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## About industrial structures decomposition and recomposition

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### Abstract

In the past 23 years, Romania has gone through a thorough and multi-faceted economic, institutional, legal, and ownership restructuring process, which has greatly reshaped the landscape of its economy, by changing the place and the role of certain economic branches, activities and companies, the drastic effects of which have also left a mark on its industrial structures. This article approaches the restructuring of the Romanian industry in respect of the number, size, and ownership of the companies, the changes in the value structure of industrial output by groups of products and branches, the course followed by physical production expressed in physical units, the number of employees, the salaries, and wage costs. Our analysis tackles the process of decomposition and recomposition of Romania's industrial structures from a national perspective, without ignoring the trends in the European industrial strategies and policies.

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*Keywords:* industrial structures, industrial restructuring, industrial landscape, competitiveness, productivity, industrial policies;

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### 1. Main structural features of the Romanian economy

Since 1990, the Romanian economy has undergone a systemic change from a centralised pattern based on the overwhelming dominance of state-owned property, enshrined in specific legislation and institutions, to a free-market economy.

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During the past 23 years, the sectoral structure of the national economy has met with the challenge of major shifts of stress, many of which brought about drastic social effects.

In relative terms, according with National Institute of Statistics (INS) data, agriculture reduced its contribution to the total gross economic output of the country from 14.6% in 1990 to 6.3% in 2010, while its intermediate consumption diminished from 9% to 6%, and its share in the total Gross Value Added (GVA) dropped from 23.7% in 1990 to 12.1% in 2000, and to 6.4% in 2010<sup>†</sup>.

The manufacturing and construction sectors contributed less to the gross economic product (from 65.6% in 1990 to 47.3% in 2010), to the intermediate consumption (from 75% to respectively 53%) and their GVA fluctuated greatly from (49.9% in 1990 to 34.4% in 2000, and to 40.5% in 2010).

The services sector, instead, expended for all the three indicators, particularly for the intermediate consumption (from 15.9% in 1990 to 40.9% in 2010), with a GVA that more than doubled from 26.3% in 1990 to 55.7% in 2007, then descend slightly to 53.1% in 2010.

In real terms, the highest GVA increment in 2010, by comparison to 1990, was recorded in the production and supply of electric power, heating, gas, hot water (3.16 times), followed by construction (2.96 times), commerce (2.25 times), transport and communications (1.35 times), while in the manufacturing industry, the GVA increased only 1.17 times.

Overall labour productivity, calculated as a ratio between GVA and one employed person in Romania, according to Eurostat data, was 11.6% of the EU27 average in 2003, 16.5% in 2005, 23.4% in 2007, and 23.1% in 2010.

In the Romanian industry, labour productivity rose from 12.0% of the EU27 average in 2003, to 17.1% in 2005, 24.1% in 2007, and 26.9% in 2010; over the same two-decade time span, the construction sector scored 20.2%, 27.2%, 41.6% and 32.0% of the average labour productivity of the other member states.

## 2. The changing landscape of Romanian industry

The past 23 years have been for Romania a long process of thorough and multi-faceted changes of its economy, institutions, legislation, and ownership paradigm, in the course of which various economic branches, activities, and corporations have gone through a drastic reshuffle.

Romania's industry, in which we include mining, energy production, and manufacturing, continues to hold a basic role in respect of both the capacity to generate added value, and to provide employment.

Industry's share of contribution of GVA to the country's economic output was 44.1% in 1990, 28.5% in 2000, and 33% in 2011. Large segments of the workers in the national economy were persons directly employed in industry: 36.9% of all employment in 1990, 23.2% in 2000, and 21% in 2011; in the same reference years, Romania's industry accounted for 47.2%, 40.5%, and 28.8% of all salaried jobs.

It would be appropriate to add here that the market services for industrial companies clients offered employment to 21-22% of all salaried workers in the national economy in 2010 and 2011, many of them working in industrial companies.

The contribution of industry to the generation of jobs is one of the criteria most often considered when industrial policies are discussed by relevant fora, including the European Commission (EU).

