

## STRUCTURAL CHANGES AND DYNAMICS OF INDUSTRY IN THE REPUBLIC OF BULGARIA DURING 2001–2007

*In this article are investigated the structural changes and the dynamics of the industry in the Republic of Bulgaria and is stressed on the development of the manufacturing industry. With the methods of the retrospective analysis on the basis of statistical information mainly and on personal investigations of the author, the real condition has been defined and the more important tendencies are traced in the development of the manufacturing and the extractive industry and in the production and distribution of electric power, gases and water.*

**Key words:** structural changes, dynamics of industry, retrospective analysis, tendencies in the development of industry.

**Introduction.** The Bulgarian industry was in crisis during the years of transition which is typical for all economies in a period of transition. Its adaptation to the new realities of the market that arose after 1990 was very hard and slow.

On one hand, the situation was very complicated by the starting process of deindustrialization and the big unemployment in the country, and, on the other hand – by the considerable loss of markets and the considerable emigration of young and qualified persons to the industrially developed countries. At the end of 2008 when there came a certain stabilization of the macroeconomic indexes, in the American banks began a financial crisis which embraced quickly not only the financial section and the banks of the USA, but it also spread all over the world. This financial crisis was in fact heavier than the Depression from 1929–1930 because of the mutually dependant nature of the global world and it also influenced not only the financial section, but the industrial enterprises, thus including big multinational companies.

**Production task.** The industry has been and will always be “the bearing wall” of the economy. Up to 90-years of last century it was the leading sector in the national economy with a large contribution to gross value added [2, p. 99]. For the short period of the last 20 years the rapid changes in the global industry, the integration with the European Union and the membership in the EU became the reason for giving an entirely new meaning of policies and strategies and for taking radical decisions, related mostly with the restructuring and survival of the Bulgarian industry which suffers the strikes of the global world. “The industry as a basic field is influenced at its most by the on-going processes and also has a crucial influence for the correct realization of the economic regularities [1, p. 30]. That’s why the findings and the conclusions for the state of economy depend at great extent to the analysis and the evaluation of the state of industry.

**Methodologi.** The investigation and the comprehension of the problems and the reasons for the restructuring of the industry and also the definition of the alternative ways of its efficient management involve:

- retrospective and structural analysis of the whole condition of the industry on the basis of the main macroeconomic indexes;
- definition of the strong and the weak starting positions of the industry and definition of the tendencies of its development;

conducting swot analysis on selected companies.

**Survey results.** The retrospection is a good way for defining the state of the industrial manufacturing (incl. the downturns and the growth) on the basis of the main industrial indexes. In order to have more realistic and objective picture of the development of industry during its radical changes it is recommendable to trace and to analyze its development on the basis of the index “Indexes of the manufactured production of the industrial enterprises in Bulgaria [7, p. 73]. For the period 1995 - 2007 they have the following relative part (Table 1).

**Table 1. Indexes of the manufactured production  
 of the industrial enterprises during 1995–2007**

Year	Basic year											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1995	100,0											
1996	105,1	100,0										
1997	85,8	81,7	100,0									
1998	78,5	74,7	91,5	100,0								
1999	72,2	68,8	84,2	92,1	100,0							
2000	78,2	74,4	91,1	99,6	108,2	100,0						
2001	79,4	75,6	92,6	101,2	110,0	101,6	100,0					
2002	84,6	80,5	98,5	107,8	117,1	109,2	106,5	100,0				
2003	96,5	91,8	112,4	122,9	133,6	123,4	121,5	114,1	100,0			
2004	109,8	104,5	128,0	139,9	152,0	140,5	138,2	129,8	113,8	100,0		

2005	120,8	115,0	140,8	153,9	167,2	154,5	152,1	142,8	125,1	110,0	100,0	
2006	132,5	126,1	154,4	168,8	183,4	169,5	166,8	156,7	137,3	120,7	109,7	100,0

The information in Table 1 can be visualized by graphics [6, p. 171] Fig. 1.

The graphics shows a strong downturn during the period of 1996 – 1999 and a rapid growth during the period of 1999–2006.

