

FACTORS INFLUENCING THE EVOLUTION OF HIGHER EDUCATION GRADUATION IN ROMANIA, SPOTLIGHTING ECONOMIC STUDIES

Roxana Elisabeta Hatos, Tomina Gabriela Saveanu

Research Center for Competitiveness and Sustainable Development. Faculty of Economics. University of Oradea

rhatos@uoradea.ro

tsaveanu@uoradea.ro

Abstract

The dynamics of the higher education access is one of the challenges that Europe has to face regarding education and labour market challenges. Romania has to deal with the expansion of higher education with its particularities. Regardless the specificities, expansion of higher education in Romania and in European countries, the number of higher education graduates have a constant upward trend at EU level. The population of graduates in Romania face the most dramatic developments: the number of graduates almost triples between 2003 and 2008, when it reached a peak due to the overlapping of the last generation pre-Bologna and the first generation Bologna followed by a veritable collapse in 2011 and 2012. According to European statistics, such catastrophic changes have not happened in any European country, even in crisis conditions. In this paper we investigate the evolution of higher education graduation in Romania comparatively with the European level rates. We highlight the fast expansion followed by contraction noted for most domains of study in Romania, nonetheless the most accentuated for economic sciences. Investigating the factors that influence this evolution we could neither support nor fully reject the impact of demographic decline of young population in Romania, nor the decline in graduation rates of secondary level education. These results are affected by the high percentage of non-traditional students in Romania, students that graduated high-school or have had other studies before 1990. These people wanted to complete their studies according to their occupation or in order to have access to better jobs, with better salaries. Also the adoption of the Bologna reform influenced the apparition of a peak in higher education graduation in 2008-2009. In the final section we focus on the evolution of number of students and graduates of Economic Studies from University of Oradea, proving that the same trends as at national level are present. However, in order to better understand future trends such an analyses should also integrate information regarding employability of graduates depending on domain or field of study (evolutions of the labour market), information at institution level such as endowments and prestige, international migration of secondary school graduates. Understating such trends at both national, field and institution level are bound to better prepare universities to face future challenges.

Keywords: Higher education, graduates, evolution, economic education

JEL Code: I21; I23, I28, J2

1. Theoretical introduction

In the last decade, we face a rapid increase in access to higher education and, consequently, of the specializations and domains universities offers'. This rapid and dynamic change pressures higher education institutions to adapt to a constantly challenging environment. The European Union sets a context for both internalization and increased autonomy of higher education institutions which bring into focus once again the way such institutions respond to market demands (Gula et al, 2010). In the global context, as expected, such developments are even more straightforward for developing countries such as post-communist Romania (Schofer and Meyer, 2005).

Romania's evolution regarding the development of higher education after 1990 is the most sinuous in Easter Europe (Tomusk, 2004). The attraction for gaining a higher education degree was both due to the previous lack of opportunity in this regard as well as by the uncertainties on the labor market that derived young people to delay finding a job by enrolling in a university program. These, backed by the failure of the state apparatus to create a just legislative framework, led to a weak development of the human capital as expected by the high enrolment rates in higher education between 1990 and 2000 in both public and private institutions (Tomusk, 2004).

Nonetheless in Eastern Europe, Romania no exception, the expansion of higher education was followed by contraction (Hatos, 2015). More, this decline is more severe in domains such as business and administration, law and social and behavioural sciences (Hatos, 2015: 14). National strategies in the field of higher education note the different evolution of economic and social sciences in Romania, explaining it by the accessibility of such domains of study, the demand on the labour market and the development of the private educational sector which targeted social science domains (Strategia Nationala a Invatamantului Tertiari in Romania – 2015-2020, 2015).

Among the factors influencing the decrease of higher education graduates one of the most forthcoming argument is related to the demographic evolution (Kweik, 2013): the decrease in young population influences the number of potential students. Consequently our hypothesis is that there will be a positive correlation between the demographic evolution of young population and the evolution of higher education graduates.

