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Structural Changes in Romanian Manufacturing Industry between 1990 and 2005

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Abstract

The paper deals with structural modifications occurred in the Romanian manufacturing structure between 1990 and 2006, their causes and effects on the level of overall economic and social development of the country.

The changes are highlighted by type of manufacturing industry sectors, identified depending on different criteria, such as: the level of technologies used, the nature of products yielded, the available base of raw material etc.

The main conclusion that can be drawn from the analysis we have carried out is that the Romanian manufacturing industry did not undergo the necessary structural changes, able to enable it to fully gain the features of a modern industry characterized by flexibility, high competitiveness and efficiency.

Key words: *industry, manufacturing industry, industrial sectors, structural changes*

The image of manufacturing industry's structural configuration during the period of over one and a half decade of economic reform process in Romania has undergone noticeable changes, mirroring different extents to which the constituent industrial activities were modified, as it is highlighted in table 1 below.

Table 1. Structure of industrial production by activities, in 1990, 1995, 2000, and 2005

- % -

Activities (divisions CAEN)	1990	1995	2000	2005
Industry, total	100	100	100	100
Manufacturing industry	85,8	80,5	79,4	80,6
Food and beverages	14,4	16,3	16,1	13,9
Tobacco products	0,5	0,5	1,5	1,4
Textile products	6,8	3,2	2,1	2,1
Clothing articles	3,6	2,6	3,3	3,3
Leather goods and footwear	1,9	1,5	1,3	1,5

Table 1 (cont.)

Wood and wooden products manufacturing (except furniture)	1,6	1,9	2,5	4,0
Pulp, paper and paper products	1,2	1,2	1,2	0,8
Publishing houses, polygraphy and recording reproducible registrations	0,3	1,1	1,3	1,4
Crude oil processing, coal coking and nuclear fuel treatment	6,9	7,7	10,1	12,0
Chemical substances and products	7,3	8,7	7,0	4,8
Rubber and plastic products	2,6	2,1	1,7	2,5
Manufacturing of construction materials and other products of non metallic minerals	3,5	3,8	3,3	3,2
Metallurgy	8,5	10,4	11,4	9,3
Metallic constructions and metal products	4,1	2,8	2,5	3,3
Machinery and equipment (except electrical and optical equipment)	9,3	5,8	3,6	3,1
IT and office means	0,5	0,2	0,2	0,3
Electric machinery and appliances	2,5	2,0	1,9	2,6
Radio, TV and communications equipment and apparatus	0,8	0,9	0,7	0,4
Medical, precision, optical, and watch-making instruments and apparatus	1,1	0,4	0,4	0,5
Means of road transport	3,7	3,0	2,5	4,6
Means of transport non included in road transport	2,3	1,5	1,9	2,0
Furniture and other industrial activities non elsewhere classified	2,2	2,6	2,3	2,5
Waste recovering	0,2	0,3	0,6	1,1

Source: Romanian Statistical Yearbook 2006, CNS, p. 467, and 2001, p. 403

Against a fluctuating evolution of the industrial production after 1990, which steadily maintained under the level recorded that year, reaching in 1999 the lowest threshold – 55,8%, the weight of the manufacturing industry in industry as a whole diminished in the period under focus with more than five percentage points; this decrease, associated with the increase of extractive industry's weight (with almost one per cent), was set off by the increase of weight of Electric and thermal energy, gas and water sector (from 5,2% in 1990 to 14,7% in 2000).

Within the manufacturing industry, its constituents have had different evolutions, brought about, mainly, by the demand progress on specific domestic and international markets, as well as significant modifications of some determining factors such as prices, combinations of circumstances, coming out of some strong rivals etc.

