

# THE INFLUENCE OF ENTREPRENEURIAL ECONOMY AND EDUCATION ON THE SUSTAINABLE DEVELOPEMENT

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## Abstract

*The purpose of this paper is to reveal why entrepreneurship is so important for sustainable development, being widely acknowledged that it is one of the most important forces for the economic development. We verified - for five European countries - the theory concerning the linkage between knowledge – as a special factor of production – and the economic growth, confirming the “European paradox” From the cross country data available, gathered by GEM, we analyzed and discussed the U-shape relationship between total entrepreneurial activity and per capita GDP, in EU countries, focusing on the Romanian case. The paper also reveals a diagnosis regarding the actual stage of entrepreneurial education in our country. Based on the collected data, we conclude that the actual level of the entrepreneurial education in Romanian universities is considered low to medium.*

**Keywords:** *economic development, entrepreneurship, entrepreneurial education, sustainable development.*

## 1 INTRODUCTION

*Sustainable development* could be considered a model of using resources which has the goal to meet human needs and in the same time to preserve the environment. The human needs should be satisfied not only in the present, but in the indefinite future. The definition of *sustainable development* used by the Brundtland Commission is the most often-quoted one, considering it that kind of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." [7]

If initially sustainable development was considered only a solution for the *ecological* crisis, assignable by the resources intensive industrial exploitation and by the permanent environment damage, nowadays the concept has extended over the life quality, both over *social and economic* aspects.

Regarding the environment protection, in the framework of UNO’s Stocholm 1972 Conference is emphasized that economic and social development is indispensable if the aim is to assure a favourable environment for the human work and existence and to create the necessary conditions to improve the quality of life on the planet.

From the view-point of the reconciliation between economy and environment, sustainable development is conceived as a new way of development, in order to sustain the human progress for the entire earth and for the long-term future.

*Economic development* was a major subject of the economists, starting with Adam Smith. Even if this process had previous researchers in the early stages of economic theory, its strong preoccupation arose after World War II, precisely after the reconstruction period. The most appropriate way to treat the major economic problems of the poor countries was possible based on a new science, namely the *development economics*.

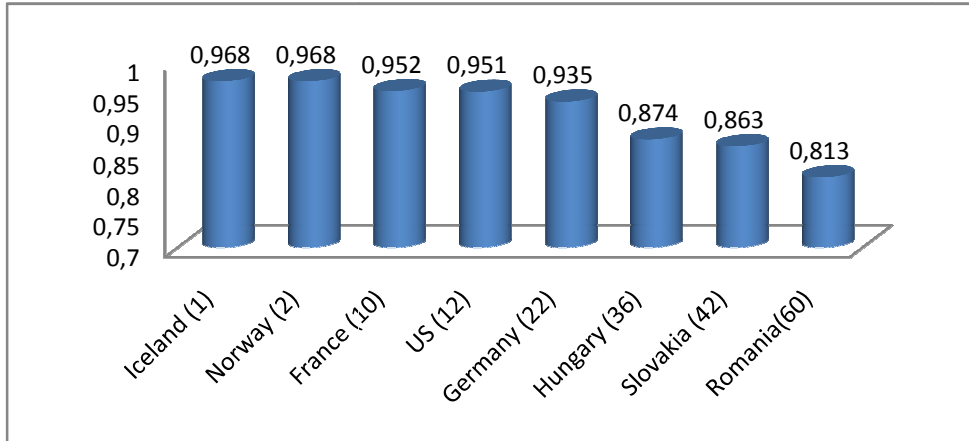
Economic development, as a component of the sustainable development, can be understood as a complex multi-dimensional concept, involving improvements in human well-being – however defined. Author of a known book on this topic, Michael Todaro enumerates three objectives of

development: Producing more ‘life sustaining’ necessities such as food, shelter, and health care and broadening their distribution; Raising standards of living and individual self esteem; Expanding economic and social choice and reducing fear. [6]

For the social-economic development approach, the *human dimension* is extremely important. Thus, the knowledge skills, intellectual capabilities, have to grow up the quality of human resources of a country, determining the labor productivity, and finally the welfare of the entire population.