The Communications of the Commission (COM (2010) 614 final and COM (2012) 582 final) to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions with regard to 'An Integrated Industrial Policy for the Global Era, Putting Competitiveness and Sustainability at Centre Stage' and 'A Stronger European Industry for Growth and Economic Recovery', shows that one out of four jobs in the private sector in the EU is in the manufacturing industry, and at least one other out of four is in related services, which depend on industry, either on the demand or on the supply side; 50% of the jobs in the private sector depend on industry, and 80% of the private research activities are the driver of industrial development, and the source of

<sup>†</sup> Authors' own calculations based on data from Romania's Statistic Yearbook, National Statistic Institute (Institutul Național de Statistică - INS), Bucharest, various editions.

solutions for competitiveness in industry. Official statements recognise that industry is to play the most prominent role in the new development approach of the EU, in the wholesomeness and strength of the EU economy.

### *2.1. Restructuring of industrial establishments*

Restructuring and privatisation of companies in general and of industrial establishments in particular bore their most visible effects on size and number.

Romania's Register of Companies of 1991 indicates 1,712 industrial enterprises with a total of 3,052,000 employees, which means an average of 1,783 employees per company. In 2011, the same Register had on its records 47,084 industrial companies with a total of 1,259,000 employees, which means an average of 27 employees per company.<sup>‡</sup>

In 2011, more than 90% of the industrial companies had manpower of 50 or less, and some 70% of them operate with 10 or less workers.

Another important component of the transition to a market economy was the change of the ownership patterns. In 2011, 98.8% of all businesses were privately owned industrial ventures, 0.2% were in joint ownership, 0.6% were cooperative and community properties, and 0.4% were state-owned.

In the same reference year, 84.7% of the employees working in industry were employed in private companies, 5.1% of them in jointly-owned companies, 1% in cooperative and community businesses, and 9.1% were working in state-owned corporations.

In the same reference year, 74.6% of the turnover in the industrial sector was generated by companies in private ownership, 16.2% by joint-ownership companies, 1% in cooperative and community companies, and 9.1% by companies still held by the government.

Industrial competitiveness depends, among other factors, on the magnitude of a company's turnover and market segment. An analysis of the distribution of companies in the Romanian economy by size brackets brings to light the fact that their economic size is still far from the average size of enterprises in the old EU member states.

From a European perspective, in 2011, the turnover of Romanian companies in the country's economy and industry recommends the overwhelming majority of them as fitting the description of microenterprises, or small companies, at best. INS data reveal that the average turnover of a company in the Romanian industry was 1.4 million euro in 2008 and 1.68 million euro in 2011.

In 2011, the companies with a workforce of 50 to 249 employees had an average turnover of 4.5 million euro, and the companies with 250 or more employees had an average turnover of 50-65 million euro. For the entire manufacturing and mining industry, the average turnover per company in 2011 was 1.50 million euro.

After an initial phase when industrial companies tended to mushroom, often due to fragmentation of the old ones, 1996 brought along the first attempts to aggregation of industrial ventures. This became obvious when the top 5 companies started gaining weight, and the top 20 increased their share in the overall turnover and number of employees. In general, the leaders in this echelon are coke manufacturers and crude processing units. The top 5 of them accounted for 85.6% of the turnover in 1996 and for 97.8% in 2011. Their share of the employees in the sector was 81.6% and respectively 83.6%. Coming second by the degree of concentration is the metallurgical industry (51.2% in 1996, and 50.2% in 2011 of the aggregate turnover of the top 5).

The tendency to increase the level of aggregation is also manifest in the manufacturing of textile products (where the top 5 held 6.3% of the turnover in 1996, and 24.5% in 2011), but also among manufacturers of chemical substances and products (with the top 5 manufacturers accounting for 31.9% of the turnover in 1996, and for 48.3% in 2011).

In the sector of production and supply of electric power, heating, gas, water, etc., since the liberalisation of this market and due to the advent of renewable energy producers, the degree of concentration is diminishing. The

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<sup>‡</sup> 'Romanian Statistical Yearbook', INS, Bucharest, various editions, and 'Results and Performances of Industrial and Construction Companies', INS, Bucharest, various editions.

turnover of the top 5 accounted for 92.5% of the total turnover in 1996 and for only 29.3% in 2011. A similar trend towards a lower level of concentration can be noticed in the road vehicle manufacturing, due to the proliferation of the car part manufacturing units, and where the top 5 companies generated 67% of the turnover in 1996, and 50% in 2011.

Extremely significant for the development of industrial production in Romania is the growth of the share of foreign capital, which is now holding some 70% of the turnover in industry.

