

## A COMPARATIVE PERSPECTIVE ON THE LABOUR VALUING IN EDUCATION AND RESEARCH ACTIVITIES IN EU COUNTRIES

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*Abstract: The evolution of the world economy over the last decades has demonstrated that knowledge is the major source of wealth and can also play an important role in fighting poverty. In a knowledge economy, education, research and development represent the “new currency” by which nations achieve and maintain economic competitiveness. These sectors offer important enabling effects that can contribute to sustainable development of the respective economies. Nevertheless, reaching these broader objectives requires first of all certain corresponding measures such as ensuring optimum labour conditions and stimulating levels of wage earnings, both contributing to the increase of the motivation degree for education, research and development staff and to the attractiveness degree of the respective professions.*

*The purpose of this study is to assess the place of education and research in the wage hierarchy in EU Member States and their relationship with the wages achieved in other fields. The results of our analysis indicate the existence of significant gaps between wages in European countries.*

*Key words: labour valuing, wage earnings in education and research*

### 1. Introduction

Globalisation and the increasingly alert pace in which it evolves have generated certain changes with respect to the conditions of achieving the “development” including by an increased importance of trade, of foreign direct investments and technological transfer. Due to these changes, education and gaining skills have earned an essential role within the development process. The experience of the countries engaged in the globalisation process proves that education and research have represented an essential condition for the success of their participation to the circuit of global economy. Yet, a performance activity in the field of education and research requires corresponding measures. The level of wages, and implicitly the opportunity of supplementing them with other benefits, as well as the development of activities under optimum conditions are the main incentives ensuring a high level of motivation for the staff in research and education and which contributes to increasing the attractiveness degree of the respective professions. Even the more so as the education sector is threatened by an increasing competition from the business sector with respect to attracting the best-trained young graduates. In this context, the policies with implications on staff earnings in education and research sectors cannot be by-passed.

### 2. Wage earnings at the level of the entire economy and on some economic activities within the EU-27 countries

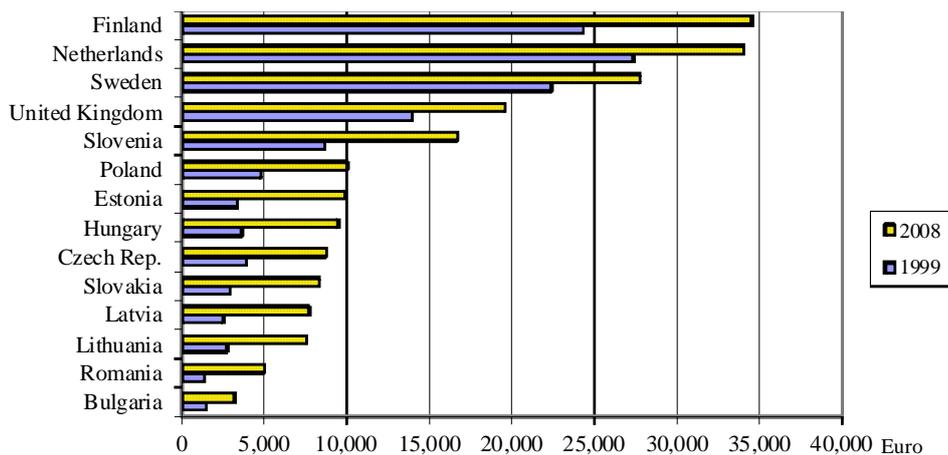
#### 2.1. Level of wage earnings

At the beginning of our analysis we will make some broadly methodological remarks. First of all, annual wage earnings across the economy and some sectors (NACE Rev. 1) were computed based on monthly earnings statistics from International Labour Organization (ILO). Monthly earnings in national currencies were converted into Euros using the exchange rate statistics of the European Central Bank. We took into account only those EU Member States for which statistical data were available for a longer period of time, namely 1999-2008.

The comparative analysis of **annual earnings** achieved by the employees **at the level of total economy** highlights the significant gaps existing between the European countries (Graph no. 1). In 1999, between the earnings from **Romania (the country with the smallest wage earnings)** and those with the highest annual earnings was a relation of 1:19. Practically, for each Euro of wage earnings in Romania, in the Netherlands the wage earnings on economy exceeded 19 Euros.

Between 1999 and 2007, Romania recorded the most dynamic growth rate of the wage earnings (over 28% per year), so that in 2007 the wage earnings on economy were 2.5 times higher than the one from 1999, respectively 5,020 Euro against 1,415 Euro in 1999. Nevertheless, **in 2007, Romania recorded the second lowest annual wage on total economy from within the EU countries**, a wage 6.5 times lower than the one in Finland, the country with the highest annual wage.

