

SWOT Analysis of the State and Prospects of the Romanian Manufacturing Industry's Sectors

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Abstract

This paper deals with the state and prospects of the component sectors of Romanian manufacturing industry, assessed according to some relevant indicators, namely: rate of growth, productivity, gross value added, unitary labor cost, energy intensity, foreign direct investment, net investment index, revealed comparative advantage, relative trade balance, presence on the world market. The restructuring requirements of each sector and the consequences of the world financial and economic crisis on it are also shown. Finally, the sectors with the most promising prospects of development are highlighted, beside the sectors whose fate will be decided by the market forces.

Keywords: *specialization, manufacturing industry, industrial sector, technology, necessary qualification, sector growth intensity*

JEL Classification: *L16*

Introduction

In light of the Romanian manufacturing sectors features highlighted in the previous articles devoted to this topic and published in this journal, the synthetic evaluation of respective sectors' current state and prospects is the object of the next lines, each sector being addressed taking into account the following four aspects: A. Its current state, B. Its restructuring requirements, C. World financial and economic consequences on it, D. Its prospects.

Synthesis of the current situation and prospects of the Romanian manufacturing industry's sectors

In order to frame the paper extent in acceptable limits, we chose to use a terse, synthetic wording style (Abbreviations used: GVA – gross value added; FDI – foreign direct investment; ULC – unitary labor cost; NII – net investment index; RCA – revealed competitive advantage; RTB – relative trade balance; SMEs – small and medium sized enterprises).

Manufacture of food, beverages and tobacco products (CAEN Divisions Rev. 2: 10, 11, 12)

A. Sector with clear comparative advantages, but deeply turned scanty to account;
Lack of an agricultural and food complex at the national level affects negatively the sector competitiveness;

Sector presents a high growth rate, scanty performances in terms of productivity and GVA, large FDI, average investment intensity, negative RTB in 2008 and RCA under 1, parameters indicating poor turning to account of potential competitive advantages it possessed;

1,73% share in the Romanian export amount in 2008 is far from reflecting its real potential, its products competitiveness on foreign markets being poor due to incapacity of the agricultural sector to provide the necessary raw materials and to own incapacity to turn adequately to account food recipes with national essential features.

B. Structuring a large agricultural-industrial complex would allow for higher turning to account comparative advantages the Romanian agriculture possess and provide multiple chances for re-launching industries that today are visibly in regression;

The high degree of economic units' privatization in the sector ensured, to a large extent, their adequate restructuring;

On the whole sector it is necessary to strongly develop research and activities in the field, to ensure, on a commercial basis, solutions to improve food quality, the development of new recipes, re-use of some traditional recipes.

C. Being a strategic sector that ensures food security of the population, the crisis impact has not significantly worsened its situation, becoming manifest, particularly, by increasing food prices, both the indigenous and the imported ones.

D. Turning superior to account food industry potential is a strong argument to support the development of agriculture as a branch which presents sure comparative advantages (as for endowment factors), supported by upstream sectors able to ensure the necessary inputs for achievement superior performance (tractors, agricultural machinery, fertilizers), and downstream sectors to ensure products superior capitalization (food industry, machinery and equipment industry – technological equipment for food industry, packing industry, other transport equipment not included in the road vehicles, etc.).

Manufacture of textile products (preparation and spinning of textile fibres, weaving of textiles, finishing of textiles, manufacture of other textiles) (CAEN Divisions Rev. 2: 13)

A. Although it has a long tradition in Romania, the sector registered, in the last two decades, a strong recoil, reflected by its negative growth, very low level of GVA and NII, high energy intensity, reduced demand of products, low level of FDI;

It recorded, however, a low level of LUC, RTB positive and high RCA above 1;

Need for raw material of the sector is covered from the country in different proportions (flax and hemp – about 30%; wool – about 85%).

B. The sector is dramatically facing with strong competition of producers from countries with comparative advantages (especially from Southeast Asia). Therefore, the sectoral restructuring should be achieved so that to profitably cover the niche markets and to direct the production processes towards products with faster sales growth and operations specialization.

C. Most sub-components of the sector (spinning, weaving, knitting) were hard hit by the global crisis. Some products groups – slings and ropes, technical textiles, nonwoven products – have however survived the crisis, their production and sales registering notable performances.

