The Impact of Economic Growth Process on Employment in European Union Countries

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The purpose of the present study is to empirically investigate the effect of economic growth on employment in EU countries, between 2000 and 2010. The main findings of the paper suggest the existence of a low employment elasticity of economic growth in EU, but this has significant differences from one country to another. This fact highlights that one of the main problems of the European countries (especially those in the Eastern and Central EU) is their small capacity to generate employment under the conditions of the existence of an economic growth process. Taking into consideration that only the process of economic growth, which generates new jobs, is the one that assures the conditions for economic and human development it is highly important to act in order to increase the employment intensity of economic growth.

Key words: employment elasticity, labour productivity, economic development, employment in services, labour flexibility.
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1. **Introduction**

The relationship between economic growth and employment is one of the most debated issues in both the specialist literature and the European and national strategies. This happens because, on the one hand, most of the European countries have a persistent jobs deficit and they have to deal with the problem of unemployment, and on the other hand, employment does not grow enough while the economy is growing (phenomenon called jobless growth).

In „*Employment, Competitiveness, and Growth* "(E. C., 1993) as well as in the more recent European strategies in the field of employment, economic growth is set as major objective, on the one hand, and on the other hand, we have the attempt to promote the employment intensity of growth. The strategic objective of the European Union**,** set at the summit held at Lisbon (March 2000), „…to become the most competitive and dynamic economy of knowledge in the world, able of a sustainable economic growth accompanied by the quantitative and qualitative improvement of employment of a higher social cohesion", highlights the positive relationship between employment and economic growth. Moreover, by reaching, at the same time, the five objectives (economic, general support for development, technological, educational and social) set by the *Europe Strategy 2020,* economic growth, as well as employment growth is aimed to be achieved (smart growth, sustainable growth, inclusive growth), having the final goal of increasing life quality.

Generally, recent studies (Kapos, 2005 and Dopke, 2001) show that between economic growth and employment there is a positive and strong relationship, meaning that economic growth generates new jobs, but of different intensity from one period to another and from one country to another. This reflects the different response of the labour market to the economic growth process.

The explanation for the existence of a different employment intensity in relation to economic growth, must be looked for in many directions. According to (Schmid, 2008, p.88-90), the type of economic growth (extensive or intensive), is an important factor that determines the rhythm of job creation in relation to economic growth. Thus, the economic growth (GDP growth -aggregate production) as reaction to the aggregate demand growth, can be achieved in different ways: either the quantity of inputs (labour force, capital, etc) increases and then we talk about extensive growth, or the productivity of production factors increases (intensive growth), or a combination of the two possibilities.

On the other hand, the size and evolution of the effect that the economic growth process has on employment differs according to other factors such as rhythm of introducing technical progress, institutional changes specific to the labour market, wage policies, etc.

In this paper we aim to analyse the relationship between economic growth and employment from the perspective of the effect that economic growth has on employment in EU countries, between 2000 and 2010.

For reaching the objectives set, **the methodology used** was, mainly, the statistical one (descriptive methods) this being used for the statistical data processing and interpreting, data offered by Eurostat on economic growth (expressed by annual growth of gross domestic product), employment (expressed by annual growth of employment) and labour productivity (measured per employed population), for the 2000-2010 period. In order to highlight the effect of economic growth on employment or the employment intensity of economic growth (called hereafter – employment intensity), at EU level, employment elasticity of economic growth was determined. This is based on the elasticity coefficient, calculated as ratio between rhythm of change of the endogenous variable (employed population-EMP), and the rhythm of change of the exogenous variable (gross domestic product-GDP).