Derived from the same argument, the number of university students is likely to be affected by the decline in the pool of selection. Consequently the high rate of early leavers from the educational system in Romania also affects the graduation rates of higher education (Schofer and Meyer, 2005). More, their previous training is also prone to affect their results as students and most likely the graduation rate, at least in technical fields (Deacu et al, 2015). Our hypothesis is that there will be a positive correlation between the secondary school graduates and higher education graduates.

Employability is also likely to affect graduation rates of specific domains– the attraction of a certain field of study depends also on the probability of finding easily a job after graduation (Voicu, Tufis and Voicu, 2010). In this line, the better a

domain of study prepares its graduates to the needs on the labor market, the higher the employability of that field of study: fields with a higher skills mismatch (where the skills provided during studies are higher or lower to the ones needed for a specific job) will lead to underemployment of its graduates (Hatos and Saveanu, 2016; Saveanu and Buhas, 2015). Unfortunately data regarding employability is very diverse and unsystematic to make relevant analyses at national and domains of study level, consequently we cannot formulate nor test any hypothesis on this direction.

Other authors argue for the effect of school endowments and complementary services on student retention (Hamrick, Schuh and Shelley, 2004) proving that schools that manage to invest more both in their infrastructure as well as financial aid to their students have better graduation rates. Prestige of the higher education institution, along with stronger selection criteria at admissions is also seen as a motivational factor for students, increasing the graduation rates (Hamrick, Schuh and Shelley, 2004). Unfortunately there is no available aggregated data at national level to test this hypothesis within the limits of this paper.

2. Data and analysis

2.1. Evolution of higher education in Romania

Evolution in the number of higher education graduates

Analysis of the number of graduates in Romania (Figure 1) compared with the European Union and the countries selected it allows some simple observations:

- The number of higher education graduates has a constant upward trend at EU level, which is consistent with the Union's progress main objectives towards the knowledge society and the steady improvement of human resource quality
- The population of graduates in Romania has the most dramatic developments: the number of graduates almost triples between 2003 and 2008, when it reached a peak due to the overlapping of the last generation pre-Bologna and the first generation Bologna followed by a veritable collapse in 2011 and 2012. According to European statistics, such catastrophic changes have not happened in any European country, even in crisis conditions.

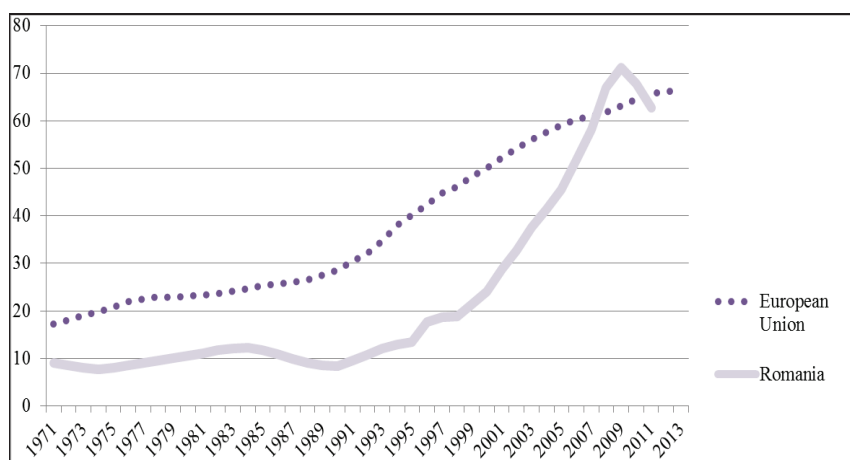


Figure 1. The evolution of gross enrolment ratio in tertiary education-% of the total population

Source: Authors' analysis on World Bank data

Romanian society in the last two decades witnessed the expansion of higher education, reflected in the constant increase of the enrolment in the tertiary education sector. As we may see in the chart below, a large part of population growth enrolled in higher education is due to the higher number of students enrolled in the faculties of economics – which reached almost 100000 graduates in 2007 – along with the graduates double generation produced by the transition to 3 years enrolment of Bologna system. Even in this conditions of a double number of graduates, the graduates in economics was very high, over 72 000 in 2009, which is almost three times higher than the total number of graduates since 1990.

