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# ASSUMPTIONS AND POSSIBILITIES OF THE DEVELOPMENT OF THE SERBIAN FOOD INDUSTRY

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**Summary**

*The industrial production of food represents a strong motive of international trade, the development of competitiveness, high-quality products and a sustainable developmental strategy. The food industry has a significant place within Serbia's economy and industry today. The subject of this paper's study is the analysis of the reached levels of the development and competitiveness, limitations and future development of the food industry. The aim of this paper is to highlight the assumptions and possibilities of the development of the food industry in our country, i.e. tasks which it is given in order to achieve the growth of its efficiency and competitiveness. In this paper, appropriate methods of quantitative analysis, qualitative and structural changes are used. The indicators of export competitiveness which are used as indicators are the coverage of import with export and the index of Revealed Comparative Advantages (RCA).*

**Key words:** *food industry, agriculture, export, industrial policy.*

**JEL:** *L66, Q22, F1, L52*

## Introduction

The main characteristic of contemporary nutrition is the industrial production of food, with high standards of the protection of the quality of products. The production of food stuffs has relatively the widest raw material base in agriculture, although the number of industrial groups that use raw materials of agricultural origin has incessantly been increasing (the production of biofuel).

In the developmental concept and production orientation, the division of the food industry increases more and more its activity outside the framework of the traditional

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production of food. Being oriented towards the production of the complete assortment of own raw materials, it connects with other divisions, establishing firmer and more permanent integration ties in the process of reproduction (the vertical and horizontal integrations). The biggest results in this field have been achieved via the development of agro-industrial complexes (agribusiness).

Serbia belongs to the group of countries which have all conditions needed for the achievement of a sufficient scope of food, not only for own needs but surpluses for exporting as well. The social-economic reforms in the second stage of transition and the devastation of the economy's real sector have affected the potential and developmental chances of agriculture and the food industry. Irrespective of the series of limitations and dependence of the trends of primary agricultural production, the share of the food industry in the processing industry has grown in the previous time period.

There is no doubt that, as has been the case so far, products of the agro-industrial complex should have a big and significant role in production. During the year 2011, a series of strategic documents were presented (Post-crisis Model of the Economic Growth and Development of Serbia 2011-2020, Serbia 2020, The Strategy and Policy of the Development of the Republic of Serbia's Industry 2011-202), which accounted for the results and possibilities of the expansion of the food industry in the years to come.

Here, one question clearly arises: what should be done to make the food industry develop efficiently in the next time period? The sustainable growth of this industrial division requires the bringing and efficient implementation of a completely different strategy of the development of industry compared with the existing one, in which the food industry, founded on available resources and agriculture's adequate position, will be treated adequately. The new concept of the (re)industrialization and development of the food industry requires active measures of the industrial policy as well in order to drastically increase the rate of growth of production, export and employment.

## Theoretical-methodological bases of the analysis of the food industry

According to the Classification of Activities issued in 2010, which is identical with the NACE Audit 2, ISIC Audit 4 and integrated into SMTK Audit 4, the division of the production of the food stuffs i.e. the food industry encompasses the processing of agricultural, forestry and fishery products in order to generate food for humans or animals, and the production of different inter-stage products is included as well. Classing within this division was carried out according to the types of products in 9 groups and 25 classes[4]. Differently from the classification from 1996, where the production of food stuffs and beverages were one single division, the new classification of the activity treats them separately.

4 Republički zavod za statistiku (2010): *Klasifikacija delatnosti*, Beograd, p. 17-25.

The subject of the analysis is, primarily, the food industry, and its reached level of development and competitiveness, apart from the growth rate, the share in the structure of the GDP and GAV (Gross Added Value), can be assessed on the basis the export and investments, too[5]. The analysis was performed on the basis of data from relevant reports published by the Republican Agency for Statistics of Serbia, and, at the same time, the food industry is observed in a larger number of years. In the paper, appropriate methods of the quantitative analysis are used, as well as those of qualitative and structural changes. The indicators of export competitiveness used as factors are:

*The coverage of import with export* is calculated as the ratio of the total export and imports, i.e. for an individual, particular product, a class of products, a group and a division. If the degree of the total coverage of import with export is higher than 1, i.e. 100%, the country realizes a positive amount of the foreign-trade balance, and vice versa.