The UNO’s countries widely accepted a set of indices in order to measure development against a mix of composite indicators: *Human Development Index* (HDI) measures a country’s average achievements in three basic dimensions: life expectancy, educational attainment, and adjusted real income (\$PPP per person). A high HDI is considered of 0.8 or more, and a low HDI is below 0.5.

**Fig. no 1 HDI rank in Europe and US, from 177 countries**



Using these 3 dimensions, 177 countries were ranked. The high level of HDI includes all developed countries, as well as some developing ones. In the low level of HDI are included 22 countries, all of them located in Africa. Being situated on the 60<sup>th</sup> position, Romania is considered a country with a rather high level of HDI for a state in transition (see Fig. 1).

## 2 THE CORRELATION BETWEEN ENTREPRENEURSHIP AND SUSTAINABLE DEVELOPMENT

Looking to the factors explaining the economic growth, we can mention that in the 6<sup>th</sup> decade of the last century, a major linkage of this growth with the traditional factors of production – labour and capital – was revealed. In the 9<sup>th</sup> decade of the same century, a seminal idea in the creation of a new theory, about the endogenous growth, was that of adding *knowledge* to the traditional factors of production. The importance of knowledge in driving economic growth is presented by 2 often cited authors, as P. M. Romer (*Increasing Returns and Long Run Growth* – 1986) and R.E. Lucas (*On the Mechanics of Economic Development* – 1988).

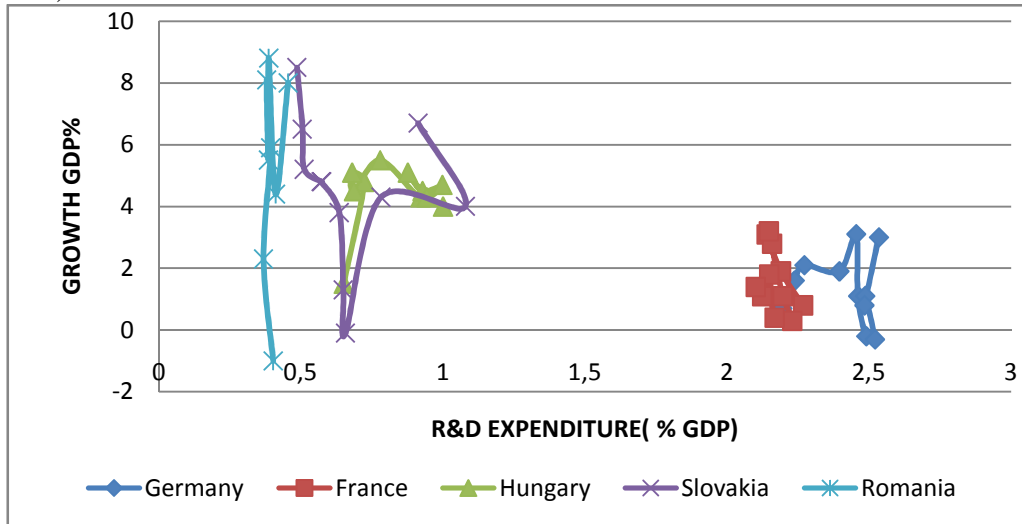
“In contrast to the traditional factors of production, knowledge had a particularly potent impact on economic growth because of its propensity to spill over for use by third-party firms. Public policy has responded to endogenous growth theory by emphasizing investment in research and human capital.

However, knowledge investments have proven sufficiently disappointing in generating economic growth. What has been termed as the *European Paradox*, which reflects modest growth even with high level of investment in human capital and research, has become a characteristic of many European countries. This suggests that the spill over of knowledge may not be as automatic as has been assumed in endogenous growth models. Rather mechanism may be needed to facilitate the spill over of knowledge.” [1].

In order to analyse the link between economic growth and knowledge, our contribution was to determine the correlation between Growth rate of real GDP per inhabitant and R&D (Research&Development) expenditure as percent of GDP, in a few countries.