The relationship between economic growth, employment and labour productivity in European Union Countries

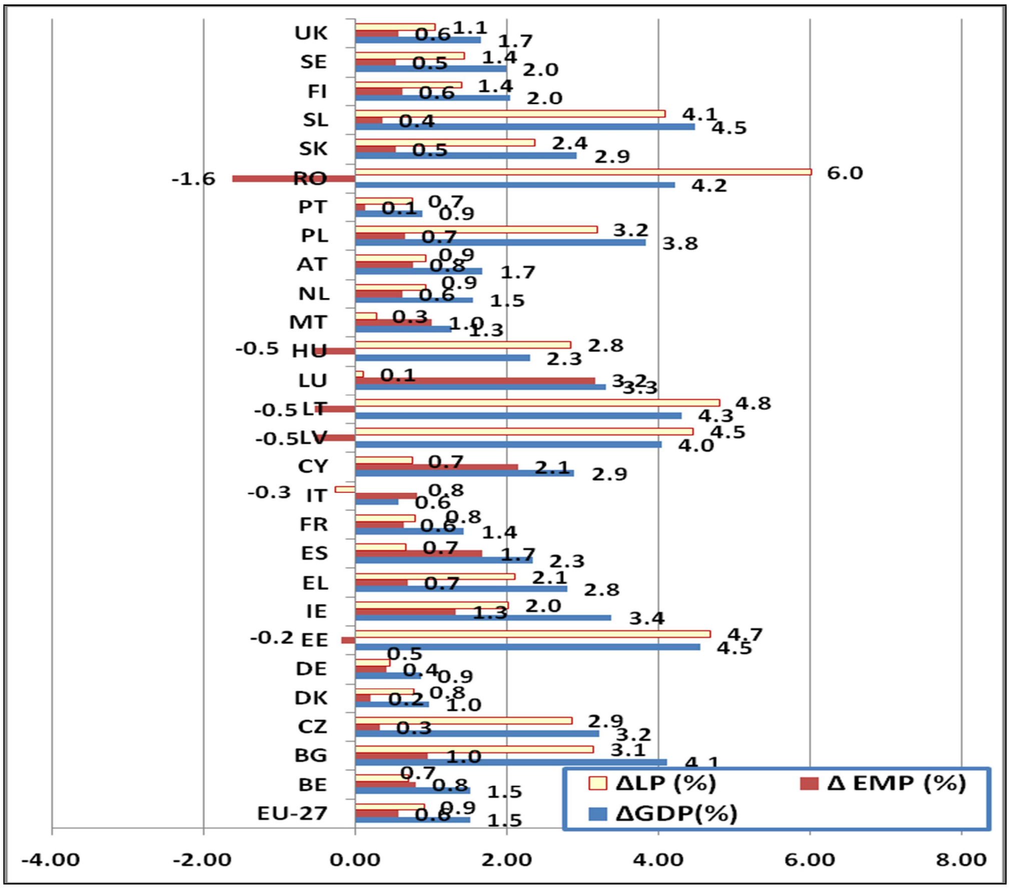
Combining employment (the extensive side of economic growth) with labour productivity (the intensive side of economic growth) has been and will remain one of the most difficult problems of economic growth. The relationship of inverse proportionality, which is set between productivity and employment in the economic activity, has the most different shapes, expressing the character of economic growth.

The need for increase in labour productivity and the one in employment represents the objectives stipulated in the European strategies, such as the Lisabon Strategy and Strategy 2020. Moreover, one of the core elements of the International Labour Organization's Global Employment Agenda addresses the twin issues of promoting higher productivity and creating employment opportunities in order for countries to improve standards of living for their citizenry and obtain long-term sustainable growth.

Statistical data, in figure 1, on the division of growth aggregate output – gross domestic product, in accordance with the "fundamental identity" (aggregate output equals the product of employment and labour productivity) – into the contribution of employment growth and the contribution of labour productivity growth, highlights that, in the 2000-2010 period, in five countries (Estonia, Latvia, Lithuania, Hungary, Romania), economic growth was obtained only due to the increase in productivity, because employment fell. In 11 countries, the increase in employment as well as the one in productivity contributed to economic growth. Italy is an exception, because in this country, in the 2000-2010 period, an average economic growth of +0.6% was recorded, under the conditions of an increase in employment (of +0.8) and a fall in labour productivity of 0.3%.