D. The sector recovery is conditioned by achievement of modern production lines (for fabrics of flax and hemp, wool fabrics, cotton fabrics), as well as by increasing demand for woven garments (possibly by reducing its Lohn system production);

Long-term prospects are gloomy, due to its poor performances and aggressive competition of producers from countries with comparative advantages (especially availability of raw materials and low labor cost), particularly in the South East Asia.

Manufacture of wearing apparel (wearing apparel except fur apparel, articles of fur, knitted and crocheted apparel) (CAEN Divisions Rev. 2: 14)

A. It is another sector of tradition in the Romanian industry, which, also, presented a number of weaknesses in the last period – negative growth of its production and productivity, reduced NII and FDI, presence on the global market in restriction.

At the same time, the sector registered positive performances – high GVA, intermediate-low energy intensity, reduced LUC, positive RTB, higher than one RCA, reflecting its appreciable competitiveness (in 2008, the sector export accounted for 8% of the total Romanian exports, placing him on 6th position in the hierarchy determined by the size of export)

B. The sector was deeply restructured in the last two decades under the impact of production relocation from developed countries to those with low labor costs and permanent pressure to reduce prices;

Further restructuring of the sector should ensure increasing capitalization degree of material resources recovery by production of high value added and own design products, and substantial reduction of the Lohn system production.

C. Global and internal crisis greatly affected the sector by drastic reduction of products demand, as a direct effect of population's purchasing power reduction;

In the EU countries where this sector is more developed, outsourcing and production activities relocation to countries with cheaper labor costs were intensified.

Based on good performances the sector showed in terms of export, it can increase its production and export, provided that restructuring achievement, mentioned in the next column;

D. Chances for the future development of the sector are seriously threatened by penetration into force on the markets where the Romanian exporters operate of producers from countries with greater competitive advantages (especially lower labor costs, larger scale production, own design, stronger assortment diversification, etc.) – R.P. China and other countries in Southeast Asia

Tanning and dressing of leather; manufacture of luggage, handbags, saddler and harness; dressing and dyeing of fur (CAEN Division Rev. 2: 15)

A. Sector presents contradictory performances: on the one hand – high GVA, low ULC, very large outward opening, slightly increasing presence on the world market, positive RTB, high value and higher than one RCA; on the other hand – negative growth of production, low NII, intermediate-high energy intensity;

The level of assuring the necessary raw materials from internal resources is low – about one third, which highlights the need to improve hides processing technologies. Level of productivity is a sore spot, caused, as in garments sector, by the level of used technologies.

B. Following restructurings are necessary: upgrading manufacturing technologies both in the sub-sector of hides processing and in the production of leather goods – shoes, gloves, furniture upholstery; broad co-development of research and innovation to achieve new products and technologies, in line with global trends.

C. The current crisis broke out in a time when the sector, both in Romania and other EU countries, presented performances in visible improvement.

The crisis caused a significant demand reduction on domestic and international markets, as well as a more difficult access to credit because the problems faced by the banking sector

D. In light of the good performances the sector showed in the export field, it has encouraging development prospects, subject to mentioned restructuring needs;

But the prospects are deeply burdened by the presence on markets where the Romanian exporters operate of producers from countries with significantly lower production costs.

Manufacture of wood and of wood products and cork, except furniture; manufacture of articles of straw and plaiting materials (CAEN Division Rev. 2: 16)

A. Strengths of the sector are : large increase of production ; high GVA ; low LUC; medium opening to the outside; growing presence on the world market; high and higher than one RCA;

The mentioned performances point it as a strong export oriented sector;

Its weaknesses lie in: medium NII; intermediate-high energy intensity; medium FDI; very low intensity of the research-development and innovation activities.

B. The high degree of units privatization allowed their significant restructuring; Further on, the needs for restructuring concern: strengthening research-development and innovation activities to improve manufacturing technologies; significantly changes of export structure which is unsuitable, since low processing products, with low value added, still have unacceptable high proportion.

C. The crisis became manifest by significant reduction of demand for wood, both on the markets of construction and products for houses fitting-out, as well as by hindering production units access to loans for investment and working capital;

The crisis came at a time when the sector was faced with financial difficulties caused by the large volume of outstanding debts it has accumulated over the years.

D. Long-term prospects of the sector are gloomy, considering the potential exploitable volume of wood which was significantly reduced (as a result of irrational deforestation and exploitation of large areas of forest), and strong competition of producers from countries with competitive advantages in comparison with Romania.