We have chosen 5 European countries with universities involved in a common international project focused on the European Entrepreneurship Education: France, Germany, Hungary, Romania, Slovakia. In the figure no 2 we present this correlation during the period 1996 -2006 (exception Romania – the Eurostat database beginning with the year 1998).

Based on the values of the calculated correlation coefficients, we can say that there is no significant direct relationship in neither of the analysed countries (The Pearson calculated coefficients are: Germany (-0.08), France (-0.45), Hungary (+0.22), Romania (+0.17), Slovakia (-0.17)).



**Figure no.2 The correlation between Growth rate of real GDP per inhabitant and R&D expenditure (% of GDP), 1996 -2006**

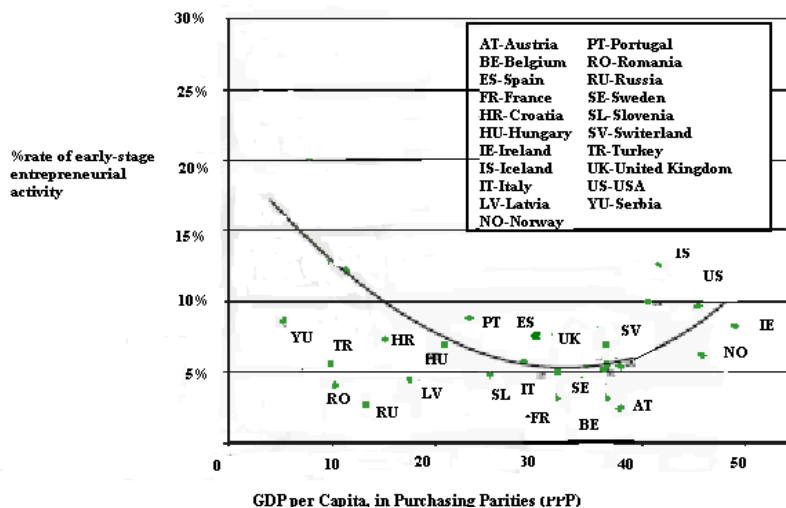
The nowadays economic theory and practice consider that the accumulation of production factors per se (knowledge, physical capital or human capital) cannot explain, by itself, economic development. These factors are not, by themselves, sufficient for economic growth to be generated. There are necessary other factors of production, as *human creativity and productive entrepreneurship*. These ones could combine the inputs in profitable ways. Also, an institutional environment that encourages free entrepreneurship becomes the ultimate determinant of economic growth [3].

*Thus, the entrepreneur and entrepreneurship should take center place in any effort to explain long-term economic development.*

The benefits that can be derived from entrepreneurial activities are as follows: develop new market; discover new sources of materials; mobilize capital resources; introduce new technologies, new industries and new products; create employment, etc., in other words, it contributes to the economic development.

In the paper *Capitalism and Democracy in XX<sup>th</sup> Century*, D. Andretsch & A.R. Thurik underline that after the Cold War (1990) it could be mentioned a new kind of economy. The fundamental change is represented by the transition from managerial economy to entrepreneurial economy. In this context, entrepreneurship become a fundamental component of the knowledge based economy due to the fact that new ideas potential value, could be the most well fructified through small and medium size enterprises, instead of the economic structure with bulk production, based on processes and market relatively well known. *The knowledge based economy is more fluent, turbulent, uncertain and therefore needs adaptable, reliable, reactive and competitive organisations.* [2]

In the GEM report 2007 is specified that although characteristics of entrepreneurial activity differ across countries, the importance of entrepreneurship for economic development is very well known. As scientific evidence for this relationship has been accumulating, in the same time, the national, international, and regional institutions have become more and more precisely in order to create an entrepreneurial society.



**Figure no.3 Early-Stage Entrepreneurial Activity Rates and Per Capita GDP, 2007**

Source [8, p.13]

In countries with low levels of per capita GDP, the national economy is characterized by the prevalence of many small businesses. As this indicator increases, industrialization and economies of scale allow larger and established firms to satisfy the demand of growing markets and to increase their relative role in the economy. An important factor for achieving growth is the presence of macroeconomic and political stability, which is reflected by the development of strong institutions. The increasing role of large firms may be accompanied by a reduction in the number of new businesses, since a growing number of people find stable employment in large industrial plants.

