

CHARACTERISTICS OF EMPLOYMENT – KEY FACTORS
OF ECONOMIC GROWTH. COMPARATIVE ANALYSIS BETWEEN
ROMANIA AND THE EUROPEAN STATES

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Employment is a key factor influencing long-term economic development of different sectors, within national economies, but also in the European Union as a whole. The workforce characteristics can influence economic performance in a positive or negative way. Research and development is considered an active force that causes job creation, innovation and, consequently, increased competitiveness. In this context, the present article aims to highlight the position which our country occupies, within the whole EU but also compared with other Member States, regarding notes defining the situation of the workforce. The rate of employment, unemployment, labor market flexibility, public spending and policies in support of the labor market, employment in science-technology are briefly analyzed.

Key words: *employment, EU, labour, economic growth, employment, science-technology.*

COMPARATIVE DATA ON EMPLOYMENT ACROSS THE EUROPEAN UNION

We start from the idea of the presence of innovative gap between Romania and other countries of the European Union and intend to do a comparative analysis of data on employment in our country and the European Union in general and between our country and other Member States. A possibility of reduction and subsequent elimination of the gap is developing a high-tech knowledge-intensive industry based on research. The role of employment in science-technology is essential; therefore we intend to give special attention to the employment in this field.

European Commission proposes the following measures for the Member States to create “more and better jobs” (objective of the Lisbon Strategy in 2000): increasing the rate of employment by attracting young people and by raising the age of exit from the labor market; modernizing social protection system; increasing investment in human capital through skill training and raising the level of education¹.

¹ Eurostat, “Labour market”, in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 247.

EMPLOYMENT IN THE EU COUNTRIES

The rate of employment of the population aged between 17 and 64 years of EU-27 countries in 2006 was 64.4%; although this figure represents an increase over the value of 60.7% in 1997, it remains below 70% target proposed by the EU for 2010.

Employment rates of over 70% are found in only five Member States (Denmark, the Netherlands, Austria, Sweden and the United Kingdom). In contrast, we find values of this indicator below 60% in Bulgaria, Italy, Hungary, Malta, Poland, Romania and Slovakia – see Table 1².

Table 1

Employment rate in EU-27 countries (%)

The name of the country	2000	2006
Denmark	76.3	77.4
Netherlands	72.9	74.3
Sweden	73.0	73.1
United Kingdom	71.2	71.5
Austria	68.5	70.2
Slovakia	56.8	59.4
Bulgaria	50.4	58.6
Italy	53.7	58.4
Hungary	56.3	57.3
Malta	54.2	54.8
Poland	55.0	54.5
EU-27	62.2	64.4
Romania	63.0	58.8

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 250.

In the context of employment policy in line with measures set out in the Lisbon Strategy in 2000 is included the increasing of employment rate for women to the target of 60% as an average across the EU. In 2006 the indicator value was 57.2%, registering an increase over that of 2001 (54.3%), but considerably lower than the rate for men in 2006 (71.6%). Thirteen Member States had employment rates of women with values above the target of 60% in 2006, the highest performance, exceeding 70%, being in Sweden and Denmark – see Table 2. For Romania, between 2001 and 2006 there was a decrease in the rate of employment for both men (from 67.8% to 64.6%) and women (from 57.1% to 53.0%).

² Values of indicators in the tables we have selected are for the countries with the highest and lowest performances.

Table 2
Employment rates by gender in EU-27 countries in 2006 (%)

The name of the country	Male	Female
Denmark	81.2	73.4
Sweden	75.5	70.7
Netherlands	80.9	67.7
Finland	71.4	67.3
United Kingdom	77.3	65.8
Estonia	71.0	65.3
Greece	74.6	47.4
Poland	60.9	48.2
Italy	70.5	46.3
Malta	74.5	34.9
EU-27	71.6	57.2
Romania	64.6	53.0

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 253.

Another direction for targeted growth of total employment rate for the EU relates to increasing the employment rate for older workers aged 55-64 years – 50% by 2010. In 2006 this indicator reached 43.5% in EU-27, much higher than in 2001 – 37.7%. In nine Member States this indicator has more than 50%, the highest rate in Denmark – over 60% and in Sweden – over 70% (Table 3). For Romania, the value of this indicator decreased compared with 2001, from 48.2% to 41.7%; a possible cause is the necessity of employees in this group of age to retire earlier, when the enterprise where they were working was restructured.