Manufacture of paper and paper products (CAEN Division Rev. 2: 17)

A. Sector with a modest share in the industrial production structure, it presents low or negative levels of some relevant indicators – low production growth, high energy intensity, negative RTB, under one RCA;

In contrast, it registered a medium productivity growth, high GVA, medium NII;

The sector production increased by fluctuations in the last decade, both at intermediate products (pulp and semi-pulp) and paper, including news paper, cardboard and pasteboard.

B. Concern improvement of production technologies to reduce energy intensity of production processes and achieve high-quality products, with high value added.

C. The crisis led to restricting specific market of the sector by significantly reducing the demand.

D. It is estimated that production level continues to remain relatively constant, prospect which implies production technologies modernization by investment effort revitalization and increasing the share of products with higher value added.

Printing and reproduction of recorded media (CAEN Division Rev. 2: 18)

A. Sector with a very small share in the structure of industrial production (about 1,4%), it has, generally, medium or low performances – a small increase of its production, low energy intensity, medium FDI, ULC and opening to the outside, insignificant growth of presence on the world market, negative RTB, RCA under one. On the contrary, the GVA and NII levels in 2008 were high

B. The high degree of privatization of the sector units allowed their production activities extensive restructuring, in line broadly, at present, with international standards and trends on the European markets.

C. Although it experienced repeated previous crises, the sector has felt much deeper the current crisis, which encumbered its development prospects.

D. Prospects of the sector development depend on the ability of firms to identify promising strategic lines to guide their activity: the large companies will probably engage in merger and acquisition strategies of small firms, and the SMEs will seek to identify promising market niches and to specialize in segments with increasing demand.

Manufacture of coke and refined petroleum products (CAEN Division Rev. 2:19)

A. The sector has a long tradition and a strengthened international reputation, has the largest crude oil processing capacity in Central and Eastern Europe and covers almost a third of Romania's energy production;

Its strengths are: sustained growth of productivity; high NII; High demand for products; large FDI; growing presence on global market; positive RTB.

Weaknesses are: low level of GVA; high energy intensity; under one RCA.

B. It required significant upgrading processing technologies, in order to reduce processing cost, improving products quality and alignment with EU environmental standards;

Other restructuring needs concern: deepening specialization on specific products processing (oil, solvents, paraffin, bitumen); optimizing technological processes; strengthening cooperation between production units to conduct semi-finished products towards units able to deepen processing; achieving the investment partnership for production of components and superior additives, with high value.

C. Given the growing demand for petroleum products and its low elasticity with respect to price changes, the impact of the crisis was not felt too intense by the sector, which is more sensitive to fluctuations in international oil prices, caused by other factors with more intense action (particularly geopolitical).

D. Prospects for development of oil processing industry can be outlined forecasting the demand of petroleum products on the market and taking into account the potential development of international activities of Romanian companies in areas with sizeable oil reserves (especially the Black Sea, Kazakhstan and the Caspian Sea).

Manufacture of substances and chemical products (basic chemicals, fertilizers and nitrogen compounds, plastic and synthetic rubber in primary forms; pesticides, other agrochemical products; paints and varnishes and similar coatings, printing ink and mastics; soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations; other **chemical products; man-made fibers**) (CAEN Divisions Rev. 2: 20,21)

A. The sector has a complex structure, with several diversified subsectors, found in different states;

It presents as strengths: high rate of production and productivity growth; medium NII; high demand for products; large FDI; presence on world market in growth;

Its weaknesses are: low GVA; high energy intensity; high ULC; negative RTB; under one RCA; *Petrochemical subsector* recorded a significant setback as a result of drastic reduction in production capacity, reducing the amount of processed crude oil and strong competition of foreign products (plastics, synthetic yarn and fibers, paints and varnishes), and, as a consequence, is currently uncompetitive;

Fertilizer subsector: energy-intensive and polluting, has installations and technologies with performances close to those recorded in the world and manufacture products at a quality level suitable with international standards;

Drugs and pharmaceutical subsector was profoundly restructured after 1990 to improve the list of products (by introducing new generic medicines of all therapeutic groups), to create new capacities through private investment, to increase the concentration of production activity; the technologies to achieve unconventional pharmaceutical formulations (controlled-release, release to the target, etc.) are missing.