*The index of comparative advantages (Revealed Comparative Advantage – RCA)* represents the ratio of the foreign-trade balance and the total foreign-trade exchange, expressed in percentage. The positive value of the RCA is indicative of comparative advantages and a surplus in goods exchange, and is calculated as[6]:

$$RCA = \frac{Xij / Xik}{Xnj / Xnk}$$

where Xij – the export of products and the country j, Xnj – the export of all products of the country j, Xik – the export of products and the country k, and Xnk – the export of all products of the country k.

## Development and structural changes in the food industry

In the second stage of transition, since the year 2011, and due to the application of an inadequate model of Serbia's economic growth, it was not efficient and successful as in developed countries in transition. It produced a series of economic-developmental risks and structural problems, starting with unemployment, a huge foreign-trade deficit and the external debt, via the dynamic development of the services sector to an extremely poor structure of the economy. The adequate development of the real sector has been neglected. Industry and agriculture have been neglected and devastated, which is accounted for by very low average growth rates of the sectors in the time period prior to the year 2008, i.e. in the time period from 2001 to 2010 (Table 1).

5 Porter, M., E. (2007): *O Konkurenciji,* (1451-7272), FEFA, Beograd, p. 160.

6 Republički zavod za razvoj, *Konkurentnost privrede Srbije 2008* (2009), Beograd, p. 22.

**Table 1.** Average growth rates

| Sector/ Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2008/01[1)] | 2009 | 2010 | 2010/01[1)] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agriculture | 18.6 | -2.5 | -6.7 | 19.0 | -4.9 | -0.2 | -7.8 | 9.1 | 3.1 | 1.0 | -1.7 | 1.5 |
| Industry | 0.1 | 1.8 | -2.8 | 6.6 | 0.6 | 4.2 | 4.1 | 1.4 | 2.0 | -12.6 | 2.5 | 0.6 |
| Food industry | -2.5 | 8.7 | -2.2 | 2.8 | 4.6 | 2.5 | 5.7 | -0.7 | 2.4 | -5.8 | 1.4 | 1.5 |

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republik Srbije, Nacionalni račun, Beograd.

[1)] Average growth rates 2001-2008 and 2001-2010.

The food industry reached a high average growth rate of 2.4% until 2008, i.e. 1.5% in the time period from 2001 to 2010, having in view the average growth rate of industry. Such a trend was also partly due to the achieved growth level of agriculture as a raw material base.

In the structure of the processing industry, the biggest average share (23%) was that of the food industry division (Table 2). If this is complemented with the beverages production and tobacco products divisions, the three divisions produced one-third of the processing industry section (with the production of chemical products and basic metals around 58%). Thanks to the average growth rate of 1.5%, the production of food stuffs recorded a growth of its share in the year 2010 compared with the year 2001 by 5.9%. This clearly demonstrates the significance and role of this division not only in the processing industry but in economy as well.

**Table 2.** The structure of the processing industry of the three leading divisions

| Sector/Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2010/01[1)] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Processing industry | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Food stuffs production | 18.7 | 20.3 | 27.9 | 23.9 | 22.9 | 22.5 | 21.6 | 22.3 | 24.5 | 24.6 | 22.9 |
| Food stuffs + beverage + tobacco | 27.7 | 29.3 | 36.9 | 32.9 | 31.9 | 32.8 | 32.7 | 32.1 | 34.8 | 33.7 | 32.5 |
| Chemical products production | 14.0 | 14.4 | 13.9 | 11.2 | 12.3 | 12.9 | 13.0 | 13.4 | 12.6 | 12.9 | 13.1 |
| Basic metals and metal products production | 10.5 | 10.7 | 10.6 | 9.2 | 12.7 | 14.0 | 13.5 | 14.0 | 12.2 | 10.9 | 11.8 |
| Other divisions | 56.8 | 54.6 | 47.6 | 55.7 | 52.1 | 50.6 | 51.9 | 50.3 | 50.7 | 51.6 | 52.2 |

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republike Srbije, Industrija, Beograd.

[1)] Average Share 2001-2010,

The model of economic growth implemented since the year 2001 had an impact on the halving of the contribution of agriculture to the creation of the GAV and the reduction of industry's contribution by one-third, which is inappropriate to the reached level and stage of the development of Serbia's economy. It structure of the economy is not at the level at which traditional production sectors give way to the services sector, whose dynamic development requires a high level of GDP *per capita*, which, in this country of ours, lags a lot behind more developed countries.