Figure 1

The relationship between annual average variation of GDP (ΔGDP%), employed population(ΔEMP%) and labour productivity (ΔLP%) in EU, 2000-2010



Source: Author's calculations based on the data provided by Eurostat

In the five European countries in which employment fell, even if there was an economic growth process, the average growth rhythm of productivity was superior to the growth rhythm of GDP (figure 1).

Romania distinguishes itself, country where, in this period, the highest reduction in employed population took place (of -1.6%), but also the highest increase in labour productivity (+6%). These statistical data determine us to state that, in Romania, one of the factors that led to the increase in productivity was the employment reduction.

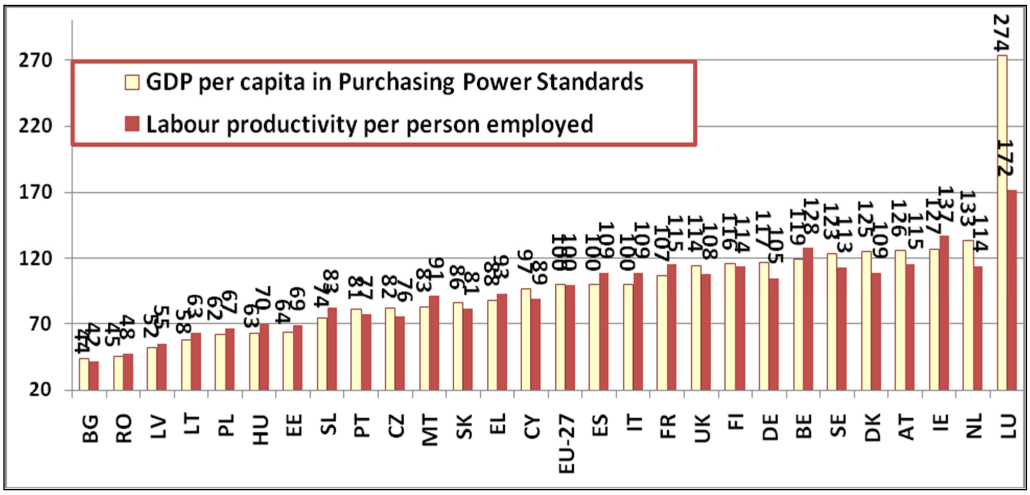
The countries in which economic growth was accompanied by an increase in productivity as well as in employment growth differentiate themselves by their contribution to the economic growth process. Thus, in countries like Malta, Luxemburg, Cyprus, Spain employment growth was superior to the labour productivity growth, and economic growth was much more labour-intensive, with employment growth contributing by 75% to the output growth. Unlike these countries, in other ones (Slovakia, Slovenia, Czech R., Poland, Bulgaria, Austria and Denmark) productivity growth was the one that contributed by over 75% to economic growth.

Overall, at the EU-27 level, in the 2000-2010 period, output growth was generated with a low employment intensity. This means that annual average economic growth of 1.5% was generated by an annual average productivity growth of 0.9% and by an average employment growth of 0.6%.

On the other hand, data in figure 1 suggest the fact that countries in the Eastern and Central EU, being found in a catching up and restructuring process of their economies, in the 2000-2010 period, recored a higher average growth rhythm of GDP compared to the one of the developed countries. However, in 2010, significant gaps were recorded between the countries in the East and West of the EU, as well as inside countries in Eastern and Central EU, as far as the level of economic development and labour productivity is concerned. Thus, according to data in figure 2, in more than half of the EU countries, in 14 countries respectively (10 countries in the Eastern and Central Europe and 4 mediterranean countries) a level of GDP per capita and labour productivity below the EU average of 100% was recorded. Moreover, it can be noticed that countries, in which a higher level of labour productivity was recorded, are characterised by a high level of economic development, fact that confirms the economic theory according to which the degree of economic development depends on the efficiency of using the labour resource, the labour productivity respectively (Stiglitz and Walsh, 2005, p.532-534).