B. Restructuring requirements range is wide, as the diversification of its subsectors: technological restructuring petrochemical units Arpechim, Oltchim and Petromidia; identification of key installations apt to increase their capacity and be modernized; improving co-operation between production units to optimize technological flows; revival production of complex and simple phosphorus fertilizers; diversification of fertilizers range – containing herbicides, with growth promoters, with micronutrients, leaflets fertilizers; improving production technologies to reduce consumption of raw materials, energy and utilities; framing all installations and technologies in international standards of environmental protection; increasing support for farmers to enhance fertilizers use in agricultural works; attracting more intensively foreign investors in the pharmaceutical subsector to upgrade technologies and installations for synthesis, semi-synthesis and extraction; attracting SMEs in co-operation with performant large companies; better

regulation of drug distribution system and involvement of producers in the distribution of own drugs; reconsideration drug prices policy for stimulating research-development in the field and marketing.

- C. The sector is among the most affected by the current crisis, as a result of the sharp decline of other sectors benefitting from its products, including construction, road transport industry, some specialized sectors of machine building.
- D. Prospects are promising in terms of forecasted demand growth for all types of substances and chemical products, including entirely new products, due to major changes that have occurred in recent decades in the world, consisting in climate change, increased recycling of materials and energy production from renewable resources, expanding water treatment, including residual water, aging in developed countries, emergence of new diseases previously unknown.

Manufacture of rubber and plastic products (rubber tyres and tubes; retreating and rebuilding rubber tyres; other rubber products; plastic plates, sheets, tubes and profiles; plastic packing goods; builders' ware of plastic; other plastic products) (CAEN Division Rev. 2: 22)

- A. Traditional sector in the Romanian manufacturing industry, it presented as positive features high production growth, medium GVA and NII, average level of FDI, ULC and opening to the outside, sustained presence on the world market and higher than one RCA, although at a reduced amount;

Negative characteristics refer to the moderate increase of labor productivity (associated with a slight increase of the employees' number), intermediate-high energy intensity, negative RTB.

- B. The sector has experienced significant restructuring carried out in conditions in which it presents a high degree of privatization;

Further on necessary improvements are modernization of manufacturing technologies to reduce energy-intensity of production processes and raising products quality, diversification of products list (with special profile tyres, giant tyres, new plastic spare parts with superior mechanical properties, etc.), improvement of technologies for recycling waste tyres and plastic products.

- C. The sector has experienced a medium impact of global and domestic crisis, become manifest by the relative reduction of demand for specific products and significantly hindering efforts to access credit.
- D. The sector development prospects are encouraging, their effective achievement being conditioned by maintaining further on the high demand of products and carrying out the mentioned restructurings.

Manufacture of other non-metallic mineral products (glass and glass products; refractory products; clay building materials; porcelain and ceramic products; cement, lime and plaster; articles of concrete, cement and plaster; cutting, shaping and finishing stone; abrasive products; other non-metallic mineral products n.e.c.) (CAEN Division Rev. 2: 23)

- A. The sector has proved viable since it has obvious competitive advantages (tradition, stable and qualified workforce, high productivity growth, medium GVA, high products demand, large FDI);

Its weaknesses consist in high energy-intensity, high ULC, low opening to outside, insignificant increase of presence on the world market, negative RTB, under one RCA.

- B. Concern: extending the clinker burning with waste fuels in the cement plants; creating new capacities for production of float glass, ceramic powder, tar cardboard, ampullas, glasses, gypsum, tiles, ceramic blocks, insulation products, sanitary ceramic; modernization of some installations for the production of packing glass and shaped housekeeping glass.
- C. The sector has experienced a strong impact of the current crisis, its specific market being drastically reduced as a result of demand diminution, and access to funding of production units becoming more difficult.

- D.** The sector serve with its products other branches of the economy (construction, agriculture, etc.) that are expected to experience a sustained future development, thus being able to have growth prospects above the manufacturing industry average, especially in certain groups of products (superior cements, superlight packaging glass, housekeeper and ornamental glass and ceramics, sanitary porcelain objects, gypsum products, cardboard, wall and floor tiles).