Thus, for countries with low levels of per capita income, a decrease in prevalence rates of entrepreneurial activity may be a good sign, especially if this is accompanied by economic growth and political stability. As further increases in income are experienced, the entrepreneurial sector role may increase. In this case, as more individuals can access the resources to go into business for themselves in an economic environment, allowing the opportunities exploitation. Besides these two dimensions, there are also other important national conditions that determine the rate of early-stage entrepreneurial activity.

Prevalence rates of entrepreneurial activity also depend on demographic, cultural, and institutional characteristics. Taking into consideration as well geographical features, which meant the localization of countries in different political systems in the Post-War Europe, Fig. 3 shows some of these dimensions. It could be noticed that countries with similar geographic backgrounds and traditions are grouped together. Thus, a part of EU-15 countries is situated close to each other, at the lower end of early-stage entrepreneurial activity, including France as well. Other countries, from Eastern Europe are situated at the left-hand side, below the fitted curve, and people in these countries are not as much engaged in entrepreneurial activity as Latin American countries with similar levels of per capita GDP. Romania has a low level position on the figure, being situated closed to Russia and Turkey; meanwhile Hungary is situated more close to the curve, showing a higher level than Romania, for both indicators. Countries at the right-hand side are industrialized countries outside the EU.

The evidence of the fact that European citizens are situated at an entrepreneurial level below that of the USA is represented by the data of a survey carried out by the Global Entrepreneurship Monitor<sup>1</sup> in 2007, where the weight of people involved in entrepreneurial activities is expressed by **Early –stage Entrepreneurial Activity (TEA)** indicator (Ireland 8.2%, Spain 7.6%, U.K. 5.5%, Denmark 5.4%, Belgium 3.2%, Italy 5%). Compared to the USA, with a percentage of 9,6%, it

<sup>1</sup> GEM carries out cross-country evaluations of entrepreneurial activity starting with 1999. Previously starting with 10 countries, it reached 42 in 2007. It is a research project of entrepreneurial processes in a great variety of states, presenting a yearly recording. The interest is focused on three objectives: measuring the differences between countries concerning entrepreneurial activity, emphasizing the decisive factors of the extent of entrepreneurial activity, identifying the policies able to stimulate the extent of entrepreneurship.

results the entire EU has a gap, a significant delay that it can recover by taking adamant and quick steps, of which *entrepreneurial education cannot be omitted* [5]. Moreover, the study concerned emphasizes that compared to the USA, *in Europe, entrepreneurial business mainly shows at people with a secondary education and it is almost irrelevant for higher educated graduates*, hence the research and innovations in the EU are implemented with difficulty and with a major delay. For 2007, data related to entrepreneurial activities are illustrated in Table no.1.

**Tabel no.1: Prevalence rates of Entrepreneurial activity and Business Owner –managers Across Countries 2007, Ages 18-64**

Country	Nascent Entrepr. Activity	New Business Owner- managers	Early - stage Entrepr. Activity (TEA)	Established Business Owner- managers	Overall Entrepr. Activity
Belgium	2.7%	0.4%	3.2%	1.4%	4.6%
Croatia	5.3%	2.0%	7.3%	4.2%	11.1%
Denmark	2.3%	3.1%	5.4%	6.0%	11.1%
Finland	4.4%	2.7%	6.9%	7.6%	14.0%
France	2.3%	0.9%	3.2%	1.7%	4.8%
Greece	4.6%	1.1%	5.7%	13.3%	18.7%
Hungary	3.8%	3.1%	6.9%	4.8%	11.7%
Ireland	4.2%	4.2%	8.2%	9.0%	16.8%
Italy	3.6%	1.5%	5.0%	5.6%	10.4%
Nederland	2.7%	2.6%	5.2%	6.4%	11.3%
Norway	3.9%	2.8%	6.5%	5.9%	12%
<b>Romania</b>	<b>2.9%</b>	<b>1.3%</b>	<b>4.0%</b>	<b>2.5%</b>	<b>6.5%</b>
Russia	1.3%	1.3%	2.7%	1.7%	4.3%
Slovenia	3%	1.8%	4.8%	4.6%	9.3%
Spain	3.5%	4.3%	7.6%	6.4%	13.4%
Sweden	1.9%	2.4%	4.2%	4.7%	8.8%
Germany*	2.9%	1.7%	4.2%	3%	-
UK	2.9%	2.7%	5.5%	5.1%	10.5%
<b>US</b>	<b>6.5%</b>	<b>3.4%</b>	<b>9.6%</b>	<b>5.0%</b>	<b>14.1</b>