Comparing to the boom that peaked in 2008-2009, after the current contraction, are few specialities (fields of study) who have actually not lost students: some specializations related to TIC (technology, information and computers) and medicine. In these areas the number of graduates increased even when the number of students drops to one half, as presented in Figure 2.

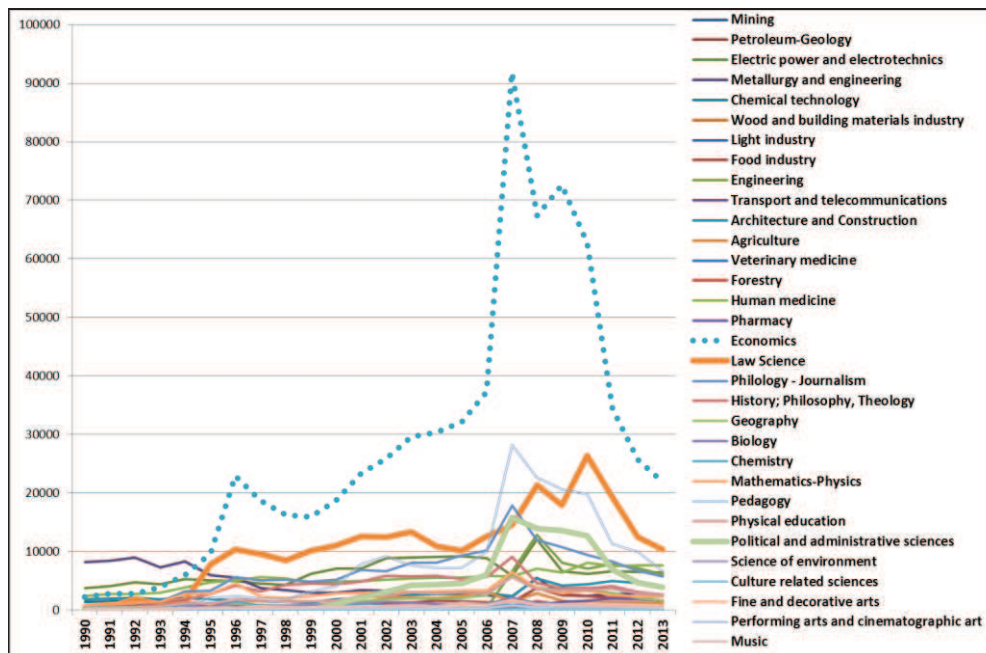


Figure 2. The evolution of number of graduates of higher education on domains
Source: Authors' calculation on INNSE data

The evolution of higher education graduates in various fields reflects the complexity of labour market constantly evolving and individuals adapt the skills and competences for entering the labour market.

Demographic evolution of young population in Romania

At European level is observed downward demographic trend, which in Romania is accentuated by migration. Generations of 18, those of graduates of secondary and constituting possible future students best reflects the demographic policies of communist regime:

- between 1993-1996 we have a constant number of people in the cohort that exceed even the cohort of 24 years;
- a cohort dramatic drop occurred after 2000, with a minimum in 2002, which reflected the demographic decline influenced by the living standards crisis at the beginning of the decade 1980;
- a comeback of cohorts after 2003, which reflected the pronatalist pressures measures of the Ceausescu regime, comeback that peaked in 2005-2008 (Figure 3). It is no wonder that an increase in the number of registrations in the first year to the faculties of Romania took place over the same period (with a maximum in 2009), this being the result also of a cohort effect, along with the massification of higher education, the growing rates of participation in secondary education and achievement rates of baccalaureate diploma.

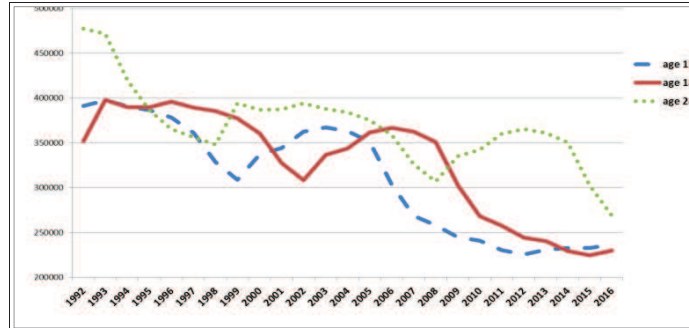


Figure 3. The evolution of young cohorts (age 15-18-24) between 1992 and 2015. Source: Authors' calculation on INNSE data

Evolution of the secondary education graduates

Nowhere in the European Union did the number of graduates of secondary education (ISCED 3 and 4) experienced a collapse of the magnitude recorded in Romania in 2011 and 2012. In 2011 compared to 2007-2008, the number of graduates of secondary education fell to 45% and in 2012 further drops to 33%.

