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Article

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THE CONTRIBUTION OF ALEXANDRU IOAN CUZA UNIVERSITY OF IAȘI TO THE INCREASE OF THE ECONOMIC ACTIVITY RATE IN THE NORTH EASTERN REGION AND IN ROMANIA¹

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Abstract: *Over the past decades, knowledge, science and innovation have become the most important pillars on which the economic development is based. At the same time, the regions are considered to be the new poles of economic growth. In this context, universities are expected to expand their classic role to a leading actor in regional economic development. This paper focuses on how “Alexandru Ioan Cuza University” of Iași, the oldest and one of the most prestigious universities in Romania, contributes to this process, quantifying its indirect contribution to the generation of human capital, to the increase of the economic activity rate in the North Eastern Region and in Romania.*

Keywords: economic activity rate, university, regional economic development, human capital

JEL Classification: O15

1. THE UNIVERSITY – DECISIVE ACTOR IN REGIONAL ECONOMIC DEVELOPMENT

The present economic order, in which knowledge, science and innovation play a decisive role in the development of our society, has attributed to universities, beyond the classical role of research and education, a more complex mission which generates a much greater impact on its surroundings. Everyone speaks about a *third mission* of the universities, a leading actor in regional economic development. The regions are perceived as new poles of economic growth and universities as key partners in the process. And this is because the universities have - by interacting with the rest of regional socio-economic agents - the necessary means to contribute to the process of regional economic development.

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Thanki identifies four major ways through which a university brings about regional economic development: (1) by acting as an economic entity, (2) by producing knowledge, (3) by assuring the formation of human capital and (4) by being a strong institutional actor in the region. (Thanki, 1999) Boucher points out that, among the aforementioned points, the first two focus on the direct economic contribution of the universities to the regional development and the latter to the socio-cultural impact (Boucher et al., 2003, pp. 888-889). Goldstein, Maier and Luger distinguish eight functions that a modern university has to carry out in order to generate economic development: knowledge creation, human capital formation, know-how transfer, technical innovation, capital investment, regional leadership, production of knowledge infrastructure, influencing the regional milieu. (Goldstein, Maier and Luger, 1995)

The “Alexandru Ioan Cuza” University of Iași (UAIC), the oldest and one of the biggest and most prestigious universities in Romania, generates a significant direct and indirect contribution to the economic development of the North Eastern Region and Romania. Developing valuable human capital through a continuous process of shaping generations of young graduates represents the most direct and obvious added value. The indirect contribution is associated with the impact that the higher endowment with human capital has on the regional and national economic activity rate, employment rate and unemployment rate. This latter contribution, to which UAIC dedicates most of its resources, is extremely valuable from both the quantitative and qualitative points of view, if we take into consideration the positive economic effects a higher endowment with human capital has on an individual and collective level as shown in the economic literature.

McKenna considers that education confers two related benefits to workers: broader access to jobs and higher lifetime earnings (McKenna, 1996). The basic labour search models surveyed by Rogerson, Shimer and Wright suggest that human capital affects unemployment twofold. Firstly, increased human capital boosts the rate of job offers, thereby decreasing unemployment duration. Secondly, higher human capital enhances also the reservation wage, thus increasing unemployment duration (Rogerson, Shimer and Wright, 2005). D’Agostino and Mealli argue that there is a strong relation between education and employment, i.e. a higher academic qualification shortens unemployment duration. Such are the cases of the UK, Belgium, and Ireland, where the educational level seems to have a considerable impact on employment. (D’Agostino and Mealli, 2000) Using a *multinomial logit model*, Domadenik and Pastore have found that tertiary educational attainment works as a *buffer* against unemployment, especially for young adults (Domadenik and Pastore, 2004).

In the following paragraphs, we seek to quantify the indirect contribution of the UAIC to the increase of the economic activity rate, first at a regional level and then at a national level.

2. THE CONTRIBUTION OF ALEXANDRU IOAN CUZA UNIVERSITY OF IAȘI TO THE INCREASE OF THE ECONOMIC ACTIVITY RATE IN THE NORTH EASTERN REGION OF ROMANIA

Table 1 – The economic activity rate of the population in the age of work (15-64 years) by level of education attained in the North Eastern Region of Romania between 2005 and 2010

| Year | Level of education attained | | | Total |
|-------------------|-----------------------------|---------------|------------|-------|
| | <i>High</i> | <i>Medium</i> | <i>Low</i> | |
| 2005 | 87.3 | 70.0 | 54.2 | 65.5 |
| 2006 | 87.9 | 68.6 | 52.1 | 64.2 |
| 2007 | 87.6 | 67.5 | 54.8 | 64.8 |
| 2008 | 85.1 | 65.9 | 54.1 | 63.6 |
| 2009 | 85.2 | 66.6 | 56.5 | 64.8 |
| 2010 | 83.3 | 69.2 | 56.7 | 66.1 |
| Average 2005-2010 | 86.0 | 67.9 | 54.7 | 64.8 |

Source: The National Institute of Statistics (INS), www.insse.ro, accessed on the 23th of March 2011

Table 1 illustrates the evolution of the economic activity rate of the population in the North Eastern Region of Romania by the level of education attained and per total between 2005 and 2010.²

By analysing the evolution of the total economic activity rate we notice that since 2005, when it reached 65.5%, has had a negative evolution until 2008, when it reached its minimum value of 63.6%. This value could be explained as a direct consequence of the economic crisis which hit Romania in 2008. Since 2009 the total activity rate has had a positive evolution, reaching in 2010 its maximum value of 66.1%, with 1.3% above the average value of 2005-2010.

