DEVELOPMENT OF ECONOMIC COMPETITIVENESS IN INDUSTRIAL BUSINESS

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Abstract. Sustainable economic growth and improving living standards of the population are determined by the development of economic competitiveness in the context of global challenges (economic globalization, open international markets, rapid technological change), challenges which must be transformed into opportunities for the Romanian economy. Labour productivity in industry has had an upward trend due to both decrease the number of staff employed, and as a result of investments for modernization and manufacturing flows better organization of work, based on better management. The concept of industrial policy aims at improving competitiveness by boosting performance of companies, focusing on horizontal policies that affect all industry sectors, namely: innovation, new technology and processing equipment, professional skills, education and training, business management.

Keywords: competitiveness, business, industry, management, industrial engineering

1. Introduction

Survey on business competitiveness on world industrial states, conducted by the World Economic Forum (WEF) in 2009, has located Romania ranks 67 of 117 countries analyzed, following recent EU countries, but also other candidate countries: Bulgaria (ranked 58) and Turkey (ranked 66).

2. Increase economic competitiveness in the industrial business

Industrial competitive business analysis was based on three categories of factors: technology, institutional framework and macroeconomic environment, on the premise that no technology can be maintained term achieved a high standard of living only on capital accumulation, that industrial businesses are those that industrial property rights, contract compliance, efficiency and transparency of government expenditures, while monetary and fiscal policies and stable financial institutions have an important role in ensuring long-term development.

Evolution of labour productivity (GDP at purchasing power parity per person employed) in the industrial business recorded a positive trend, however, the productivity of Romanian economy in 2009 represented only 35.3 % of the EU-25 productivity, which demonstrates the need to find appropriate levers for improving the value of this indicator. Labour productivity in industry increased by an average of 8.6 % per year in 2006-2009, (higher percentage of many other countries in the region), but before the start of the economic crisis.

Table 1. Labour productivity in the industrial business (PPP GDP / person employed)

Countries	2006	2007	2008	2009	Average 2006-2009
Czech	110.6	105.0	106.4	108.9	107.7
Estonia	117.6	115.3	110.3	111.1	113.5
Hungary	116.6	105.3	105.3	108.8	108.9
Latvia	105.0	106.7	105.8	105.1	105.7
Poland	114.3	105.4	107.6	112.0	109.8
Romania	**113.8**	**106.9**	**113.7**	**112.1**	**111.6**
Slovenia	108.4	103.5	105.6	98.0	103.7
Slovakia	111.6	108.6	103.0	113.6	109.1

Source: Eurostat, 2009

2.1. Labour productivity indices for industrial affairs in Central and Eastern European countries

Although this indicator was a positive trend throughout this period, trend maintained in 2009, Romania lags behind the average EU countries, including countries in the region, most many economic activities. Productivity growth depends not only on technological development but also improve the quality of industrial products, marketing and application of research results, but also other sources that determine the increase in value added products made.

Low cost of labor is the dominant sources of competitive advantage for industrial businesses, thereby encouraging action as the main direction of domestic research and innovation that will benefit results reduce imports of technologies and equipment and increase in gross value added products for both domestic market and for export. Guideline foreign investors to industrial

businesses, in particular due to the advantages offered by Romania in this area (low land prices compared with other countries in the region, cheap labor and skilled industrial, production capacity tradition).

By continuing privatization of state enterprises in the economy is expected to strengthen financial discipline and loss of arrears, refurbishment companies, production costs, increase employee qualifications. Therefore, in Romania, this process has been intensified in recent years, much has already privatized industry. In Romania, research, development and innovation (RDI) is based on the existence of a valuable tradition, currently covering over 50 specific scientific and technological areas and maintaining a relatively stable annual level of activity and results. R&D activities continue to be conducted in most of the public sector (60 %). One factor that may increase business competitiveness in industrial activity is the large share of researchers in technical sciences and engineering.