Figure 2

GDP per capita and labour productivity (EU-27 = 100%), in 2010

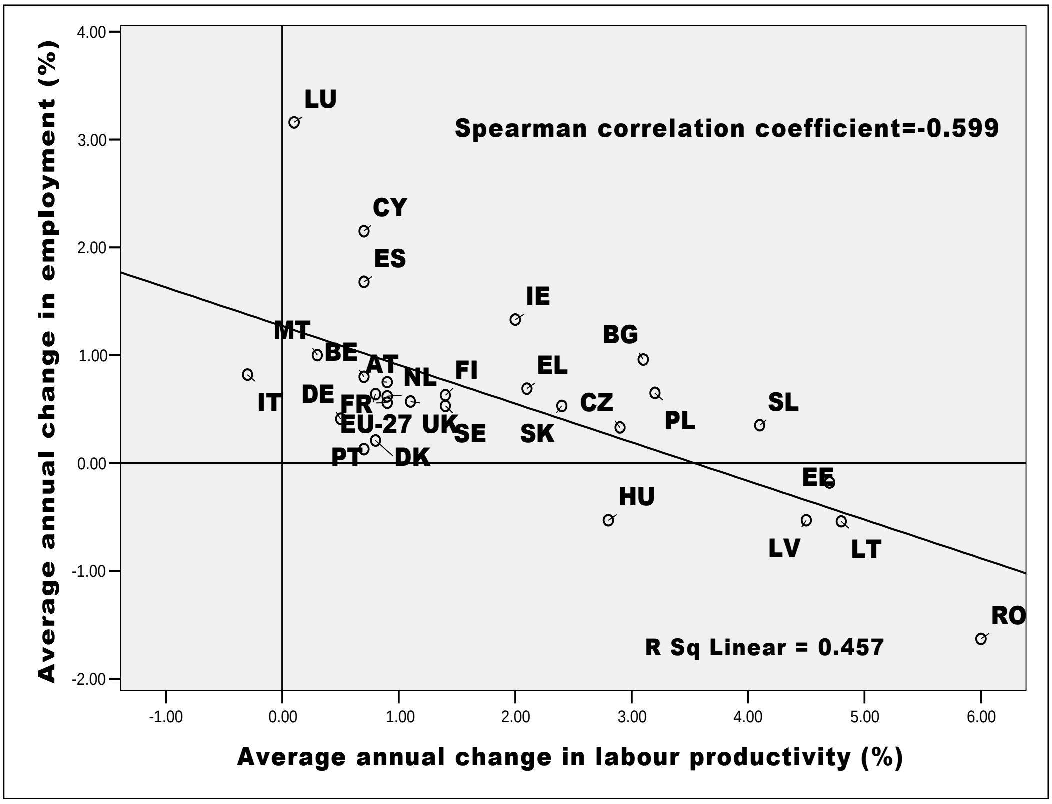


Source: EUROSTAT

As far as the relationship between labour productivity and employment is concerned, research on the impact of employment on labour productivity (Beaudry and Collard, 2002; Cette et al., 2011) start with the hypothesis according to which, in the log run, there is trade–off between employment and productivity. Put another way, low productivity growth is the price for high employment growth, or vice versa. Data in figure 3 provides a snapshot of the negative interaction between employment and productivity growth from 2000 to 2010 in EU-27. Twenty-one of the 27 countries are in the northeast quadrant, exhibiting both productivity and employment growth. Within this group Luxemburg, Cyprus and Spain are differentiated, countries where employment growth is superior to the productivity growth. The five countries in the southeast quadrant record a fall in employment accompanied by productivity growth, the lost jobs being the price paid for an increased productivity. Just one country, in the northwest quadrant, Italy, recorded a decrease in productivity, but an increase in employment, the lost productivity being the price paid for an increased employment. After using the correlation analysis on data regarding the employment growth and labour productivity growth (figure 3) for 27 EU countries, 2000-2010, we have found a negative significant relationship between productivity and employment growth (Spearman correlation= -0.599), fact which confirms the existence of trade–off between employment and productivity.