The evolution of the economic activity rate by levels of education in the North Eastern Region of Romania, allows us to observe the various behaviour of the three educational groups (high,

² The activity rate is calculated as the percentage between the total active population and the working-age population, which in Romania is between 15 and 64 years old.

medium, low) in relation to the evolution of the labour market between 2005 and 2010. There are major differences between the activity rate of the population that attained a higher level of education and the activity rate of the population that obtained a low or a medium level of education.

The economic activity rate of the population that achieved a medium level of education has quite a similar evolution to the total activity rate, meaning that it reached a maximum value of 70.0% in 2005, started to decline to a minimum value of 65.9% in 2008, then climbed to 69.2% in 2010. The economic activity rate of the population that attained a low level of education has a contradictory evolution from 2005 (54.2%) to 2008 (54.1%). In spite of the difficult context negatively influenced by the economic downturn, the economic activity rate seemed to have a positive evolution in 2009 (56.5%) and also in 2010, when it reached a peak at 56.7%, 2% higher than the average value of the 2005-2010 period. The economic activity rate of the population that obtained a high level of education has a constant evolution between 2005 and 2007, than steadily dropping from 85.1% in 2008 to 2010, when it reached its lowest value of 83.3%.

This interpretation enables us to draw some relevant conclusions regarding the evolution of the activity rate of the three categories of population in the North Eastern Region of Romania. Therefore, the population that achieved a lower education level has the smallest activity rate on the labour market, followed by the population that attained a medium level of education. The official data provided by the National Institute of Statistics for 2005-2010 period, indicates that in the context of the economic recession, the participation in the labour market of these two categories tends to grow, especially for the population with a lower level of studies.

Even though the aforementioned category is the only one which has reduced its participation in the labour market, its average economic activity rate of 86% for the 2005-2010 period demonstrates that the population that attained a superior level of education tends to have a much significant participation in the labour market compared to the population which is either at a medium educational stage (average score of 67.9%) or at a lower educational one (average score of 54.7%).

All things considered, a higher level of human capital endowment has a positive effect on the participation in the labour market, which makes the institution of higher education in the North Eastern region of Romania, including the UAIC, fully contribute to the this fact.

In order to quantify the contribution of the UAIC, we have firstly tried to calculate the contribution of all institutions of higher education to the increase of the economic activity rate in 2010 in the North Eastern Region, and, secondly, we have extracted solely the contribution of UAIC. As such we have used a hypothetical scenario which assumed that if none of the higher

education institutions in the North Eastern Region had existed, the population would have attained, in the most fortunate case, a medium level of education. Therefore, we have calculated the hypothetical total economic activity rate that does not take into consideration the positive effect that a superior level of education might have, after which we have compared it to the real total economic activity rate.

Table 1 shows that the real total economic activity rate in the North Eastern Region in 2010 is 66.1%. Thus, the hypothetical total rate of activity calculated, assuming that the population which attained a superior level of education does not exist, would be 65.1%. The difference of 1% represents the contribution of all the higher education institutions – including UAIC – to the economic development of the region.

Table 2 - Total number of graduates (with or without diploma) of the accredited universities in the North Eastern Region of Romania, for all three levels of study (bachelor, master, PhD) in the last five academic years (2005/06-2009/10)

| University | Total number of graduates | | | | |
|-----------------------------------|---------------------------|---------|---------|---------|---------|
| | Academic year | | | | |
| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 |
| UAIC | 7314 | 7599 | 11646 | 8459 | 9186 |
| Petre Andrei University | 993 | 1446 | 2044 | 1559 | 1744 |
| George Enescu University | 360 | 308 | 490 | 407 | 486 |
| Stefan cel Mare University | 2485 | 2745 | 4505 | 3828 | 3431 |
| Vasile Alecsandri University | 1040 | 964 | 1722 | 1580 | 1457 |
| Gr. T. Popa University | 1189 | 1518 | 1386 | 1488 | 1167 |
| Ion Ionescu de la Brad University | 544 | 723 | 721 | 1253 | 796 |
| Gh. Asachi University | 2979 | 2801 | 3477 | 5737 | 3506 |
| Mihail Kogălniceanu University | 286 | 468 | 348 | 304 | 248 |
| George Bacovia University | 648 | 848 | 1275 | 1096 | 1034 |
| Apollonia University | 43 | 122 | 198 | 225 | 172 |
| Total | 17881 | 19542 | 27782 | 25936 | 23227 |

Source: Data provided by the universities participating to the process of data and information according to OMECTS nr.4072/2011 until 23.05.2011, <http://chestionar.uefiscdi.ro/public/index.php?page=punivlist>, accessed on the 11th of September 2011

The contribution of the UAIC to human capital endowment is, according to Table 2, 38.8%. That means that out of the 1% representing the contribution of all the higher education institutions to the growth of the activity rate in the North Eastern Region of Romania almost 39% is attributed exclusively to the UAIC.

