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THE INDUSTRY IN ROMANIAN URBAN AREAS AND DEVELOPMENT REGIONS

Cristina IACOBOAEA
Technical University of Civil Engineering, Bucharest, Romania,
cristinai@utcb.ro

Cristina ALPOPI
Academy of Economic Studies, Piata Romana 6, Bucharest, Romania,
calpopi07@yahoo.com

Cristina MANOLE
Academy of Economic Studies, Piata Romana, 6, Bucharest, Romania
cristina_manole68@yahoo.com

Abstract
Throughout this work the authors are making an analysis of the evolution of industry in the urban areas and in the eight development regions of Romania. In doing it so indicators, such as: distribution of the employees according to each region and turnover in the industrial field, the spreading of the industries, the distribution of brands in industry, the coefficient of variation in the number of brands in industry, their size etc. are considered. The used methodology aims at pointing up the competitive advantages of each of the eight development regions, through the analysis of all subsectors of industry: mining, manufacturing industry, production and supply of electricity and heat, gas, hot water and air conditioning, water supply, waste management, cleaning, decontamination activities. The effect of the restructuring process within development regions is also presented here, the most affected being the mono industrial ones.
The analysis leads to the conclusion that the territorial development of the Romanian industry reveals significant differences from one region to another due to the first level of accessibility, the existence of a qualified labour force and that of public services of general interest. In the past 20 years, all regions have been affected by the restructuring process of the economy, witnessing both ascending and declining evolutions in the estimated indicators.
Keywords: development regions, industry, competitiveness, territorial development.

1. INTRODUCTION

The Lisbon Strategy was directed towards enhancing European competitiveness and transposing Europe into the most important economy in the world. The Europe 2020 Strategy, a follower of the Lisbon Strategy, conducts the development of the "intelligent increasing, comprising/inclusive and sustainable development", which will help Europe rebuild after the economic crisis and to achieve high levels of productivity and the employment rate, social and territorial cohesion, knowledge and innovation becoming key factors. Romania latches closely onto the European Union policy in the field of industry, in order to develop a competitive national market, integrated in the European market.

Industry is very important in maintaining the global economic leader status for the European Union. Therefore, a competitive industrial sector may lead to beneficial effects throughout the economy, through the means of raising productivity, added value and economic efficiency, as well as through increasing the quality of the products, the generation of jobs in support services and through generating innovation with multitudinous economic and social applications (European Commission, 2011).

In Romania, industry contributes with 30% to GDP, counting 21% employed out of the total national labouring force. Labor productivity, calculated in accordance with the GDP per employee, was in the year 2013, 0,105 mil lei, overtopping the national average, which reached the 0,061 value, one seen as not too high in terms. These values mirror the orientation to less advanced forms of production, with added value.

In old industrial regions basic industries and traditional industries predominate, and modern and innovative sectors, generally lack. Development of advanced sectors could help overcoming some of the problems and could contribute to greater diversification and performance of these regions (Todtling et al., 2013). Top industries offer higher growth opportunities, but upraise bigger problems, due to their nature, being huge energy consumers (Yan & Kien, 2013).

Generally speaking, in developed countries, by comparison to the primary sector, the secondary sector is defined through a high contribution in the structure of national economy, and top branches in industry are developing faster than the classic ones (steel mills, mining, textiles etc.). However, in modern economies, and especially in the European Union, industrial activities have lost their importance but services have been facing good performance development.

Industrial production of processed goods is one of the most important indicators of the sustained economy, in most countries, especially manufacturing industry. Mining has a shoddy representation in all European countries, except for Germany, Sweden, Austria, Denmark and Spain (which depend mainly on coal, the extraction of lignite and peat), where the coal sector has a greater impact on national economies than other sectors (San Cristobal & Biezma, 2006). In most of the countries, statistics show a continuing decline of the coal industry (Cobarzan, 2008). Since 1998, when the Government reduced subventions to mining sector, the mining industry in Romania has gone through a major restructuring process (Hamlin & Cobarzan, 2006).

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According to the European Statistics Office, at the European Union level, the industrial production recorded a 0,4 percent increase in June 2013, compared to the same period of the year 2012. The most significant boosts were registered in Romania (9,6%), Poland (5,3%) and Estonia (4,7%) and drops in Finland (5,9%), Bulgaria (4,4%) and Czech Republic (3%). It is self-evident that Romania had the most substantial growth in the European Union regarding the industrial production. The second largest growth in the industrial production in the European Union was registered in September 2013 compared to the same month of the previous year in 16 countries of the European Union. The most significant boosts were those of Ireland (11,7%), Romania (by 8,9%), Slovakia (7,5%) and Poland (5,6%), while Luxembourg (4%), Croatia (3,9%) and Italy (3%) faced significant diminishment (Financial Newspaper, 2013).

In a report of the European Commission document entitled: "The EU's industrial structure in 2013: do we face the competition worldwide? ", regarding the current situation of the industry at the EU level, it is said that not all sectors have succeeded to get green light after the economic crisis which they had ran into. In this report we find the European countries who have managed to increase their industrial production, such as Romania and Poland, Slovakia and the Baltic States, which surpassed the figures that they had recorded before the crisis.

Apart from the high technology industries and consumer transactions (food, beverage and tobacco products etc.), most industries (metallurgy, nonmetallic products, construction materials, rubber products and plastics etc.) have not recovered after the crisis, as it is shown by The 2013 Competitiveness Report of the European Commission entitled: "There isn't any growth and there aren't any jobs without industry" (Bechir, 2013).

2. THE EVOLUTION OF THE INDUSTRY IN THE URBAN AREAS AND IN DEVELOPMENT REGIONS OF ROMANIA

Between 1990 and 2000, Romania crossed a really tough period of economic decline, because of major macroeconomic balances and damage of unbridled inflation. The process of economic restructuring was accompanied either by a significant restriction or the ending of existing production capacities; mining, chemistry and metallurgy being the most affected economic sectors. Since 2000-2001, the economic climate has improved, the economy has regain its growth, and the 2006-2008 have led to the strengthening of the economy ties. Economic and financial crisis that had started in the second half of 2008 had a negative impact in terms of both foreign and local investment, some foreign companies backing off or reducing their presence in Romania.

