Romanian Higher Education Infrastructure and Resources

Professor Mihaela MURESAN, PhD
mihaela.muresan@yahoo.com

Senior Lecturer Emilia GOGU, PhD
arina_emilia@yahoo.com

“Dimitrie Cantemir” Christian University

Abstract

The paper is focused on the analysis of the higher education from the point of view of the human resources and the existing infrastructure. The analysis of the Romanian education system is based on a desk research articulating the statistical data analysis with empirical observations and pertinent benchmarking. The authors aim at demonstrating the increased role of the tertiary education to the Romanian education system and to the socio-economic development. Moreover, the study reveals the need of additional resources for the Romanian tertiary education system in order to become more competitive in the European Higher Education Area and in the European Research Area.

Key words: Higher education, tertiary education resources, tertiary education infrastructure

JEL Classification: I23

Contribution of the Romanian universities to provide specific competences

The tertiary education system has a significant contribution in providing the required competences and skills on the labour market, especially within the framework of the global knowledge society. Salmi (2002) early believes that the tertiary education sector must play a central role in preparing societies for new times. Tertiary education is indeed central to the creation of the intellectual capacity on which knowledge production and utilization depend and to the promotion of the lifelong-learning practices necessary for updating people’s knowledge and skills (Salmi, 2002, p. 1).

The large impact of the global crisis has a significant impact on the socio-economic processes, generating a significant economic loss and social difficulties, especially a substantial increase in unemployment. In this case, the achievement of the main goals of the 2020 European Strategy could be jeopardized. In order to tackle these threats, the EU should re-think the public spending on knowledge, i.e. the investments in research and innovation and also in tertiary education (Ritsen, J., Soete, L., 2011).

The statistical data demonstrate the significant contribution of the public tertiary education institutions for providing the needed skills and competences for the actual global knowledge society. Thus, in 2011-2012, the total number of students enrolled in the public tertiary education system has been 399464 persons, distributed in an approximately balanced manner in 3 categories: 32.5% students enrolled in technical faculties, 33.6% students enrolled in faculties of languages, sciences and juridical fields, and 33.9% students enrolled in the faculties of economics, medicine, agriculture and other profiles (figure 1).
From the total number of students enrolled in the public post-university education system (143700 persons), 75.7% students have been enrolled in the master programmes, 16.2% have been enrolled in doctoral programmes and 8.1% have been involved in post-university long-term courses.

Concerning the field of expertise for the post-university programmes, the students’ distribution reveals the people’s interest for the engineering sciences (25.5%) and economic sciences (23.1%). For other realms, the students’ distribution shows the students’ orientation to the judicial (12.6%), social and political domains (12.3%), medicine (9.4%), human sciences (7.8%), mathematics and sciences (5.3%) all the other areas representing only 4%, as it is illustrated in the figure 2.
The most significant rates related to the doctoral studies have been noticed in the engineering sciences (22.6%), medicine and pharmaceutical field (21.0%), humanities sciences (11.7%) and economic sciences (10.9%).

In the private tertiary education 51 entities with 204 faculties have been functioning in 2011-2012. The total number of students in the private tertiary education has been 140400, in 2011-2012. The majority of the students enrolled in the tertiary education chose the in class learning programmes (67.5%). The open distance learning system has been preferred by 9.1% from the total number of enrolled students in the tertiary education. The rest (23.4%) chose the learning system with a reduced number of in class learning hours mixed with self-learning hours. In the private tertiary education entities, the economic profile represents 34.1%, the judicial field rate stands for 31.5%, the sciences represent 22.0%, and the small technical (6.3%), medical (4.9%), artistic (0.8%) and agriculture faculties (0.4%) cumulate only 12.4%. In the private education institutions there are 21444 students enrolled in the master, doctoral and post-university programmes with the following distribution: economic sciences - 54.7%, social and political sciences - 22.5%, judicial sciences - 12.9%, and all the others specialization - 3.5%. In the private sector, the doctoral studies have been oriented to the judicial field (65.1%), medicine and pharmaceutical field (24.9%) and natural sciences (10.0%).

Infrastructure and resources of the tertiary education system

The tertiary education system is confronted with significant challenges, according to the knowledge global society requirements and to the dynamic changes in all the sectors. Beside the changes of the contents and topics, the system has to solve important issues concerning the needed infrastructure and resources. The most critical resources are represented by the professors’ competences and their capacity to cope with the actual challenges, in order to increase the quality of the research and educational processes. The lack of an adequate infrastructure and competences has a negative influence especially on the research activities. Consequently, the performance of the tertiary education and its competitiveness at the European level is diminished. In order to improve the Romanian tertiary education’s contribution to the sustainable development, its infrastructure should be improved, as well as the human resources’ competences.

It should also be stressed that the actual financial crisis and the negative demographic rate create new obstacles for the tertiary education system.

a) Tertiary education infrastructure

In 2010-2011, the national tertiary infrastructure encompasses 108 entities, 57 being public institutions. The distribution between the public and private tertiary institutions is quite balanced concerning the number of the institutions (51.9% public and 48.1% private institutions). It should be mentioned that, due to the quality standards and the difficulties the tertiary education is confronted with, the number of the private tertiary institutions remains the same in 2011-2012 as it was in 2002-2003.

