

MACRO-REGIONAL DISPARITIES IN ROMANIA

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ABSTRACT: *Economic disparities are disparities between levels of economic development of the areas or regions within a national economy. If economic literature has failed to explain the causes of inequalities in economic development of different regions of the EU, this issue became a priority in EU economic policy, especially after the adhesion of Greece, Spain and Portugal, countries characterized by a lower level of development from other EU countries and also marked by significant regional imbalances. European Union supports reducing disparities between different regions of Member States so that all regions and their people to benefit from economic and social advantages of the Union. This paper aims to highlight disparities between the macro-regions in Romania. Regional demarcation criterion in the NUTS system is the population's number within a territory. Most pertinent argument is that the goal of all activities in a society lies in meeting the needs of the individual and of the community. This possibility is ensured by a certain level of economic development in the region. Less developed areas of Romania are located in Northern Moldova and in the South Eastern Romanian Plain and the more developed areas include, in addition to Bucharest and Constanta, Transylvania and Banat regions.*

KEY WORDS: *disparities, macro-regions, regional development, demographic indicators, GDP per capita, employment rate, foreign direct investment, R&D expenditure*

JEL CLASSIFICATION: *R11, R12*

1. INTRODUCTION

Differences and regional disparities exist and, hence, the authorities concern for taking long-term regional strategies designed to allocate resources to mitigate and then remove regional disparities. In such cases government intervention becomes imperative for regional policy development, but also for allocating resources for this purpose. In Romania, regional development emerged first as a necessity to correct the

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existing regional disparities and on the other hand, to retrieve and apply EU law in this area.

In all theoretical and practical approaches that aimed at the foundation of strategies and policies for economic and social development, *the region* is the cornerstone of the county level. Economic and social practice is often viewed as an administrative-territorial unit of a country, having, on the one hand, a geographical determination (a portion of the territory of a country that features individually by historical, cultural, economic, social) and on the other, an administrative determination involving an amount of institutional power, which gives it a certain autonomy in relation to the central authority (wider or narrower, depending on the options, the dominant political orientations in that period).

In Romania the eight development regions are grouped into 4 macro-regions: Macro-region 1 (North - West, Center); Macro-region 2 (North - East, South-East); Macro-region 3 (South Muntenia, Bucharest - Ilfov); Macro-region 4 (South-West Oltenia, West)

2. DEFINITIONS AND CAUSES OF DISPARITIES

According to the economics dictionary, the economic disparities are defined as „quantitative and qualitative disparities between levels of economic development of small countries by comparing the following macroeconomic indicators: gross domestic product, net national product per capita, industry structure and the share of different branches of economy in gross domestic product, per capita production and consumption of major products and services, the degree of literacy, foreign trade structure, indicators of economic and social welfare” (Dobrotă, 1999, p.163).

Social discrepancies can be: *quantitative*, when there are absolute values between different indicators; *quality*, highlighted by structural comparisons; *absolute*, characterized by absolute size difference between level indicators; *relative*, manifested by comparable differences in the proportion and rhythms recorded by the macro-economic indicators used.

In Romania, disparities in regional development were reduced when the economy grew and they grew during the economic downturn, the same like in EU countries.

Among the major causes that led and lead to increased disparities we can find:

- location and extent of foreign investment in developing regions;
- loss of competitive capacity of enterprises, both on domestic markets and on external ones , due to increased physical obsolescence of technologies (especially in regions located in the eastern part of country) and SMEs limited access to the financing
- special factors: specialized workforce; the tradition of crafts and trade; infrastructure's potential; migration and immigration influence; proximity to sources of raw materials; nearby internal and external markets; the existence of disadvantaged areas or areas receiving government programs or international capital transfer areas, from the work abroad.

Differences between levels of development of different regions are the result of their differential endowment of natural and human resources and the relatively specific staff development (economic, technological and demographic, social, political, cultural) that shaped their development along the history.

This led to the predominance of agriculture as an economic force in regions where climatic conditions were favourable, of the heavy industry in areas where iron ore and coal resources were found and of the concentration of services in administrative centres. These consequences are felt in full, when all counties are facing economic problems and in particular, issues of restructuring the industry.

Economic restructuring had a significant negative impact on mono-industrial areas, deepening regional disparities. Areas which had known an artificially forced industrial development, were first affected by the processes of economic restructuring: on the background of global economic depression, the intensity of the economic decline trend in the infrastructure was reduced in relatively more developed counties than in less developed.