Graph no. 1. Annual earnings of employees within the entire economy, 1999 and 2008 (or the most recent available year) in some EU-27 countries (Euro)



Note: 1) Finland - all economic activities, save for agriculture and fishing; 2) in the Czech Republic, Great Britain, Romania and Sweden, the most recent available year is 2007, and in the Netherlands the year 2005; in Bulgaria the “oldest” value of the series is the year 2001.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

In order to emphasise the gaps existing between the wage levels in various EU-27 Member-States, we have computed **the average amount that an employee would receive during the active life (45 years)**, if he/she would win in each of the 45 years the wage from 2008, or the most recent available year (Graph no. 2). The comparative analysis indicates that a Bulgarian might win during the active life period in average approximately 145,000 Euros, a Romanian 226,000 Euros, a Polish citizen and an Estonian twice as much, while a Dutch individual or one from Finland would earn over 1.53 million Euros.

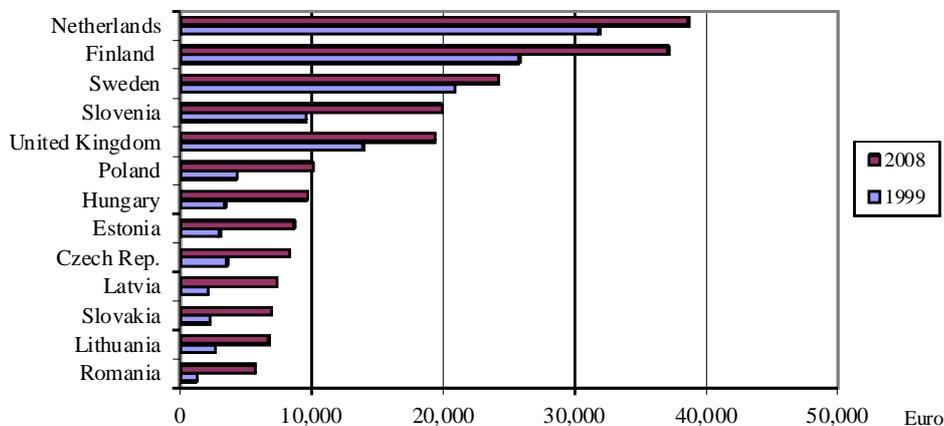
Graph no. 2. The average amount that an employee would receive during the active life (wages from 2008) (Euro)

Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007, and in the Netherlands 2005.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

With respect to **annual wage earnings in education**, in 1999 an employee from **Romania** earned the **lowest wage earnings within EU** (1,281 Euros) while in Great Britain a comparable employee earned 10 times more (Graph no. 3). The gaps between wage earnings at the two ends of the classification are significant, exceeding even the ratio existing at the level of total economy (1:25 against 1:19). **In 1999, for each Euro of wage earned by an employee within the education system in Romania, in the Netherlands were earned almost 25 Euros.**

Graph no. 3. Annual earnings of employees in education, 1999 and 2008 (or the most recent available year) in some EU-27 countries (Euro)