The most notable changes which occurred in the structure of manufacturing industry and pointed out by the table's figures are synthesized as follows:

- *The range of activities whose weight increased in 2005 as compared to 1990* has included Waste recovering (more than 5,5 times), Publishing houses, polygraphy and recording reproducible registrations (4,67 times), Tobacco products (2,8 times), Wood and wooden products manufacturing (2,5 times), Crude oil processing, coal coking and nuclear fuel treatment (with 73,9%), Means of road transport (with 24,3%), Furniture and other industrial activities not elsewhere classified (with 13,6%), Metallurgy (with 9,4%), Electric machinery and appliances (with 4%).
- *The activities whose weight diminished in the same period* were Machinery and equipment (3 times), Textile products (2,71 times), Medical, precision, optical, and watch-making instruments and apparatus (2,2 times), Radio, TV and communications equipment and apparatus (2 times), IT and office means (with 40,0%), Chemical substances and products (with 34,2%), Pulp, paper and paper products (with 33,3%), Clothing articles (with 29,8%), Leather goods and footwear (with 21,1%), Metallic construction and metal products (except machinery, equipment and installations) (with 19,5%), Means of transport not included in road transport (with 13,1%), Manufacturing of construction materials and other products of non metallic minerals (with 8,6%), Rubber and plastic products (with 3,9%).
- Among the above mentioned activities, those whose value weight in the amount of industrial production can be considered constant during the same period were the Electric machinery and apparatus (slight increase of 4 %), and Rubber and plastic products (reduction of about 4%).

Modifications of value weights are relative, being brought about, as mentioned, by the different evolutions of activities (industrial sectors). In some cases, the value weights modifications went, in 2000-2005 period, in the same sense as physical production evolutions.

Such is the case, for instance, of the sector Clothing articles, whose significant reduction of value weight was concordant with physical production reduction for the great part of specific product groups; the same situation is met in the case of industrial sectors as Leather goods and footwear, Metallic constructions and metal products, Radio, TV and communications equipment and apparatus.

As regards other industrial sectors – Tobacco products, Wood and wooden manufacturing (except furniture), Publishing houses, polygraphy and recording reproducible registrations, Crude oil processing, coal coking and nuclear fuel treatment, metallurgy, Electric machinery and appliances, Means of road transport, Furniture and other industrial activities not elsewhere classified – increases in their weights in the value of industrial production registered in the mentioned period were concordant with their physical production increases.

For other industrial sectors, changes of their value weights have occurred in the opposite direction as that of their physical production – Food and beverages, Textile products, Pulp, paper and paper products, Manufacturing of construction materials and other products of non metallic minerals, Machinery and equipment (except electrical and optical equipment), Means of transport not included in road transport – in the sense that their value weight has decreased and their physical production has increased, situation mainly explained by broad changes of prices registered in the considered period.

- *High tech industrial sectors* (IT and office means, Medical, precision, optical, and watch-making instruments and apparatus, Radio, TV, and communications equipment and apparatus, Electric machinery and appliances, publishing houses, polygraphy, and recording reproducible registrations) have maintained their cumulative weight, very small, since 1990 (5,2%).

It is worth mentioning that this level was maintained owing to an increase of about 5 times of the sector Publishing houses, polygraphy, and recording of reproducible registrations, the first three activities mentioned above - which are really high tech industries – registering significant reductions of their weights in the industrial production value;

- The cumulative weights of *industrial sectors with high intensity of low qualified labour force* (Textile products, Clothing articles, Leather goods and footwear, Wood and wooden products (except furniture), Furniture and other industrial activities not elsewhere classified) decreased from 16,1% in 1990 to 13,4% in 2000, which stands for a positive evolution.

However, it is worth mentioning that Wood and wooden products and Furniture sectors increased their individual weights, as a result of a rise in production brought about by export demand and accelerated clearing of large forested areas, over the normal limit of biological regeneration of forests, in full contradiction with the principles of sustainable development.