Consequently, regional economic disparities have increased, particularly concerning employment and industrial production, but also regarding the income and household financial resources. It was also registered an increase in disparities and social indicators (education, health care, local public services). Less developed areas of Romania are located in Northern Moldova and in the South Eastern Romanian Plain and the more developed areas include, in addition to Bucharest and Constanta, Transylvania and Banat regions. The trend reversed during the period of economic growth that began in 2000, bringing new opportunities for business growth and reducing regional disparities.

3. DISPARITIES OF DEMOGRAPHIC INDICATORS

From demographic point of view, Romania is characterized by significant regional differences. The population's numerical and structural change, as well as the aging affect, influences the level and structure of the workforce and its components: employment and unemployment. The demographic decrease in Romania, at a macro-regional level, can be seen in Table 1:

Table 1. The macro-regions populations' (thousands of persons)

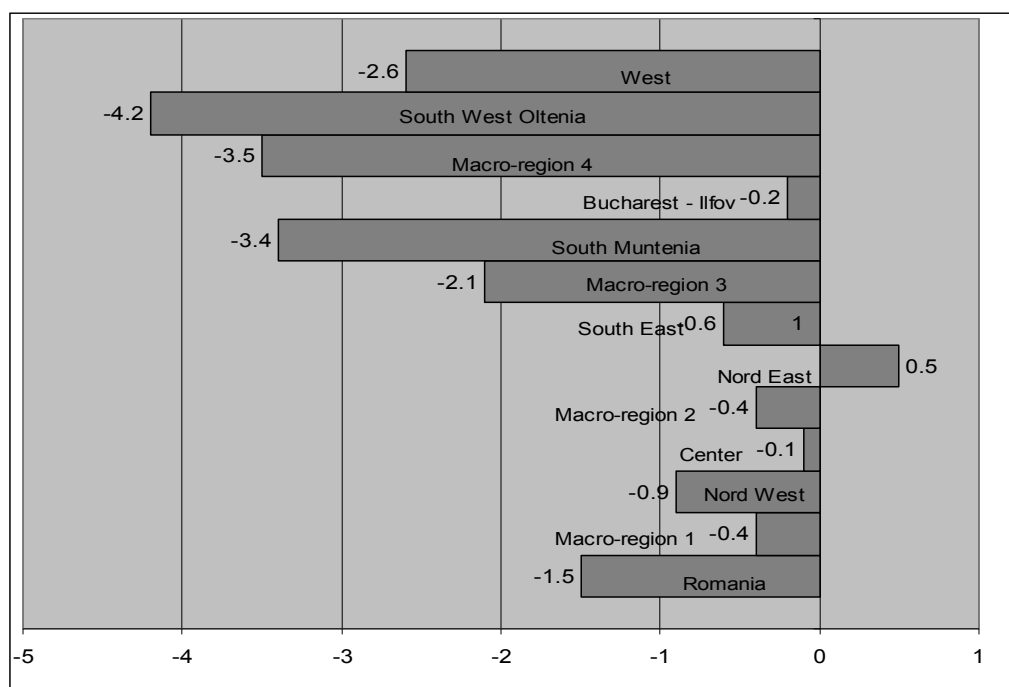
Years	Romania	Macro-region 1 (N-W, C)	Macro-region 2 (N-E, S-E)	Macro-region 3 (SM, BI)	Macro-region 4 (S-W O, W)
2000	22.435,2	5.486,3	6.757,8	5750,2	4440,9
2005	21.691	5.262	6.596	5587	4246
2007	21.537,6	5.249,5	6.557	5526,8	4204,3
2008	21.504,44	5.245,57	6.538,67	5.532,55	4.187,65

Source: National Institute of Statistics, (2008, 2009), Romanian Statistical Yearbook

It noted that there was a demographical decrease, both nationally and at macro-regional level. The total population decreased from 22.43 million in 2000 to 21.50 million in 2008, with about 4.15%. In Romania, at a macro-regional level, population number changed as following: Macro-region 1: - 240.73 thousands of persons; (-

4.39%); Macro-region 2: -219.13 thousands of persons; (-3.24%); Macro-region 3: -217.65 thousands of persons; (-3.78%); Macro-region 4: -253.25 thousands of persons (-5.7%). The largest population decrease occurred in macro-region 4 (-5.7%) and the lowest in macro-region 2 (-3.24%). Demographic decline is determined by negative natural growth and by the negative balance of external migration (Figure 1).