\* Data for 2006

Source: Global Entrepreneurship Monitor, 2007

It is well known, especially after the Lisbon Declaration (2000) that investing in knowledge and its' exploitation represents the most appropriate resort based on the Old Continent could participate successfully at the global economy. In the European Council (2005) many important presidents and prime-ministries have restate this desideratum as a main economic growth generator, relying on knowledge, innovation and human capital recognition. The knowledge based economy success formula includes education, research, innovation and performance, with implications on real added values, capable to assure national welfare.

### 3 ENTREPRENEURIAL EDUCATION (EE)

#### 3.1 Aspects related to EE

According to the idea that entrepreneurial phenomenon is insignificant at the level of higher educated people in Europe, an insight view of this issue is going to be carried out. Entrepreneurial education in universities has already started - maybe surprisingly, in Japan in 1930 [4], but at present, the USA (start in 1984) is the global leader in this field, with over 500 entrepreneurial education programs ( 800 all over the world), that are applied in different universities. In the last decade of the XXth century some countries as: Australia, Brasil, India, South Korea, England, Ireland, France, Germany, the Netherlands started entrepreneurial educational programs in universities, and countries

such as Hungary, Slovenia, the Baltic States, Poland and the Czech Republic have joined them in the past years.

Chiefly, formal education in entrepreneurial field should be developed. In 2002, the Ministry of Education and Research in Romania introduced in the secondary education the subject-matter called *Entrepreneurial Education*, perhaps due some international programs requiring these approaches. We can provide a series of critics related to people assigned to coordinate the subject didactically and pedagogically but, overall, we should emphasize this approach positively. This approach should be improved and made more efficient.

A version of entrepreneurial education, complementary to that of formal system, is “Junior Achievement Romania” (JAR), started based on the Protocol concerning the implementation in secondary and tertiary public education of Economic and Entrepreneurial Education. The Program is carried out with the agreement of the Ministry of Education and Research and Junior Achievement Romania (JAR). In May 2003, implementation of economic and entrepreneurial programs Junior Achievement – Young Enterprise in our country has been set, adapted to the Romanian academic and economic environment, on the curriculum related area Man and Society – Economic and Entrepreneurial Education, Professional and/or vocational counselling. The Program is dedicated to pupils and students. A curriculum dedicated to the interaction between theory and practice has been carried out, in order to increase the efficiency concerning the application of the program and teaching–learning process, as well as a book of programs and projects type “learning by doing”. As a result of this protocol, in several universities in the country a series of course are in progress, e-economics (Managerial simulation software, courses on line), programs that rise a particular interest within university environment for entrepreneurial education and aim to include these courses in the education plans of universities. However, *until now this initiative has not been implemented, in order to comprise the entrepreneurial education curricula in the university education plans.*

A way of developing the entrepreneurial abilities initiated by JAR is represented by the „Student Company” Program, an international program called *Junior Achievement – Young Enterprise* of economic and entrepreneurial education type “learning by doing“, dedicated to both high school pupils and students. The program contains theoretical modules and a pilot of trading company, real or virtual. All students involved in a Student Company – Non cash, in a university year, have the opportunity to continue the project in the coming university year by covering the stages: Company administration (Operational for cash companies) and company liquidation.