**Table 3.** The structure of GAV of some activities (2001-2009), in constant prices

| Sector/Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture | 21,4 | 17,9 | 13,3 | 14,0 | 12,0 | 11,0 | 9,4 | 10,2 | 10,6 |
| Processing industry | 22,2 | 22,1 | 17,5 | 16,3 | 16,3 | 16,8 | 17,1 | 16,0 | 14,2 |
| Food stuffs production | 4,5 | 4,7 | 4,0 | 3,9 | 4,2 | 3,8 | 3,9 | 3,4 | 3,6 |
| Beverage production | 1,4 | 1,4 | 1,4 | 1,1 | 1,1 | 1,3 | 1,2 | 1,0 | 1,0 |
| Tobacco products production | 0,4 | 0,7 | 0,5 | 0,6 | 0,4 | 0,3 | 0,5 | 0,3 | 0,3 |

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republike Srbije, Nacionalni račun, Beograd.

The fall in the share of the production of food stuffs in GAV (20%) was more moderate to a certain extent. Although the share of the food industry in the structure of GAV and export was high, it recorded a modest contribution to the creation of GAV. Enterprises in this division belong to resource and labor intensive production, with a high share of products of low and medium-low technological intensity. The unsatisfactory share in the creation of GAV lies in the poorly conducted privatization, i.e. the unwillingness on the part of new owners to increase investments in the growth of technological intensity and upgrading the level of product finalization in the post-privatization restructuring, which would have increased the productivity and share of this industrial group in the creation of GAV.

Foreign-trade performances unambiguously account for the great significance of the food stuffs division. The global economic crisis has also affected the export of the food industry, however not to such a great extent as it has been the case with the other parts of economy and industry. Although the export of food stuffs in the year 2010 increased by 3.6 times compared with the year 2002, the share of the export of the food industry in the total export was relatively reduced from 17.8% to 13.5% in the years 2002 and 2010, respectively. Although import was increased by 1.9 times, it reduced the share in the total import. The import growth is partly the result of the needs of exporting enterprises for raw materials, which domestic agriculture and other activities cannot provide (Table 4).

**Table 4.** Foreign trade – food stuffs (in 000 USD)

| Sector/Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 10/02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total export | 2,075 | 2,755 | 3,523 | 4,482 | 6,428 | 8,825 | 10,974 | 8,344 | 9,795 | 4.7[1)] |
| Total import | 5,614 | 7,473 | 10,753 | 10,461 | 13,172 | 19,164 | 24,331 | 16,056 | 16,735 | 3.0[1)] |
| Export of food stuffs | 370 | 426 | 613 | 673 | 847 | 1,148 | 1,355 | 1,186 | 1,323 | 3.6[1)] |
| Import of food stuffs | 287 | 319 | 290 | 304 | 344 | 470 | 587 | 530 | 555 | 1.9[1)] |
| Food industry export % share in export | 17.8 | 15.5 | 17.4 | 15.0 | 13.2 | 13.0 | 12.3 | 14.2 | 13.5 | 14.7[2)] |
| Food industry import % share in import | 5.1 | 4.3 | 2.7 | 2.9 | 2.6 | 2.5 | 2.4 | 3.3 | 3.3 | 3.2[2)] |
| Coverage of import with export | 128.9 | 133.5 | 211.6 | 221.2 | 246.3 | 244.3 | 230.8 | 223.8 | 238.4 | 1.8[2)] |
| RCA | 4.21 | 3.47 | 4.23 | 4.07 | 3.67 | 3.47 | 3.06 | 3.68 | 3.59 | 3.72[2)] |

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republike Srbije, Spoljna trgovina, Beograd and Eurostat - External Trade (2012), available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.

[1)] Relative increase in 2010 compared with 2002; [2)] Average share 2002-2010.

This whole division records the growth of the coverage of import with export, which, since 2002, increased by 80%. The coverage growth is indicative of an improvement in competitiveness in the observed time period; however, first of all, through an increased export of lower processing stage products. This thesis is confirmed by the positive as well as falling and varying values of the RCA. The positive value of RCA is an indicator of comparative advantages in export and a surplus in the visible trade of the given division with EU-27, as the most significant foreign-trade partner of Serbia. The falling and varying tendencies of the RCA indicate that the now competitive position of the food industry in Serbia will worsen in the EU market unless there is an increase in the degree of the finalization and quality of products.