In the four development macro-regions it is recorded a negative natural increase, due to lower birth-rates. Two macro-regions (1 and 2) recorded a negative natural increase below the national average and macro-regions 3 and 4 are at a higher average. When talking about developing regions the only exception is recorded in the North Eastern region, where mortality exceeds the birth rate and the natural increase is positive (0.5).



Source: Graph developed from data from the Statistical Yearbook of Romania 2009

Figure 1. Natural increase of population at a macro-regional level in Romania, in 2008 (rates per 1000 inhabitants)

Birth rate is the only component of the population over which it can operate with effective results, while on short and medium term it cannot be expected that external migration and mortality significantly contribute to reducing population's decreasing in Romania.

The population density at a macro-regional scale has significant variations.

Macro-region 3 has a higher density than the national level, due to Bucharest-Ilfov region which surpasses the national average. Two macro-regions (1 and 4) recorded values below the national average and macro-region 2 recorded a density

level near the national average. The poorest populated macro-region is the fourth one, which showed a density of 68.4 inhabitants /km² in 2008. This reduced value is due to Western development region, with the largest population decline of the eight development regions, with a mountainous landscape on a large part of the surface. The degree of density in this region is well below the national average.

Table 2. Population density (inhabitants /km²)

Years	Romania	Macro-region 1 (N-W, C)	Macro-region 2 (N-E, S-E)	Macro-region 3 (SM, BI)	Macro-region 4 (S-W O, W)
2000	94,1	80,37	93,07	158,52	72,51
2005	90,7	77,09	90,84	154,02	69,33
2007	90,3	76,91	90,30	152,4	68,65
2008	90,2	76,8	90,00	152,5	68,4

Source: National Institute of Statistics , (2008,2009), Romanian Statistical Yearbook,

Table 3. Population age structure at a macro-regional level

Region	Total	Age group					
		0 - 14 years		15 -59 years		60 years and over	
		2000	2008	2000	2008	2000	2008
Macro-region 1	100,00	18,5	15,5	63,99	65,75	17,51	18,75
Macro-region 2	100,00	19,75	16,61	62,12	64,61	18,13	18,78
Macro-region 3	100,00	15,95	13,74	64,14	65,79	19,91	20,47
Macro-region 4	100,00	17,8	14,48	62,7	64,96	19,6	20,56

Source: calculations based on data from Institutul Național de Statistică, Statistici regionale, www.insse.ro, [accessed 06.06.2010]; Romanian Statistical Yearbook 2009;

Age structure of the population bears the imprint of a specific demographic aging, marked mainly by declining birth rates, which resulted in absolute and relative reduction of the young population (0 -14 years), and increasing proportion of elderly people (60 years and over) . Long term, these demographic trends will affect both the educational system, by reducing the number of students, and expanding demand for health services and social protection.

Aging population will exert a negative influence on the overall economy, as it will unbalance the active population in the way of being a burden, also the social security, and hence the excessive increase of taxes.

4. DISPARITY ON THE DYNAMICS OF GDP PER CAPITA AND ON THE CONTRIBUTION OF SECTORS IN ORDER TO CREATE THE GDP

The relevant indicator for determining the level of economic development is Gross Domestic Product per capita. Per capita GDP growth at macro-regional level in Romania is presented in Table 4. It can be seen from the data analysis presented in the table that , macro-region 3 is ahead of other macro-regions and it owns 140% of GDP per capita nationwide. This percentage is due to Bucharest-Ilfov region, the region experienced this indicator increased by approx. 40%, while for other regions, increases

are below 10%, or even stagnating (South-West Oltenia, North - West). Macro-region 1 is on the next place with a value close to the national level.