Territorial development of the industry shows noticeable differences due to natural barriers and the level of accessibility to the natural resources and public services of general interest. This counterbalance deepens, more and more, the existing economic and social problems in the territory.

Most of the economic activities and chiefly those with a high added value occur in major cities and around them, in the meanwhile many small urban localities (especially those towns who had dealt mining in the past or the mono industrial ones) and numerous villages have a deficient economic situation and are regressing fast. Less developed areas in Romania seem to be located in the South and East parts of the country, accessibility having its role. In these areas a considerably higher proportion of people who are exposed to poverty and social exclusion, especially in the North-East, South-East, South-West Oltenia regions. Mono industrial areas affected by the restructuring industries are facing major economic issues such as: labor migration, aging, conspicuous depopulation. The former mining villages are facing deadlock. Some of them will have to reorient to other economic sectors, while for others mining should be continued provided massive investment in high tech. The evolution of labor force in the secondary sector is in agreement with the economic changes which Romania has gone through. The evolution and variation of the number of employees in industry in developing regions are shown in the graphs in Figures 1 and 2.

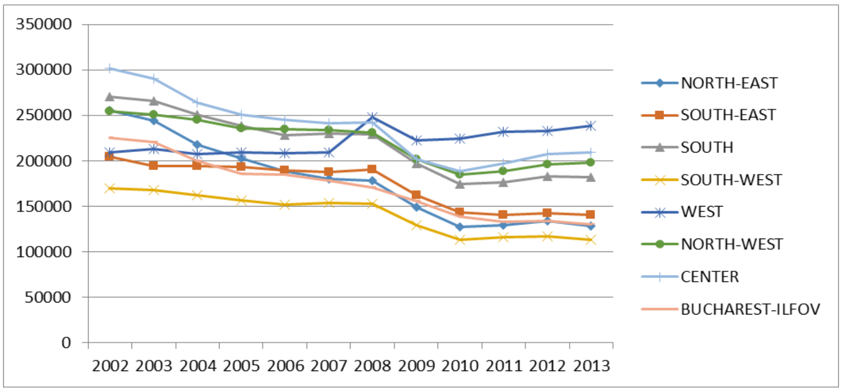

Figure 1 - The evolution of the number of employees in the industry during the years 2002 and 2013
(Source: National Institute of Statistics)

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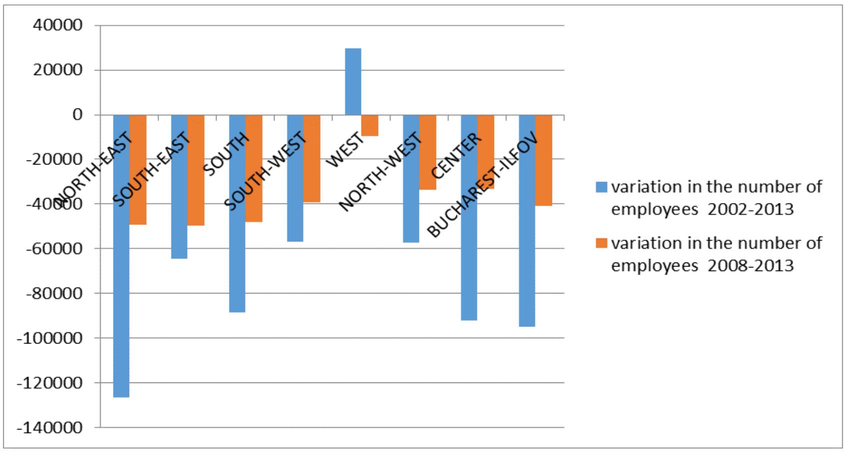

Figure 2 - The variation in the number of employees in the industry of the development regions
(Source: National Institute of Statistics)

The restructuring of industry in the North-East region has led to the emergence of a precarious and weak economic situation in the counties of Botoșani, Iași and Vaslui. The number of people employed in industry, in this region, has recorded the most significant decrease in both 2002-2011 and 2008-2013 periods (see Figure 2). There are several areas of industrial decline and raised unemployment, especially in the areas surrounding limited urban settlements: Roman, Suceava, Rădăuți, Fălticeni, Pașcani, Vaslui Negrești, Huși, Buluși, Dărmăneşti, Moineşti, Comăneşti, Paşcani, Târgu Frumos, Târgu Neamţ, Botoşani and Dorohoi, with contiguous industrial platforms (North-East Regional Development Agency, 2013).

The process of transition to a market economy has led to economic restructuring which resulted in the raise of the unemployment rate in the major centers of the existent heavy industry in the South-East region (Galați, Brăila, Buzău) and in the small mono-industrial urban centers. The small towns mostly affected by the restructuring of the industry (Negru Vodă, Hârşova, Făurei, Tulcea, Măcin etc.) are facing the lack of foreign investments and a flimsy infrastructure. The areas of Subcarpathian mountains (Buzău, Focșani, Mărașești, Adjud, Odobeşti, Tecuci) and Danube (Brăila, Galați, Tulcea, Isaccea and Măcin) are also areas of industrial restructuring. To these we could add other areas with real problems in their development, mining area Altân-Tepe and Hârșova and cities like Nehoiu (Buzău), Mărăşeşti (Vrancea) (South-East Regional Development Agency, 2013).

An essential feature of the South Muntenia region relies on its splitting into two sub categories with different geographical and socio-economic characteristics. The northern part of the region (counties of Argeş, Dâmboviţa and Prahova) is characterized by a high degree of industrialization, Prahova being the 1st in terms of industrial production of the entire country. The southern part of the region (counties of Călărași, Giurgiu, Ialomița and Teleorman) is a traditional one, not very much developed, but with large agricultural areas which can set the beginning of a specialized and developing agriculture on certain types of crops, corresponding to the soil conditions in the region.