Manufacture of basic metals (Basic iron and steel and of ferro-alloys; tubes, pipes, hollow profiles and related fittings, of steel; other products of first processing of steel; basic precious and other non-ferrous metals; casting of metals) (CAEN Division Rev. 2: 24)

- A.** Traditional sector of the Romanian industry, it has an external competitiveness higher than the average level of the manufacturing industry, which explains its high share – 12,0% - in the amount of Romanian exports (the first largest exporter sector);

Its strengths are high productivity growth, medium level of NII, large FDI, growth in the world market presence, high-value and higher than one RCA;

Its weaknesses consist in very low GVA, high energy-intensity, high ULC, negative RTB;

After 1990, the sector has experienced profound restructuring, which consisted in about 65% reduction of steel subsector staff, reducing to about half production capacity by stopping the operations on old and inefficient installations, plant modernization and privatization of the overwhelming majority of specialized units.

- B.** The further restructuring needs concern: promotion of advanced technologies and high processed products (high alloyed and stainless steels, covered products, electrical sheets, etc.) and with features at the level of the EU standards; achieving the program referring to green metallurgical areas; rigorous monitoring of past-privatization actions by strategic investors in units, to ensure compliance with their commitments under contracts; setting up specialized units on advanced processing operations (cold metal processing, coatings)

- C.** Deteriorating macroeconomic conditions and hindering accessibility to credit caused by the crisis affected the metallurgical industry, primarily by the decline of industrial sectors and economic branches as large metal consumers (road transport industry, other means of transport, construction, etc.).

- D.** Opportunities for further development of the steel sector consist in existence of a sizeable foreign market (about 45% of export is to Europe, North African countries and the Middle East), the high requirements for the modernization of national and local utility infrastructure (especially highways, high-speed rail lines, and energy production from renewable sources), in expected development of construction and agricultura branches.

Manufacture of fabricated metal products, except machinery and equipment (structural metal products; tanks, reservoirs and containers of metal; steam generators, except central heating hot water boilers; weapons and ammunition; forging, pressing, stamping and roll-forming of metal, powder metallurgy; treatment and coating of metals; cutlery, tools and general hardware; other fabricated metal products) (CAEN Division Rev. 2: 25)

- A.** The sector has a high degree of privatization and presents different performances:

- positive – high GVA, high NII, intermediate-low energy intensity, increasing presence on the global market, high-value and higher than one RCA;
- negative – reduced production growth, declining production, negative RTB.

- B.** The increase of research-development and innovation activities' contribution to finding new technological and constructive solutions according to trends which become manifest in industrialized countries having this sector developed; introduction of the total quality management system in all units of the sector; encouraging the setting up specialized companies on niche products.

- C.** The sector has significantly undergone impact of the crisis, resulted in increased cost of material inputs into production process (especially steel), contracting supply chains, increasing difficulties in obtaining loans for investment.

D. The sector benefits from favourable prerequisites for future development, consisting in considerable modernization requirements of economic branches and industrial sectors (agriculture, construction, food industry, etc.);

The further evolution of the sector will but be decided by market demand of specific products, as well as by companies capacity to significantly increase the quality of their products.

Manufacture of computers, electronic and optical products (electronic components and boards; computers and peripheral equipment; communication equipment; consumer electronics; instruments and appliances for measuring, testing and navigation; watches and clocks; irradiation, electromedical and electrotherapeutic equipment; optical instruments and photographic equipment; magnetic and optical media) (**CAEN Division Rev. 2: 26**)

A. High-tech sector, with diversified activities and a consistent share of information technology products, it is of particular importance because is information technology provider for all sectors of society and supports the building of information society in Romania;

Overall performances of the sector are, generally, modest, still far from the level to which it should be placed: reduced growth of production (which is related to a very low starting base); moderate productivity growth; low GVA (higher in radio, TV and communication equipment, lower in medical apparatus and precision and optical instruments, clocks, and more lower in computers and office machines); high NII, medium FDI, high ULC, negative RTB, under one RCA;

On the contrary, the opening to the outside is large, and the presence on the world market is in strong growth (but reported to a very low base).

B. Further assembly manufacture of imported components, to cover part of domestic and export demand; identifying and turning to account opportunities for manufacturing, as a subcontractor of some large foreign companies, at an appropriate competitive level, of certain components and parts; intensification of research, development and innovation to keep them close to the world level; strong development of software production (including working out standards products programs, on areas of application) and on-demand services, both for domestic market and export; significant increase of the Romanian specialists expertise in the field of software export, now achieved in large foreign companies operating in Romania.