Table 4. Dynamics of GDP per capita at the macro-regional level compared with the national average

Region	GDP/capita					
	1998	2000	2002	2004	2006	2008
Romania	100	100	100	100	100	100
Macro-region 1	100,7	100,05	101,05	100,8	100,05	98,75
North-West	95,5	93,0	94,1	97,3	95,1	93,00
Center	105,9	107,1	108	104,3	105	104,5
Macro-region 2	89,95	79,45	77,6	80,05	77,6	75,65
North-East	79,8	70,0	69,3	69,3	67,8	66,1
South-East	100,1	88,9	85,9	90,8	87,4	85,2
Macro-region 3	124	144,15	144,1	137,1	141,3	149,3
South-Muntenia	85,8	81,5	80	83,6	81,8	82,4
Bucharesti-Ilfov	162,2	206,8	208,2	190,6	200,8	216,2
Macro-region 4	95,45	93,2	94,1	99,1	99,85	95,3
South-West Oltenia	90,0	83,8	79,9	83,5	82,9	80,00
West	100,9	102,6	108,3	114,7	116,8	110,6

Source: Own calculations based on data from the***, Planul Național de Dezvoltare 2004 -2006, National Institute of Statistics, (2008, 2009), Romanian Statistical Yearbook

Although Western region ranks 2 in the country, being surpassed only by the Bucharest Ilfov region (Gross Domestic Product per capita of the Western region exceeds the national average, resulting in a high level of economic development of the region) ,macro-region 4 is the second smallest, due to the low development of the South West Oltenia (being on the sixth place among developing regions). Note also that the Western region is the only region in the country where the disparity index of GDP per capita had always a positive development compared with the national average. Macro-region 2 falls to last place, with a low level of GDP per capita (below 80% of GDP per capita nationally). This situation is due North - East region, where it was reported the lowest regional GDP per capita, something that indicates that the region has the highest level of poverty.

Northeast Region falls within the group of the poorest areas of regional development which also includes: South East, South Muntenia, South West Oltenia and the North West territory, which are below the national average values of this indicator. Gross domestic product is the most often indicator used to determine macro-economic situation and effectiveness of different sectors. One of the indicators that can provide information on the economic situation of the regions is participating in the formation of economic sectors to gross domestic product (GDP). Sectors contribution to regional GDP for the period 2003-2009, in the four macro regions of Romania can be observed in Figure 2.

Analyzing the sectors that share a regional GDP have highlighted the following issues:

- Services Sector in all four macro-regions has a contribution of over 40% of regional GDP, even if the percentage is about half the contribution of all sectors,

- the work breakdown reveals that the sub-sector of tourism and of low added value activities predominates. The services sector in Bucharest-Ilfov region has a contribution of over 60% of regional GDP, being the main source of wealth for the region. This sector's contribution to regional GDP has increased in all of the country's regions in the period under review;
- Farming contributes in a lower percent in creating the GDP for all the macro-regions, this sector's share in GDP knowing a loss in 2007 and 2009 compared with 2003. Although agriculture has a small contribution to regional GDP, in this sector operate more than half of the regional employment, which shows the low productivity in the field.
 - Industry still has a high contribution to regional GDP, over 20% in all the macro-regions.