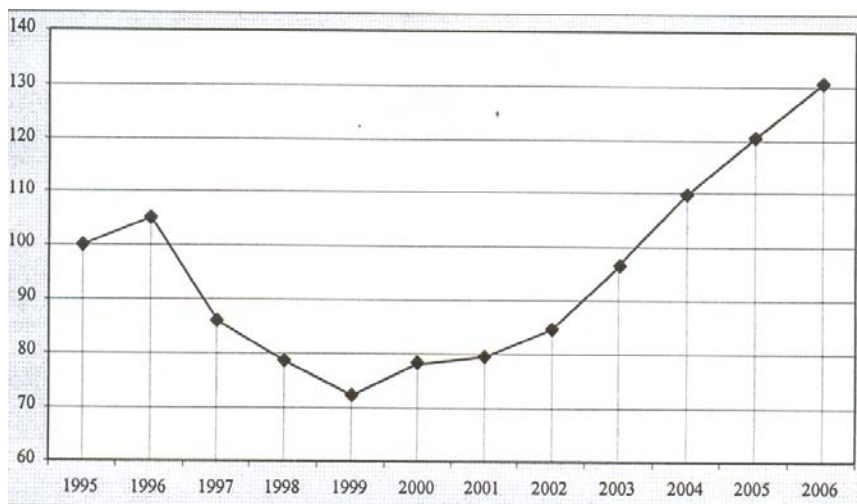


Fig. 1. Indexes of the manufactured production of the industrial enterprises in % (on the basis 1995 = 100)

According to the official information from NSI the manufactured production of the industrial enterprises in current prices for 2006 amounts to 42 541,4 million leva and by the comparable prices it is with 8.2 % more than the last year. The growth of the industrial production, reported to 1999 when is the biggest downturn in the industry, is with 80,9 %. This information shows that after 1999 there comes a gradual stabilization and growth of the industrial production. This is largely expressed after 2002, when the preparation of our country for the EU has begun.<sup>1</sup>

The index “Production of the industrial enterprises” in million leva for the period of 2001–2007 shows a growth with 29 934 million leva (from 21 360 million leva for 2001, it grows in 51 294 million leva for 2007)<sup>5</sup>, which is 2,4 times growth. In comparison with 2005 and 2006 the growth of the production of the industrial enterprises during 2007 is relatively 1,5 and 1,2 times. This growth is due to the manufacturing industry that provides 73 % of the added value, created in the industry and 18 % of the added value, created in Bulgarian economy.

The comparative analysis of the overall production of the manufacturing enterprises of the three subsections, expressed in percents, confirms the important meaning of the manufacturing industry (Table 2).

Table 2

	2001	-	2005	2006	2007
Extractive industry	4,7	-----	4,3	5,0	4,4
Manufacturing industry	79,8	-----	83,4	84,0	83,6
Production and distribut. of electric power, gases, water	15,5	-----	12,3	11,0	12,0

#### Structure of the production of the manufacturing enterprises in %

From the information in the Table is obvious that the most important role for the development of the industry have the enterprises from the manufacturing industry, because they provide over 80 % from the whole industrial production. During the years of the investigated period the manufacturing industry has certain stability, but here also has a slight downturn such as in the two other sections for 2007.

In 2007 the part of the manufacturing industry towards 2001 has grown with 3,8 points, but towards 2006 it has a downturn with 0,4 points; in the extractive industry this downturn is with 0,6 points and in the production of the electric power and water it grows with 1 point. In comparison with 2001, however, in the extractive industry there is a downturn with 0,3 points and in the production and distribution of electric power, gases and water – with 3,5 points.

Apart from the good indexes of the development of the industry after 2004, however, according to the economic prognostications it is expected to the end of 2010 the gross domestic product to lower and the slowdown to begin in this year and to reach lowering with 6 % to the end of the period.

<sup>1</sup> The EU accepted “road maps” for joining Bulgaria and Romania to the EU in 2002.

Revealing the reasons for the growth and the downturn and also the tracing of the tendencies for the development of the industry requires a structural analysis and comparative analysis of the relation between the three main subsections of the industry – the extractive, the manufacturing and the production of electric power, water and gases, towards the whole industrial production.

On the basis of an investigation of the author, based on the information of the articles of NSI and the informational system of the Bulgarian enterprises BEIS for the development of the industry and its subsections by years for the period 2001–2007 there can be expressed and analyzed results in three directions.

The first direction is related to the investigation of the relation “manufacturing industry / total industrial production” (see Table 3). This relation has a considerable importance for the development of the industry, because the manufacturing industry provides the basic productive factors for the other sectors of the national economy and has a considerable importance in formation of the National gross domestic power.