Under the circumstances, any support action and policies undertaken by the Government of Romania for the industrial sector must, on the one hand, be compatible with the targets and objectives of the Europe 2020 Strategy, and, on the other, be tailored to respond to the current state of play, which requires an approach based on dialogue, cooperation, and partnership between the public and the private sectors.

In other words, the effort to attain competitiveness, to foster research, development and innovation, to upgrade technology and products, to promote new generic and advanced techniques designed to save resources, introduce renewable energy and spare the traditional sources of energy, to reduce the greenhouse gas emissions, and to put in place conditions ensuring well-paid quality jobs, are all conditional on the companies' own strategies.

## 2.2. Restructuring of industrial production

If we were to examine the value indicators expressed in current prices, it would be difficult to obtain a congruent picture of the status of the industrial output in various industrial sectors, due to inflation, which has been, along the past two decades, a factor that strongly influenced the reshuffling of the pre-existing economic and industrial structures, sometimes more strongly than the repositioning ensuing from technological development, innovation, creation of new products, etc.

The value indicators of industrial production in comparable prices are the first and, practically, the sole statistic instrument to measure the magnitude of the restructuring process, although these indicators, like any averaging method, can hide significant variations.

An analysis of the real indexes of industrial production as a whole, but also by branches, sub-branches, operations, and products reveals an accelerated dissolution, particularly during the first 10 years, of more than half of the industrial production, technical, and know-how infrastructure, competences, and labour in the industrial sector. In 2000, for example, the worth of the total industrial output, in comparable prices, was a meagre 58% of the industrial output in 1990; by sub-branches, the most drastic loss of production occurred in the industries manufacturing rubber and plastic products (up to 24.4% of the output of the year 1990), metal structures (31.9%), chemical substances and products (32.4%), textile products (35%), machinery and equipment (36.1%), etc.

The only industries that in 2000 had gone up from 1990 were furniture and other industrial activities (141.1%), readymade clothing (137.6%), and electrical machinery and equipment (120.6%).

Real indexes for the total industrial output and its three segments – mining industry, manufacturing industry, and the production and supply of power, gas, and hot water (Table 1) show that, in 2011, the worth of the total industrial output was 94.7% of the level of the 1990 results.

Table 1: Real indexes of the worth of industrial production (%)

	1990	1995	2000	2005	2007	2010	2011
Real index of the total industrial production	100.0	65.4	58.1	72.7	82.1	89.7	94.7
Real index of the production in the manufacturing industry	100.0	62.7	57.9	76.4	87.7	98.5	104.0
Real index of the production in the mining industry	100.0	83.0	65.1	65.7	67.1	81.1	56.7
Real index of the production of electric power, heating, gas, and water	100.0	79.2	58.5	53.2	55.0	59.4	63.2

\* Authors' own calculations based on data from 'Romanian Statistical Yearbook', 1990 – 2011 editions, INS, Bucharest, 2013.

Even during the crisis period, the manufacturing industry, after a slight recoil in 2010 when it only reached

98.5% of the 1990 output, managed to score a real index of 104.0% in 2011. The mining industry continued to drop to 65.1% in 2000 from the 1990 level, and further to 56.7% in 2011; the production of electric power, heating, gas and hot water went down to 58.5% in 2000, to then rise again moderately to 63.2% in 2011.

The year 2011 saw a remarkable progress of the road transport vehicle industry, mainly automobiles, which, in real terms, grew from 86.6% in 2000 to 387.3% in 2011, in figures comparative to 1990.

The next growing sector was the tobacco industry, with 162.1% in 2011, after the lag of 99.6% in 2000, from the reference year 1990.

Woodworking, mainly primary processing, is another sector that boomed to 134.7% in 2011, after it had slumped to 49.5% by 2000. The production index in the electric machinery and equipment industry surpassed the 1990 level of output by 192.5% in 2007, to then decline to 106.9% in 2011.

The sharpest fall of production indices was recorded in the mining and preparation of metal ores, which in 2008 had an output of only 1.5% of the 1990 production; next came textile products, with only 36.9% worth of production in 2011; means of transport other than road vehicles, which includes mainly the aeronautic, rail, and sea- and river-going vessel manufacturing industry, had declined to 39.8% by 2011.