Figure 3

Negative correlation between labour productivity growth and employment growth, in EU-27, 2000-2010



Source: Author's calculations based on the data in figure 1

Conceptually, employment intensity of economic growth is inversely related to labour productivity. However, if employment-intensive growth were achieved through higher growth of labour-intensive sectors, it would not necessarily imply the reduction of labour productivity altogether, being able to combine high employment elasticity with some increase in labour productivity. On the other hand, the studies (E.C., 1993) prove the fact that there is no contradiction between, on the one hand, the necessity to increase labour productivity in the sectors that take part in the international competition, and on the other hand, the necessity for the share of the sectors with a slower productivity growth to increase. It is important for the wealth resulted from increasing productivity in the first sectors to be distributed to the benefit of the entire society.

The influence of the economic growth process on employment in European Union countries

Generally, research carried out on the effect of the economic growth process on employment starts from the hypothesis according to which, there is a direct relationship between employment and economic growth, but of different intensity from one period to another and from one country to another. Thing which reflects the different response of the labour market to the economic growth process.

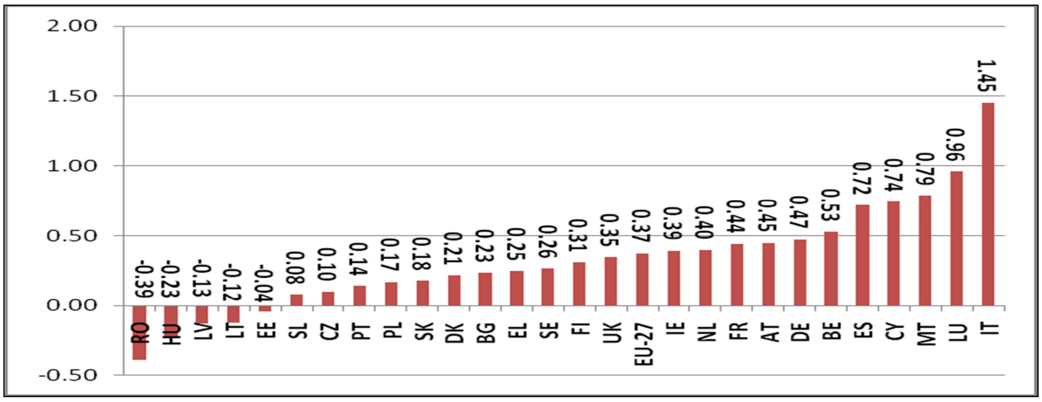
The positive relationship between economic growth and employment is highlighted by the EU specialists (E. C., 1993) who show that, at the European Community level, employment intensity suffered profound changes in the last 15-20 years, having growth tendencies, under the conditions of a decrease in the employment threshold. Moreover, Mourre (2004) offering estimative data on employment elasticities in the Euro area and the United States, covering the periods 1986 to 1990 and 1997 to 2000, considers that employment elasticity in the Euro area increased from 0.4 to 0.6, whereas it fell from 0.6 to 0.4, in the US, between the first and second analysed periods. The author also researches job intensity of growth in different economic sectors and notices that the Euro-area's market-related service sector exhibited very high employment elasticity between 1997 and 2001, which likely contributed to the rise in the region's overall employment elasticity.

According to Walterskirchen (1999) there was a very close relationship between GDP growth and employment in EU, in the 1988-1998 period, under the conditions in which employment elasticity, compared to GDP growth, was of 0.8.