C. The impact of the crisis was significant for all component subsectors (radio, TV and communication equipment; computers and office machines – the hardware part; medical, precision, optical apparatus and instruments; clocks), less the software part and information and communication technology services.

D. The sector's growth prospects are considerable, prefiguring the still considerable gap that exists between Romania and other countries in the use of information society specific instruments (for instance, in 2007 the number of internet users/1000 inhabitants - Romania 244, Poland 440, Hungary 519; the number of PC/1000 inhabitants, in 2006 - Romania 129, Poland 169, Hungary 256 in 2007; the number of subscriptions to mobile telephone/1000 inhabitants - Romania 1062, Poland 1090, Hungary 1100, etc.);

The main competitive advantage of the sector, which will support its future development are: high creative potential of specialized human resources, valued, especially, in software production; existence of a large number of SMEs with software activity which is very requested; increasing potential of assembling and integrating components and equipment.

Manufacture of electrical equipment (electric motors, generators, transformers and electricity distribution and control apparatus; batteries and accumulators; wiring and wiring devices; electric lighting equipment; domestic appliances; other electrical equipment) (**CAEN Division Rev. 2: 27**)

A. The sector corresponds to electro-technical industry and occupies a central place in the national industrial complex, as it is a key contributor to improving the productive technical apparatus of all other industrial sectors and economic branches;

Its strengths are: high GVA; medium NII; intermediate-low energy intensity; medium FDI; medium ULC; high opening to the outside; presence on the world market in sustained growth; positive RTB;

The weaknesses are: low production growth; negative productivity growth; under one RCA.

B. Enhancing research – development potential of the sector through increased participation to national and European specialized programs (energy production from renewable resources, including production of the necessary equipment, application of technologies for monitoring and recovery of electro-technical industry waste, etc.); developing the production of low power electric motors for export; developing the manufacture of electric cables without halogen for underground and railway; developing the production of lead acid batteries without maintenance, for automotive industry; further alignment to the Harmonized European Standards in the field; extending co-operation with prestigious foreign partners for the development of products and parts with superior level of complexity.

C. The impact of the world financial and economic crisis was strongly felt by the sector, the reduction of its performances occurring in spite of its activity with good results before the crisis breaking out.

D. The large share of SMEs in the sector, flexible, easily adaptable to market demand and having higher productivity as compared to the large companies, the presence of many firms with foreign integral capital and a special contribution to the sector export growth, large requirements of modernization and development of industrial and national infrastructures (energy, telecommunications) are factors that foreshadow the future development of the sector at a rate superior to the manufacturing industry average. Economy's internal needs and external good competitiveness of the sector justify a considerable investment.

Manufacture of machinery and equipment n.e.c. (general purpose machinery – engines and turbines, except aircraft, vehicle and cycle engines; fluid power equipment, other pumps and compressors; other taps and valves; bearings gears, gearing and driving elements; other general purpose machinery – ovens, furnaces and furnace burners, lifting and handling equipment, power- driven hand tools, office machinery and equipment except computers and peripheral equipment, non-domestic cooling and ventilation equipment; agricultural and forestry machinery; metal forming machinery and machine tools; technological equipment; domestic machinery and appliances etc.) (**CAEN Division Rev. 2: 28**)

A. The sector, which is generally in a difficult situation, occupies also a central place in the national industrial complex because of its wide range of products presenting a particular interest for the whole economy;

Its positive performances consist in high productivity growth, intermediate-low energy intensity, medium FDI, large opening to the outside, sustained presence on the world market;

Conversely, its weaknesses concern reduced growth of production, medium NII (relative to large needs to modernize production units and technological processes), high ULC, negative RTB, under one RCA, reduced efforts devoted to production processes upgrading and modernization.

B. The significant increase of research-development and innovation contribution to improve technologies and products (e.g., making more efficient the production by reducing warm sectors energy intensity, uptaking specialized equipment necessary in different branches, achieving high-performance equipment for warm water production by cogeneration, introducing advanced technologies of welding, thermo-chemical coating, painting, etc.); uptaking new credit schemes to promote performant technological transfer projects; extending co-operation with strong foreign partners in production of railway equipment, auto components, technological equipment, etc.