The data extracted from the National Accounts System with regard to the balance between resources and spending by groups of products reveal that:

a) on the resource side:

- imports increased their share from a minimum of 3.1% and a maximum of 14.1% in 1991, to shares in the range of 40 to 55% in 2010;
- commercial and transport mark-up as a share of total resources jumped from a minimum of 0.3% and a maximum of 3.6% in 1991 to 23.7 – 37.5% in 2010;
- subsidies by product accounted for 0.5 – 10.0% of the resources in 1991, while in 2010 they were only a maximum of 0.6% of total resources for energy;

b) on the spending side:

- in 1991, exports had a share of 12.9 – 18.0%, while in 2010 they had reached 22.3% – 55.4%;
- intermediate consumption as a share of total spending continued to drop by 2010, paralleled by a decrease in the volume of production in stock;
- some of the main groups of industrial products diminished their share in the total national production of goods and services from 71.9% in 1991 to 36.0% in 2010;
- these groups of products accounted for 88.9% of the total national intermediate consumption in 1991, and for only 59.5% in 2010;
- the share of industrial products in the gross value added diminished from 39.8% to 31.9%, and in the total pay of salaried workers from 45.6% in 1991 to 26.9% in 2010;
- in the overall worth of subsidies by product, these groups of products held a share of 83.4% in 1991, and of only 18.6% in 2010;
- Taxes related to productive activities rose from 42.9% in 1991 to 67.3% in 2010, and in terms of gross operating surplus, the groups of industrial products reduced their share from 36% in 1991 to 34.6% in 2010.

### 2.3 The curve of physical production as an expression of the decline of the second industrial revolution

The decline of industries based on know-how, and the market specific for the second industrial revolution, which some experts, journalists and political decision-makers also call *deindustrialisation*<sup>§</sup>, is visible in Romania as well, if we look at the trends of the physical production of the main industrial products.

Some of the industrial products will continue to be manufactured and used during the new industrial revolution.

If we look at products that are known under the generic name of raw materials, which are grouped together with

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<sup>§</sup> See, for example, Alain Chatillon, sénateur, "Rapport d'information, fait au nom de la mission commune d'information (1) sur la désindustrialisation des territoires", no. 403, Sénat, France, 5 avril 2011.

energy, we will notice that in 2011 the production of electric power dropped by some 18% from its 1989 level; the production of thermal energy in 2011\*\* was only one fifth of what it used to be in 1988; the total amount of extracted coal went down by 44%, and the production of mineral ores practically ceased to exist.

The production of other basic raw materials – crude and gas obtained by extraction – has fallen, mainly due to depletion of some of the resources: crude – from over 13 million tonnes in 1970 to some 4 million tonnes in 2011; natural gas – from 40.8 bn cubic metres in 1980, the peak year for domestic production of gas, to 11.2 bn cubic metres.

In parallel, a sharp fall occurred in the production of: Diesel oil, from 8.5 million tonnes in 1988 to 3.8 million tonnes in 2011; fuel oil, from 10 million tonnes in 1980 to 700 tonnes in 2011; mineral oils, from 664 thousand tonnes in 1980 to 85 thousand tonnes in 2006.

Metal production: steel dropped from 14.4 million tonnes in 1989 to 3.8 million tonnes in 2011; iron diminished from 9.3 million tonnes to 3.9 million tonnes in 2006; finished rolled products reduced by more than a half, from 9.3 million tonnes to 4 million tonnes; the manufacturing of copper, lead, zinc, gold, etc has practically disappeared.

Major production losses can be noticed in the groups of electric motors, generators, and transformers; machine-tools (lathes, milling machines, planers, grinding machines, boring machines); machinery and equipment for exploration and drilling; machinery and equipment for various other industrial branches.

The Romanian chemical industry had a production of 2.4 million tonnes of sulphuric and hydrochloric acids in 1986, which, by 2011, had shrunk to 0.2 million tonnes; in 1985, chemical fertilisers were manufactured in the amount of 3.1 million tonnes (100% active substance); in 2011, only 1.3 million tonnes.

On the rise have been the production of tyres from 5 million items in 1990 to 28 million items in 2011, the production of detergents (100% active substance) from 11.6 thousand tonnes in 1990 to 206.7 thousand tonnes in 2011.

In the building materials industry, the production of cement diminished from 14.6 million tonnes in 1980 to 8.1 million tonnes in 2011; the production of glass dropped from 77.5 million sqm in 1980 to 16 million sqm in 2006; the production of timber rose from 2.9 million cu m in 1990 to 5.1 million cu m in 2011.