The analysis of the relationship between economic growth and employment, in order to catch the effect of growth on employment at the level of the entire European Union, in the 2000-2010 period, highlights a positive elasticity (+0.37), under the conditions of an annual average growth in GDP of 1.5% and in employment of 0.6% (figure 1 and figure 4). The low value of the employment elasticity coefficient of +0.37 reflects the fact that for an average GDP growth of 1 percentage point (p.p.) there was an average employment growth of 0.37 p.p. The European Union is characterized by an economic growth, accompanied by a less proportional increase in jobs, but also by a labour productivity growth (de +0.9%), fact which creates the conditions of an intensive - extensive growth.

Figure 4

The value of the employment elasticity coefficient in relation to economic growth

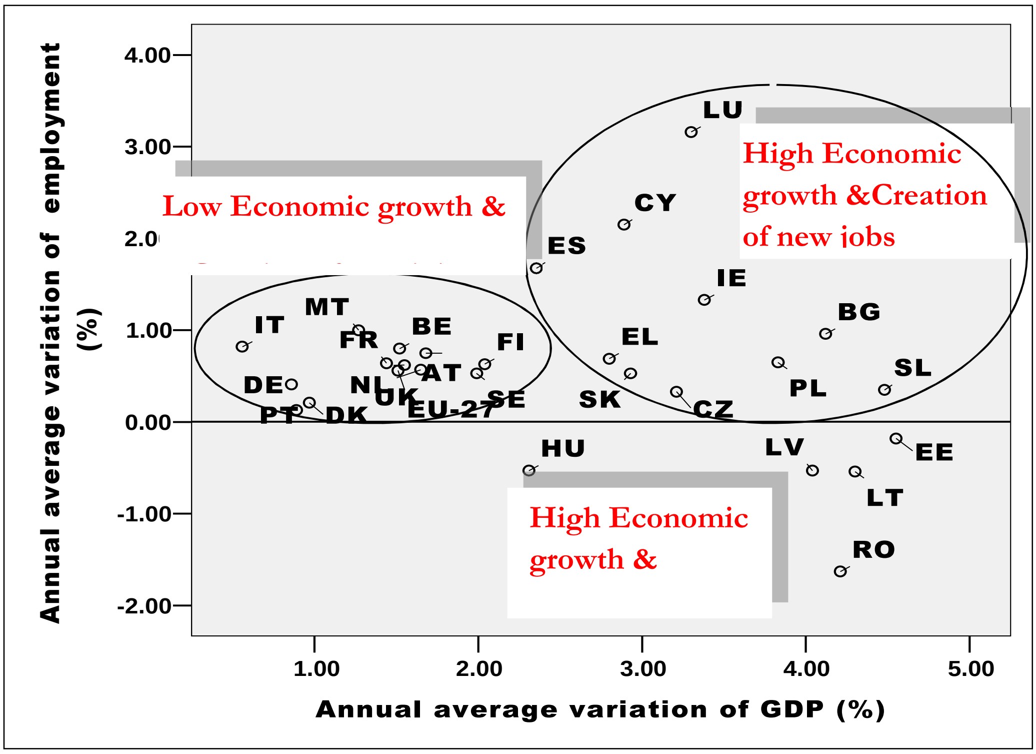


Source: Author's calculations based on the data in figure 1

Within the EU, significant differences from one country to another can be noticed in terms of employment elasticity of economic growth. Thus, statistical data indicate that the GDP annual rhythm exceeded the changes in jobs in almost all EU countries. Italy is an exception, a country where, in the 2000-2010 period, the GDP growth was inferior to the employment growth, practically recording the maximum level of employment elasticity in relation to the economic growth (+1.45) or, put another way, the maximum employment intensity.

In the five countries in the Eastern and Central EU, which did not manage to create jobs in the 2000-2010 period, on the contrary, jobs were reduced, under the conditions of a high economic growth (between 2.3% in Hungary and 4.5% in Estonia), employment elasticity was negative, reflecting the negative effect of economic growth on the employed population. This group of countries is represented in figure 5, below quadrant, forming the group of countries with ***high economic growth and jobs reduction.*** The highest negative value of employment elasticity was recorded in Romania, of -0.39 respectively, fact which reflects that in the 2000-2010 period, in the economy of this country, for an average GDP growth of one p.p. there was an average employment decrease of 0.39 p.p. In Estonia, the lowest negative value of employment elasticity was recorded, very close to zero (-0.04), suggesting the rigidity of employment in the conditions of a very high rhythm of economic growth.