**Table 3. Manufacturing industry / Total industry (in million leva)**

Year	Total prod	Product. Enterpr. Manufac.	% from total Product.	index prev. year	index 2001
1	2	3	4	5	6
2000	19,703	15755	79,96	100,0	100,0
2001	21,360	17,042	79,78	100,6	100,6
2002	22,864	17,963	78,56	108,2	108,8
2003	24,722	19,794	80,07	118,0	128,4
2004	29,866	24,351	81,53	115,5	148,3
2005	35,260	29,410	83,41	112,1	166,3
2006	43,054	36,176	84,02	111,4	185,3
2007	51,294	42,867	83,57	112,8	198,5

**Legend:** 2 – total production of the industrial enterprises; 3 – production of the enterprises in manufacturing industry; 4 – % from the total industrial production; 5 – index over the previous year; 6 – index

The information in Table 3 could be used for analysis of the tendencies in the development of the manufacturing industry and also for creation of a graphics that can visually expose the part of the manufacturing industry in the total industrial production of the country during 2001–2007 (see Fig. 2).

In the graphics are clearly shown the growing tendencies of development after 2004, which is an indicator for the dropping out of the crisis of the manufacturing industry and its stabilization. During 2004–2006 the growth of the part of the manufacturing industry in the total industrial production is with 2,49 % (from 81,53 % for 2004 to 84,02 for 2006). In 2007 according to the preliminary information the volume of the production of the manufacturing industry in current prices comes to 43 billion leva. The growth in comparison with 2006 is with 12,8 and in comparison with 2001 it is more than twice [11].

Together with the growth of the production, produced by the enterprises from the manufacturing industry, the added value shows also a stable tendency of growth. In 2005 in the industrial sector are created 30,4 % from the added value of the Bulgarian economy, which is with 0,5 points more than in 2004. In comparison with the other sectors of the economy the industry is on the second place after the service sector, where for 2005 is created more than 3/5 from the added value of the Bulgarian economy. According to the preliminary information for 2007 the added value, created in the manufacturing industry goes to 7 711 leva, which is with 15,4 % more than compared with 2006 and with 63,8 % more than compared with 2001. The most important impact is that of several subsections of the manufacturing industry which create a production, giving a big part of the added value. Here are included the food industry – with 14,3 %, the machine building – with 9,6 %, the production of coke and oil products – with 9,4 %, clothing – with 8,9%, etc. [3, p. 14–15].