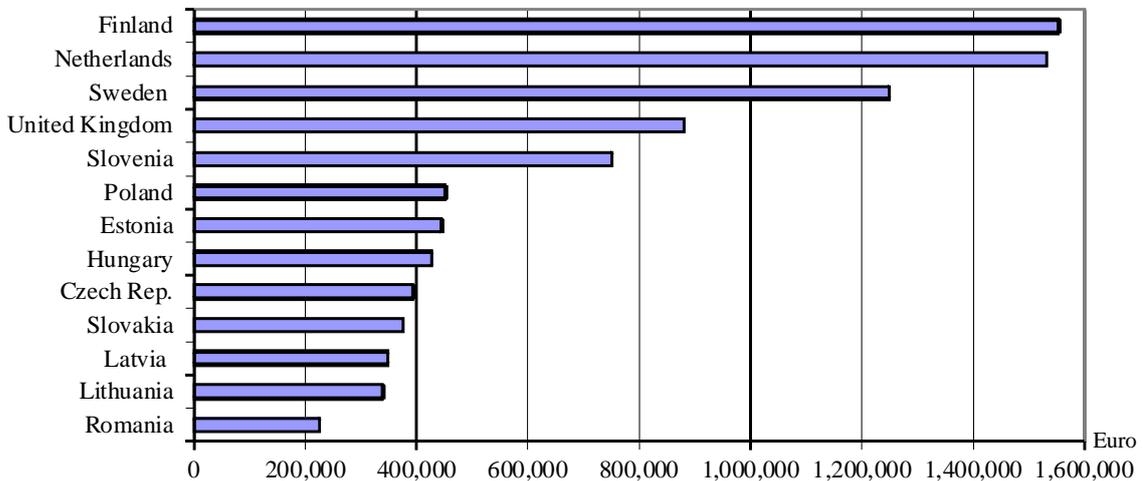
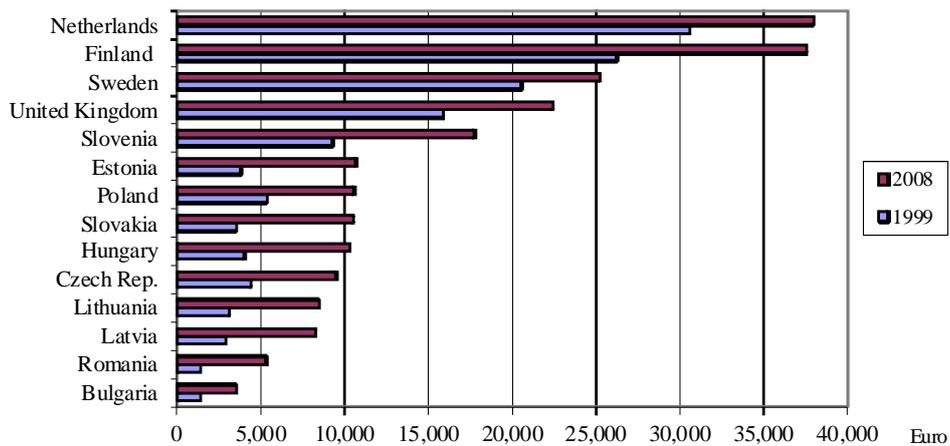
Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007, and in the Netherlands 2005.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

From a dynamic perspective, on the background of a significant increase of the wage earnings in education, against 1999 (from 1,281 Euros to 5,757 Euros in 2007, respectively +350%), Romania held a favourable position compared with the one of some other states such as Bulgaria, Lithuania and Latvia, for which the wage earnings were lower. Practically, if the extremes are compared, a diminishing is found of the size order between them: **for each 10 Euros obtained in Finland, an employee within education from Bulgaria would achieve 1.3 Euro**, while one from **Romania a little bit over 6 Euro**.

In 1999, the annual wage earnings of 1,425 Euros achieved in the activity of research-development from Romania was the lowest as compared with the other EU Member-States, being placed to half against the one from Latvia and Lithuania. At the same time, it was more than 6 times lower than in Slovenia and 13 times against the one in France (Graph no. 4).

Graph no. 4. Annual earnings of employees in research and development, 1999 and 2008 (or the most recent available year) in some EU-27 countries (Euro)



Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007, and in the Netherlands 2005.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

The gaps between wage earnings at the two ends of the classification are also in this case significant, exceeding the ration of 1:19 existing at the level of total economy. **In 1999, for each one euro wage achieved in research-development in Romania, in the Netherlands were earned 21.5 Euros**. In 2008, Bulgaria recorded the lowest annual wage earnings against the other Member-States, but the gap against the country with the highest wages (Finland) decreases to 1:10. The same is applicable for **Romania in the year 2007, where the annual wage is only 7 times lower than the one recorded in Finland**, the country with the best “performance”. Even though the

gap decrease against the country with the highest wage earnings represents a positive aspect for our country, some important differences can still be found. In the context of the global economic crisis, it remains to be seen whether this sector shall maintain the same level in the subsequent period.

## 2.2. The ratio between wage earnings in education and research and the ones on total economy

In order to outline a more detailed image, we have considered as useful the presentation of some aspects that highlight the importance granted to activities in the field of education and research in the EU Member States, from the perspective of achieved wage earnings, depending on the average wage earnings at the level of total economy, and with the ones in some branches that record the highest levels of wage earnings.

The analysis realised at the level of the year 1999, reveals that, in general, **the wage earnings in education** are placed under the average on economy, in particular in the New Member States of the EU: Slovakia (where the wage earnings in education represents 78% against the national average wage earnings), Latvia (84%), Estonia (89%), the Czech Republic, Poland and Romania (about 90%) (Table no. 1). In Great Britain, the wage earnings in education are placed at the level of the average earnings on economy, while in Finland, France, Slovenia and the Netherlands it exceeds the national average with a percentage between 6 and 16%.