The trend of the reduction of the number of employees in the processing industry section did not bypass the food industry either (Table 5). The poorly conducted privatization, the restructuring of enterprises and consequences of the global economic crisis had an impact on the reduction of the number of employees in the processing industry by 318 thousand and 28 thousand workers in the food industry in the time period 2001-2010. Because of a relatively more modest decrease in the number of the employed in the food industry compared with the processing industry, this division increased its share in the total number of the employed in the processing industry from 13.6% to 18.6% in the years 2001 and 2010, respectively.

**Table 5.** Employment in the food industry

| Sector/Year | 2001 | 2005 | 2007 | 2008 | 2009 | 2010 | 2010/01[1)] |
|---|---|---|---|---|---|---|---|
| Processing industry | 619,112 | 459,950 | 391,897 | 360,036 | 329,491 | 301,452 | -317,660 |
| Food industry | 84,242 | 82,045 | 75,936 | 66,832 | 67,451 | 56,057 | -28,185 |
| Food industry, % | 13.6 | 17.8 | 19.4 | 18.6 | 18.8 | 18.6 | 17.8[2)] |

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republike Srbije, Tržište rada, Beograd.

[1)] Absolute reduction 2010 compared with 2001; [2)] Average share 2001-2010.

The significance of the production of food stuffs for employment is obvious. With the average share of almost 18%, this division had the biggest share in the structure of the total number of employees in the processing industry (with the production of beverage and tobacco 22.4%). It is only followed by the production of metal products with 10.3% whereas the other divisions account for significantly below 10% in the structure of the employed in the processing industry[7].

According to the number, in the food industry, micro enterprises (75.3%) are predominant, while the share of large enterprises in the total number of enterprises is no more than just 1.8%. It is completely contrary when the total number of employees is observed, since the majority of the employed work in large (40.3%) and middle enterprises (34.6%) (Table 6).

**Table 6.** The number of enterprises and employees in food industry (in 2009)

| **The number of enterprises according to the size** | | | | |
|---|---|---|---|---|
| Total | Micro | Small | Middle | Large |
| 3,302 | 2,263 | 474 | 212 | 53 |
| 100.0% | 75.3 | 15.8 | 7.1 | 1.8 |
| **The number of the employed according to the size of the enterprise** | | | | |
| 67,451 | 6,287 | 10,607 | 23,353 | 27,204 |
| 100.0% | 9.3 | 15.7 | 34.6 | 40.3 |

*Source:* Republički zavod za statistiku, (2011), Statistički godišnjak Republike Srbije 2011, Strukturne poslovne statistike, Beograd, p. 191.

The food industry enterprises record a growth of work productivity of averagely around 10% in the time period 2004-2009[8], which is significantly higher than the growth rates of production of 1.5% in the same time period. The growth of productivity is primarily the result of the reduction in the number of employees whereas the impact of technological modernization, an increase in the efficiency of using production factors, i.e. investments in new technological processes, innovations of products and employees' expertise was minimal, which is by no means sustainable over the long term.

As far as privatization is concerned, conclusive of the year 2010, 202 enterprises were privatized in the division of the production of food stuffs, the production of beverages and tobacco products, whereas 48 privatizations were annulled or almost 22%. In the time period to come, the restructuring of 3 enterprises should be brought to an end and, on tender or auctions, the remaining 12 enterprises with the social capital should be privatized[9].

Within the economy's total investments, the divisions of the production of food stuffs and beverages account for averagely 5.5% in the time period 2005-2009 (Table 7). In

7 Republički zavod za statistiku (2011): *Statistički godišnjak Republike Srbije 2011*, Strukturne poslovne statistike, Beograd, p. 191.

8 Republički zavod za statistiku (2004-2009), *Industrija Republike Srbije,* Beograd.

9 Ministarstvo ekonomije i regionalnog razvoja i Republički zavod za razvoj (2011): *Strategija i politika razvoja industrije Srbije 2011-2020*, Beograd, p. 151.

the processing industry section, the major share of investments of averagely 31.9% accounted for these two divisions, while the share of the production of food stuffs only was 26.5%. The biggest investments were made in the production of oil, milk, confectionery products and water. Smaller investments were made in the production of meat, sugar, fruit and vegetables[10].