The restructuring of the industry for the past 20 years, has determined the closure of some industrial units in the mono industrial areas, leading to the manifestation of serious social problems in areas belonging to places like: Mizil, Plopeni (weapon factory), Urlaţi, Valea Călugărească (chemical fertilizers factory), Şotânga, Costești, Stoienesti (mining) and Câmpulung Muscel (Aro, vehicles factory) - from the Northern counties, but also in of some of the southern counties such as: Turnu Măgurele, Zimnicea, Alexandria, Videle, Giurgiu, Olteniţa, Călăraşi, Slobozia şi Feteşti. Problems and economic discrepancies have appeared in those counties in which economic activity was based only on mining, some of them, such as Filipeşti and Ceptura, from the county of Prahova, being included in the category of less-fortunate areas, in order to attract major investment. Unfortunately, these measures have had little outcome onto the socio-economic situation, there's still the need for substantial actions that could reinforce the economic and social revival. Negative or slow evolutions have occurred in the cities: Mioveni –Argeș County, Moreni –Dâmbovița County (vehicle construction), while others have registered increases, Boldeşti - Scăieni -Prahova (glass industry). Big cities have recorded small cuts of the industrial workforce, most often under the national average, being advantaged by the diversification of the industrial and economic environment more attractive (e.g.: the municipality of Ploiești) (South Muntenia Regional Development Agency, 2013).

Employment in the industrial sector decreased in the West region, particularly in counties highly industrialized: Hunedoara and Caraș-Severin, especially due to massive personal mass discharges from mining and metallurgy sectors. The coal basin from Jiu Valley (Aninoasa, Petroşani, Uricani, Petrila, Lupeni, Vulcan), was influenced by massive personal discharges recorded in the industry. Hunedoara-Deva area, Haţeg-Călan-Deva route, mining area in the South of Caraș-Severin County and northern mining area of Hunedoara County (Brad, Apuseni Mountains), as well as former mining areas, require urgent infrastructure works in order to reenter the economic circuit and protect the settlements affected by mining residues (uranium, rare metals). Major staff unemployment in the mining industry took place in the Jiu Valley (Lupeni, Petrila, Uricani, Vulcan), Moldova Nouă, Oravița, Anina, Ocna de Fier, Rusca Monatana, Jiu Valley area of Brad etc. The unemployed population ought to be engrossed by other sectors. However, the Western region is the only one that has registered growth in the number of laborers in the industry in 2002-2013 (West Regional Development Agency, 2013).

After 1990, provided a rather slow and delayed process of restructuring the economy, majority-owned enterprises in the South-Western Oltenia region, started being uncompetitive. Massive industrial decline

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of the region has led to its transformation into a poor area, which is why the region can be considered a "problem area". The most affected economically is the mining area from Motru-Rovinari, Gorj County, where the degree of dependence on the mining activity is very high. There are very many enterprises in Gorj County with minining profile. Gorjului mining area is mostly affected economically and socially, because of the significant dependence on mining. Coal extraction activities are in recession, due to the fact that restructuring of mining process has started since 1997. Olt County is also one of the counties in which the process of industrial restructuring has a consequence in the loss of jobs. Mono industrial centers: Balș, Rovinari, Caracal, Tg.Cărbuneşti, Motru, Strehaia had a negative evolution which couldn't have been compensated through the productive activity of some recently financed branches (South-West Regional Development Agency, 2013).

In the North-West region, decreasing industrial areas are: the Apuseni Mountains and the mountain area of Northern region, together with significant areas within the counties of Maramureș, Satu Mare, Bistrița-Năsăud. Amongst the cities facing the industrial decline (caused by the decline of the mining and industrial sectors) we can mention: Vaşcău, Ştei, Popeşti or Suncuiuș (Bihor County); Rodna or Şanţ (Bistrița-Năsăud County); Iara or Poieni (Cluj County); Baia Sprie, Cavnic, Vișeu de Sus or Borșa (Maramureș County); Turţ sau Bixad (Satu Mare County); Sărmăşag (Salaj County). Steel sector was heavily affected by the economic decline of mining, a situation that has drawn massive staff layoff and has led to the mentioning of the Baia-Mare-Borșa-Vișeu areas as disfavored ones. The industrial sector in Baia-Mare, is affected by the result of a local referendum to ban those types of activities that could pollute the city (North-West Regional Development Agency, 2013). In the Centre one can identify subregions that concentrate a significant number of urban centers along the major axes forming real morpho hidrographic industrial groups, which now have been facing either the economic restructuring or industrial decline: on the river Mureș (Reghin, Târgu Mureș, Luduș), Târnava Mare river (Odorheiu Secuiesc, Cristuru Secuiesc, Sighișoara, Dumbrăveni, Mediaș, Copșa Mică), Târnava Mică river (Sovata, Târnăveni), at the confluence of Târnava rivers (Blaj). In the period between 1999-2011, the number of employees in the industry has decreased by 42%, the most affected by restructuring being the engineering industry, the metallurgical industry, chemical industry, mining (Alba 46,4%, Braşov 57,1 %, Harghita 39,4 %, Mureş 32%, Sibiu 29,2%, Covasna 26,4%). In the counties of Covasna, Harghita and Alba the mining areas from Baraolt, Bălan and Apuseni mining area have reorganized. The same process is being completed by the cities with mono industrial productive structures in the fields of metallurgy, chemistry and engineering industry such as Abrud, Zladna, Luduş, Iernuț, Aiud, Făgăraş, Victoria, Copşa Mică, Ocna Mureş, Târnăveni, Râşnov, Gheorgheni, Topliţa, Întorsura Buzăului, Reghin, Codlea, Ghimbav. The future of the affected areas depends on the appropriate identification and also on the development of new economic sectors. In the Center Region there are places that present obstacles in the path of development, such as the mountain area which shows a lower degree of accessibility. Poor and isolated areas generate the phenomena of depopulation, so there is the risk of the disappearance of some counties, especially in mountain areas with shortened accessibility (Center Regional Development Agency, 2013). By comparison to other regions of the country, Bucharest-Ilfov region is nonconforming through including in its area the surface of the capital city, Bucharest, framed in Ilfov county. GDP per capita in Bucharest-Ilfov region almost doubled in the period 2005-2010, with an increase of about 96% compared to 2005 and exceeding 100% the national level registered (Bucharest-Ilfov Regional Development Agency, 2013). Average number of employees working in this region, in the industrial sector, has registered a decrease in 2013 compared to 2002, with a share of 42%. A large part of the industrial platforms in Bucharest has been replaced by shopping centers, real estate projects, or have just been left aside, with no involvement, the milk factory: Miorița, Titan bread factory, granite factory in Pantelimon, Stela soap Factory, Rocar, Timpuri Noi, Pumac Plant, Tricodava, Electrotehnica, Frigocom, Semănătoarea etc.