The main problems facing the industrial business are insufficient funding from government, research and development infrastructure exceeded (by current standards facilities gap is 5 to 10 years), non-adaptation to competitive market conditions, reducing the number and average growth age of researchers. Economic interest and involvement in research and development and innovation is low, in 2010 funds raised from businesses to co-finance projects in the industrial businesses representing 35% of the total budget of the National Plan for Research, Development and Innovation (PNCDI). The industrial businesses are poorly represented, with no record of the profile and quality. Industrial restructuring has initiated an important component of outsourcing of activities indirectly related to manufacturing such as transport, security supply, maintenance systems, etc. Quality industrial business development to increase economic competitiveness is a very necessary process at national level so that it can generate knowledge in the analysis stage of manufacturing processes and quality of products compared to international levels and by encouraging the application of best practices in all industrial, service sector is also generating new jobs. Industry recorded in 2009 accounted for 17 % of GDP, contributes 78 % of export (fob) of Romania and a large capacity of Insurance jobs (at the end of 2009, 13.1 % work in industry of employment in national economy).

2.2. The structure of industrial production in 2009

Manufacturing is the one that led to an increase in overall industrial production, with an average increase of 8.7 % during 2006-2009.

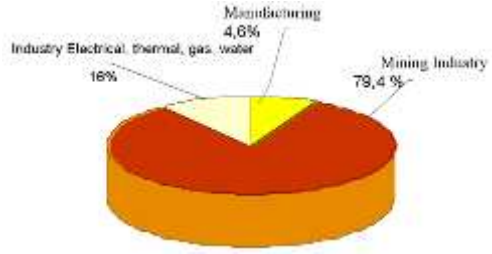

Figure 1. The structure of industrial production in 2009
Sources: National Statistical Institute

2.3. Industrial business development in relation to the overall economy

The decrease in production volume manufacturing in 2004, with approx. 3.2 % in 2005-2009 that followed an upward trend in the industrial business, mainly due to the adoption of a coherent package of industrial policies to promote investment projects at national level, start a comprehensive program of development and regional reindustrialization, improve the business environment.

Inserted in the chart below, shows progress in relation to the whole manufacturing industry:

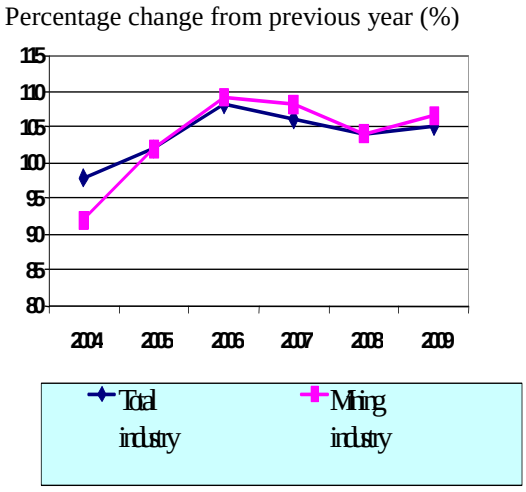

Figure 2. Industrial business development in relation to the overall economy
Source: National Institute of Statistics

2.4. Sectors with significant reduction of employees

Reduction personnel in the sectors listed companies was due to restructuring, outsourcing related activities, modernization of production and performance management required by multinational companies. Investment in industry and the share in total investment declined from 44.3% in 2004 to 38.1 % in 2009. Direct foreign investment in industry increased from 5958 million Euros in 2004 to 9383 million Euros in late 2008 before the start of the crisis. During 2004-2009, labour productivity increased 1.26 times.

Table 2. Sectors with significant reduction of employees

Sector	2004	2005	2006	2007	2008	2009
Metallurgy	194	163	168	146	144	138
Transport means	146	132	126	121	110	102
Chemicals	142	128	122	108	108	106
Machinery and equipment	182	150	144	149	135	133

Labour productivity in the industrial business had an upward trend due to both decrease the number of staff employed, and as a result of investments for modernization and manufacturing flows better organization of work, based on better management. As a result, among other measures (e.g., supporting small and medium sector) to attract investment in the industrial business and job growth, has encouraged the creation of industrial parks. Thus, the creation and development of industrial parks was the allowed recovery of existing material resources (infrastructure, warehouses, utilities) associated platforms or large industrial giants of the defence industry, which were centrally owned state.

2.5. Regional distribution of industrial parks

Generally, operational industrial parks have attracted about 300 businesses that created 8714 jobs.