**Table 7.** Investments in the divisions of food stuffs and beverages production (2005-2009)

<table>
<tr><th>2005</th><th colspan="2">2006</th><th>2007</th><th>2008</th><th colspan="2">2009</th><th>2005-2009[1)]</th></tr>
<tr><td colspan="8">Share compared with Economy</td></tr>
<tr><td>3.6</td><td colspan="2">7.2</td><td>5.5</td><td>5.4</td><td colspan="2">5.6</td><td>5.5</td></tr>
<tr><td colspan="8">Share compared with the processing industry</td></tr>
<tr><td>37.7</td><td colspan="2">36.4</td><td>28.5</td><td>27.3</td><td colspan="2">29.5</td><td>31.9</td></tr>
<tr><td colspan="8">Technical structure of investments in fixed assets – average 2005/09</td></tr>
<tr><td colspan="3">Construction works</td><td colspan="2">Equipment</td><td colspan="3">Other</td></tr>
<tr><td colspan="3">25.8</td><td colspan="2">71.7</td><td colspan="3">2.5</td></tr>
<tr><td colspan="8">Realized investments according to the construction characteristics in the fixed assets – average 2005/09</td></tr>
<tr><td colspan="3">New capacities</td><td colspan="2">Reconstruction</td><td colspan="3">Maintenance</td></tr>
<tr><td colspan="3">40.2</td><td colspan="2">46.6</td><td colspan="3">13.2</td></tr>
<tr><td colspan="8">Payouts for investments in the fixed assets, sources of financing – average 2005/09</td></tr>
<tr><td colspan="2">Own funds</td><td colspan="2">Joint funds</td><td colspan="2">Financial loans</td><td colspan="2">Other</td></tr>
<tr><td colspan="2">83.4</td><td colspan="2">1.7</td><td colspan="2">14.3</td><td colspan="2">0.5</td></tr>
</table>

*Source:* Republički zavod za statistiku (2001-2011), Statistički godišnjak Republike Srbije, Investicije i Nacionalni račun, Beograd.
[1)] Average share 2005-2009.

In the division of the production of food stuffs and beverages, the biggest portion of investments (on average 69.9%) were made in equipment, one-fourth in buildings. According to the construction characteristics, averagely 46.6% of investments were made in the reconstruction of the existing capacities, 40.2% in new capacities and maintenance accounted for 13.2% of the total investment funds. The biggest portion of investments originated from own funds (83.4% on average) whereas financial funds accounted for 14.3% of the total investments. Share of joint assets of 1.7% and other sources of 0.5% is very modest.

The divisions of the production of food stuffs and beverages generated an inflow of around 800 million EUR of FDI's in the time period 2004-2010. This amount makes around 28% of the FDI's of the processing industry or around 6% of the total FDI's[11].

10 Ministarstvo poljoprivrede, šumarstva i vodoprivrede Republike Srbije (2009): *Nacionalna strategija ruralnog razvoja 2010-2013*, Beograd, p. 8-9.

11 Narodna Banka Srbije, (različite godine izdanja), *SDI po granama delatnosti,* Beograd, available at: http://www.nbs.rs/export/sites/default/internet/latinica/80/ino_ekonomski_odnosi/platni_bilans/fdi_neto_2005_2010.xls

## The limitations of the development of the food industry

The so-far development of the food industry in Serbia has been marked by the disharmony in the pace of the building of processing capacities and the adequate development of the raw-material base. That has had as a consequence the inadequate location and capacity surpluses from time to time[12]. The deployment of processing factories has not sufficiently been complied with the regional deployment of raw materials. Also, some divisions have lost the substantial processing capacities of the food industry, although they have the raw-material base needed for its development at their disposal. Some large enterprises and agro-industrial complexes have collapsed (Servo Mihalj Zrenjanin). Privatization has aggravated this situation.