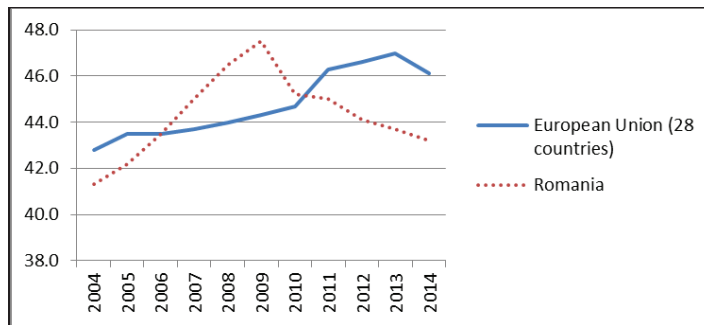


Figure 4. The evolution of secondary school graduates in Romania and the EU, Source: Authors' calculation on EUROSTAT data

Number of higher education graduates (Figure 5) follows closely on that of secondary school graduates as seen in the chart below. It makes sense since graduating higher education is conditioned by graduating secondary school.

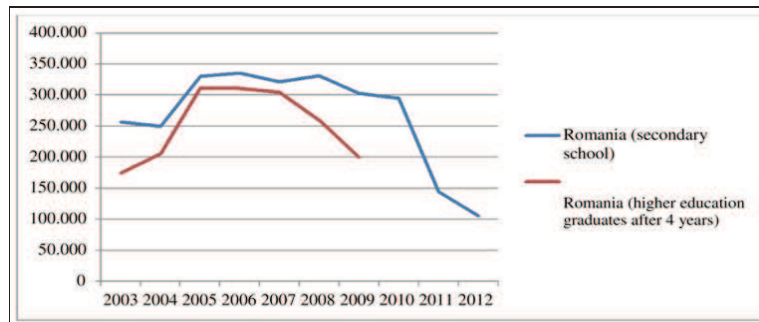


Figure 5. The evolution of higher education graduates and secondary school graduates evolution, 4 years earlier
Source: Authors' calculation on EUROSTAT data

Secondary education and higher education graduation rate is not constant. The decline of the higher education graduates number (Figure 5) started with the cohort was 14 years old in 2003 (having completed secondary education in 2007 and completed higher education in 2011) and continued for those who were the same age in 2004 although the rate of the average school graduating has remained relatively unchanged for this cohort (Figure 6).

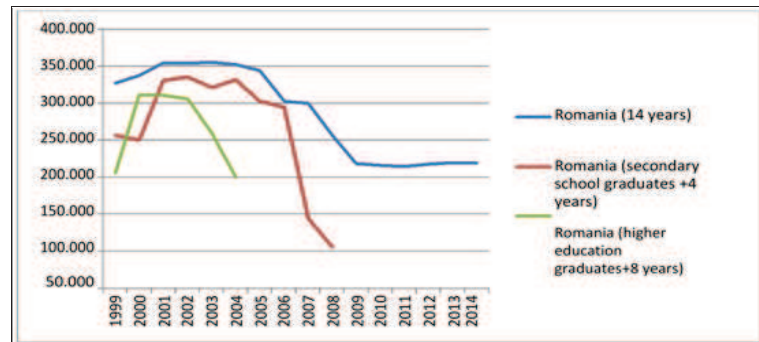


Figure 6. The evolution of higher education graduates and secondary school graduates number (t-4 years) and of the population of 14 years old (t-8 years old)
Source: Authors' calculation on EUROSTAT data

2.2. Factors influencing the evolution of higher education graduation

In this last analysis section we investigated the effect of these factors on the evolution of higher education graduates. Based on the data provided by the National Institute of Statistics (NIS), authors composed a data base using SPSS statistical package with variables regarding number of graduates of higher education, ages (18 and 24), age category (20-24 as grouped by NIS), higher-school graduates. The reference period was 1992 and 2013 as we have had data for all variables in this time frame.