Table 3
Employment rate for older workers aged 55-64 in EU-27 countries in 2006 (%)

The name of the country	Older workers
Sweden	69.6
Denmark	60.7
Estonia	58.5
United Kingdom	57.4
Slovenia	32.6
Italy	32.5
Belgium	32.0
Malta	30.0
Poland	28.1
EU-27	43.5
Romania	41.7

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 253.

In 2006, the employment rates have increased across the EU, for the first time in all 27 member countries. Significant rates of growth were noted in many of the new Member States.

Estonia had the highest rate of growth of 5.4%, as a result of positive situation recorded in previous years. In 2006 in Latvia was a growth of the employment rate of employment of 4.8%, higher than the previous year of 1.5%. In Poland, the largest of the new Member States, there was a significantly increasing of employment rate with 3.3%; after a long time in which there was a decreasing of employees number (between 1997 and 2003), since 2004 the situation has recovered: the employment rate increased steadily to the present. In Hungary the employment rate has recovered, too: after a decrease in 2004 and a setback in 2005, followed a small increase – 0.7% – in 2006.

For countries that have recently acceded to the EU there was less significant increase of employment rate. In Bulgaria the rate of growth was 3.3% in 2006, growth started from 2002. In our country the rate of growth was 2.8%, which followed negative growth rates recorded in 2004 and 2005³.

There are considerable differences between the rates of employment according with the level of education: the employment rate of those who have completed tertiary education was 83,1% in the EU-27 in 2006, much higher than for those who have completed only primary and secondary education – 47.9%.

States with the highest values of the indicator are Lithuania, Slovenia, the United Kingdom and Denmark; the last places are for Italy, Hungary, Spain and Poland (Table 4). Romania has an employment rate of persons with higher education that exceeds the EU average.

Table 4

Total employment rate, by level of education in EU-27 countries in 2006
(% of age group 25-64 years)

The name of the country	Tertiary education
Lithuania	87,8
Slovenia	87,8
United Kingdom	87,3
Denmark	87,1
Poland	81,7
Spain	81,3
Hungary	81,2
Italy	78,2
France	77,6
EU-27	83,1
Romania	86,1

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 254.

³ European Communities, Directorate-General for Employment, Social Affairs and Equal Opportunities, "Panorama of the European labour markets", in *Employment in Europe 2008*, 2008, p. 26.

UNEMPLOYMENT IN THE EU COUNTRIES

The rate of unemployment in the EU-27 in 2006 was 8.2%, down from 9.1% percentage of 2004 (the highest value recorded by this index since 2000). As can be seen from Table 5, there are significant differences between Member States, from the highest values of the indicator in Slovakia – 13.4% and Poland – 13.8% to the lowest in Denmark and the Netherlands, with the same amount – 3.9%. In Romania, the unemployment rate (of 7.3% in 2006) represents a decrease from the highest value of the indicator, 8.4% in 2002.

Table 5

Unemployment rate in UE-27 countries in 2006 (%)

The name of the country	Unemployment rate
Denmark	3.9
Netherlands	3.9
Ireland	4.4
Cyprus	4.6
Luxembourg	4.7
Austria	4.7
Polonia	13.8
Slovakia	13.4
EU-27	8.2
Romania	7.3

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 260.

In addition to its effects on personal life, long-term unemployment affects economic growth, which is why it should be one of the main concerns of governments and local authorities. Approximately 3.7% of those seeking work in the EU in 2006 were unemployed for more than a year, and 2.2% over two years. Comparative situation of EU countries which either are faced with high rates of long-term unemployment, or are capable to manage this problem shows significant differences. Countries with low amounts of long-term unemployment are: Denmark (0.8%), Cyprus (0.9%), Sweden (1.1%), the United Kingdom (1.2%), Austria (1.3%), Ireland (1.4%), Luxembourg (1.4%). On the opposite side, with a worrying situation is Slovakia, with 10.2%, followed by Poland – 7.8%, Germany – 5.5% and Bulgaria – 5.0%. The value of this indicator for Romania is 4.2%.

Unemployment rate for women throughout the EU in 2006 was 8.9%, higher than for men – 7.6%, situation which appears in the most of Member States; the exceptions are a few countries where the rate of unemployment for women is lower than for men: the Baltic countries (Lithuania, Estonia, Latvia), Great Britain, Ireland, Germany and Romania. For Romania the situation could be explained by the recent history of the country, until 1989, which required women to perform the

same roles in society as men, a model that perpetuated to the present; another explanation could be that of the abolition of a large number of enterprises from heavy industry after the 90s, whose employees were predominantly men.