Available data also demonstrate a low degree of the exploitation of the capacities of the food industry, ranging from 30 to 50%. The capacities of oil factories, mills, fruit and vegetables processing, confectionery products production, dairies and sugar factories are exploited the most, and the capacities for the processing of stock-cattle feed and slaughterhouses are exploited the least[13]. The low degree of the exploitation of the capacities of this division is partly the result of over-sized and obsolete processing technology, for which reason they are less efficient as well. A relatively higher exploitation degree in certain groups is, for the most part, the result of more favorable demand in the domestic market and the market of the CEFTA Agreement and EU countries. Those enterprises from within this division which have successfully conducted privatization and restructuring or have attracted strategic partners and FDI's (Imlek Belegrade, Viktoriaoil Sid, Dijamant Zrenjanin, Sojaprotein Becej, Matijević Novi Sad, Grand Prom Belegrade), have provided themselves with up-to-date equipment and technological processes, management, professional personnel and marketing, which enables them to reach a higher degree of the capacity exploitation, realize significant trading in the domestic market and have solid export onto foreign markets. The most important strategic capacities, such as the production of milk or sugar, have, for the most part, become owned by foreign enterprises and investment funds.-

The more or less expressed domination of a smaller number of producers in the groups of the food industry has an unfavorable impact on the trend of prices and the consumption of agricultural products and food stuffs as well as the efficiency and stability of production. The inadequate privatization has enabled certain food-stuff producers and traders in food to become dominant, for which reason some products' prices are formed through prohibited cartel agreements. Prohibited agreements producer of bread and milk have been proven. Cartels have also become more visible in the production of oil, sugar, confectionery products, when prices and production capacities in Serbia and neighbor countries are compared with each other. A problem also arises

12 Ilić, M., Vujčić, M., Mićić, V. (2006): *Mala i srednja preduzeća prehrambene industrije i preduzetništvo u funkciji razvoja seoskih područja*, Ekonomski horizonti, Ekonomski fakultet Kragujevac, godina VIII, (1-2/2006), p. 89-105, Kragujevac.

13 Ministarstvo poljoprivrede, šumarstva i vodoprivrede Republike Srbije (2009): *Nacionalna strategija ruralnog razvoja 2010-2013*, Beograd, p. 8-9.

in export because of the existence of a large number of intermediaries. Consumers and agricultural producers are those to cope with consequences and pay a heavy toll of the closed market and inefficient protection of competition.

Frequent disturbances in the agricultural products market, the question of the volume of production and (purchase) prices determine the conditions of the business doing of the food industry. Its production and export in this country of ours depend to a great extent on the impact of the weather conditions on agriculture, so, comparative advantages of these products are easily lost. Another problem is an uneven inflow of agricultural raw materials, the seasonality of the activities of this division, whereas their quality affects the amount of costs. Yet another limitation lies in the non-existence of long-term contractual relations between the food industry enterprises and raw material producers.

In the past, and today as well, apart from the natural potential and favorable conditions, agriculture has not been able to meet all the population's needs for food and the food industry's needs for raw materials, so certain groups base their production on import. Agriculture is characterized by an extensive structure of production, the domination of the production of grains and industrial plants, poor irrigation (less than 5% of arable land) and a great fall in the number of cattle heads. The share of cattle production in the production structure indicates a degree of the development of the agricultural production of a country. In the structure of the gross generated value, the share of plat production in Serbia is around 59%, and cattle production has an only 41% share, with a tendency of becoming worse. In the EU, around 70% of the value is derived from cattle production, and 30% from plant production[14].

Although the production of industrially prepared food is growing, still 50% of primary agricultural products are extensively processed within individual agricultural holdings or are exported in the primary form. That is not the case in countries whose food industries and agriculture are developed – their processing exceeds 85% of primary production (Holland 96%, Belgium 90%, France 87%)[15].

Apart from the fluctuations in the quality of food stuffs, either for the reason of missing food production standards or paying no respect for and poor control over the existing ones, the narrow and insufficient assortment of products in comparison with modern offer and demand is a special limitation for the food industry's greater export onto neighbor markets and the EU market. In Serbia, the processing of raw materials of plant origin, i.e. the processing of vegetables and fruit, the production of edible oil and oil products, confectionery products, flour and flour and sugar products, is a predominant one. The

14 Maletić, R., Ceranić, S. (2011): *Regionalni razmeštaj osnovnih proizvodnih kapaciteta poljoprivredne Srbije*, Ekonomika poljoprivrede, Naučno društvo agrarnih ekonomista Balkana, Beograd, Institut za ekonomiku poljoprivrede, Beograd, Akademija ekonomskih nauka, Bukurešt, vol 58, (SB-2), 3-189, Beograd, p. 157.