Interestingly there is no significant correlation between the number of higher education graduates and the evolution of population aged 23 (the regular age at graduation of higher education), indicating that the evolution of higher education graduates is not influenced by the demographic decline in the period 1990 and 2013. There is a negative significant correlation between the evolution of number of graduates and group age 20-24, supporting the argument that at the first part of the period the incidence of non-traditional students was even higher.

As discussed above, the peak in higher education graduates in 2007-2009 is also influenced by the pronatalist policies during communism. The cohort born in the 1990, smaller than the previous ones, reached the age for higher education and its decline affected the decline of graduation of higher education onwards.

In Figure no. 7 we present graphically these evolutions through which one can better understand these results. Between 1990 and 2009 the number of graduates has constantly grown, while the demographic decline is already observable. This means that, until 2009, a large percentage of enrolled students were non-traditional students: people who most probably finished high-school or equivalent before 1989 and did not have the opportunity of getting a higher education diploma.

Nonetheless, during 2009 and 2013, there is a constant decline of both variables. This would be the case if the non-traditional students which came from the generations graduating high-school during communism have completed the desired studies and consequently their pool had dried out. Consequently we would neither completely refute, nor completely support our first hypothesis regarding the influence of demographic decline on higher education graduation.

This weak link between these variables is supported also by the lack of correlation between the number of graduates of high-school and number of graduates of higher education (cohorts recorded with a four year distance). These variables are independent, probably also because in the first period many students were non-traditional: the decline in graduation of high-school was not felt by the university system. Nonetheless after 2009 and more drastically after 2011 the high-school graduation declined more rapidly, which most likely will affect the decline in number of students, and consequently of graduates. Again, we cannot refute, nor support our second hypothesis.

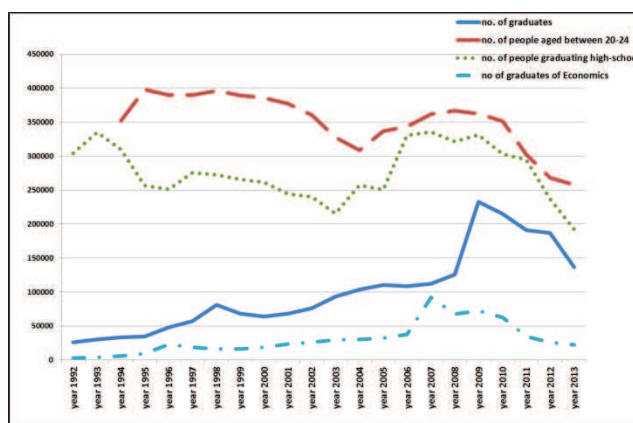


Figure 7. Comparative evolutions of number of higher education graduates (general and in economic sciences), number of people aged between 20-24, and number of people of graduating high-school.
Source: Authors' calculation on INNSE data

We must also mention that the peak in number of graduates, as presented in Figure no 7. in 2008-2009 is due to the Bologna reform, as it was the period when all two years graduated together (three year and four year studies, or four year and five respectively). The abrupt decline after that period, explained both by the exhaustion of non-traditional students which have finished undergraduate studies during communism, and the adaptation to the Bologna system, is the part that requires more focus. However the time frame is still rather small for relevant statistical analysis. These effects are felt a bit earlier in economic sciences field in as the peak was in 2007 with a small decline until 2009 after which the decline became much more abrupt.

2.3. The evolution of the Faculty of Economic Sciences – University of Oradea

In this final section of our paper we focus on the evolution of students and graduates at the level of the Faculty of Economic Sciences from our University. We can see that the trends mirror the ones from the national level as discussed in the previous sections. We expect that the same reasons for the evolution explain the decline in student and graduates numbers of this Faculty.