An important indicator in assessing the degree of industrialization of the region is the turnover of the companies working in the industry.

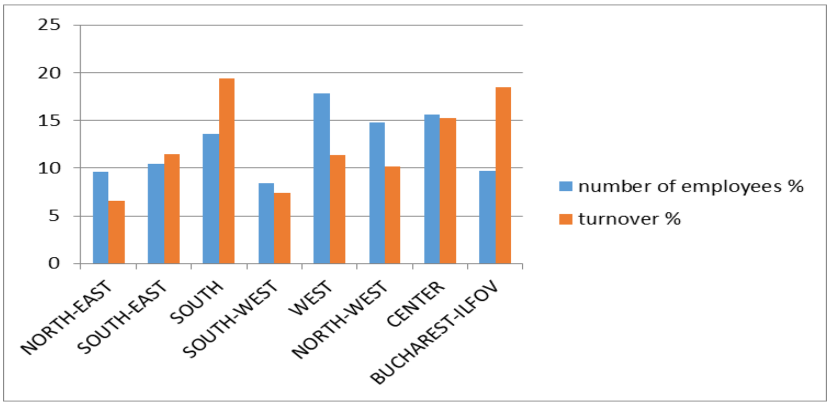

FIGURE 3 - THE DISTRIBUTION OF THE NUMBER OF EMPLOYEES AND TURNOVER IN THE INDUSTRY (%), 2013)
(SOURCE: MINISTRY OF ECONOMY)

There are significant variations in the number of employees in the industry and the turnover of the companies engaged in industrial activities (Figure 3). The highest percentage of employees in the industry is in the West and Center, followed by the North-West and South regions. The lowest proportion of employees in the industry is registered in the South-West region. The highest turnover in industry are found in South and Bucharest-Ilfov, and the lowest in the South-West region. The differences in the number of employees and turnover are obvious since there are regions with a higher

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number of employees but lower turnover (West, North-West). Bucharest-Ilfov and South regions are having a larger turnover in industry with a low percent of workers.

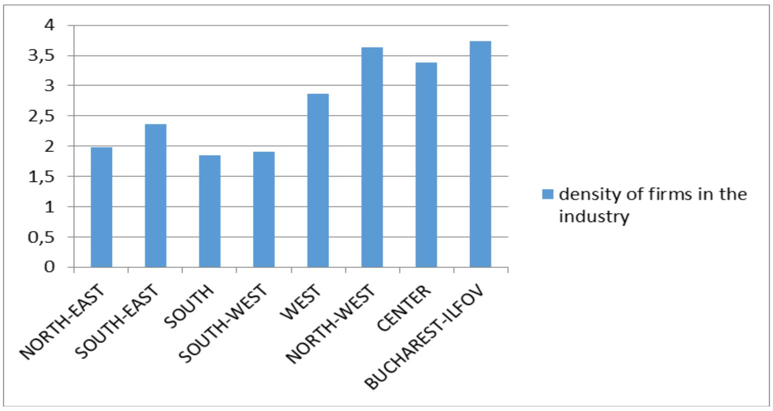

FIGURE 4 - THE DISTRIBUTION OF FIRMS IN THE INDUSTRY DUE TO ITS DENSITY IN 2013 (SOURCE: MANUFACTURING DATA FROM THE NATIONAL INSTITUTE OF STATISTICS)

The density of firms in the industry is an indicator that can mirror the degree of industrialization of a region. We can see from the chart (Figure 4) that Bucharest-Ilfov region has the highest density of firms in the industry being followed by the Central and the North-West regions. The lowest density of firms in the industry belongs to the regions of the South-West, South and North-East.

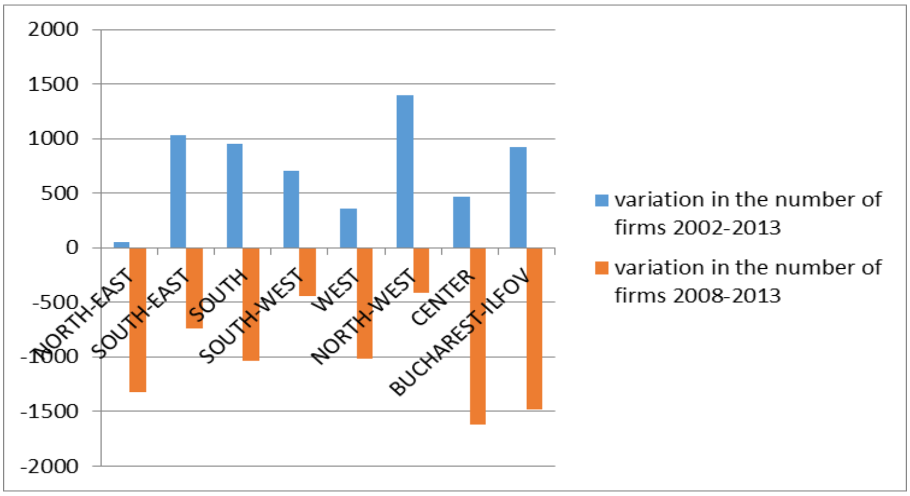

FIGURE 5 - THE VARIATION IN THE NUMBER OF FIRMS IN THE INDUSTRY (SOURCE: NATIONAL INSTITUTE OF STATISTICS)

In the period 2002-2013 the number of firms in the industry increased in all the regions. (Figure 5). Oppositely, in the period between 2008 and 2013 the number of firms decreased in all regions, Center region scoring the greatest decrease.