15 Ilić, M., Vujčić, M., Mićić, V. (2006): *Mala i srednja preduzeća prehrambene industrije i preduzetništvo u funkciji razvoja seoskih područja*, Ekonomski horizonti, Ekonomski fakultet Kragujevac, godina VIII, (1-2/2006), p. 89-105, Kragujevac.

processing of raw materials of animal origin, i.e. the production of milk and dairy products, meat and meat products, is less present[16].

## The development of the food industry in the next time period

The food industry must have a priority in the concept of the development of the economy over the medium term because it possesses comparative advantages which should fully be exploited to provide conditions for the improvement of food production, processing and export, which is increasingly becoming a strategic product worldwide. Chances for a more significant increase in exporting activities are more significant having in view an explicit tendency of the food price rise at the global level, especially since the year 2008, when it reached the highest average value[17]. Agricultural products are Serbia's realistic chance to export but only if the degree of the processing of agricultural products and food stuffs rapidly lift, because only their export can enable a higher level of the added value. For this to really see the light of day, beside the efficient development of agriculture, it is necessary that modern capacities of the processing industry, whose products would even satisfy the strictest requirements imposed by the contemporary world market, should be built.

In order to use up the existing comparative advantages better, it is necessary that bigger domestic investments and the inflow of FDI's in the development of both agriculture and the food industry should be enabled. Bigger investments in the change of the structure and quality of production and adequate institutional frameworks would create a raw-material base in agriculture and a higher degree of production connectivity, i.e. the horizontal and vertical integrations with the food industry, especially the development of large enterprises and agribusiness. Apart from the economy of scale and competitiveness, large enterprises are necessary in order to fulfill the requirements and standards of quality, product safety and the protection of the living environment. By strengthening these forms of integration, more favorable conditions for the development of the production of grains, vegetables, fruit and cattle breeding, especially industrial plants for bigger production of biofuel and bioenergy would be created. Programs of building small and middle food capacities business-connected with bigger production systems, especially in undeveloped rural areas, are an extraordinary opportunity for production diversification based on organic production, i.e. "healthy food" and "green technologies" with a nationally recognizable origin.

Any enterprise has a task to adapt to the requirements of the markets they are exporting to. The greater exporting activities of the food industry will depend on the quality and assortment of offered products. There are high reserves in the production of organic and health friendly secure food of a high quality, which the foreign market is very much interested in. That requires: (1) the introduction of the ISO Standards 14000, 22000

16 Republički zavod za statistiku (2004-2009), *Industrija Republike Srbije,* Beograd.

17 Milanović, M., Ljubić, M., Muminović, S. (2011): *Uticaj cena hrane na ciljanu inflaciju u Republici Srbiji,* Ekonomika poljoprivrede, Naučno društvo agrarnih ekonomista Balkana, Beograd, Institut za ekonomiku poljoprivrede, Beograd, Akademija ekonomskih nauka, Bukurešt, vol. 58, (br 4), 529-804, Beograd, p. 550.

and HACCP Quality System, and also religious standards Halal and Kosher; (2) the compliance of production processes with the good production practice, and (3) education, the establishment and incessant monitoring of the EU directives related to agricultural products and food stuffs, and complying them with ours.

Via research-developmental centers, change in the structure of demand in the world market and the EU market, the degree of the satisfaction of needs through own production will require monitoring in certain countries, and our offer will have to comply with the structure of their demand. Enterprises must broaden the assortment of food production on the basis of the existing primary products and secondary raw materials. They must quickly adapt to new market conditions and business criteria, via the introduction of contemporary management and marketing.

The CEFTA Agreement market and Slovenia EU member country, Croatia will join EU starting 2013, offer a chance for increasing the exploitation of the capacities above 80%. Simultaneously, these markets are a test of our competitiveness compared with food producers coming from EU. Free trade agreements (Belarus, Russia and Turkey) are widening the market, which we must be aware of when making a concept of and implementing the strategy and policy of the development of the food industry.