- Within the manufacturing industry, *the production of energy-intensive activities* (Metallurgy, Crude oil processing, coal coking and nuclear fuel treatment, Manufacturing of construction materials and other products of non metallic minerals, Chemical substances and products) increased its weight in the amount of industrial production from 26,2% in 1990 to 29,3% in 2005, an unfavourable evolution which demonstrates high power intensity maintaining for a good part of industrial activity.
- *Industries producing consumption goods* has diminished their cumulative weight from 29,4% in 1990 to 24,7% in 2005; the same evolution has followed the cumulative weights of *capital goods sectors' production and intermediary goods sectors' production*, which have lowered from 45,8% to 37,0%, therefore with 8,8 percentage points.
- *Industries having a good domestic base of raw materials and sufficient production capacities* (Food and beverages, Textile products, Leather goods and footwear, Wood and wooden products manufacturing, Pulp, paper and paper products, Crude oil processing, coal coking and nuclear fuel treatment, Furniture and other industrial activities not elsewhere classified), therefore having conspicuous competitive advantages, have increased their cumulative weight in the amount of industrial production (33,9% in 1990, 36,8% in 2005), but only as a result of weights changes of other industries, because their volume decreased for a good part of their specific products.
- Industries which, at the world level, are characterized by a high dynamics of their production (over 5% annual increase) – such as IT and office means, Publishing houses, polygraphy and recording reproducible registrations, Radio, TV and communications equipment and apparatus, Chemistry of small and medium production, Aeronautics, Genetic engineering products, Food and beverages (particularly ecological products and diet beverages) – have known in Romania a sharp decline, brought about, especially, by the competition of foreign products in the circumstances of broad domestic market opening.

Conclusions

The main *conclusions* which can be drawn from this analysis of structural changes recorded during 1990-2005 period in the configuration of the Romanian manufacturing industry are the following:

- The structural adjustment process of manufacturing industry aiming to bring near a developed country-specific model – characterized by adequate turning to account of comparative and competitive advantages, economic vitality, high competitiveness, advantageous integration into the international flows of products and services -, had scanty sizes and, in some areas, developed in the opposite directions of tendencies clearly stated at the world level.

- The manufacturing industry has not known deep changes imposed by the necessity to modernize it and increase its competitiveness, first of all by bringing down the weight of power-, material-, and labour-intensive activities, speeding up its modernization, and increasing the weight of technological-intensive activities, with great value added and high degree of technological irradiation;
- Structural changes that have taken place, most of them insignificant or unfavourable, have been the result of many different determining factors (political, economic, combination of circumstances etc.), which have acted convergently or divergently and determined the changes in the above directions; the action of these factors has not been, as the case stands, stimulated or counteracted by a realistic and coherent industrial policy, able to favour changes in the desired directions and to ensure an adequate turning to account of current or potential competitive advantages;
- Absence of such an industrial policy for a period of more than 12 years has made the action of the above mentioned factors favour the production's rise of some industries which are not endowed with competitive advantages (for instance, Metallurgy) and has hindered the development of other industries with obvious straightening out potential (for instance, Machinery and equipment, except electrical and optical equipment, and Means of transport not included in road transport);
- Export of industrial products has been an important factor which has determined broader structural changes in a noteworthy but insufficient extent.

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Schimbări structurale în industria prelucrătoare românească în perioada 1990 – 2005

Rezumat

Articolul tratează modificările structurale produse în industria prelucrătoare românească între anii 1990 – 2005, respectiv cauzele şi efectele lor asupra nivelului dezvoltării economice şi sociale generale a ţării.

Schimbările sunt evidenţiate pe tipuri de sectoare ale industriei prelucrătoare, identificate în funcţie de diferite criterii – nivelul tehnologiilor folosite, natura produselor fabricate, baza disponibilă de materii prime etc.

Concluzia principală care poate fi trasă din analiza efectuată este aceea că industria prelucrătoare românească nu a suferit transformările structurale necesare, capabile să îi imprime trăsăturile unei industrii moderne, caracterizată prin flexibilitate, competitivitate înaltă şi eficienţă.