A sharp decline affected the production of textiles: yarn of cotton and cotton substitutes (183 thousand tonnes in 1980, and 18.1 thousand tonnes in 2011); yarn of wool and wool substitutes (75.8 thousand tonnes in 1987, and 29.1 thousand tonnes in 2011); linen and hemp yarns (45.5 thousand tonnes in 1980, and 1.4 thousand tonnes in 2008); fabrics (1,154 million sqm in 1980, and 44,2 million sqm in 2011); knitwear (296 million items in 1980, and 27.6 million items in 2011). Production of footwear diminished from 118 million pairs in 1989 to 45.9 million pairs in 2011.

The food industry had a similar downward course: meat production, from 993 thousand tonnes in 1980, to 259 thousand tonnes in 2000, and to 579.7 thousand tonnes in 2011; consumer milk, from 5.9 million hl in 1980 to 2.2 million hl in 2011; edible oils, from 399 thousand tonnes in 1987, to 203.8 thousand tonnes in 2011; sugar, from 716 thousand tonnes in 1989, to 384.2 thousand tonnes in 2011; canned meat, from 77 thousand tonnes in 1980, to 25.5 thousand tonnes in 2011; tinned fruit and vegetables, from 540 thousand tonnes in 1980, to 70.4 thousand tonnes in 2011; salt, from 5.4 million tonnes in 1987, to 2.6 million tonnes in 2006.

The production of tobacco products grew from 27 thousand tonnes in 1990 to 49 thousand tonnes in 2011.

Most of these contractive movements were not resulting from the introduction of an innovative strategic thinking seeking to restructure the physical production of various industrial products; many of the products referred to above were outdated in respect of technical performance and quality standards.

Part of them were ousted either in the competition battle, or by imports that sometimes were no better in quality; the same happened in the textiles industry, after the invasion of the domestic market by second-hand clothing, which killed more than two thirds of the Romanian production of textiles, and slashed an equal number of jobs.

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\*\* *Tempo online*, the online data base of the INS.



#### 2.4. Restructuring in industry, and its effects on employment, earnings, and labour productivity

One of the consequences of industrial restructuring was the loss of a large number of jobs, under the pretext of an immediate increase in labour productivity.

But the short-term positive effect of cutting jobs was to be rendered useless by the long-term loss of knowledge, skills, qualification, dexterity, and what we may call industrial culture in a broad sense, which may hamper future attempts to upgrade the economy.

In a sharp contrast to the traditional way of development, the thorough changes brought about to the Romanian society by an abrupt transition caused ruptures in the system of knowledge, values, mentalities, behaviours, all of which reflected in the problems that appeared in the management of human resources, in the use of the existing physical and natural capital.

In Romania, the effort to switch and adapt knowledge to the new type of economic and political context has generated huge costs, a crisis of social and moral values, and an enormous and greedy need of new knowledge, that can only be assimilated by slow mutations (Box 1).

Box 1: Ratio between employment in industry and employment in agriculture

Employment in industry in the old EU countries started to decline in the 1960-65s; between 1970 and 1990, the decrease of employment in industry as a share of total employment in a country's economy was relatively accelerated: 43.3% and 28.7% in Belgium; 37.8% and 26.6% in Denmark; 49.3% and 40.6% in Germany; 37.2% and 33.4% in Spain; 39.2% and 30% in France; 39.5% and 32.7% in Italy; 40.5% and 37% in Austria, etc. Employment in industry in the old EU countries stood at 23-35% in 1999, and at 13-29% in 2010 (25.8% and, respectively, 23.4% in Belgium; 26.9% and 19.7% in Denmark; 33.8% and 28.4% in Germany; 22.9% and 19.7% in Greece; 30.6% and 23.1% in Spain; 26.3% and 22.3% in France; 28.5% and 19.5% in Ireland; 32.4% and 28.8% in Italy; 22.0% and 13.3% in Luxembourg; 22.3% and 17.6% in The Netherlands; 29.8% and 24.9% in Austria; 35.3% and 27.7% in Portugal; 27.7% and 23.3% in Finland; 25% and 20% in Sweden; and 26% and 19.3% in the United Kingdom).

In Romania, employment in industry grew more than four times during the period 1950 –1990, to then crash to less than half of the level of 1990 in only a matter of 10 years, so that, in 1999, it accounted for only 20% of total employment, and for 28.7% in 2010.

The ratio between persons employed in industry and persons employed in agriculture in Romania was approximately 0.5:1 in 1999, and 0.95:1 in 2010.