Table no. 1. The ratio between wage earnings in education and the ones on total economy (100), 1999 and 2008 in some EU-27 countries

Country	1999	2008
Slovakia	78.3	82.8
Sweden	93.4	87.1
Estonia	89.3	87.7
Lithuania	95.5	89.4
Latvia	84.1	95.3
Czech Republic	90.1	95.5
United Kingdom	99.9	99.1
Poland	90.2	100.7
Hungary	94.5	102.3
Finland	106.1	107.5
Bulgaria	96.7	110.7
Romania	90.6	114.7
Slovenia	110.9	119.3

Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007.  
Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

In 2008 (or in the most recent available year), against 1999, is noticed an increase of the wage earnings share from education in the national average earnings for the majority of the analysed countries, save for Sweden, Lithuania, Estonia and Great Britain. All in all, for average wage earnings of 10 Euros at the level of total economy, in education were earned between 8.3 Euros (Slovakia) and 9.9 Euros in Great Britain, over 10 Euros in Poland, Hungary and Finland, and over 11 Euros in Bulgaria, Romania and Slovenia.

**The wage earnings from the research-development activity** were inferior to the average wage on economy only in Sweden (representing almost 92% from the latter) (Table no. 2). In Romania, it represented 100.7% from the average national earnings in 1999, and it reached to 106.4% from the latter in 2007. For the rest of the countries, in the year 1999, the wage earnings from research-development exceeded the national average with a percentage between 7% and 22% (Slovenia – 107.5% against the national average, Great Britain and Latvia – 114% and Slovakia – 122%).

Table no. 2. The ratio between wage earnings in research and development and the ones on total economy (100), 1999 and 2008 in some EU-27 countries

Country	1999	2008
Sweden	91.8	91.0
Poland	111.4	105.4
Romania	100.7	106.4
Slovenia	107.5	106.6
Latvia	114.7	107.1
Estonia	112.9	108.2
Czech Republic	112.2	108.7
Finland	107.9	108.8

Country	1999	2008
Hungary	110.5	108.8
Bulgaria	95.0	110.3
Netherlands	111.8	111.6
Lithuania	113.7	112.2
United Kingdom	114.2	115.0
Slovakia	122.2	126.0

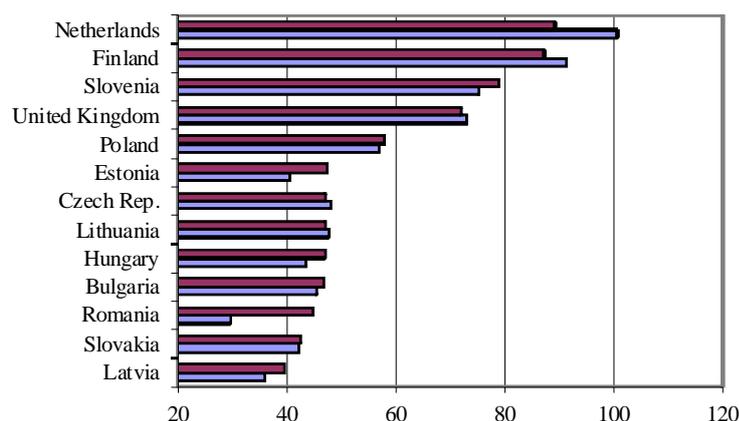
Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007, and in the Netherlands 2005.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

In 2008 (or the most recent available year) only in Romania, Slovakia, Great Britain and Finland the share of wage earnings from research recorded a slight increase against the average wage on economy, for the rest of the states the trend being to decrease. Yet, Slovakia remains the country where the ration between wage earnings from research has the highest share in the earnings on economy (126%).

In more than half of the countries analysed, the significant gaps existing between wage earnings at both ends of the hierarchy put their mark also on the **ratio between wage earnings in education and the one achieved in such a branch like “financial intermediation”**, where are achieved (amongst others) the highest wage earnings within economy. Thus, at the level of 1999, in Romania, for instance, an employee from the sector “education” received wage earnings lower than 30% against the one realised by an employee from the sector “financial intermediation”, while in 2007 it reached almost 45% (Graph no. 5).