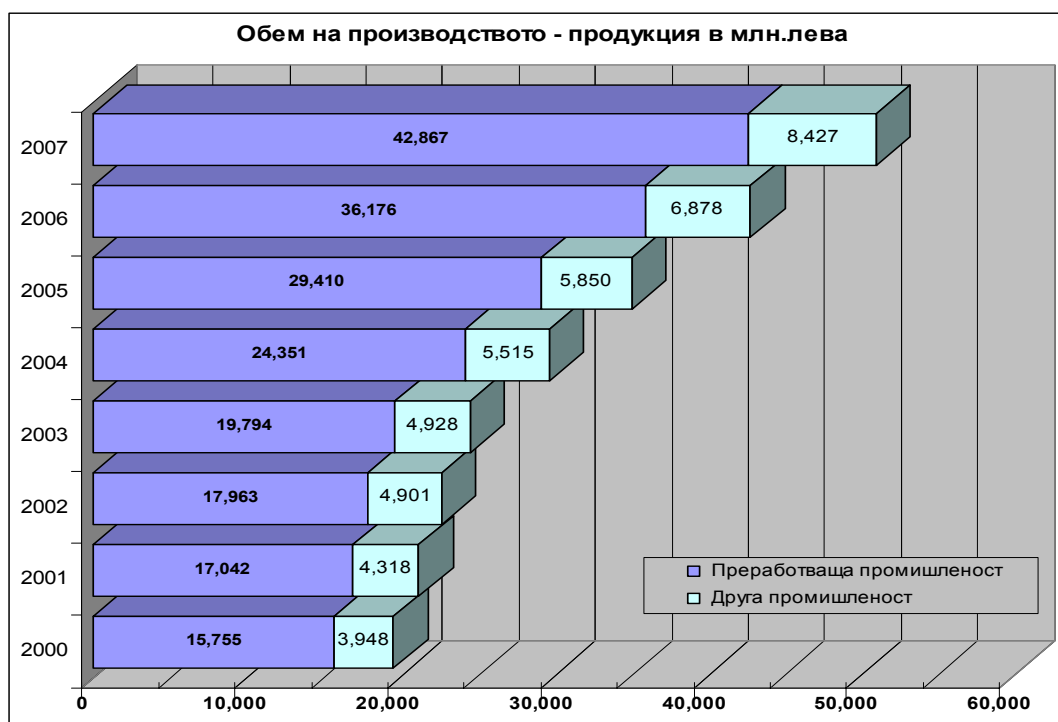


Fig 2. Volume of production – production in million leva

Legend: Manufacturing industry – dark; Other industries – light.

The profound analysis of the relation between the size of the added value and the productivity of labor shows that some subsections and some enterprises form the bigger part in the added value, due to the higher productivity of labour in them.

The second direction is related to a study of the relation “extractive industry / total industrial production”. The extractive industry, with some exceptions, is related to the heavy industry. Here is included the production of ore, coal, petroleum, inert materials, etc. It provides the normal work of many other sectors of the industry, such as metallurgy, non-ferrous metals, etc.

The volume of the production, produced in the extractive industry is comparatively small. Its part from the volume of the total industrial production is about 5 %. In 2006 this production in current prices amounts to 2 154 million leva and in 2007 it amounts to 2 263 million leva. The value expression of the total industrial production and the production in the enterprises from the extractive industry has changed during the period 2000–2001 and has the following expression [11] (see Table 4).

Table 4. Extractive industry / total industry (million leva)

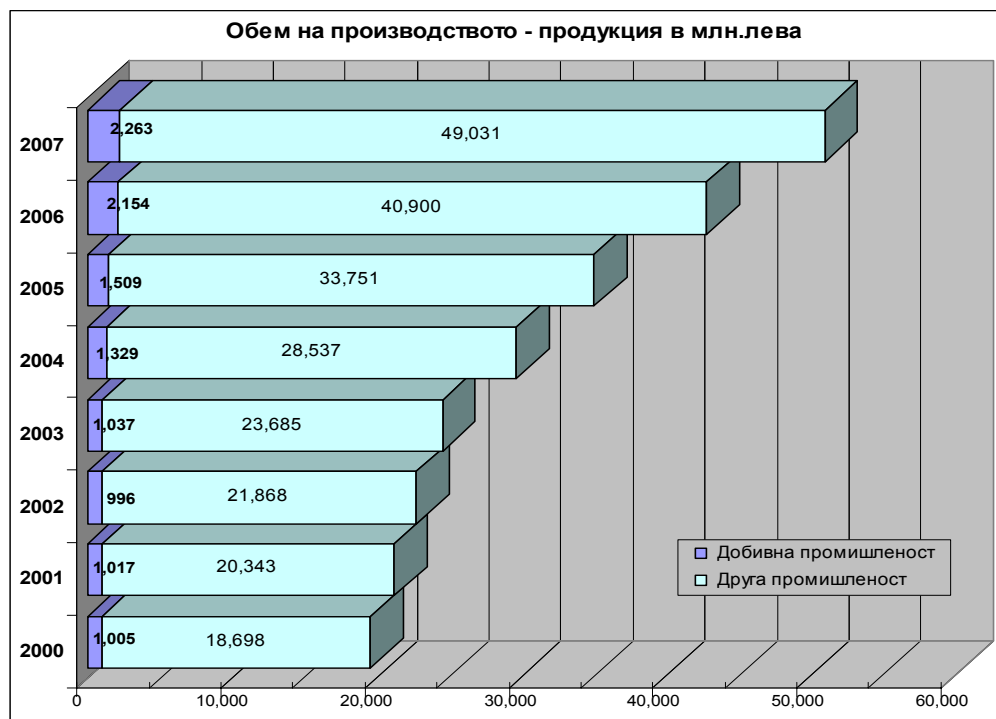
Year	Total prod.	Product. from extractive enterp.	% from total product.	Index prev. year	Index 2001
1	2	3	4	5	6
2000	19,703	1,005	5,10	100,0	100,0
2001	21,360	1,017	4,76	96,8	96,8
2002	22,864	996	4,36	95,8	92,7
2003	24,722	1,037	4,19	100,3	93,0
2004	29,866	1,329	4,45	113,9	105,9
2005	35,260	1,509	4,28	118,6	125,6
2006	43,054	2,154	5,00	97,5	122,5
2007	51,294	2,263	4,41	100,7	123,4

**Legend:** 1 – year; 2 – total production of the industrial enterprises; 3 – production from the extractive enterprises; 4 – % from the total production of the industrial enterprises; 5 – index over the previous year; 6 – index.