The situation is different related to the number of faculties, classrooms, lecture halls labs, PCs. Analysing the tertiary education infrastructure, the public sector has a major advantage related to the number of faculties and the educational offer, as it is illustrated in the figure 3.
The geographical distribution of the tertiary education institutions demonstrates the concentration of the higher education institutions in major cities, which are simultaneously the most important higher education centers: 16 universities (87 faculties) in Bucharest, 6 universities (42 faculties) in Cluj-Napoca, 5 universities (37 faculties) in Iasi and 4 universities (34 faculties) in Timisoara. The private higher education institutions follow the same distribution as the public sector.

The analysis of the higher education infrastructure show a better situation for the public sector which has 2894 lecture halls and classrooms, 2802 seminar rooms, 8821 labs, 533 workshops, 188 gyms, 250 sport fields and 18 swimming pools. In 2011-2012, in the private higher education sector, there were only 716 lecture halls and classrooms, 1514 seminar rooms, 635 labs, 15 workshops, 37 gyms, 40 sport fields and 8 swimming pools.

A very important indicator related to the higher education system capacity is represented by the quality of the information and communication technology infrastructure, where the number of personal computer should be considered as main indicator. The total number of PCs installed in the higher education institutions has been, in 2010-2011, 105257 units of which 84,3% belong to the public tertiary education system, 92,1% being connected in the network, as it is illustrated in the figure 4.
b) Human resources

The results of the education processes are directly related to the quality of the human resources, i.e. the professors and the researchers who are active in the higher education system. Besides the professors’ competences the number of the teachers is also crucial for the coordination of the students during the learning and research processes. The evolution of the teachers’ number involved in the tertiary education has been oscillating in the last years without a clear correlation with the changes related to the number of the students.

In 2010-2011, the total number of people involved in the tertiary education system has been 31200 persons, with 2.7% less than in the previous year. From the total teaching staff in 2010-2011, 5800 persons were full professors, 4100 being involved in the public tertiary education system. The total number of associate professors has been in the same year 5600 from which 4600 persons belong to the public education sector. From the total number of lecturers (8800), 7500 have been involved in the public education sector. The total number of teaching assistants has been 7800, from which 6600 belong to the public higher education system. The statistical data show a significant advantage for the public sector concerning the number of the teaching staff. Moreover, from the total number of teaching staff in the public higher education sector 99.2% are full time employed, meanwhile in the private sector only 92.5% are full time employed.

A positive trend is represented by the fact that the teaching staff employed in the higher education institutions is very young, i.e. more than 55% from the public higher education sector and approximately 60% from the private tertiary education sector belong to the age group 25 - 44 years.
The teaching staff’s geographical distribution shows the high concentration in the Bucharest city (more than 30% from the total number of the teaching staff involved in the tertiary education). In the private tertiary institutions from Bucharest are employed more than 60% from the total teaching staff involved in this sector.

Simultaneously, the academic system represents a generator of ideas and good practices emerging from research processes, the doctoral research having a significant contribution (Davis, H., 2006). The findings and valuable research results stand for valuable assets for the innovative processes at regional, national and international level.

Despite the relative good evolution related to the tertiary education attainment in Romania, the research and innovation policies have not been sufficiently focused on harnessing this important potential. The major issues related to the Romanian higher education system consist in their weaknesses related to the research capacity. The low rate of investments in research activities has a negative influence on the results in this sector. On one side the research infrastructure is not adequate and on the other side the number of persons involved in the higher education research is low. Moreover, the time allocated for the professors for specific research purposes is insufficient, jeopardising the results of the research.

Conclusions

The tertiary education and the research and innovation activities represent the core of the knowledge economy. The actual financial crisis reinforces the need of finding innovative solutions for the sustainable development and for ameliorating the negative effects of the crisis. The vicious circle of the lack of public investments for education and research should be broken and new bridges between public and private areas should be built in order to support the intellectual capital development (Muresan M., 2012).

In order to accomplish its role and to overcome the effects of the financial crisis, the university system should become more flexible and adapted to the market requirements. In this respect, the modernisation of the higher education system represents a priority for the knowledge economy especially in Romania. Besides the curricular changes targeted on the development of graduates’ new competences, adequate for the global knowledge world, the Romanian higher education system needs to improve its infrastructure in order to cope with the actual challenges and to improve its research capacity.

The bivalent articulation of the university systems, on one side with the research and innovation area and, on the other side, with the business area could ensure the premises for an efficient education, more responsive to the real needs of the society.

The specific Romanian situation should be emphasised in order to a better valorisation of the human capital, especially the advantage in science and technologies knowledge, and competences. In this context, a better policy orientation and a more significant financial support could facilitate the deeper involvement of the universities in research and innovation activities, with positive results for the whole economic and social sustainable development.

References