In 2010, the EU27 average ratio was: 4.88:1 and respectively 16.7:1 in Belgium; 8.2:1 in Denmark, 17.75:1 in Germany; 1.58:1 in Greece; 5.37:1 in Spain; 7.69:1 in France; 4.24:1 in Ireland; 7.58:1 in Italy; 12.1:1 in Luxembourg; 5.68:1 in the Netherlands; 4.79:1 in Austria; 2.54:1 in Portugal; 5.3:1 in Finland; 9.52:1 in Sweden; and 16.1:1 in the United Kingdom.

These ratios and the developments of the past decade forge a wide gap between Romania and most of the other EU Member States, and cause economic, technical and institutional asymmetries and divergences, rather than convergences.

Sometimes, the market mechanisms that have been put in place during the transition phase not only were unable to create symmetric evolutions, but, on the contrary, they generated devastating effects for the structure of the national economy of Romania.

In 1999, Romania alone accounted for 49% of employment in the agriculture of the 15 old member states, and its labour force was equal to only 4.4% of the labour force working in the industry of the same 15 countries; in 2010, Romania accounted for 52% of the number of active farmers in the old member states, for 25% of all farmers in the EU27, and for only 4.8% of employment in the industry of EU27.

Source: Authors' own compilations of data from Eurostat.

Statistically speaking, in time span 1990 – 2011, the number of jobs lost in the entire industry of Romania rose to 2,587,000, a number which is approximately equal to that of Romanian nationals that have been forced to look for employment on other labour markets, where most of them were sidelined to jobs like harvesters on fruit and vegetable farms, unskilled labour in the construction sector, cleaning and waste removal, and therefore they could not use their professional expertise, skills, qualification, and industrial culture attained in their native country.

All these people deployed in menial jobs were not given the opportunity to perform at a labour productivity rate higher than that they were used to in Romania. Therefore there was nothing to be gained for the overall competitiveness of EU27. In other words, the underuse of human capital by such protectionist practices has been a loss for both Romania, and the EU27 as a whole; the profit accruing from the smaller salaries paid to Romanian workers is in fact a much smaller gain than the productivity that they could have otherwise contributed to the economies of their host-countries.

The average monthly net salary expressed in current euros, for the entire industry, was 112 euro in 2000, and 347 euro in 2011; in the mining industry, the monthly net earnings rose from 184 euro to 608 euro, and in the production and supply of electric power, it grew from 171 to 658 euro. The manufacturing industry advanced from an average monthly net salary of 99 euro in 2000 to 312 euro in 2011.

Due to a rapidly decreasing industrial employment rate, labour productivity, as a ratio of the average gross value added per employed person, grew faster than the average of the EU27. Compared to 2005, in 2010, labour productivity per employed person in industry grew in Romania from 8.8 thousand euro to 15.3 thousand euro; in 2010, in Romania, the average rate of labour productivity was 27% of the average labour productivity rate in the other EU member states, up from the rate of 17.2% in 2005.

It is to be noted that while the share of salaries in the gross value added diminished from 54% in 2005 to 48.8% in 2010, this rate is constant in the other EU27 member states (approximately 57.7%).

In 2010, labour productivity as a ratio between the gross value added and 1 euro of wage cost, was higher by 25.5% in the manufacturing industry of Romania than the average of the EU27. The highest rates by which Romania overtook the EU27 average labour productivity were recorded in 2010 in the following industries: manufacture of other non-metallic products (cement, 2.1 times); woodworking and manufacture of wooden products (1.73 times); manufacture of electric equipment (1.44 times); manufacture of computers, electronic and optic products (1.37 times); manufacture of machines, plants and equipment (1.35 times), etc.

The only group of products for which the gross value added for 1 euro of wage costs was lower in Romania than the average of the EU member states was in 2010 the tanning of hides and skins, and the manufacture of leatherwear, footwear, and fine leather items (87%).

The apparently higher competitiveness rate in Romania is the effect of low salaries, which, sometimes, have been the only reason why foreign investors took an interest in the Romanian industry, and much less of investments seeking to raise the technical level of the industrial infrastructure and to innovate.

Romania's contribution to the overall gross value added obtained by the EU member states in 2010 was a modest 0.8% for the entire manufacturing industry, distributed unevenly and with higher rates in the manufacture of clothing (4.2%), tanning and finishing of hides, and the manufacture of leatherwear and footwear (2.8%), manufacture of wooden products, except for furniture (1.7%), manufacture of other, non-metallic, products (cement, 1.4%), manufacture of furniture (1.3%), manufacture of road transport vehicles (1.1%), and manufacture of textile products (1%).