Regarding the ranking of countries according to the unemployment rate for women good situations have the same countries which had high values of the employment rate: Denmark, Ireland, Netherlands and the United Kingdom – Table 6.

Table 6

Unemployment rates, by gender in EU-27 countries in 2006 (%)

The name of the country	Male	Female
Ireland	4.6	4.1
Netherlands	3.5	4.4
Denmark	3.3	4.5
United Kingdom	5.7	4.9
Poland	13.0	14.9
Slovakia	12.3	14.7
Greece	5.6	13.6
Spain	6.3	11.6
France	8.7	10.4
EU-27	7.6	8.9
Romania	8.2	6.1

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 262.

Age is another factor influencing unemployment in a discriminatory manner, the data showing that young people between 15 and 24 years face the greatest difficulty to find a job. The most dramatic situation is found in Poland with a rate of unemployment among those under 25 years of 29.8% (the EU average of 17.2% and Romania with 21.4%), followed by Slovakia (26,6%) and Greece (25.2%). Countries with a more favorable situation of young people are the Netherlands with 6.6%, Ireland with 8.6%, Denmark with 7.7% and Austria with 9.1%.

Unemployment rate tends to decrease with increasing of education level, another discriminatory factor. This is a common feature in most Member States. The average unemployment rate in the EU-27 for those having attained at most lower secondary education was 10.1% in 2006, more than twice the rate of employment for those that had had a tertiary education – 4.1%. This differentiation in unemployment rates by level of education was widest in Slovakia, where the unemployment rate of those with less than secondary education was 44%, compared with just 2.7% for those who had completed tertiary education⁴.

⁴ Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 259.

LABOR MARKET AND FLEXIBILITY

Labor market flexibility must be combined with employment security, which means achieving and maintaining a balance between finding a suitable job and family life.

More flexible working conditions stimulate an increasing employment rate. The employees may work part-time or from home, being encouraged to enter on labor market. Other initiatives, such as providing childcare facilities or opportunities for continuing training may also encourage a higher proportion of people to work as employees⁵.

Temporary employment has significant variations from country to country within the EU, in Spain being the highest recorded percent of employees with temporary contracts – 34%. Among the economical advanced countries in the EU-27 only in the United Kingdom the proportion of temporary employees (5.8%) was below the EU-27 average (14.9%).

The proportion of the workforce working part-time in the EU-27 increased from 15.9% in 1996 to 18.1% in 2006 (compared with Romania, where the proportion fell from 14.9% in 1996 to 9.7% in 2006). The highest proportion of part-time workers in Member States was in the Netherlands in 2006 – 46.2%, followed by Germany, Britain and Sweden, each with over one quarter of employees with part-time contracts. In contrast, part-time employment is not a common pattern in countries like Bulgaria, Slovakia, Hungary and the Czech Republic – Table 7.

Table 7

Persons working part-time in EU-27 countries in 2006 (% of total)

The name of the country	Persons employed working part-time
Netherlands	46.2
Germany	25.8
United Kingdom	25.5
Sweden	25.1
Bulgaria	2.0
Slovakia	2.8
Hungary	4.0
Czech Republic	5.0
EU-27	18.1
Romania	9.7

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 267.

⁵ *Ibidem*, p. 248.

Another form of manifestation of flexibility in the labor market is the possibility of having a second job. From this point of view, high rates are found in Denmark, Sweden and Poland, and low values of the indicator in all countries where labor markets do not seem very flexible – Bulgaria, Slovakia, Hungary and even Italy and Luxembourg. In Romania, the employment rate in the second job was 2.7% in 2006, under the EU-27 average, but higher than in some neighboring countries, which had, as we said, the lowest values of the indicator – Table 8.

Table 8

Persons with a second job in the EU-27 countries in 2006 (% of total)

The name of the country	Persons in employment with second job
Denmark	10.1
Sweden	7.8
Poland	7.5
Bulgaria	0.8
Slovakia	1.2
Italy	1.6
Hungary	1.8
Luxembourg	1.9
EU-27	3.7
Romania	2.7

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 267.

Average exit age from the labor force, of 60.9 years in 2005, has grown over the EU-25 by approximately 1 year compared to 2001. The highest value of retirement age was in Ireland (64.1 years), and the lowest in Slovenia (58.5 years); in Romania the value for this indicator was in 2005 of 63 years.

For men, the average exit age from the labor force was 61.4 years, with the highest value for Romania (64.7 years) and the lowest in France, of 58.5 years. For women, the average exit age from the labor force was 60.4 years; it is important to remember that in Ireland, France, Spain and Portugal, the average exit age from the labor force was higher for women than for men. The highest value of average exit age from the labor force for women was in Portugal (63.8 years) and the lowest in Poland (57.4 years); in Romania, the value was 61.5 years⁶.