Figure 5
The relationship between economic growth and employment, in the EU, 2000-2010



Source: Author's calculations based on the data in figure 1

Ten countries of the EU (Spain, Greece, Cyprus, Slovakia, Czech Republic, Luxemburg, Ireland, Poland, Bulgaria and Slovenia) record a high economic growth (between 2.35% in Spain and 4.48%, in Slovenia) accompanied by employment growth. In this group, we notice differences between countries, meaning that in some countries (for exemple in Luxemburg, Cyprus and Spain) the economic growth generated jobs in a higher proportion and in others in a smaller one, fact reflected in the level of employment elasticity. The minimum value of employment elasticity (of +0.08) is recorded in Slovakia, country where the average rhythm of GDP growth of +4.5% generated an average growth rhythm of new jobs of only +0.4%, there being a weak relationship between the two macroeconomic variables. On the contrary, in Luxemburg, country where the maximum value of employment elasticity of +0.96 is recorded, an annual average jobs growth of +3.2% is obtained, generated by an economic growth of +3.3%, fact which reflects a strong and positive relationship between employment and economic growth.

The third group is made up of 12 countries (Italy, Denmark, Germany, Portugal, France, the UK, Austria, Belgium, Sweden, Finland, Holland, Malta), which, generally, have a high development level, reason for which these did not have to reduce economic gaps, as most of the other countries outside this group. Between 2000 and 2010, these countries recorded a more reduced GDP growth rhythm compared to the other two groups of countries (economic growth rhythm between the variation interval of +0.6 in Italy and 2.0% in Finland), accompanied by a low positive employment rhythm (between +0.3% in Portugal and +1.0% in Malta). By analysing the values of the elasticity coefficients (figure 4), we notice that, for most of the countries in this group, an employment elasticity having average values (between +0.2 and +0.5) was determined, Portugal being an exception, where employment elasticity is the lowest (+0.14) and Italy where it is very high (+1.45). Both a growth in employment and one in productivity correspond to the positive and below one elasticity, but productivity growth is inferior to the GDP growth, specific to an intensive-extensive economic growth.

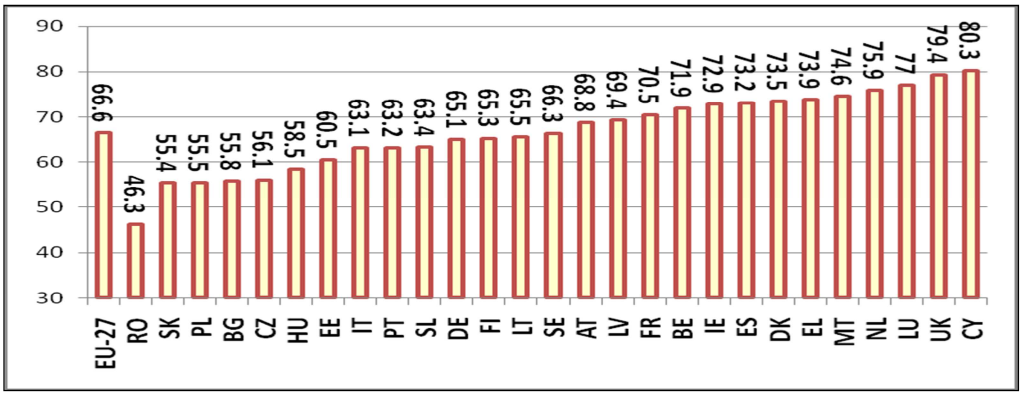
The existence of a positive or negative, higher or lower employment elasticity of economic growth, can be explained by the type of economic growth (extensive or intensive), but also as a result of the influence of some factors such as the institutions specific to the labour market, relative cost of labour, the micro and macroeconomic context, technological progress, working time including part-time work, the sectoral composition of employment, etc.