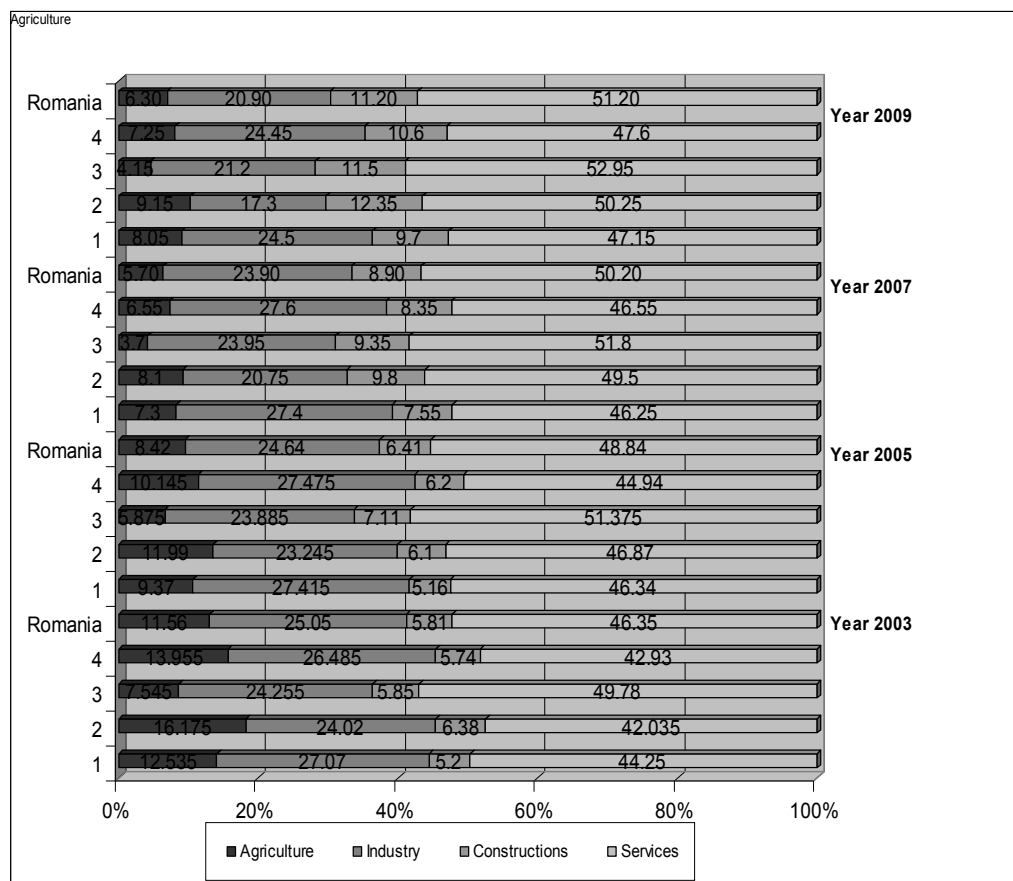


Figure 2. Sectors share in regional GDP

Services contribution to GDP has exceeded the industry's contribution to GDP, which shows the positive trend of development of the tertiary sector, a sign of a modern economy, and a national trend.

We also talk of a „quality” increase of gross domestic product of all regions. Share agriculture and forestry declined, while the share of services in regional GDP increased during the same period. At macro-regional level (table no. 5) the lowest GDP is recorded in macro-region 4, where the employment level is lowest. The average level of productivity is exceeded only in the third macro-region.

Table 5. Labour's productivity level

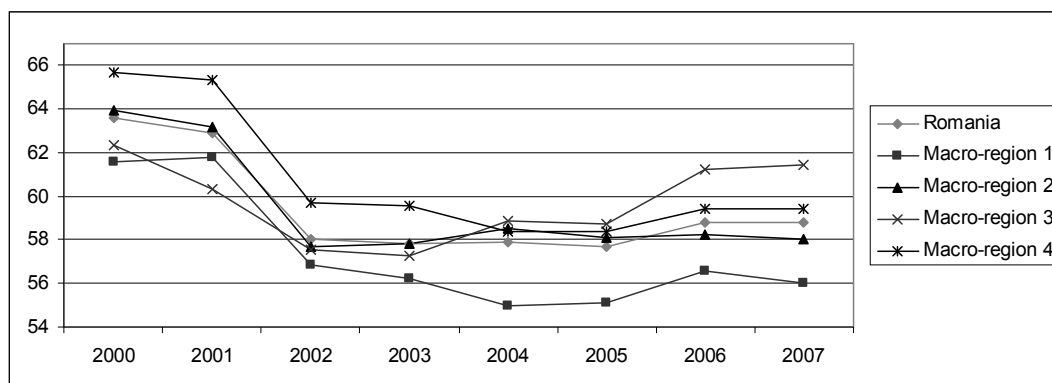
Macro-regions	GDP	Employment	Labor productivity	GDP %	Employment %
Macro-region 1	81097,4	2190,3	37025,7	23,55	25,87
Macro-region 2	76938,6	2282,0	33715,4	22,33	26,91
Macro-region 3	122011,9	2304,6	52942,7	35,43	27,23
Macro-region 4	64378,1	1692,4	38039,5	18,69	19,99
TOTAL	344426,0	8469,3	40667,5	100,00	100,00

Source: National Institute of Statistics, (2008), Romanian Statistical Yearbook;

Most of GDP (35.43%) comes from the macro-region 3, in which is the highest employment. Macro-region 4 consists of two merged development regions with the lowest contribution to GDP (18.69%) and lowest level of OP (19.99%). The situation can be explained by the low level of labor productivity in the fourth development area.

5. DISPARITIES CONCERNING EMPLOYMENT

The analysis of the population's employment rate shows a significant presence of the underemployment phenomenon in the whole economy. The employment rate in the four macro-regions in the period 2000-2007 is presented in Figure. 3.