LABOR MARKET POLICY AND PUBLIC EXPENDITURE

Labor market policy interventions are generally targeted to decrease unemployment and to provide support for other groups of people with particular difficulties to enter the labor market. Labor market policy measures and supports are classified into the following categories:

⁶ *Ibidem*, p. 268.

- training – programmes which aim to improve employability of the unemployed people;
- job rotation and job sharing – programmes encouraging companies to hire unemployed people to substitute a permanent employee who is absent from work for a certain period of time;
- employment incentives – programmes which facilitate the recruitment of unemployed persons and other target groups (young people) – who are experiencing difficulties to find a job or have a higher risk of losing it further (a share of the labor cost is covered by public finance);
- supported employment and rehabilitation – programmes that aim to promote labor market integration among persons with reduced working capacity;
- direct job creation – programmes that create additional jobs, usually of community benefit or socially useful, in order to find employment for the long-term unemployed or other persons;
- start-up incentives – programmes that promote entrepreneurship by encouraging the unemployed and other target groups to start their own business and become self-employed;
- out-of-work income maintenance and support – programmes which aim to compensate individuals for loss of wage or salary through the provision of cash benefits;
- early retirement – programmes which facilitate the full or partial early retirement of older workers who are considered to have little chance of finding a job and whose retirement facilitates the creation of a job for an unemployed person.

The relative financial resources that Member States spend on labor market policy interventions to get the unemployment and other target groups into the labor market vary significantly from country to country. In 2005 the highest level of relative expenditure on labor market policy measures and supports is estimated to have been in Denmark – 1.6% of GDP, followed by the Netherlands and Sweden (1.3%); and the lowest in Estonia, Greece and Romania, each with 0.1% of GDP⁷.

In 2005 the largest share of expenditure on labor market policy measures in the EU went on training – 38.6%. Almost one quarter (23.8%) of EU expenditure was also accounted for employment incentives, with a little under one third (30.9%) being relatively equally shared between programmes developed to integrate persons with reduced working capacity (16.9%) and to create additional jobs (14%) – Table 9. The breakdown of expenditure on labor market policy measures across the Member States was extremely varied, however, reflecting the different characteristics and problems faced within the individual labor markets.

⁷ *Ibidem*, p. 269.

Table 9

Labor market policy expenditure on active measures in EU in 2005 (% of total)

Type of active measures	Expenditure
Training	38.6
Job rotation and job sharing	0.6
Employment incentives	23.8
Supported employment and rehabilitation	16.9
Direct job creation	14.0
Start-up incentives	6.1

Source: Eurostat, "Labour market", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 271.

EMPLOYMENT IN SCIENCE-TECHNOLOGY

One of the most important problems of the employment analysis refers to the extent to which labor force is structured on science and technology, key directions of development.

Research and development (RD) are often considered an active force that determines the economic growth, job creation, innovation and, consequently, higher quality products.

A proof for the fundamental role of science-technology sector in the economy is the fact that with increasing number of employees in this key area (from 29.5% of total employment in 2003 over the EU-27 to 31.2% in 2006), the values of macroeconomic indicators reflecting the country's economic performance increased, too; such as GDP (percentage increases continue from year to year between 2003 – 1.3% – and 2006 – 3.1%) or productivity per hour worked (between 1.3% and 1.7%). For this reason, the development of science and technology sector can be considered a basic explanatory factor of the increase results from the economy as a whole, which justifies the analysis of employment characteristics in this field.

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and project management related.

European Commission focus on the transformation of scientific expertise in competitive products and services, and also on improving the mobility of European researchers, encouraging networking between researchers in different Member States and promoting women to hold positions in the RD field.

Number of researchers in EU-25 has increased steadily in recent years. In 2004 there were approximately 1.2 million researchers employed full-time in the EU-25, which represented an increase of 13% compared to the year 2000. The largest proportion of researchers in all sectors was the men, representing almost

three quarters of total employment in the RD sector. The ratio between men and women-scientist has remained almost unchanged during the period 2000-2004⁸.

Nordic countries had the highest percentage of RD employment in total employment, which is twice the EU-25 average (1.4% in 2005).

There are different patterns among the EU Member States depending on the institutional sector in which the researchers operate. In 2005 business sector had more than 60% of researchers in Germany, Netherlands, Denmark, Sweden, Austria and Luxembourg. If the firms have their research department, the transfer of new technologies to implement in practice is easier to do and the economic performances are higher. It is easy to note that countries in which we find this model (with a business sector with powerful research) are even the advanced economically ones.