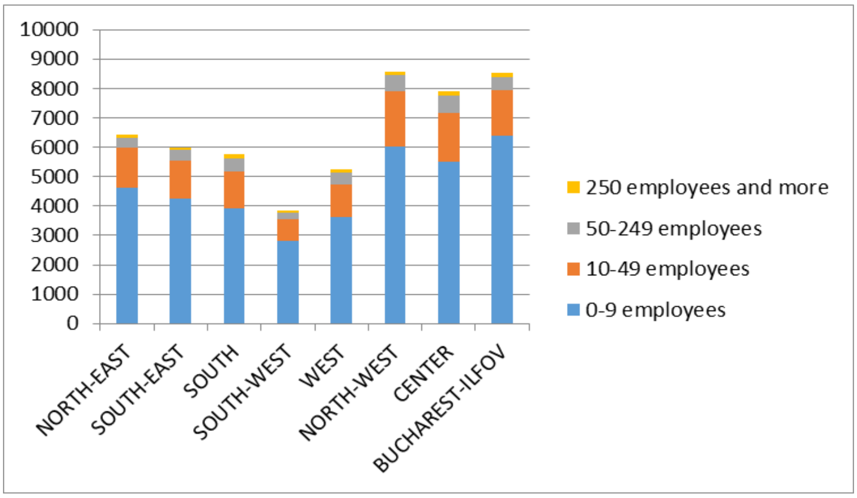

FIGURE 6 - DISTRIBUTION OF THE NUMBER OF COMPANIES ACCORDING TO THE NUMBER OF EMPLOYEES, 2013
(SOURCE: NATIONAL INSTITUTE OF STATISTICS)

The size of the companies has the same distribution in all regions. The highest percentage belongs to the firms with 0 to 9 employees, closely followed by those with 10 to 49 employees (Figure 6). Companies that have more than 250 people are the scarce amongst firms in the industry.

3. THE SUB-SECTORS OF THE INDUSTRY IN DEVELOPING REGIONS

Industry is made of 4 sub-sectors (sections: B, C, D and E, confirm CAEN Rev. 2): mining (4,8% of the total number of employees in the industry), manufacturing industry (82,7% of employees in the industry), the production and supply of electricity and heat, gas, hot water and air conditioning (4,8% of employees in the industry), water supply, waste management, cleaning, decontamination activities (7,7% of the total employees in the industry).

Mining deals with the extraction of minerals in nature in their solid shape (coal and ores), liquid (oil) and gas (natural gas) and has a low importance in terms of turnover and number of employed people, both at European and national level. Mining can provide a significant competitive advantage to the manufacturing industry, providing raw material directly, without any extra costs from the transport from other countries and the long transit time. Mining in Romania generated between 5,5% (in 2009) and 6,5% (in 2008) from the total value added made by industry, construction, services and trade, outranking the European average of 1,3-1,6%. From all the countries of the European Union, Poland had a similar percentage of 4,4% (in 2009) and 4,7% (in 2008). This is due to either the insufficient development of the national economy in which low-technology sectors, such as the steel/mining, keeps playing an important role, or to the abundant natural resources that overstep any other European country. Even, though Romania reached 8% of the total added value through industry in 2005 and given

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the fact that in 2008 and 2009, this value was lower, it indicated that Romania's development in economy reduced the importance of this sector, and that this would go on in the future (Cojanu et al, 2012).

In Romania, from all the branches in the extracting/mining industry, the most important in Romania is the extracting of petroleum and natural gas which generates 70% of the total turnover in the extracting/mining industry.

In 2012, Romania was holding the 5th place in the production of oil and gas, while its resource from imports was 25%, below the European average of 50%. In terms of quantity of oil extracted from the European countries, in 2012, Romania was put forward by countries like Norway, which had extracted 1,3 million barrels, United Kingdom 583 million barrels, Netherlands 520 million barrels and Denmark 114 million barrels (Micu, 2013).

The existing gas reserves in the country go up to 100 billion cubic meters, the highest part of these resources lies in Transylvania, Moldavia, Wallachia and the Black Sea Transilvania, Moldova, Muntenia and the Black Sea. Transylvania is housing 75% of the total quantity of gas, mainly in the counties of Mureș and Sibiu.

In 2010 in the European Union nearly 140 million tons of coal and nearly 400 million tons of lignite were extracted. Extracting this amount of coal and, producing energy with it, led to hiring more than 255.000 people. The advantages that coal mining brings regards the security of the supply and the existence of advantageous prices, in relation to the competing energy sources. When indigenous resources can be exploited, it adds value through the use of charcoal along the entire chain of supplying with electric power. This leads to positive results in terms of economic performance and employment.

When it comes to mining, Romania has got an ancient history of exploiting gold, copper, lead, zinc, oxide, iron or salt. Since 1989 the production of minerals and coal has reduced, even though much of the electricity produced in Romania is still based on coal. Mining industry strategy for the period 2012-2035 acknowledges that lignite resources (about 3.300 million tons) and huila (over 600 million tons) are enough to last up to hundreds of years, 500 years in the case of the lignite, and about 100 years huila, noticing that in 2011, the production of lignite was nearly 33,3 mil. tons, and huila 2,12 million tons (see Table 1). But low calorific power and the lack of modern technologies are periling two of the most important resources of Romania.

In the case of minerals, their period is far. These minerals are scattered in 145 deposits, with 28 mil. tons of reserves ready to be exploited, 25 areas with operating licenses, but currently closed or following the closing procedure. Deep-seated, in the Romanian soil you can find other 760 million tons of metalliferous earth gold and silver(ductile metallic element), according to evaluations from professionals. In 2011, the ores and gold and silver fructification level was zero. Other ore which drew foreign investors' attention is copper. Representatives of the Ministry talked about 443 million tons of copper in resources, in 2011 production reaching a little bit over 31.000 concentrated cuprous.

TABLE 1 - MINERAL RESOURCES AND NET PRODUCTION IN 2011

Substance	Mineral resource 01.01.2011 (mil tons)	Net production in 2011 (thousand tons)
Lignite	3.296	33.293
Huila	602	2.122
Gold and silver	760	0
Polimetallic	67	0
Copper	443	31,8 (copper)
Salt	4.390	2.249
Non-metallic	308	1.064

(SOURCE: MINING STRATEGY FOR THE PERIOD 2012-2035)

Based on the law on mines 85/2003, by 11 government decrees, 556 mines were closed for good, and within the limits of allocated funds, since 1998 closing and greening work has also been approved for a total of 295 mine and quarries of which, until 31st of December 2011, after the closing and greening works, have been reported as 192 totally and 53 partially registered.