Source: Graphic developed based on data from the Institutul Național de Statistică, Statistici regionale, , www.insse.ro, [accessed 06.06.2010];

Figure 3. The employment rate in the Romanian macro-regions between 2000-2007

Employment rate of the Romanian population has remained relatively constant over the period 2000-2007, marking a slight downward trend. This drop in employment is correlated with jobs reduction and with the phenomenon of temporary migration for

work abroad. Employment rates above the national average are recorded in the third and fourth macro-region. It should be noted that South West Oltenia is a part of the fourth macro-region, where the high employment rate is due to the high level of employment in agriculture. The West region brings a significant contribution, but in this case because of much higher and diverse labour supply, situation also encountered for Bucharest-Ilfov region. Employment structure by main activities of the national economy is presented in Table 6.

Table 6. Employment structure by the national economy's main activities

Institutional sectors	Agriculture			Industry and construction			Services		
	2000	2007	2007/2000	2000	2007	2007/2000	2000	2007	2007/2000
Romania	43,90	29,48	-14,42	25,70	31,41	5,71	30,4	39,11	8,71
M 1	36.60	21.61	-15.00	32.25	38.65	6.40	31.15	39.75	8.60
M 2	52.20	39.56	-12.64	20.35	26.30	5.95	27.45	34.14	6.69
M 3	27.50	17.28	-10.22	30.10	30.46	0.36	42.40	52.26	9.86
M 4	48.80	31.15	-17.66	23.65	34.08	10.43	27.55	34.78	7.23

Source: National Institute of Statistics, (2009) Romanian Statistical Yearbook;

It is noted that in the period under review, the farming population suffered a decreasing trend in all the macro-regions, while registering an increase of the population employed in the service sector. The largest decrease of agricultural population is recorded in the macro-region 4 of 17.66%. In this macro-region there is an increasing share of employment in services and industry. In 2007, employment in industrial activities is located in a secondary position in three of the four macro-regions, the services sector holding the top position. An exception is the macro-region 2, where most of the population is employed in the primary sector. Further development effort of the services sector, capable of generating new jobs in the context of sustainable development must be supported, even if we can see employment increase in the services sector and a sharp decrease in agricultural population.

Most of the growth of the tertiary sector is recorded in macro-region 3, because of the Bucharest - Ilfov region, the only region where the country's national services have 38% of total employment and generates most important jobs, reaching 70.53% of total employment in the region. It is noted that in this region there is the largest urban agglomeration, the capital city and most of the government's institutions.

6. DISPARITIES IN ATTRACTING FOREIGN DIRECT INVESTMENT AND IN RESEARCH - DEVELOPMENT

Foreign investment in Romania has been guided by the availability and potential areas and by the business mentality and tradition in the field. Investment is an important driving force for economic development. Foreign direct investment can bring a substantial increase in productivity by bringing not only its own technology, but also the best practice.

Table. 7. Distribution of foreign direct investment in the macro-regions

Macro-regions	FDI Balance in 31 December 2003		FDI Balance in 31 December 2005		FDI Balance in 31 December 2007		FDI Balance in 31 December 2008	
	Value (mil.euro)	% total	Value (mil.euro)	% total	Value (mil.euro)	% total	Value (mil.euro)	% total
M 1	1321.5	13.01	2867	13.10	5448	12.74	6254	12.82
M 2	1408.5	13.86	2130	9.73	3120	7.29	4687	9.6
M 3	6317.2	62.18	14652	66.95	30458	71.21	34005	69.68
M 4	1112.4	10.95	2236	10.22	3744	8.75	3852	7.89
Romania	10159.6	100	21885	100	42770	100	48798	100

Source: Banca Națională a României și Institutul Național de Statistică, (2003, 2007, 2009), Cercetare statistică asupra Investițiilor Străine Directe în România, www.bnro.ro, [accessed 09.06.2010];

In the period under review, there was an increase in the volume of foreign direct investment (FDI) in Romania (Table no. 7), representing an increase of over 115% in 2005 compared to figures of 2003 and 380.3% in 2008, over the same period. FDI in 2007 compared to 2005 is 95% and in 2008 to 14.1% in 2007. Foreign capital was more concentrated in third three and first macro-region, in Bucharest-Ilfov Region, West, Southeast Centre, which had a positive effect on labour markets in these regions, on the creation of permanent skilled labour and business development services (eg placement firms of specialized labour).