Bulgaria was the only country that reported a majority of researchers working in the government sector (over 60%), while Greece, Poland, Lithuania and Latvia had the highest proportion of RD staff in tertiary education sector.

In Romania the highest share of researchers is still in the business sector, with a value closer to the EU-25 average – see Table 10.

Table 10

Share of researchers by institutional sector in EU-25 in 2005 (%)

The name of the country	RD from business sector	RD from government sector	RD from tertiary education sector
Bulgaria	11.5	60.4	25.9
Denmark	62.7	7.2	29.4
Germany	60.4	15.0	24.6
Greece	25.4	13.6	60.2
Latvia	14.3	17.9	67.8
Lithuania	9.4	23.6	67.0
Luxemburg	73.3	18.3	8.4
Netherlands	60.8	18.9	27.4
Austria	63.6	4.0	31.9
Sweden	63.0	5.3	31.1
EU-25	49.2	13.1	36.6
Romania	42.8	29.8	26.6

Source: Eurostat, “Science and technology”, in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 465.

Regarding the share of employment in science and technology is found in Table 11 that the same countries with developed economies for which science and technology represent priority areas are at top. Romania is at the penultimate place concerning this indicator, near Portugal, Bulgaria and Greece.

⁸ Eurostat, “Science and technology”, in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 462.

Table 11

Share of persons employed in science and technology sector
in EU countries in 2006 (% of total employed persons)

The name of the country	Persons employed in science and technology sector
Sweden	42.2
Denmark	41.5
Luxemburg	40.3
Netherlands	39.8
Germany	38.2
Finland	36.7
Portugal	19.2
Bulgaria	22.4
Greece	23.8
EU-27	31.2
Romania	20.5

Source: Eurostat, "Science and technology", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 468.

Another key sub-sector of the economy, an engine of economic growth, which creates intangible assets that incorporate high added value, based solely on knowledge and skills of highly skilled employees is the knowledge-intensive services. Leaders for this sub-domain are all countries with competitive economies such as Sweden, Denmark, the United Kingdom and the Netherlands which have the highest share of total employment in knowledge-intensive services.

Having a value which is less than half the average for all EU-27, Romania is in last place for this indicator at a big distance of Bulgaria and Portugal, which precede its rank – see Table 12.

Table 12

Share of persons employed in knowledge-intensive services
in total employment in EU countries in 2006 (%)

The name of the country	Share of persons employed in knowledge-intensive services
Sweden	47.5
Denmark	43.8
United Kingdom	43.0
Netherlands	42.3
Finland	41.1
Bulgaria	21.7
Portugal	22.7
EU-27	32.6
Romania	14.5

Source: Eurostat, "Science and technology", in *Europe in figures – Eurostat yearbook 2008*, 2008, p. 470.

Starting from the idea that the intellectual potential of women and their contribution in social life were not sufficiently capitalized, there is a constant concern in the European Union to increase the number of women working in the RD field. Sectors in which the share of women is considered low are natural sciences, engineering and technology, seen as key branches of the RD field. Women are also poorly represented in the business sector with intensive research as well as the academic level on top or influence positions⁹.

Between 2005 and 2006 was a net increase in employment over the EU-27 with about 4 million people, the labor market being characterized by the following features:

- increasing participation of women on labor market (from 60% to 63.4% between 2000 and 2006);
- increasing participation of persons aged between 55 and 64 years (from 21% to 28% during the same period);
- decreasing the rate of employment for young people between 15 and 24 years (in 2006 the percentage of young employees was 48.4% with a decrease of 3% compared to 2000);
- increasing the rate of part-time employment and with contract on a determined period (from 18% to 25% in the period considered)¹⁰.

Increasing the number of employees in the EU in the last period was based on economic recovery found in the majority of Member States (until 2006 – last year examined), in the attempt to achieve the goals set by the Lisbon Strategy in 2000 (total employment rate to reach the 70% and that for women of 60% by 2010) and in Stockholm in 2001 (employment rate for older workers aged 55-64 years to reach 50% by 2010). It is believed that in 2006 was made great progress on the labor market since the launch of the Lisbon Strategy.

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⁹ *Ibidem*, p. 462.

¹⁰ European Communities, Directorate-General for Employment, Social Affairs and Equal Opportunities, “Panorama of the European labour markets”, in *Employment in Europe 2007*, 2007, p. 27-28.

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