*We think that Romanian higher education related to entrepreneurial education was given a modest attention, despite the internal political actions and results in the field all over the world and, at the same time, there wasn't any scientific research of training actions at academic level, so as processes specific to Romanian entrepreneurship enter a database, to proceed accordingly and effectively.*

### **3.2 Status of EE in Romanian universities**

In order to elaborate a diagnose regarding the current status of EE in Romanian higher education, we carried out a preliminary research. It collected information from faculties management or from the teaching staff within higher education institutions concerning EE and cooperation opportunities to create a national network.

*The Questionnaire*, containing 9 questions, was sent to 126 faculties of economics, engineering, mathematics, sociology, psychology and information science.

We are presenting the items and statistic description of the registered data.

#### **1. How do you consider the entrepreneurial higher education level in Romania?**

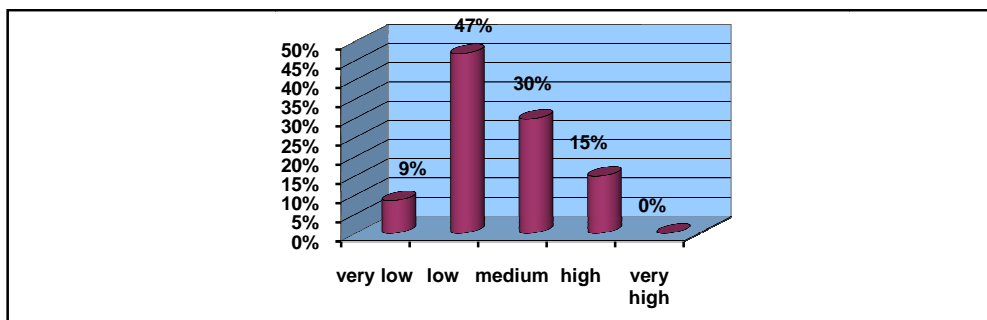


Fig. 4.

As it can be noticed in figure 4, perception of people with a response at the question concerning the level of entrepreneurial education in Romanian academic institutions is, in a major proportion, 47%, that this level is low; 30 % considers this level just average and only a percentage of 15% considers this level suitable. None of respondents appreciates the level of entrepreneurial education as being very high, fact that reveals the development potential of education in this particular direction of Romanian universities.

**2. Do you know the number of students from your university who intend to start their own business?**

Concerning the information held by respondents as regards the number of students in their own institution who are going to start a business, figure 3 shows that only 15% have such information, most of them not having this information.

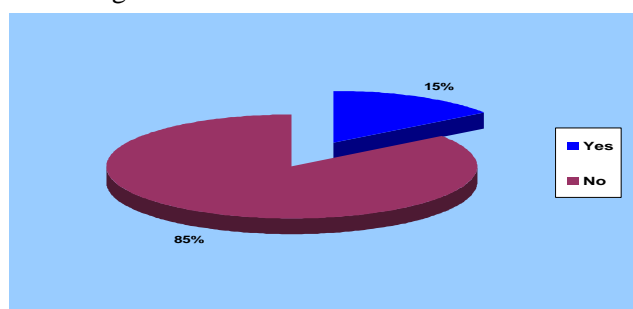


Fig.5

This structure of responses should not lead to the conclusion that, there are no concerns concerning the number of students-entrepreneurs within universities where respondents belong to.

**3. Do you know the number of students who already own their business?**

The lack of information concerning entrepreneurial concerns of the students within the institution the respondents belong to, as it is shown in figure 6, results from a percentage of over 80% as regards negative responses

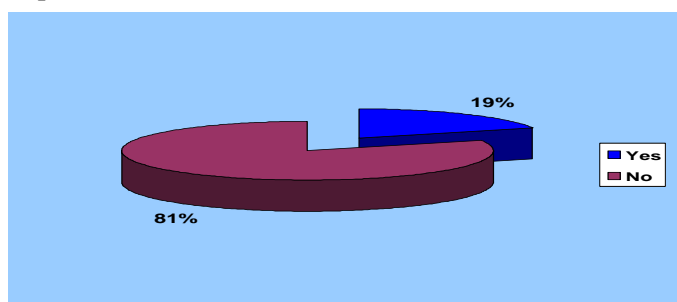


Fig. 6

**4. Is there a monitoring system of the graduates in your university?**

From the structure of responses received at the question concerning existence, within its own institution, of a graduate monitoring system after studies, illustrated in figure 7, it is noticed that until now, within a relatively low number of universities such kind of career monitoring system has been created: only 38% provided a positive response.