Graph no. 5. The ratio between wage earnings in education and the ones in financial intermediation (100), 1999 and 2008 in some EU-27 countries



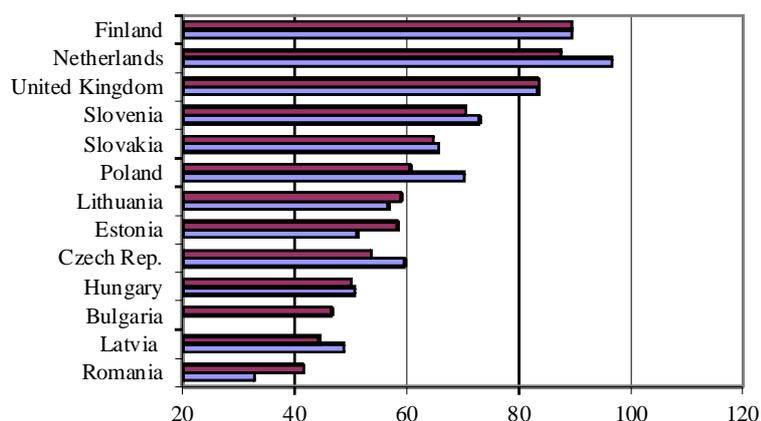
Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

In Estonia, Slovakia, Hungary, Lithuania and the Czech Republic, the wage earnings in education represent between 40% and 50% from the wage earnings in financial intermediation in both years of reference. At the same time, a relatively more uniform distribution of wage earnings has the effect of reducing the discrepancies between wage earnings in education and the ones from the sector of financial intermediation: in Great Britain, Slovenia, France, Finland and the Netherlands an employee from education achieves wage earnings between 72% and 89% of the one of an employee in financial intermediation. The situation of the Netherlands is unique in that during 1999 the employees from financial intermediation achieved lower wage earnings than the ones in education.

The same occurs also in the case of the **ratio between wage earnings in research and the one in financial intermediation** (Graph no. 6). In Romania, for each 10 Euros earnings in financial intermediation, the equivalent earnings from research are the lowest for the countries analysed, respectively 3.29 Euros in 1999, while in 2007 it reaches 4.2 Euros. At the same time, in Hungary, Estonia, Lithuania and the Czech Republic the earnings in research are comprised between 5 and 6 Euros and in Great Britain and Finland between 8 and 9 Euros.

Graph no. 6. The ratio between wage earnings in research and development and the ones in financial intermediation (100), 1999 and 2008 in some EU-27 countries



Note: In the Czech Republic, Great Britain, Romania and Sweden the most recent available year is 2007, and in the Netherlands 2005.

Source: own processing based on the ILO [1] and European Central Bank [2] statistics.

### 3. Wage earnings of professions; comparisons France-Romania

In the following we shall analyse from a comparative perspective the wages on some trades in France and Romania. Even though the two indicators with which we shall operate are not completely identical, in the case of France we refer to monthly average wage and in the Romanian situation to the monthly average earnings, we consider that their comparison will be more than explanatory.

As results from Table no.1, in Romania, the existing gap between minimum wage earnings and the maximum one realised in one of the analysed professions is at least 2 times higher than in France. Hence, in Romania, for each Euro earned by an unskilled worker, a manager within a department in the field of “banks and insurances” earns 5.7 Euros, while in France, for each Euro-wage received by an unskilled worker, the maximum wage is of 2.6 Euro and is received by a physician.

Table no 1. Monthly average wages in France and Romania (Euro), some professions

Professions	France (avg. wage)		Romania (avg. gross earnings)	Ratio between the monthly average wage from France (2007-2008) and the average gross earnings from Romania (2007) (times)
	2006-2007	2007-2008	2007	
Physicians and assimilated staff	3270	3200	772	4.1
Studies and research staff	2900	2900	626	4.6
Industrial engineers	2800	2760	746	3.7
Department managers banks/insurances	2800	2900	1211	2.4
Programmers	2710	2710	1049	2.6
Public Officers	2640	2700	947	2.9
Teachers	2000	2050	629	3.3
Industrial technicians	1900	1950	629	3.1
Nursing staff	1870	1910	303	6.3
Drivers	1500	1560	509	3.1
Skilled workers in processing industries	1460	1500	390	3.8
Accountants	1400	1500	390	3.8
Secretaries	1300	1350	360	3.8
Cooks	1250	1270	255	5.0
Skilled workers in agriculture	1200	1250	232	5.4
Unskilled	1200	1280	210	6.1
<b>Ratio between maximum wage and minimum wage (times)</b>	<b>2.7</b>	<b>2.6</b>	<b>5.7</b>	

Source: own processing based on INSEE France [3] and National Institute of Statistics Romania [4].