In strategic documents during the year 2011, agriculture and the food industry were among the prioritized sections of the post-crisis development model until the year 2020. After decades of searching for the path, the industrial policy has definitively been given the place it deserves. In contemporary development, it is no longer possible to manage economy and channel processes of changes in the structure of industry without an adequate industrial policy. Unfortunately, not all available world experiences and those at our disposal have been used in making the concept of it[18]. Its implementation must include the development of agriculture. As such, it must be active, with defined goals, instruments, institutions and funds.

The encouragement of the development of the food industry over the short term must be conducted selectively, by means of subsidies, favorable loans and operative measures of the protection of competition, towards those products which, in the shortest possible time period, will increase production and export. Over the medium term and long term, the establishment of a development bank, as well as taking horizontal measures, must be in function of increasing efficiency, production specialization and the improvement of competitiveness. All measures must be in compliance with the rules imposed by the World Trade Organization[19].

18 Savić, LJ. (2011): *Uticaj svetske ekonomske krize na razvoj srpske industrije*, Industrija, Ekonomski institut, Godina XXXIX, (4/2011), p. 87-105, Beograd.

19 Savić, Lj. (2010): *Export-oriented Industrialization as the Base of the New Model of Development*, Economic Themes, Faculty of Economics Nis, XLVIII, (2/2010), p. 315-330, Nis.

## Conclusion

In spite of limitations and the economic crisis, the division of the production of food stuffs represents a significant segment of the industrial structure and an important factor of the stability of overall economic and social trends in Serbia. For that reason, the question of the possibility of the restructuring of this division emerges as a strategic one in order to make its comparative advantages and potentials better exploited. The development of processing capacities would have a positive impact on the development of primary agricultural production, change of its structure, higher product finalization and an improved quality of the population's intake of food. In that way, a serious chance for the development of the whole of the agro-industrial complex would emerge.

In its future development, the food industry and agriculture must not confront with each other but, on the complementary developmental and comparative advantages of both of them, an adequate development strategy should be conducted, given that our economy is still far away from the structure where traditional production sections make room for the service section.

The food industry can become an even more significant exporter. Export, especially onto the EU market, requires that the domestic regulations in the production and control of food should adapt to the requirements for and standards of quality of this market. Apart from quality enhancement, it is necessary that the structure of the export of food should adapt to the requirements of the import demand of other markets, the volume of production of certain classes increase (the growth of cattle breeding, and the processing of raw materials of animal origin), and the technological modernization and innovativeness of this division improve. Apart from the competitive price, our big export chance, and also a danger for global stability, arises from a huge rise in prices for food stuffs. In that sense, apart from export, the food industry determines the food security and social stability of the country, too.

The food industry must be the focal point of the industrial policy, with an aim to make productivity, efficiency, specialization and competitiveness grow. Depending on the extent to which this will be realized, our food industry can really become a leader in the production of food and food processing in this part of Europe.

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## PRETPOSTAVKE I MOGUĆNOSTI RAZVOJA PREHRAMBENE INDUSTRIJE SRBIJE

***Ljubodrag Savić[20], Gorica Bošković[21], Vladimir Mićić[22]***

### Rezime

*Procesi industrijalizacije, urbanizacije, globalizacije, rast svetske populacije i cena hrane, uslovili su brz razvoj prehrambene industrije. Industrijska proizvodnja hrane predstavlja snažan motiv međunarodne trgovine, razvoja konkurentnosti, visokog kvaliteta proizvoda i održive razvojne strategije. Prehrambena industrija u sklopu privrede i industrije Srbije danas ima značajno mesto. Predmet istraživanja u radu je analiza dostignuti nivo razvoja i konkurentnosti, ograničenja i budućeg razvoja prehrambene industrije. Cilj rada je da ukaže koje su pretpostavke i mogućnosti razvoja prehrambene industrije kod nas, odnosno koji su to zadaci koji se pred nju postavljaju kako bi se ostvario rast njene efikasnosti i konkurentnosti. U radu se koriste odgovarajući metodi kvantitativne analize, kvalitativnih i strukturnih promena. Indikatori izvozne konkurentnosti koji se koriste kao pokazatelji su pokrivenost uvoza izvozom i indeks komparativnih prednosti (RCA*).

***Ključne reči:*** *prehrambena industrija, poljoprivreda, izvoz, industrijska politika.*

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