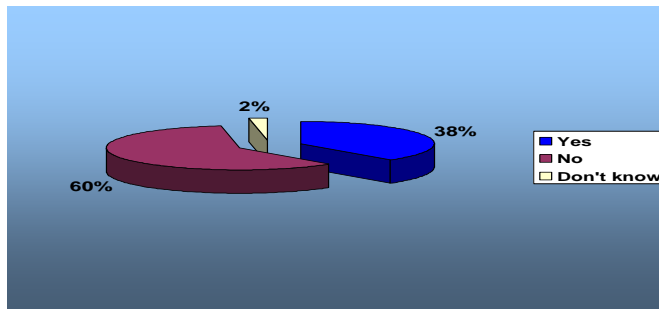


Fig.7

The registration of 60% negative responses reveals that, until the time of questioning, in this respect, a special interest has not been shown within universities. According to the new quality standards of higher education, we think this situation will change significantly in the future years.

Information held by graduates concerning professional development is quite useful for universities, as regards the adaptation of study curricula, by means of realistic education plans, in accordance with the requirements of each field required on the labour market.

**5. Do you consider that in the curricula there are courses which might be a part of entrepreneurial education?**

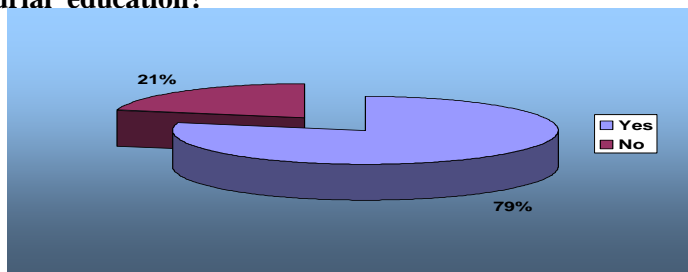


Fig. 8

Although by means of responses given to question no. 4 it results the level of entrepreneurial education in university education, is not a satisfactory one, a significant percentage of respondents, 79% respectively consider there are courses or course components that can be framed in entrepreneurial education.

The courses considered as types of entrepreneurial education most frequent mentioned were:

- Management,
- Small and medium size enterprises administration,
- Business administration,
- Enterprises valuation,
- Business ethics,
- Enterprises management strategies,
- Marketing.

**6. How do you appreciate the implication of the universities in the entrepreneurial education?**

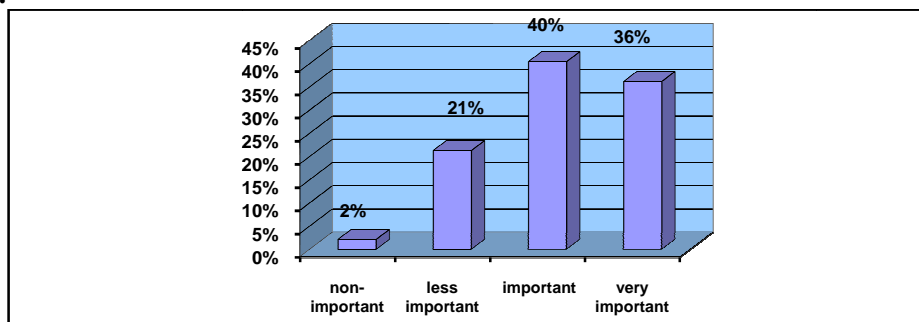


Fig. 9



From responses given by respondents as regards the question concerning the need of involving universities in entrepreneurial education, it results this has started being considered important as shown in figure 9. In this respect, universities should take steps, by adapting the education plans and comprising several courses providing knowledge and creating competences in entrepreneurial field.