The information from Table 4 is multidirectional – for the first four years of the period the index “Production from extractive industry” shows certain hesitations, but after 2004 there is a tendency of growth (from 1 329 million leva for 2004 to 2 263 million leva for 2007). As a final result, however, the production in 2007 in comparison with 2000 has decreased with 0,69 %. The reduction

of the production of the extractive industry towards the last year could be seen in 2001 – with 3,2 %, in 2002 – with 4,2 % and in 2006 – with 2,5 %.

The dynamics of the production (in million leva) in the extractive industry is expressed by graphics (see Fig. 3).



*Fig. 3. Volume of production – production in million leva*  
 Legend: Extractive industry – dark; Other industries – light

The hesitations in the data of the volume of the production, together with the other factors, are a result of price changes too. In 2006 and in 2007 there is a considerable growth of the selling prices of the production of the extractive industry. The prices in 2006 and 2007, compared with those of 2001 are higher with 45,5 % and 85 %. The growth in the extractive industry, compared with the average growth for the industry is bigger with 16,6 points. In 2007 the situation changes – the growth in comparison with 2001 decreases to 21,4 % and in comparison with the average for the industry it is 1,9 times smaller.

The reasons for the hesitations in the production and in prices in the subsection of the extractive industry has a conjunctive character, which is defined above all by the specific features of the industry itself and the dependency of the consumption and the possibilities for export.

The third direction is related to the investigation of the relation “production and distribution of electric power, gases and water / total industrial production”. This relation has a strategic meaning for the national economy, thus including the industry. For the period of 2000–2007 the production in the subsection and its part in the total industrial production is the following [11] (see Table 5).

Table 5. Production and distribution of electric power, gases and water / total industry (million leva)

Year	Total prod.	Prod. lectric, gas and wat.	% from total Product.	Index previous year	Index 2001
1	2	3	4	5	6
2000	19,703	2,943	14,94	100,0	100,0
2001	21,360	3,301	15,45	111,0	111,0
2002	22,864	3,905	17,08	86,3	95,8
2003	24,722	3,911	15,82	111,4	106,7
2004	29,866	4,186	14,02	104,1	111,1
2005	35,260	4,341	12,31	98,9	109,0
2006	43,054	4,724	10,97	101,5	110,6
2007	51,294	6,164	12,02	115,5	127,7

**Legend:** 1 – year; 2 – total production of the industrial enterprises; 3 – production of electric power, gases and water; 4 – % from the total production of the industrial enterprises; 5 – index over the previous year; 6 – index

The information for the volume of the production from subsection “Production and distribution of electric power, gases and water” in Table 4 shows that there is a certain increase, but the rates are not high. In 2006 its volume reaches 4 724 million leva and in 2007 – 6 164 million leva. A serious decrease in pace in the production of this subsection is registered in 2002 towards 2001 – with 13,7 и 5,2 and in 2005 towards 2004 – 5,2 и 2,1 (column 5 and 6). At the end of 2006 there is noticed a certain growth with 0,5 % and in 2007 there is a considerable growth with 15,5.

The dynamics of the production (in million leva) in subsection “Production and distribution of electric power, gases and water is expressed through graphics [ 11] (see Fig. 4):