Table 3. Regional distribution of industrial parks

Development Regions	Total industrial parks	Total area of parks untended [ha]	Untended areas [ha]	Areas industrial [ha]
1. North East	2	22.38	-	22.38
2. South East	3	121.80	-	121.80
3. South Muntenia	9	493.30	254.07	239.23
4. South West	1	10.46	10.46	-
5. West	1	19.30	19.30	-
6. North West	3	88.19	88.19	-
7. Centre	11	534.85	400.92	133.93
8. Bucharest	2	33.07	-	33.07
Total	**32**	**1323.35**	**772.94**	**550.41**

Source: Ministry of Administration and Interior

SMEs (Small and Medium Enterprises) dominate completely in the Romanian economy, as in most European countries, representing over 98% of all businesses and having a substantial contribution to GDP formation and job creation.

Table 4. Number of active SMEs, depending on class size

Size firms	2002	2003	2004
Micro	285207 (87.7%)	313485 (87.9%)	358242 (89%)
Small	32010 (9.84%)	34883 (9.8%)	36080 (8%)
Medium	7989 (2.45%)	8342 (2.3%)	8674 (2%)

Source: Ministry of Finance and the INS

In 2009 the productivity of SMEs in the industrial business was 36.863 Euros per employee.

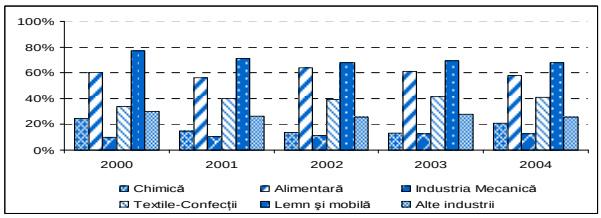

Figure 3. The evolution of the participation of SMEs in exports by main industrial sectors

Source: National Customs Authority and the NIS

Contribution SMEs profile industrial business, exports tend to be stabilizing, which means that weights are not the result of cyclical situation favorable or unfavorable, but the degree of export competitiveness. Over the years are not significant changes in the share of SMEs that are export industry. A very relevant issue is the National Plan for financing R&D and innovation. Funds from business operators who own industry continues to be an important part of the Plan's total budget – on average about 30 %, but insufficient to meet the real innovation in the economy. Funds raised from businesses through co-financing projects represented 28 % of the Plan in 2007, 35 % in 2008 and 30 % in 2009.

Implementing measures in the industrial business are listed as follows:

- overcome technological research and development infrastructure;
- the fragile relationship between research and economy;
- insufficient resources CD units for converting research results into industrial technology

packages "for sale";
- low involvement in economic affairs industrial and low capacity to absorb research and development results;
- inadequate funding of industry in public and private funds (the traders);
- infrastructure and services for technology transfer and innovation underdeveloped and less reliable;
- reducing the number of specialists and increase average age, the effect of decreasing the attractiveness of the industrial business (low pay, lack of equipment, etc.);
- reduced capacity for scientific collaboration and technological integration in European and international.

To achieve all the interventions of the Sectoral Operational Programme "Increasing Economic Competitiveness", will make efforts to follow the principles of the horizontal European industrial business: sustainable development, equal opportunities, information society. Increase economic competitiveness in the industrial business should not be viewed Operating as a process of short-term benefits (e.g. low cost of labour), but as a process of building an economic structure based on capital investments and research and development processes and innovation.

3. Conclusions

A key element of industrial infrastructure business development support services in the field is wide consultancy and training. Market support services must be large enough to allow business and competitive industry, to benefit from both general and specialized consultants to become more competitive in the market. Industrial incubators have beneficial effects both on the development of new industrial business competitive and build upon the innovation potential of SMEs at preparing them for competition in this market. As a result of the economy overall objective is to increase economic competitiveness Romanian industrial businesses to reduce disparities in productivity compared to average EU level. Measures taken for this purpose in 2015 will generate an average increase in productivity of ca. 5.5 % and will allow Romania to reach a level of approximately 55 % of the EU.

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References

1. Danciu, V.: *Marketing strategic competitiv* (*Competitive Strategic Marketing*). Editura Economică, 2004, Bucureşti, Romania (in Romanian)
2. Kitson, M., Martin, A., Tyler, P.: *Regional Competitiveness: An elusive yet Key Concept?* In Regional Studies, 2004, vol. 38.9
3. Popescu, D.: *Competitivitatea întreprinderilor mici şi mijlocii* (*SMEs competitiveness*). Editura Economică, 2001, Bucureşti, Romania (in Romanian)
4. Rubin, H., Rubin, I.: *Community Organising and Development*. Pearson Education Inc., 2007
5. ***: Ministry of Economy, *Trade, POS, increase economic competitiveness*. 2005, Bucharest

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