In the other sub-branches and groups of products of the manufacturing industry, Romania accounted for less than 1% of the gross value added obtained in the other member countries.



## Conclusions

**The European concept of industry and industrial policies.** In the past three decades, in Europe, the advanced economies, and no less the emerging economies, have been under the pressure of the fast developing and astounding information and communication technologies, and of the new developments in the domain of new sources of energy and new materials.

All this brings along deeply-going transformations in the architectural, structural, institutional, functional organisational and size concept of the former industrial establishments, but also in the commercial mechanisms and policies.

Concomitantly, the strain on exhaustible natural resources, the climatic changes, the environmental protection issues, migration as an existing and increasing factor, including the brain drain, the depletion of the technical and engineering human resources, population aging, etc., will all require a new economic thinking capable to build an intelligent and sustainable economy where the young and well trained labour force could fulfil their career expectations; an economy capable to narrow productivity lags, to avoid the appearance of new differences, and to maintain the national and European economic and social cohesion.

The fast changes in the European and the national industrial landscape occur, at present, in a context marked by lack of confidence, insecurity of markets, financial problems, shortage of competences. This can only be overcome by an active and constructive partnership between the European Union and the Member States.

Industry is called to play the most important role in the new development model of the EU, in the soundness and viability of the EU economy. The latest crisis has brought to the fore the critical importance of competitive and diversified chains of industrial processing, for which the information and communication technologies and the competences are of capital importance in the international competition<sup>††</sup>.

The improvement of the framework conditions in which industry operates requires, in the first place, a wise regulatory framework at all levels of government action, for all the political echelons that have a say in industrial competitiveness.

Such a policy framework needs to start from a thorough analysis of the impact these policies may have on competitiveness (domestic market, access to finance on the financial markets, climatic changes), on investments, costs, prices, innovation, consumer satisfaction; all based on clear guidelines open to the public for transparency purposes, on polling the opinion of the manufacturers and of all parties interested to take part in legislative initiatives and policy drafting, etc.

Equally necessary is the ex post evaluation of the effects legislation has on competitiveness; regular evaluations must become a component part of intelligent regulation, in order to create reactive policies based on evidence and transparency, capable to identify every opportunity to improve quality and simplify the administration of law.

Another type of means of action is the promotion of industrial upgrading and the sectoral magnitude of policies.

The main topics here are the transition to an economy based on low emissions of carbon dioxide and on a more efficient use of the resources and the energy; structural changes in the industrial, energy and transportation systems; investments in the efficiency of emissions, energy, and use of resources; incentives for the companies that align to these new trends, not just for manufacturing purposes; research and development in the private sector and in the public sector; measures to prevent delocalisation of industry outside the territory of the EU.

Similarly, the sectoral dimension requires a focused approach of climatic change issues, health, security (nature-friendly goods and technologies, health industry, energy, and security), along the important value chains (chemistry, transportation equipment, agrofood industries, services to industrial corporate clients), with increased attention to energy-devouring sectors (with innovation in its broadest sense, for technology and for business and organisation models), to the industrial aspects of other policies that have an effect on competitiveness (improvement of the business environment, modernisation of the public administration, improvement of the capacity to innovate, energy efficiency); climatic changes, energy, population aging, competence/knowledge, the interaction and coordination of the policies that influence competitiveness (taking care to ensure the competitive features of any new policy

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<sup>††</sup> See 2.

proposals).

The multiple ways of action in support of a new industrial policy need an internal market capable to function beyond reproach; they also require the ability to make the most of the opportunities provided by the emerging economies.

At the same time, the practical application of the new thinking requires the equal and non-discriminatory access to finance, both for the strategic investors and for the SMEs. This context requires more public funding, and an easier access to the capital market.

In other words, the state should get involved in the creation of an adequate market environment, and in finding remedies for market malfunctions, even when the companies themselves are the only ones accountable for their success or failure on the market.

Starting from these prerequisites, the EU industry should be able to increase its share in the EU gross domestic product from approximately 16% at present to 20% by 2020, and investment in equipment should increase to 9% of the gross domestic product by 2020<sup>\*\*</sup>.

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<sup>\*\*</sup> See 2