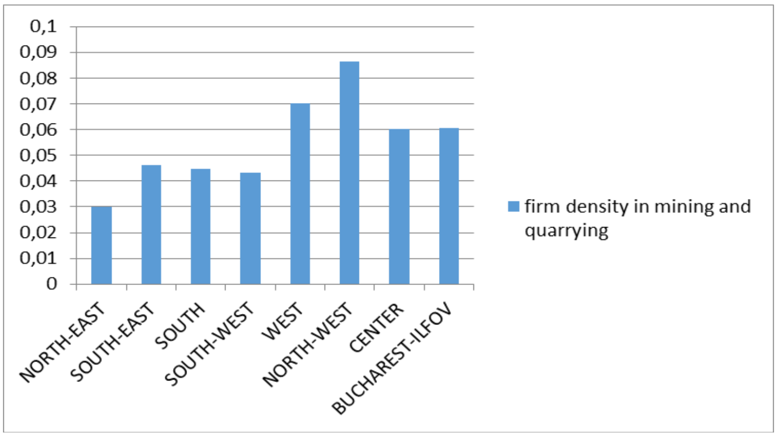

FIGURE 7 - DENSITY MINING COMPANIES IN 2013 (SOURCE: NATIONAL INSTITUTE OF STATISTICS)

Analysis of territorial distribution of extractive industries, in terms of density of firms (see Figure 7) shows that the North-West region has the best representation, followed by the West, Center and Bucharest-Ilfov. The lowest density of mining firms is found in the North-East region.

Mining in the North-West region is concentrated in the areas with tradition in exploitation of natural resources situated in the counties of Maramureș, Bihor. "Ornamental, limestone, and building stone extraction" are regional activities that make this region occupy the first rank in the country, and also "the

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extraction of gravel, and sand ". North-West region records the highest density in the field of mining companies.

Within the Oltenia South-West region, the mining sector (energy coal and oil) is still an important part in the economy of the region. Most of the steelworks factories can be found in Gorj county.

The Center region provides over 40 percent of the gas production of Romania. At the beginning of the past century, Medias became the main centre for coordination of the extraction and distribution of methane gas from Transylvania. Methane is extracted from Sărmașu, Zau de Câmpie, Mediaș, Copșa Mică, Bazna, Nadeș, Deleni etc., and lignite in the North-Western area of the County of Covasna (Baraolt). Of great importance in the past, mining has an old tradition in the Central Region. Gold and salt have been exploited here since ancient times. Currently, along with its industrial employ, salt is used for therapeutic purposes, some of the former saline being changed into spaces for recreation and wellness.

In the West region there are significant deposits and exploits of huila (Petrosani), superior coal (Anina) and oil, natural gas and marble in the West region. Extracting and mining owe their importance mostly to Hunedoara County.

In South-East region labor productivity in mining is above the national average, with a constant increase in the active units in the period between 2002 and 2010, while the number of employees decreased significantly. There are substantial oil resources (Buzău, Brăila, Vrancea, Galați, the continental platform on the Black Sea), natural gas (Brăila, Buzău, the continental platform on the Black Sea), granite, iron ores etc.

The most important activities of the extractive industries in the South region are the extraction of oil and natural gas, located mainly in Prahova, Dâmbovița, Argeș. There are also resources of lignite, salt, sulphur deposits minerals and building materials.

Mining in the North-East is not representative for this region and can only develop in the counties of Suceava and Bacău. The North-East region records the lowest density in terms of mining companies.

In Bucharest-Ilfov region, the number of enterprises engaged in mining has grown successively indicating a growth by about 94% in 2009 by comparison to 2005 (Bucharest-Ilfov Regional Development Agency, 2010).

Manufacturing industry holds an important part in the economic growth and leads to creating jobs, being the section that records the largest number of employees in both national and European ranks. The contribution of this sector remains significant although the number of employees decreased significantly after 1990. The most important branches of the Romanian manufacturing industry, in terms of employees and turnover (approx. 25%) are: food industry and road transport vehicles industry. This is similar to the European Union where, in 2009, the two sectors generated 24,32% of the turnover and 22,02% of the added value in the manufacturing industry and brought together 21,32% of total number of employees. The industry of metal buildings and metal products is also among the first five sectors of the manufacturing industry, as employees (7,76%) and turnover (5,78%), this branch being very important at European level too, with 6,93% of turnover of the manufacturing industry, 9,79% of the added value generated by and 11,66% of the employees from the manufacturing industry. Romania stands below the European average, but there's likelihood that this gap diminishes in the future, considering that the annual investment per employee has increased (Cojanu et al, 2012).

In terms of branches which occupy an important role in the manufacturing industry (in number of employees and turnover), between Romania and the rest of the European countries their distribution is similar, but there still remain some important differences. These differences are given by the distribution of the labor force in Romania (and Bulgaria) which is concentrated in industries that have intensive labor and low technology (such as clothing and footwear industry). The role of these industries keeps lessening and, it is expected to lose its importance, in the future, too (Cojanu et al, 2012).

Studies show that countries with a lower development level, other than the European average have a higher concentration of employment and turnover in a limited number of branches, while more developed states tend to have a more uniform distribution. Expertize in Romanian industries is bigger than in other countries. According to European studies there are branches like: leather and footwear, textiles and clothing, food/beverages/tobacco, wooden products and furniture and refined oil in which Romania has shown proficiency (European Commission, 2011).

In terms of competitive structure, although labor productivity is way below the European Union average, the hierarchy of industries in Romania other surveyed countries and European Union is very much alike.

Non-metallic mineral products industry and the industry of manufacturing computers and electronic products, which have a very high productivity by comparison to other branches, are distinguishing for Romania a situation which is not found in other states. This feature could be rendered useful, especially within the commercial relations. In terms of the number of companies that operates in the field of manufacturing industry, it records the highest value in Bucharest-Ilfov region, followed by the central region, North-West, West etc. (Figure 8).

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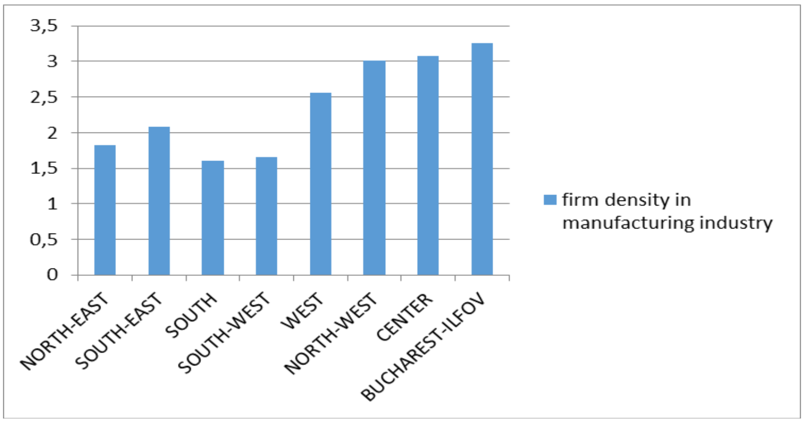

FIGURE 8 - FIRM DENSITY IN MANUFACTURING INDUSTRY, 2013
(Source: National Institute of Statistics)

Traditional economic areas of the North-East are the wood-manufacturing industry and the furniture industry, which have had a significant increase not only in the number of jobs, but mainly, in labor force amount and especially their turnover. Clothing and textile industry have also recorded a spectacular growth in turnover, but productivity is scarce due to the use of a system with a low added value (North-East Regional Development Agency, 2013).