**7. Would you like to participate in an association in order to sustain entrepreneurial education?**

Most people have an open attitude to be involved in actions as regards entrepreneurial education.

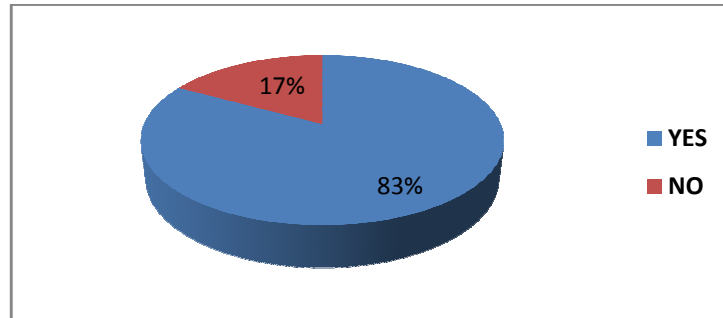


Fig. 10

The manner of respondents distribution, according to responses given to the question concerning the desire to participate in an entrepreneurial association, is shown in table no.2

**Table no. 2: Relation between importance of entrepreneurial education and intention of involvement in an association**

Would you like to participate in an association to sustain entrepreneurial education?	How do you evaluate the involvement of universities in entrepreneurial education?				Total
	Not important	less important	important	Very important	
Yes	2%	19%	32%	30%	83%
No	0%	2%	9%	6%	17%
Total	2%	21%	40%	36%	100%

**4 CONCLUSIONS**

Focusing on the process of entrepreneurship from an economic point of view, we analysed how this aspect can influence sustainable development and we emphasize that it is one of the most important economic factors.

Based on the parametric and non-parametric correlation coefficients between growth rate of real GDP per inhabitant and R&D expenditure as % of GDP, we conclude that there is not a significant direct correlation in the 5 analysed countries.

Processing the questionnaires applied in Romanian universities, the following conclusions can be drawn:

- As there is a general interest for entrepreneurial education, all respondents considered the involvement of universities as very important;
- The current development extent of entrepreneurial education within Romanian universities is considered low to average;

- In our universities there is no monitoring system of graduates after studies and the received information is just orientative and is expressed as approximations.
- The intention to carry out a national institutional network to ensure an entrepreneurial education seems to receive an active support from several university staff.

## REFERENCES

- [1] ACS, Zoltan, AUDRETSCH David, etc., *Growth and Entrepreneurship: An Empirical Assessment*, 2005, retrieved September 2008 from <http://econpapers.repec.org/paper/esiegpdis/>
- [2] AUDRETSCH, D. & THURIK, A.R. – *Capitalism and Democracy in the 21-st Century: From the Managed to the Entrepreneurial Economy*, (2000) Journal of Evolutionary Economics, Springer-Verlag, 10, pp.17-34
- [3] ELIASON Gunnar, HENREKENSEN Magnus, W., *J. Baumol, An Entrepreneurial Economist on the Economics of Entrepreneurship* in Small Business Economics 23, pp.1-7, 2004
- [4] IET, J., – *The pedagogical side of entrepreneurship theory* in Journal of Business Venturing 16(2) 2001
- [5] REYNOLDS, P., - *GEM 2003 Global Report*, Kansas Mo.: Kauffman Foundation
- [6] TODARO, Michael P., *Economic Development*, Harlow (UK) 1997.
- [7] United Nations 1987. "[Report of the World Commission on Environment and Development.](#)" General Assembly Resolution 42/187, 11 December 1987. Retrieved: 2008-08-12
- [8] *Global Entrepreneurship Monitor 2007 Executive Report* / Retrieved September 2008 from: [http://www.gemconsortium.org/download/1222260185796/GEM\\_2007\\_Executive\\_Report.pdf](http://www.gemconsortium.org/download/1222260185796/GEM_2007_Executive_Report.pdf)