 – 2010. The lack/shortage of specialised staff in private universities led to values of 80 students/teacher during 2007 – 2009. According to the ARACIS standards, the maximum ratio between the number of students and the number of teachers who teach a certain subject must be of 30/1 (Economics I and II), 25/1 (Legal sciences, Agricultural sciences, Veterinary medicine) or 14-17/1 (Engineering). It may notice that in private education institutions, the ratio between the number of students per teacher ranged from 32.59 (in 1995) to 84.12 (2008), with a minimum of 19.90 students/teacher (recorded in 2015), above the average of public institutions and national standards.

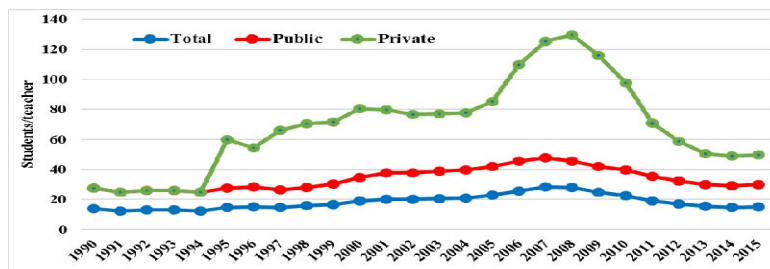


Figure no 5: The average number of students/teacher in the higher education system

Source: Author, by using NIS data (2017)

Lately, there has been a diminution of this ratio in the private education system, up to a value which is close to that from the public education system and which complies with the standards recommended by ARACIS. The evolution of the ratio between the number of students and the spaces (classrooms/lecture rooms, laboratory classrooms) allocated for the two higher education systems are presented in figure 6.

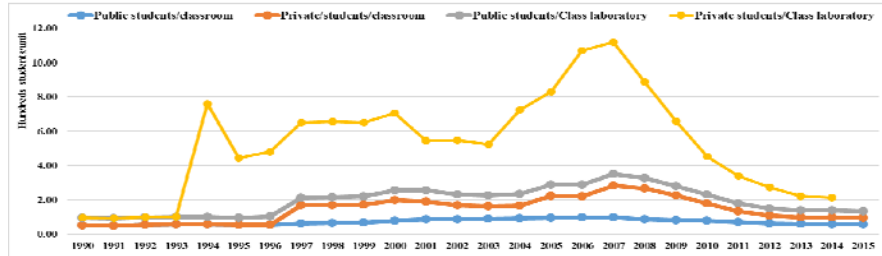


Figure no 6: Students/ (classrooms, lecture or laboratory classrooms) in higher education

Source Author, by using NIS Data (2017)

The data presented in figure 6 shows a major discrepancy between the values of the indicator number of students/lecture room in the public and private education. Thus, during 1995 – 2010, in the private education system, it was allocated a number of students per classroom with 50 – 100% higher than in the state education system. After 2010, together with the decrease in the number of students enrolled in the private system, one could notice a decrease in the value of this indicator, which descended below the level recorded in budgeted institutions. A spectacular difference is also recorded in the case of the indicator number of students/laboratory classroom, the values being 2-5 times higher in the private system as compared to the state system. The major difference can be justified both by the poor material facilities and by the prevailing theoretical character of the private higher education system. The distribution of higher education institutions is uneven at the level of the Romanian cities and counties. In 2015, Bucharest, with 39 institutions, representing 35% of the Romanian university system, dominates the national ranking regarding university cities, being followed by Iași, Cluj Napoca, Timișoara and Constanța. Almost half of the cities in which there is higher education have only one registered university (MEN, 2017a). According to the MEN statistics for higher education from Romania, presented graphically in “The map of higher education institutions in Romania” (2017a), in 2015, there were 111 registered institutions, which provided higher education programs, the list including state, civil or military, private, religious higher education institutions etc.

An analysis of the public higher education services from Romania

In 2015, there were 56 higher education state institutions recorded at MEN (The Educational Integrated Register REI, 2017 b), in which there were 446,843 students enrolled in the Bachelor degree studies, Master’s studies and Doctoral studies. The distribution of students on the three levels is Bachelor studies 75%, Masters 21%, and Doctoral studies 4%. Most students from state universities attend the Bachelor degree courses, the Master’s degree and the Doctoral studies representing only 25% of the total REI enrolments (MEN, 2017b). The ranking of state universities, depending on the number

of enrolled students, is dominated by the universities Babeş Bolyai, University of Bucharest, AI Cuza Iaşi and Politehnica Bucharest, which cumulate over 25% of the students registered in the state higher education system. The last positions are occupied by the Technical University of Baia Mare, the National University of Music Bucharest, UNATC „I. L. Caragiale" Bucharest and the University of Arts, Târgu-Mureş, where, in 2015, there were less than 0.5% of the total number of students recorded by REI at a national level (MEN, 2017b).

The concentration degree assessment of the higher education services regarding the state universities from Romania can be carried out with the help of the Gini-Struck Index (GSI), which was calculated by using the methodology recommended by Săvoiu, Craciuneanu and Ţaicu (2010).

$$GSI = \sqrt{\frac{n \sum g_i^2 - 1}{n-1}} \quad (1)$$

- n represents the number of terms of the series under study

- g_i represents the weight factor of students registered in the i university, related to the total number of students.

The methodology was applied in the paper in order to assess the concentration degree of the higher education services market at the level of Romania's counties and at the level of the university education public institutions. The obtained results after the application of the above-mentioned methodology, in order to assess the concentration degree of the higher education services market at the level of counties are presented in table 1.