- C. It is one of the manufacturing industry sectors, the most affected one by the world financial and economic crisis, whereas, on the one hand, it had a fragile economic and financial situation before the crisis, and, on the other hand, it produces capital goods whose demand collapsed.
- D. The sector development prospects are conditioned, to a significant extent, by the investment cycles of the buyers of machinery and equipment (the cycle of machine tools segment, for instance, are very pronounced), affected in turn by the global crisis. High diversity of the component subsectors and special interest their products present for all industrial sectors and economic branches are pluses that open promising prospects for further development of this sector.

Manufacture of motor vehicles, trailers and semi-trailers (motor vehicles, manufacture of bodies – coach work – for motor vehicles; trailers and semi-trailers; parts and accessories for motor vehicles) (CAEN Division Rev. 2: 29)

- A. The sector presents existing and potential competitive advantages, consisting in its tradition and productive potential; in addition, has a remarkable driving effect for many upstream and horizontal industries;

It comprises two sub-sectors with different features: city cars, which has partnership with world renowned strategic investors (Daewoo, Renault, Ford, Krupp and Bilstein for auto parts), with commendable performances and competitiveness; other road transport means (off-road vehicles, utility vans, buses, trucks, lorries, pick-up trucks), with poor performances;

Overall, the strengths of the sector are very high growth of production, high productivity growth, high GVA, very high NII, intermediate-low energy intensity, large FDI, presence on the world market and sustained growth;

Its weaknesses are high ULC, negative RTB, under one RCA.

- B. Profound restructuring that occurred in the city cars sub-sector as a result of direct investment made by reputable companies in the world led to a high level of competitiveness, attested by the considerable increase of its export (accounting for 9,0% in the value of Romanian total exports in 2008, the third sector in the hierarchy established by export volume);

Further restructuring requirements concern, therefore, especially, the second sub-sector – the means of road transport except city cars -, which needs to be widely modernized the production technologies, significantly raise the productivity, strengthen technological discipline, improve the quality of auto parts manufactured in the Romanian companies, replace the bad management system of uncompetitive companies.

- C. The world financial and economic crisis has differently affected the two sub-sectors: at a lesser extent that of city cars, whose sales felt as a result of lowering the purchasing power of people and companies with difficult economic and financial situation; very sharply that of other road transport means except city cars, whose deficiencies were significantly amplified.
- D. The sector, especially its first sub-sector, has broad prospects of development, determined by: the requirements of the future motorization level of population and entire economic activity, as well as improvement of the road infrastructure of the country; the effect of a horizontal industry development of accessories and auto spare parts; the possibility of extending facilities to sell cars in leasing to customers; considerable increasing demand on international market for Dacia Renault cars’.

Manufacture of other transport equipment (building of ships and boats; railway locomotives and rolling stock; air and spacecraft and related machinery; military fighting vehicles; transport equipment n.e.c.) (CAEN Division Rev. 2: 30)

- A. The sector, which has a considerable tradition in Romania, has two important sub-sectors:
 - a) *Construction and repair of sea and river ships*, which is potentially competitive, whereas benefits of firms’ advantageous locations, has some advanced technological flows

and face a significant export demand generated by aging fleet from many countries; it presents, however, an excess capacity which is underutilized; *b) Construction and repair of rolling stock*, in which the production of good and passenger cars is carried out according to international standards and the ISO 9001-9002 quality system, and has also underutilized capacity;

Overall, the sector has as strengths: high NII, low energy intensity, large FDI, medium opening to the outside, presence on the world market in sustained growth, positive RTB;

Its weaknesses are moderate productivity increase, medium GVA, high ULC, under one RCA.

- B.** Further restructuring requirements concern: privatization of state-owned companies still existing; increasing research-development and innovation contribution to the products modernization and diversification, to significantly increase their competitiveness; attracting in strategic alliances strong partners with high financial and economic potential, for manufacture and marketing of trucks and carriages with significantly improved performances, in this sense the experience of the Arad enterprise being particularly relevant.
- C.** The world shipping industry is facing, as a result of the crisis, the deepest level of orders restraining; under these conditions, it is evident that the respective Romania's sector has to suffer;

The Construction and repair rolling stock subsector has also felt the crisis impact, but to a lesser extent;

The Manufacturing aircraft and spacecraft subsector joined the European industry trend, marked by reduction in the number and volume of orders and, hence, of the supply of aircraft of major producers; at present, however, the situation tends to be stabilized, what is good for upstream industries.