As far as the employment sectoral structure as factor which differentiates employment intensity from one country to another is concerned, Döpke (2001) and specialists of Kiel Institute of World Economics (2002) highlighted that in the economies in which services are predominant, there is higher employment intensity, compared to the ones in which the other sectors are predominant. Therefore, any policy adequate for promoting the employment structural change in favour of the services sector could help fighting against unemployment.

Taking into consideration that former communist countries in the east and central Europe inherited an economy based on industry and agriculture, and less on services, the reduction of employed population or the relatively low employment growth, in these countries, was determined by the structural transformations of these economies. In the the 2000-2010 period, in all 27 EU countries, there was a labour growth in the services sector, but the highest growth was recorded in the east and central EU (the newer Member States). At the same time, at the EU level, it can be noticed that in countries with a similar stage of development, there is variation in the size and dynamics of the employment in services (according to data in figure 6). This can be determined by the differences in the institutional framework affecting the degree of flexibility of labour and employment intensity implicitly.

Figure 6

Employment in services, in EU-27, in 2010 (%)



Source: EUROSTAT

Corroborating statistical data in figure 2 and 6, we can notice that, in 2010, the highest shares of employment in services were recorded in the countries predominantly from Western and Northern Europe, countries that have a high level of economic development and labour productivity. On the contrary, in the countries in Eastern and Central Europe, low shares of employment in services and the existence of a higher employment in the primary sector can explain the low level of economic development and labour productivity. This fact proves that the change in the economy's structure, meaning the increase in the services share, provides the necessary conditions for employment growth and economic development implicitly.

Some authors (Flaig and Rottman, 2007) state that the effect of the economic growth process on employment depends on the institutions specific to the labour market and labour flexibility, demonstrating that rigidity in the field of employment, taxes on high salaries, the existence of some barriers in negotiating wages, led to the reduction of the employment intensity.

From the analysis of the statistical data, provided by Eurostat, on employees with a contract of limited duration (% of total number of employees) and persons employed part-time (% of total employment), it results that in the countries where elasticity is negative, as well as in those with low elasticity employment (most of the countries in Eastern and Central Europe), these indicators that show the flexibility of the labour market have a very low level, compared to the countries where labour elasticity is very high. For exemple, in Romania, where the highest fall in employment was recorded and employment elasticity was negative, in 2010, the lowest level of employees with a contract of limited duration was recorded, respectively of 1.1% compared to the EU-27 average of 14%. Therefore, especially in the countries in Eastern and Central EU, for the increase in labour market flexibility and employment intensity of economic growth the increase in part-time jobs and temporary employment could be viable alternatives to traditional employment.

Conclusions

The main findings of the paper suggest the existence of a low and positive employment elasticity of economic growth (elasticity coefficient =+0.37) at the EU level, in the 2000-2010 period, which reflects a small capacity of European economy to generate employment under the conditions of the existence of an economic growth process.

Within the EU, significant differences from one country to another can be noticed in terms of employment elasticity of economic growth (elasticity coefficient has values between -0.39, in Romania, and +1.45, in Italy), because of the different reaction of the labour market to the economic growth process. In five countries (Estonia, Latvia, Lithuania, Hungary, Romania) of those 27 analysed employment elasticity is negative, which reflects the negative effect of economic growth on employment in these countries, having negative consequences on economic and human development.

On the other hand, the results show that the impact of the economic growth process on employment differs from one country to another according to the type of economic growth (extensive or intensive), the employmet sectoral structure, and the labour market flexibility. At the same time, our findings highlight that in the European economies in which the share of employment in services is high, the labour market is more flexible and where there is extensive economic growth there is higher employment intensity.

Taking into consideration that only the process of economic growth, which generates new jobs, is the one that assures the conditions for economic and human development it is highly important to act in order to increase the employment intensity of economic growth.

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