Table no 1: The concentration degree of the higher education institution market on counties*

Indicator	Total tertiary education	Public	Private
Total universities (2015)	99	56	43
$\sum g_i^2$	1413.1211	2813.9375	1627.9070
N (Total counties)	24	21	16
GSI	38.3994	54.3561	41.6697
Concentration	high	high	high

Source: Author, by using NIS Data (2017)

* The analysis does not include higher education military institutions.

The data present in table 2 indicates a high concentration degree of higher education institutions in the Romanian counties, with higher values of the GSI for public education as compared to private education, in both cases the index being higher than the value recorded at a national level. The concentration degree analysis of the services offered by the Romanian state universities is presented in table 2.

Table no. 2: The concentration degree of the state higher education services market

Indicator	Bachelor	Master	Doctoral	Total students
Students	336,563	93,822	164,58	446,843
$\sum g_i^2$	379.0491	461.9796	481.1179	371.8209
N (Total public universities)	47	47	47	47
GSI	19.6791	21.7256	22.1711	19.4906
Concentration	moderate	moderate	moderate	moderate

Source: Author, by using MEN Data (2017b)

The education services offered by state universities in Romania is characterised by moderate values of the GSI and an average concentration degree.

Conclusions

The paper carried out an analysis regarding the Romanian higher education system evolution during 1990-2015, with a comparative presentation of private and state institutions. The spectacular increase in the number of students from private institutions during 1995 – 2005 was not supported by an adequate development of the material and specialised human resources, which led to a poor viability of the private tertiary education, which showed a marked decreasing tendency in the number of students in the last few years. The concentration degree assessment of the higher education services market revealed a high concentration degree at the level of counties and cities, Bucharest, Cluj and Iași being the main areas having higher education graduates. As far as state universities are concerned, the moderate values obtained by using the Gini Struck Index indicate an average concentration level of the budgeted higher education from Romania.

References

- Abrevieri.ro, 2016. *Abbreviations used for Romanian counties*, [online], Available at: <<http://abrevierile.ro/colectii/indicative-judete-romania>> [Accessed January 05, 2017].
- Drăgoescu, R.M., 2013. Transformations in the higher education system from Romania after 27 years 1990. *The Romanian Statistics Journal*, 3, pp. 19-27.
- National Institute of Statistics NIS, 2017. *Tempo online. Education*, [online], Available at: <<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=SCL104C>> [Accessed March 12, 2017].
- Nicolescu, L., 2002. Reforming Higher Education in Romania. *European Journal of Education*, 37(1), pp. 91-100.
- Nicolescu, L., 2003. Higher Education in Romania: Evolution and Views from the Business Community. *Tertiary Education and Management*, 9(1), pp. 77–95.
- Săvoiu, G, Crăciuneanu, V, Țaicu, M., 2010. A new statistic method for analysing concentration or diversification of markets (in original in Romanian). *The Romanian Journal of Statistics*, 2/2010, [online], Available at: <http://www.revistadestatistica.ro/Articole/2010/A3ro_2-2010.pdf> [Accessed March 02, 2017].
- The Ministry of National Education, 2017a. *Statistical data regarding higher education in Romania*, [online], Available at: <<https://rei.gov.ro/index.php>> [Accessed March 02, 2017].
- The Ministry of National Education, 2017b. *Statistical data regarding higher education in Romania. The Integrated Educational Register REI (2017)*, [online], Available at: <<https://rei.gov.ro>> [Accessed March 02, 2017].
- The Parliament of Romania, 2004. *Law no. 288 from the 24th of June 2004 regarding the organisation of university studies (updated)*, published in The Official Gazette, Part I, no. 614 from the 7th of July 2004. [pdf] Available at: <<http://vechi.cnfis.ro/fd/bologna/documente/L288cicluriuniv.pdf>> [Accessed March 10, 2017].

- The Romanian Agency for Quality Assurance in Higher Education ARACIS, 2016. *Specific standards regarding the external assessment of academic quality for study programs from the bachelor degree and master's degree domains related to Specialised Commission No. 3, Legal Sciences.* [pdf], Available at: <http://www.aracis.ro/fileadmin/ARACIS/Comunicate_Media/2016/Standarde_specifice_consultare/3.pdf> [Accessed March 02, 2017].
- The Romanian Agency for Quality Assurance in Higher Education ARACIS, 2008. *Specific standards regarding the external assessment of academic quality for study programs from the bachelor degree and master's degree domains related to the fundamental domain Engineering.* [pdf], Available at: <http://pfe.aracis.ro/cms/fileadmin/materiale/Standarde_specifice.pdf> [Accessed March 09, 2017].
- The Romanian Agency for Quality Assurance in Higher Education ARACIS, 2017. *History*, [online], Available at: <<http://www.aracis.ro/despre-aracis/istoric>> [Accessed March 01, 2017].
- The Romanian Agency for Quality Assurance in Higher Education ARACIS, 2016. *Specific standards regarding the external assessment of academic quality for study programs from the bachelor degree and master's degree domains related to the Specialised Commissions no. 6 and 7 Economics I and II*, [online], Available at: <http://www.aracis.ro/fileadmin/ARACIS/Comunicate_Media/2016/Standarde_specifice_consultare> [Accessed March 02, 2017].
- The World Bank, 2012. *Skills, Not Just Diplomas. Managing Education for Results in Eastern Europe and Central Asia* (prepared by Sondergaard, L., Murthi, M, with Abu-Ghaida, D., Bodewig, C., Rutkowski, J.), Washington DC: The World Bank.
- Voicu, B, Vasile, M., 2010. Rural-Urban Inequalities and Expansion of Tertiary Education in Romania. *Journal of Social Research & Policy*, 1, pp. 5-24.