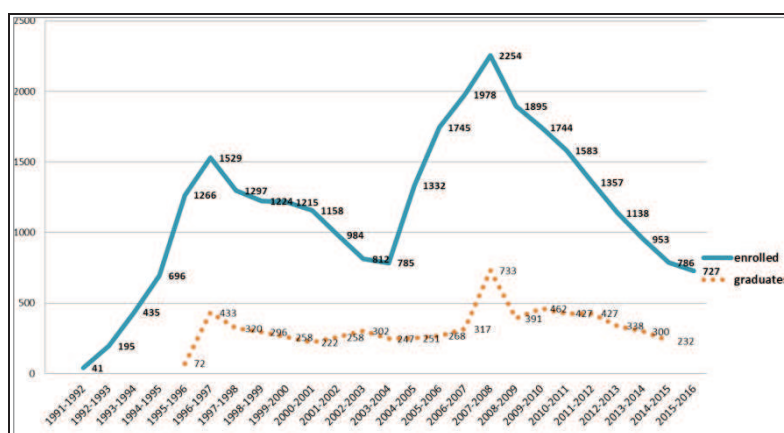


Figure. 8. The evolution of number of students and graduates from Faculty of Economic Studies, University of Oradea

Looking at the same data on distinct fields of study or specialization, in most cases the same evolution can be captured. The exception is that of the tourism and hospitality industry which between 1999-2000 and 2003-2004 when all other fields had a decrease in number of students, managed to grow. It was the same program

that was at the top during the peak in school-year 2007-2008 and, consequently, the program with the most intense decline.

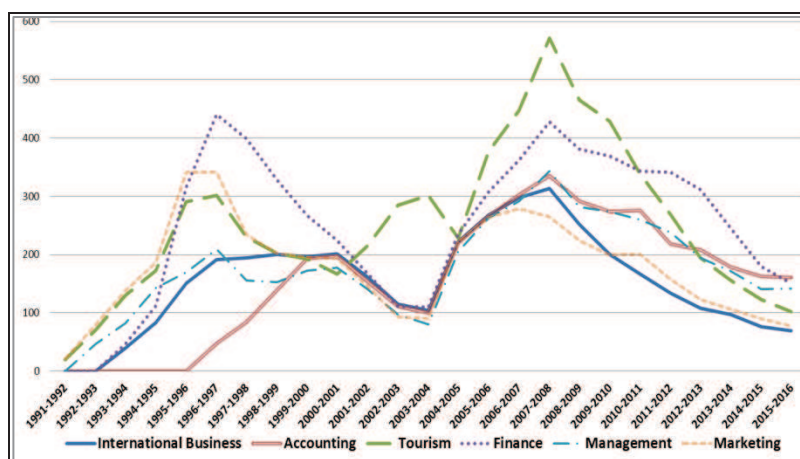


Figure. 9. The evolution of number of students on educational programs from Faculty of Economic Studies, University of Oradea

Conclusion

Our findings reveal the evolution of higher education graduation rate in Romania, comparatively with the one at European level. The steady increase in university graduates is visible in Romania, yet it has a more spinous evolution as the European average.

The fast expansion followed by contraction is noted for most domains of study in Romania, nonetheless it is the most accentuated for economic sciences, law and pedagogical specializations. Investigating the factors that influence this evolution we could neither support nor fully reject our hypothesis regarding the impact of demographic decline, nor the decline in graduation rates of secondary level education. Most likely these results are affected by the high percentage of non-traditional students in Romania, students that graduated high-school or have had other studies before 1990. These people wanted to complete their studies according to their occupation or in order to have access to better jobs with better salaries. More, it is the effect of the natalistic policies during communism. Also the adoption of the Bologna reform influenced the apparition of a peak in higher education graduation in 2008-2009.

The evolution of University of Oradea students in economic sciences follows the same trends as the national ones. Future studies should investigate also the impact of other factors such as institutions endowments, institutions' prestige and international migration of high-school graduates, the depreciation of diplomas on the labour market.

Developments in the labour market reflect also that the population is in constant decline. Concerns for efficient labour market are reflected in measures and policies

and these measures are aimed to increase the employment rate and investment in human capital.

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