In 2003, 62.18%, and in 2008 approximately 70% of total direct investments in Romania have been directed to macro-region 3 (Bucharest-Ilfov region has attracted more than 60% of total FDI realized in Romania, because the capital is the main magnet foreign investment, as confirmed by the large number of companies with foreign capital located here).

The main receiving sectors are: Real Estate - business and housing - , financial intermediation (Bucharest) and food industry (Ilfov). However it must be taken into account that some direct investment recorded in Bucharest are related to physical investments located in other regions of Romania. For example, it could not be found a connection between the growth rate of SMEs and FDI development.

One of the factors that enhances competitiveness is developing research and development sector. In Romania R & D sector still has weak links with the economic environment, not having a significant contribution to regional economic development. With the economy based on knowledge, on industrial clusters and on clusters based on research, the technology transfer process will be will extremely stimulated.

One factor that may increase business competitiveness is the high share of researchers in technical sciences and engineering. Unfortunately, low salaries, less material resources to achieve proper performance, and opportunities for research programs in other countries have led ,gradually, to reduce the number of researchers.

The main problems the field is facing are: insufficient financing from public funds, 0.53% of GDP in 2007 (No Table. 8) exceeded R&D infrastructure, lack of adaptation to competitive market conditions, the reduction and increase average age of researchers. Another major problem is the weak connection between research, economy and relatively low capacity to exploit research results.

Table 8. Macro-regional share in total expenditure for national R & D

Total expenditure CD	2000	2001	2002	2003	2005	2006	2007
% in GDP	0.37	0.39	0.38	0.39	0.41	0.45	0.53
% Regionally	100	100	100	100	100	100	100
Macro-region 1	11.59	10.21	13.44	11.46	12.01	11.34	12.3
Macro-region 2	11.81	11.98	9.65	8.39	9.11	10.34	11.2
Macro-region 3	66.58	69.18	68.52	71.24	70.62	70.44	68.2
Macro-region 4	10.02	8.63	8.39	8.91	8.26	7.87	8.23

*Own calculations based on data from the***, (2008), Planul de Dezvoltare al Regiunii Centru pentru perioada 2007 - 2013, www.adrcentru.ro, București, data accesării 07.06.2010; National Institute of Statistics, (2008,2009), Romanian Statistical Yearbook*

So far R&D expenditure had a modest dynamic in Romania, but with increasing competition, research and development will be one that will enable firms to survive on the market. The largest share, of over 60% of total spending on research developing, it is found in macro-region three.

Stimulating innovation is however very important to increase the added value, to the long-term competitiveness and for Romanian companies' access on international markets, so, by default, to reduce the trade deficit. That means it is necessary to support the innovative capacity of firms through different activities of assistance, advice, support in accessing to funds, creating conditions for development.

7. CONCLUSIONS

Romanian economy has some features that put into question its regional and national policies and the issues for which solutions must be found, in order that the economy to be integrated into the productive system of the EU, namely: regional development based on disparities, a distorted and underperforming structure for different sectors of activities, an aging and declining population and the migration of the working population. Growth followed a west-east direction, western markets proximity acting as growth factor distribution. Although statistical data shows some oscillations in time, due to local factors, it can be seen as economic growth had a significant geographic component, the underdeveloped areas being the northeast and south. Underdevelopment appears to be largely correlated with unemployment and the predominance of rural activities and inability to attract FDI.

West and north-west area has received a relatively high share of foreign participation in firms' capital, amid continuing traditional exchanges and having a code of conduct that continues to adapt to international business. Foreign investment in Romania has been guided by the areas' availability and potential and also by the business mentality and traditions in the field. Productive system's performance is determined by the labour productivity which has the highest values in the third macro-region, because the high level of productivity in Bucharest-Ilfov region, and lowest one in macro-region 2. The most dynamic regions are considered the Western one and Bucharest Ilfov region, exceeding the average level of labour productivity.

Disparities still remain between Romania's macro-regions. In our country, as in other new countries of the European Union, it is clear there is a centre-peripheral

type of structure, self-sustained by the faster growth of the regions around the capital due to: investment preferences for developed regions, labour migration, government intervention in the more developed regions in order to achieve a higher national growth rate. Romania may be considered appropriate for a policy of training and development of agrarian- industrial structure of the national and regional economic systems. Such a policy must be coupled with policies to boost birth rate, to reduce labour migration, to change the training structure, to retrain people and to develop managerial skills.

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