Moreover, an unskilled worker from France earns 1.7 times more than a physician in Romania, while *a driver from France earns 2.5 times more than a teacher from Romania*.

Secondly, it is important to emphasise that there are some professions in which the wages from the two countries are relatively closer, such as in the case of employees with management positions in banks or insurances, or the one of programmers. Thus, between the wage of a department manager in a bank or in the insurances field from Romania and the one of an employee with the same profession in France, there is a ratio of 1:2.4. But, on the other hand, between the *teachers' wages*, for instance, *the gaps deepen, the ratio reaching to 1:3.3*. At the same time, *the wage of a researcher in France is almost 4.6 times higher than the one of a researcher in Romania*. Nevertheless, the highest differences between the two countries are recorded at the level of the wages of skilled workers in agriculture (1:5.4), but also in the case of the wages achieved by unskilled workers (1:6.1). Moreover, for each Euro received by a nurse in Romania, in France the practitioner of this trade receives 6.3 Euros.

Table no. 2 provides a comparative perspective on labour valuing. In France, the profession of physician is the best remunerated one, fact for which we regarded it as a milestone, and expressed the wages from other professions depending on it. On the next positions are placed the wages achieved by the research staff, industrial engineers, and only thereafter by department managers from banks and by programmers. Yet, in Romania, the best remunerated profession is the one of department manager in the “banks and insurances” field. The earnings achieved by a programmer are 10% lower than the aforementioned, and the earnings of a public officer are by 20% lower. At the same time, a physician earns *in Romania*, by 40% less than a department manager in a bank, and a *researcher only half from the wage of the latter*.

Table no. 2. Professions' hierarchy depending on the ratio between the wages/earnings on professions and the highest wage, France and Romania

Professions	France (avg. wage)	Romania (avg. gross wage)
	2007-2008	2007
Physicians and assimilated staff	<b>1</b>	0.6
Studies and research staff	0.9	0.5
Industrial engineers	0.9	0.6
Department managers in banks/insurances	0.9	<b>1</b>
Programmers	0.8	0.9
Public Officers	0.8	0.8
Teachers	0.6	0.5
Industrial technicians	0.6	0.5
Nurses	0.6	0.3
Drivers	0.5	0.4
Skilled workers in processing industries	0.5	0.3
Accountants	0.5	0.3
Secretaries	0.4	0.3
Cooks	0.4	0.2
Skilled workers in agriculture	0.4	0.2
Unskilled workers	0.4	0.2

Source: own processing based on INSEE France [3] and National Institute of Statistics Romania [4].

## Conclusions

Even if the role played within the economic growth process has been intuited a long time ago, only in the sixties was developed a complete theory on human capital in accordance with which education represents an investment. Therefore, the importance of researches in the field was acknowledged in 1992 by awarding the Nobel prize for economy to G. Becker, one of the founders of the concept, for “having extended the domain of economic theory to aspects of human behaviour which had previously been dealt with—if at all—by other social science disciplines such as sociology, demography and criminology.”

Achieving economic growth is closely related to determining functional links between new knowledge and human capital. Hence, education and research represent the sectors most involved in training and valuing human capital. On these two sectors depends both the future of individuals and of the national economies.

In order to face the challenges generated by the global economic crisis, by the speeding up of the globalisation, and the increased pressure on resources (including the pressure on labour force shown through demographic ageing), in 2011 was developed a new strategy at European level. The Strategy Europe 2020 provides a complete image of the social market economy of Europe in the 21<sup>st</sup> century [5] and is focused on three priorities: smart growth, sustainable development and inclusive growth. Smart growth has as background strengthening knowledge and innovation, as drivers of future growth. For putting into practice this objective it is necessary to improve the quality of education systems, to increase performance in research, to promote innovation and

knowledge transfer in the European Union, as well as to ensure the adequate conditions for novelty ideas to be translated into new goods and services. The latter might generate in their turn, growth and quality jobs thereby contributing to successfully approaching the challenges facing the European and world society.

Education has a fundamental role in achieving the objectives of the Europe 2020 Strategy, particularly by endowing citizens with competences and skills required by the European economy and the European society for remaining competitive and innovative, but also for contributing to promoting cohesion and social inclusion.

In this context, it is necessary also for the remuneration systems to “settle” on a system of values, and that the professions of teacher and researcher should gain the adequate importance and esteem within the framework of the national values system.

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