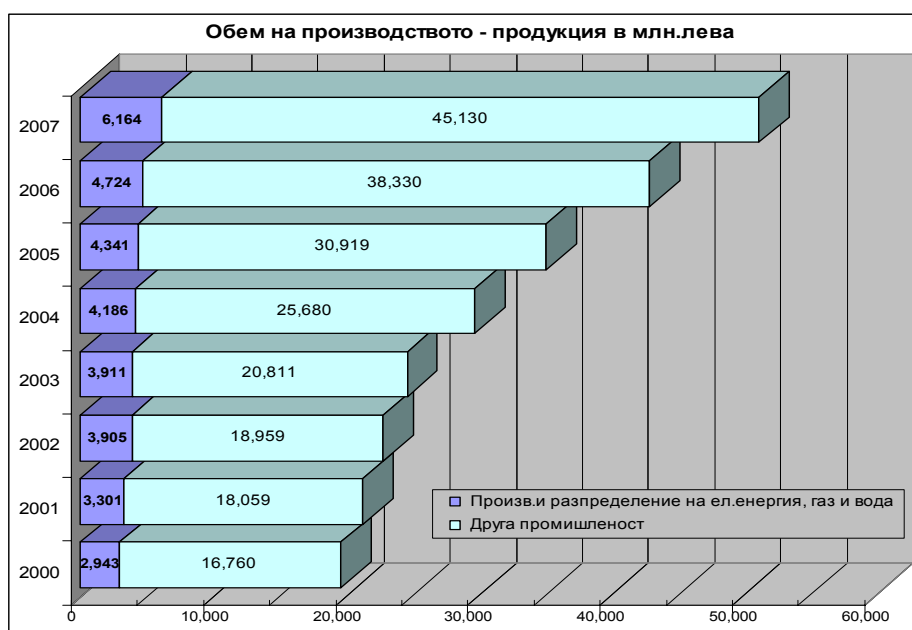


Fig. 4. Volume of production – production in million leva  
**Legend:** Production and distribution of electric power, gases and water – dark;  
 Other industries – light

The indexes of the production in the subsection “Production and distribution of electric power, gases and water” show a considerable decrease in 2002, when the production decreases under those in the year taken as basic – 2000. For the index, calculated on the basis of the last year it decreases to 86,3 % and for the index, calculated on the basis of 2000 – to 95,8 %.

The growth in 2007 in comparison with the average for the industry is 3,3 times smaller. In the same time, however, we must note the tendency of constant growth of prices of production in this subsection, where the growth in 2006 comes to 45,4 % and is with 16,4 points bigger than the average in the industry and in 2007 it reaches 64 % and is bigger with 28,2 points.

Inspire of the fast growth in the selling prices in the subsection “Production and distribution of electric power, gases and water”, the added value has a tendency of hesitation which more often leads to decrease. In 2006 the added value in the subsection is 1,6 billion leva. The growth is noted only for 2002 with 1,4 % and for 2004 – with 4,5 %. The biggest degree is 9 % and is noted in 2005. In 2007 the tendency of the decrease of the added value in the subsection is stopped. In comparison with 2006 there is a growth with 17,2 % and it can be noted as an indicator for a positive development of the subsection.

**Conclusions.** This brief analysis of the total condition of the industry and the condition of the three strategic subsections “Extractive industry”, “Manufacturing industry” and “Production and distribution of electric power, gases and water” for 2001–2008 makes possible the formulation of some of the important weak or strong positions and to trace out tendencies for the future development<sup>2</sup>.

At the present stage of the development of the industry and in the present business conditions it is more important that the starting positions can be defined as follows:

- clearly traced tendencies for growth in the volume of production of industrial products in million leva for the investigated period and particularly during the last two years;

- longlasting traditions and experience in the fields of industrial production and particularly in the investigated subsections;
- constant tendency of growth of the added value (about 30% from the added value for the Bulgarian economy);
- stabilization of the positions of the Bulgarian industrial enterprises on the internal and international market, etc.

The successful realization of the strong starting positions of the industry requires timely revealing and elimination, if possible, or minimization of the influence of the weak starting positions. More important of them can be defined as follows:

- lack of adequate policy of the government for the development of industry regarding the conditions and recommendations of European Union and reservation of national priorities;
- insufficient cooperation between the state, the business and the editorial institutions that give employees for the industry;
- comparatively low productivity of labour (5 – 10 times lower, compared with the productivity of labour in the European Union), low salary and lack of labour motivation;
- insufficient quality of the industrial production;
- insufficient evaluation of knowledge as a main source of the increase of quality of the production and increase of the productivity of labour;
- weak competitiveness, etc.

The good knowledge of the weak and strong starting positions of the Bulgarian industry in the conditions of a dynamic and strongly competitive business environment and also the tendencies of the European industrialization is a prerequisite for formulation of the priorities of the industrial production and the tendencies of its future development.

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<sup>2</sup> The definition of the weak and strong starting positions is made on the basis of statistical information and of results of an investigation made by means of SWOT analysis in 102 enterprises of the three subsections of the industry.