- D.** The prospects for further development of the sector are determined by: the urgent requirement of Romania's integration into development programs of trans-European routes West- and North-South; intensification of goods transit on the national territory, as a result of increased transport flows between the EU member countries and the Russian Federation, Ukraine, Belarus, Near and Middle East countries; need to replace much of the existing stock of freight and passenger wagons and new specialized freight cars endowment; profitable operation of the Constantza port container terminal.

Manufacturing of furniture (for offices and shops, kitchen; mattresses and spring mattresses; furniture n.e.c.) (CAEN Division Rev. 2: 31)

- A.** Tradition sector in the Romanian manufacturing industry, it presents the following positive characteristics: high GVA; intermediate-low energy intensity; low ULC; positive RTB; Its medium level features concern production, productivity, NII and FDI increase, opening outward;

The weakness of the sector is under one RCA.

- B.** Improving the production list structure by increasing office, commercial and hotel furniture share, stylistic diversified, with modern design; increasing diversity and improving the quality of ironmongery for furniture; receptivity to the trend of furniture production relocation, which is labor-intensive, with low qualifications requirements, from developed countries to Romania, which is beneficial for the sector.
- C.** At the EU and Romania's level, the sector recorded, in the years before the outbreak of the crisis, good financial and economic performances;

The global crisis affected the sector by reducing demand from people, firms, and public and private institutions, whose money reserve for purchase of furniture was considerably restricted.

- D.** Prospects of the sector development, encouraged by its previous performances, are strongly influenced by a number of challenges which it must face: increasing cost of raw material (wood) and energy; aggressive penetration of products from countries with lower labor costs (particularly R.P. of China); reducing transportation costs of dissembled furniture. As a result, the manufacturing companies must identify and develop new business models.

Other manufacturing (jewellery, bijouterie and related articles; musical instruments; sport goods; games and toys; medical and dental instruments and supplies; manufacturing n.e.c.) (CAEN Division Rev. 2: 32)

A. The strengths of this sector, very diversified as activities included, are: increased production of medium level in the manufacturing industry; high GVA; medium NII; intermediate-low energy intensity; medium FDI; low ULC; presence on the world market in slight increase; positive RTB;

Its weaknesses consist in modest increase of productivity and under one RCA.

B. Significant improvement in product quality by increasing the contribution of research-development and innovation activities; diversification of production list; attracting powerful companies in strategic alliances, able to achieve a transfer of technological, marketing, and management know how beneficial for Romanian producers.

C. The sector has undergone the effect of global crisis in the sense of significant reducing sales volume, due to lower purchasing power of population and financial difficulties which numerous companies and institutions faced with.

D. Sector's evolution prospects depend, crucially, on the economy going out from the crisis and its return to economic growth registered before 2008

Source: Own conception, synthesis of the features highlighted in the previous articles published in this journal

Conclusions

Synthetic review of the current state and developments prospects of the Romanian manufacturing industry component sectors allow us to identify those with the most promising opportunities for further positive development, which are, in order of their presentation, the following:

- Food, beverages and tobacco products;
- Manufacture of coke and refined petroleum products;
- Manufacture of substances and chemical products;
- Manufacture of rubber and plastic products;
- Manufacture of other non-metallic mineral products;
- Manufacture of basic metals;
- Manufacture of fabricated metal products, except machinery and equipment;
- Production of software in Manufacture of computers, electronic and optical products;
- Manufacture of motor vehicles, trailers and semi-trailers.

These sectors need to find their appropriate place in the national industrial policy, which should precise the ways and economic and financial means, fully compatible with functioning market economy requirements, which ensure their desirable development.

In the case of traditional sectors of the Romanian industry, which are strong export-oriented and have notable performances on international markets,

- Manufacture of textiles products;
- Manufacture of wearing apparel;
- Tanning and dressing of leather; manufacture of luggage, handbags, saddler and harness; dressing and dying of fur;
- Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials;
- Manufacture of furniture,

confronted with frequent crises of raw materials and, especially, with strong competition of countries with comparative advantages, particularly from South-East Asia, their development

prospects are dependent, in a decisive extent, on the ability of firms to specialize their production on niche markets, to reduce production costs, to improve products quality and to adopt new business models.

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