3. THE CONTRIBUTION OF THE UAIC TO THE INCREASE OF THE ECONOMIC ACTIVITY RATE IN ROMANIA

At the national level, UAIC's contribution to the increase of the economic activity rate will naturally be smaller, but not less valuable.

Table 3 – The economic activity rate of the population in the age of work (15-64 years) by level of education attained Romania between 2005 and 2010

| Year | Level of education attained | | | Total |
|-------------------|-----------------------------|---------------|------------|-------|
| | <i>High</i> | <i>Medium</i> | <i>Low</i> | |
| 2005 | 87.4 | 69.5 | 43.1 | 62.4 |
| 2006 | 89.5 | 70.5 | 43.6 | 63.7 |
| 2007 | 88.4 | 68.7 | 44.1 | 63.0 |
| 2008 | 88.1 | 67.5 | 44.8 | 62.9 |
| 2009 | 88.0 | 67.1 | 46.1 | 63.1 |
| 2010 | 87.1 | 67.9 | 46.3 | 63.6 |
| Average 2005-2010 | 88.0 | 68.5 | 44.6 | 63.1 |

Source: National Institute of Statistics, www.insse.ro, accessed on the 23 of March 2011

Table 3 illustrates the evolution of the activity rate of the population per total and by levels of education attained in Romania between 2005 and 2010. The evolution of the national total activity rate is to a certain extent similar to the evolution of the regional one, meaning that it grows from 62.4% in 2005 to 63% in 2007, after which it drops to 62.9% in 2008 because of the economic downturn. In the following years the activity rate has had a positive tendency, reaching 63.6 % in 2010 and 0.5% over the average in the 2005-2010 period.

As pointed out in table 3, the only category that has a positive growth tendency is the activity rate of the population which has lower educational level, trend also observed when analysing the regional case.

Thus, having the economic recession as a background, the participation of the population with a lower educational level in the labour market has grown, both at regional and national level. The activity rate of the population with a medium level of education has had a relatively negative fluctuation, dropping from 69.5% in 2005 to 67.9% in 2010. Regarding the variation of the activity rate for the population with superior education, this study has noticed that in spite of a decreasing tendency at the regional level, at national level it maintained a constant trend: 87.4% in 2005 and 87.1% in 2010. On balance, the average activity rate by levels of education obtained in Romania between 2005 and 2010 demonstrates that the participation in the labour market of the population with superior education (88.0%) is considerable higher to those with a medium (68.5%) and lower (63.1%) educational levels.

Having the hypothetical scenario used at the regional level as a template, in this paper we also sought to calculate the contribution of all higher education institutions to the increase of the economic activity rate in 2010 in Romania, out of which we have extracted only UAIC's input. Table 3 indicated that the real total activity rate in Romania in 2010 is 63.6%. The hypothetical total activity rate that we have calculated assumed that in case the higher education institutions had not existed, the population with a superior education would have attained in the most fortunate case a medium level of education, which represents 62.7%. The difference of 0.9% represents the contribution of all higher education institutions, including UAIC, to the increase of the economic activity rate in Romania.

Table 4 - Total number of graduates (with or without diploma) of the accredited universities in Romania, for all three levels of study (bachelor, master, PhD) in the last five academic years (2005/06-2009/10)

| University | Total number of graduates | | | | |
|----------------------------|---------------------------|-----------|-----------|-----------|-----------|
| | Academic year | | | | |
| | 2005/2006 | 2006/2007 | 2007/2008 | 2008/2009 | 2009/2010 |
| UAIC | 7314 | 7599 | 11646 | 8459 | 9186 |
| Romania (all universities) | 112244 | 125499 | 232885 | 214826 | 191291 |

Source: National Institute of Statistics (INS), www.insse.ro

The contribution of UAIC to the human capital endowment in Romania, calculated according to Table 4, has an average score of 5.24%, which means more than 5% represents the contribution to the increase of the activity rate in Romania attributed exclusively to UAIC.

4. CONCLUSIONS

Our analysis has pointed out that UAIC has a significant contribution to the increase of the activity rate both at regional and national level. With regards the formation of human capital, UAIC contribution to the increase of the regional activity rate represents almost 39% of the total contribution of all institutions of higher education in the North Eastern Region. At the national level, UAIC contribution is situated at 5.2% of the total contribution of all the higher education institutions in Romania.

Moreover, the study of the official data has illustrated that the population with a higher educational level tend to participate more frequently in the labour market not only in the specific case of the North Eastern Region of Romania, but also at a national level.

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