In the South-East region, traditional main sectors are food and beverages, furniture and garments industry. The mechanical sector has also got and a large number of enterprises, and its top branches are: metal building construction industry, metal and metal products, repairing, maintenance and installation of machinery and equipment, as well as the manufacture of the means of transport, shipping almost entirely. Shipbuilding industry is specific for this region, where there are several platforms: Brăila, Galați, Tulcea, Constanța, Mangalia (South-East Regional Development Agency, 2013).

The industry in the Muntenia South region, being one of a diversified and complex profile, is mostly based on traditional space-oriented activities depending on the location of the natural resources. This is the way in which, industry covers all important fields in the region, but the chemical and petrochemical industry and vehicles industry, equipment and means of transport share a large part. Textile industry, food and beverages, furniture and wood industry are also important to the region (South Muntenia Regional Development Agency, 2013).

The structure and distribution of economic activities in the South-West Oltenia region is determined by natural resources, the existing tradition in their manufacturing, technological facilities, the system of prices and adequate functioning of market mechanisms.

There's a tradition in vehicle building industry, electrotechnics, chemical (rubber). Manufactures and textiles, wood and metal products (aluminum) are also competitive on the foreign market. Timber industry is developed in the South Carpathian region (South-West Regional Development Agency, 2013).

In the North-West region, from amongst the main regional exporters some important domains, such as the wood manufacturing and furniture industry, leather and footwear industry, electrical equipment industry, the metallurgical industry could be noticed and this might indicate certain degree of specialization (North-West Regional Development Agency, 2013).

The Central region has a complex industrial structure with traditional branches and qualified personnel. The industrial profile of the region is given by the vehicle construction industry and metal manufacturing industry, timber and furniture, textiles and garments, chemical industry, building materials and food (Center Regional Development Agency, 2013).

In the Western region are developed branches: engineering industry, metallurgical, electrical and electro-technical equipment, automotive equipment, furniture, chemical industry, building materials, textiles and garments, leather, food industry and beverage (West Regional Development Agency, 2013).

Bucharest-Ilfov region represents the largest industrial agglomeration of Romania, in which one can find all industry sectors. The main industrial activities in the region are: machinery-tools, paintwork, meat, shoes, appliances and measurement and control tools, furniture, medical equipment, food, medicines etc. (Bucharest-Ilfov Regional Development Agency, 2013).

The production and supply of electricity and heat, gas, hot water and air conditioning includes the supliance of electricity, gas, steam, hot water and all that jazz, through a permanent infrastructure of electric pipelines, power lines, pipes. Romania's capability to produce energy is determined by its resources, diversified but scarce. Producing energy through the means of renewable resources must be considered in Romania.

The share of renewable energy in total energy consumption has increased in the period 2005-2013 with almost 5%, in 2013 reaching 23,9%. Ranks in EU-27, 2013 placed Romania on 9th place in terms of the share of renewable energy from the total amount of energy renewable consumed, situating Romania ahead countries such as Belgium and the United Kingdom. Norway occupied the first position due to the use of 65,5% of the energy from renewable sources (Eurostat, 2015).

Romania is among the most attractive 15 countries in the world in the field of renewable energy sources, 10th place for wind and 24 for solar sources (Enst & Young, 2013).

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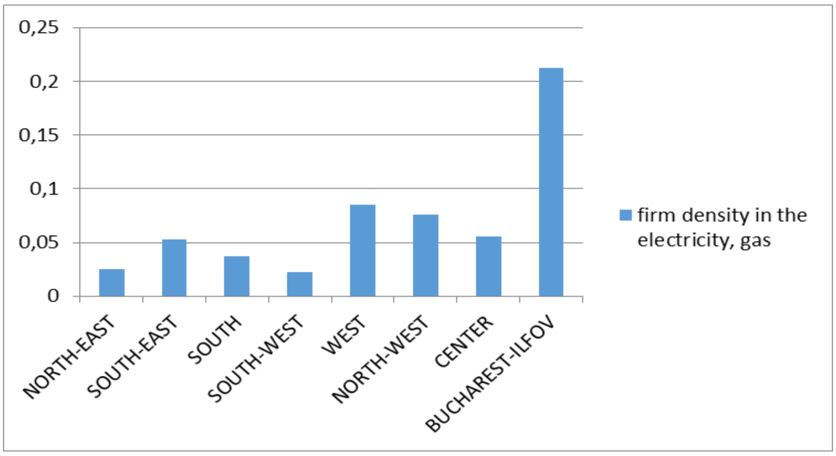

FIGURE 9 – FIRM DENSITY IN THE ENERGY INDUSTRY IN 2013
(Source: National Institute of Statistics)

The highest density of firms in the manufacturing subsector and providing thermal and electrical energy, gas, hot water and air conditioning is in Bucharest-Ilfov region (Figure 9).

Although the density of firms in the energy sector is the smallest, the South-West plays the main role in the country's energy, due to the configuration of the relief and hydrological network. South-West region is the largest producer of energy in Romania, through the existence of hydropower complexes Portile de Fier (one of the largest in Europe), in the County of Mehedinți and Lotru-Olt, from Vâlcea County (one of the largest in Romania). Very close to the mining area near Motru-Jiu Valley, two of the largest thermal power plants of Romania operate: Rovinari and Turceni.

In the Western development region manufacturing and supplying electricity and heat process is due mainly to Hunedoara County.

The energetic infrastructure in the South-East region is complex, and there are producers of electricity which use various sources, such as: hydroelectric power plants and power plants and nuclear power plant in Cernavodă. The South-East region has a great potential for producing energy from renewable sources, mostly unused.

In the North-West region of the greatest concentration of firms in the energy industry is in Cluj County. The North-West region reveals the existence of several companies, all in the field of renewable energy, thus proving that the region has great potential in this area.

The highest labor productivity in manufacturing subsector and supplying electricity was recorded in 2010 in the Northeastern region.

Electricity production in South Muntenia region plays an essential role, due to its capabilities and potential, especially in the renewable energies sector (hydro, solar and biomass). In the past 10 years, these capacities have doubled, through the construction of a gas plant, the first of its kind with private capital investment , the completion of arrangements of hydropower plants and the work on projects in the field of renewable energies.

The development of the energy industry in the central region based on rich deposits of methane gas in the Transylvanian plateau and in smaller extent of lignite reserves in Baraolt. The energy is provided by two coppers and more hydro-electric power. The potential of renewable energy resources (biomass and micro-hydropower) is pretty little exploited.

Water distribution, sanitation, waste administration, decontamination activities refers to the management of water supply (including collecting, treating and disposing) of various types of waste such as municipal solid waste (solid or not) and decontamination activities of the land. The results of the waste treatment processes can be eliminated, or they could become raw materials for other processes. Distribution of water often carried out in connection with sewage or units that are engaged both, in the supply of water, and collection and waste water treatment. Water distribution subsector, sanitation, waste management, decontamination activities is the second of the subsectors of the industry, in terms of number of employees.

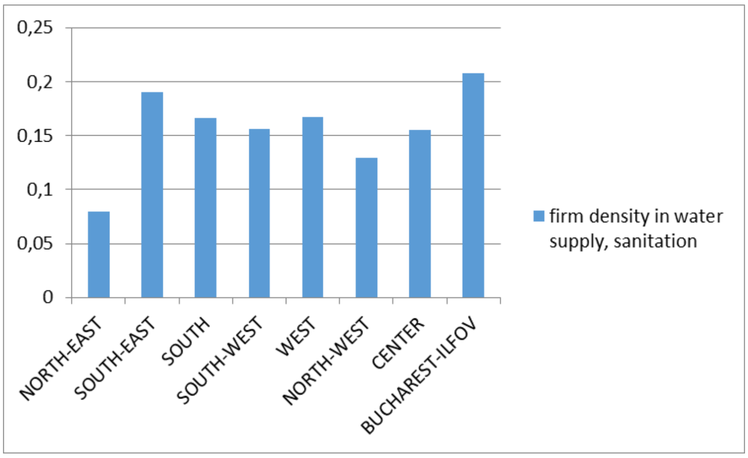

FIGURE 10 – FIRM DENSITY OF THE WATER DISTRIBUTION FIRMS, SANITATION, WASTE MANAGEMENT, DECONTAMINATION ACTIVITIES IN 2013
(Source: National Institute of Statistics)

The highest density of firms in the distribution of water sector, sanitation, waste management and decontamination activities was established in Bucharest-Ilfov region (see Figure 10). The lowest density is in the North-East region. In recent years the number of firms in the sector of distribution of water, sanitation, waste management and decontamination activities has maintained relatively constant in almost all regions. Among the industries identified with the best growth potential in the next decade we

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can find collecting, treating and disposing of waste and, of course, recovering recyclable materials, which ensure an economic development based on ecological principles.

4. CONCLUSIONS

From the above analysis we can conclude that the territorial development of Romanian industry shows significant differences due to: natural barriers mainly; easy access to raw materials; functional profile of the area; favourable geographical position; the existence of qualified workforce; characteristics of the educated population in the area and the degree of development of the transport infrastructure.

In the past 20 years, all the regions have been affected by the economic restructuring and have registered the same evolution in the number of employees in the period 2002-2013. In the period between 2002 and 2007 a decrease in the number of employees was registered, followed by a significant increase in 2008. After 2009, the number of employees in the industry decreased, including manufacturing industry, as a result of the economic crisis. The North-East region lost the largest number of employees in the industry in the period between 2002 and 2013, while the Western region is the only region whose number of employees in the industry remained the same during the mentioned period.

The variation in the number of firms differs from that of the number of employees, during the period 2002-2013 all regions recording increases in the number of firms in industry.

In terms of turnover the South and Bucharest-Ilfov have the highest value, at the opposite pole is the North-East and South-West with the lowest value.

All of the eight regions in which research work was done revealed differences between the industries. For example, consumer products industry, pharmaceutical industry, high technology industries have better supported the crisis while in heavy industry, mining industry, a significant decline has been recorded.

Although Romania progressed significantly in terms of industrial production, returning to its values recorded prior to the crisis, it still remains on last positions, in terms of competitiveness along with other countries of the Eastern Europe.

The economic development of the regions of Romania can be facilitated by setting appropriate strategies for each region based on their current and future potential. Therefore, to increase the contribution of the industry sector in the economic development of the regions there should be taken the following measures (Alpopi, 2014), (Iacoboaea, Alpopi, Pasca, 2014):

Support investment by:

- Supporting local authorities in attracting strategic investors in each zone/region and in strengthening the market position of existing ones;
- Developing partnerships between the public and private sectors (PPP) with the objective of attracting foreign investment;

The creation, development, modernization and equipment research and development infrastructure;
Taxation:

- Reducing all taxes, including the VAT rate; reducing the number of taxes;
- Providing state guarantees to unlock convertible financial undertakings;
- Deductibility of loss resulting using the application of minimum tax; allowing capital to increase profits and accumulated reserves of construction companies without paying income tax in order to improve the company's financial statements;
- Reduction of tax evasion, undeclared work that has not been registered for tax, encouraging all economic agents to operate legally; tackling undeclared work using such active measures to reduce taxation on labour directly applied;

Investment and economic activity:

- Measures of development and modernization of all types of national infrastructure: transport, communications, information, communications, environmental monitoring and land etc;
- Providing state guarantees for new investments in Romania;
- The establishment of a fund or a guarantee scheme to assist companies in securing financing necessary for participation in EU-funded projects;
- Simplification of work in projects with European funding and reducing the percentage of requested financing for SMEs;
- Support the production of goods and services funding through state aid schemes applicable to the SME sector;
- Improve the business environment radically in terms of availability of financing investment policy transparency and predictability, proportionality administration and regulation, including through better use of ICT by government.

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