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Competitiveness in the Serbian growth strategy

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ABSTRACT

The paper focuses on the effects of the reformed growth strategy on the competitiveness of the Serbian manufacturing industry during the period of 2007–2016. The paper applies the analytical tools devised by the International Trade Centre, as well as Balassa's RCA Index and some other methodologies. All indicators point to similar conclusion: the reformed growth model would significantly contribute to the improvement of Serbian competitiveness. The starting point of Serbia is also clear: small gross investment volume and a low average growth rate.

KEYWORDS

growth models, manufacturing industry, Republic of Serbia, exports, EU market, market share, structural changes, competitiveness

JEL CLASSIFICATION INDICES

014, L16, L52

1. INTRODUCTION

The impact of the 2008 worldwide crisis highlighted the problems of the Republic of Serbia. In the Serbian scientific and professional circles, there was a consensus that the key development trends in the forthcoming years were largely conditioned by the need to eliminate restrictions and negative effects brought about by the previous structural adjustment programme. It was

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necessary to dismiss the idea of the "spontaneous" growth which was driving reforms, and which oriented the country towards the use of foreign currencies for savings, a disproportional growth in the non-tradable sector and an overheating of demand. Bearing this in mind, an imperative was to define a new strategy, which would primarily focus on:

- overcoming the fiscal system weaknesses,
- a change in the GDP structure,
- the reform of the public sector,
- improving the competitiveness of the domestic exports (particularly the manufacturing industry exports), and the change in the export structure, and
- accelerating the EU integration process because Serbian foreign trade is predominantly conducted on the European market.

Theoretical and empirical research on the correlation between growth and competitiveness has been the weighty subject matter of economic literature since 1950s. Having analysed the traditional factors of the U.S. economic growth (the country, labour and capital), Solow (1957: 312–320) pointed to the significance of education, technological innovations and the rising know-how for the improvement of competitiveness. However, the modern theoreticians insist on obvious defects of variables in the Solow's formulae (Romer 1986: 1002–1037, 1990: 71–102). Romer's theory assumes that economic growth derives from the endogenours factors, be it a company or a country. Barro and Sala-i-Martin (1995) constructed a model that combines some elements of the endogenous theory with the neoclassical model.

2. RESEARCH METHODOLOGY

As far as the one-dimensional indicators of competitiveness are concerned, the theoretical contributions of the following theoreticians were analysed: Balassa (1965: 99–123) and his concept of a revealed comparative advantage; Krugman – Hatsopoulos (1987: 18–29) their idea of a change in market share, Durand – Giorno (1987: 147–182) and their considerations of price competitiveness and others. When it comes to the two-dimensional indicators of competitiveness, the theoretical contribution of Helleiner (1989: 17–23) and his real effective exchange rate was taken into consideration, while the inevitable contribution of Porter (1990) and his multi-variables were analysed as a multi-dimensional concept. The Serbian authors, who have dealt with similar topics and whose papers were used in our analysis include Jefferson Institute (2006), Kovačević (2010: 3–39), Mićić (2016: 71–80), Veselinović – Makojević (2016: 43–50) and others.

The choice to analyse the competitiveness of the Serbian manufacturing industry on the EU market conditioned the use of dynamic analytical instruments deriving from the *market share analysis*, such as *the absolute change in the world market share* and the *change in the world market share*. By means of these indicators, the paper analyses absolute and relative changes in the share of the Serbian export value of certain branches of the manufacturing industry in the import value of these commodities into the EU market, which is by far the most important purchaser of the Serbian products. In addition, the study used the *Balassa Index of Revealed Comparative Advantage (RCA)* (Balassa 1965: 99–123), which measures the share of the export value of the analysed sector in national exports in relation to its share in the world trade.

The metrics of the International Trade Centre (ITC) and the simplified National Export Profile (NEP) were used as a means of identifying the upward sales trends of the most important export products of the Serbian manufacturing industry (Jefferson Institute 2006). By implementing the above-mentioned objective, ITC methodology tools and other research, the statistical data for the period of 2007–2016 were studied. The analysed time series is short, whereby it should be borne in mind that the focus of the study is on the post-crisis period, when a new growth strategy was implemented.

3. GROWTH STRATEGIES IN TRANSITION COUNTRIES AND THE SERBIAN EXPERIENCES

It is worth revising how the issue of the growth in the transition countries was considered at the beginning of the transition process. Above all, a transitional recession was expected and, consequently, negative growth rates in the early years of reforms were foreseen. At the same time, transitional recession was expected to be overcome easily and quickly if the countries entering the transition process were devoted enough to reforms and if they swiftly established market mechanisms, pursued price liberalisation and established open economies for international commerce and flows of production factors, which would, subsequently, lead to a macroeconomic stabilization. This model was based upon two assumptions.

Firstly, the market mechanism itself should bring about an economic growth, which is in accordance with the corresponding economic doctrines based on full liberalism; consequently, the transition to this market model should be performed quickly. Secondly, in the last two decades of the 20th century, a similar strategy scenario was applied to the developed economies and it contributed to their fast and virtually sustained recovery and development.

The first analyses, carried out a few years after the reforms had started, seemed to justify such predictions. They found that the changes in the growth model arising during the implementation of transitional reforms, could be summarised as follows:

Firstly, by observing the entire flow of reforms, it was noticed that the economic growth was strongly influenced by the initial reforms along with a part of the inherited conditions and macro-economic stability. Later on, the growth model changed: the influence of macro-economic stability (low inflation rates) and a part of the inherited conditions was prevalent, while reforms lost their importance within such a framework of factors.

Secondly, further liberalisation and privatization, though still important, had a significantly smaller effect on the growth. This implies that a spontaneous growth of the economy, as a consequence of reforms, was not enough on any account, and that it called for constant attention of the creators of economic policies, once the country effected the first more important changes in the property structure and market liberalisation.

Thirdly, concerning the more profound reforms and the ones that significantly change the institutional structure of a system, it turned out that the growth model should be adjusted to the initial, inherited conditions, while the growth should be stimulated by means of the macroeconomic stabilisation.

In more concrete terms, the estimate of panel growth models with constant regression parameters showed that the growth policy and the economic development of the countries in transition could not solely rely on spontaneous effects of the system adjustments to the market

model, but that it was also necessary to actively define the policy and its adjustments in relation to the inherited conditions in every country and the accomplished level of the system transformation.

The Republic of Serbia opted for accelerated reforms, while taking up a greater number of suggestions, relying on valid transition doctrines: a fast market liberalisation and privatization by a sale of equity; spontaneous growth based on the inflow of foreign funds which would both boost the domestic demand and change the economic structure by developing profitable service sectors in accordance with the interest of potential investors. Although the results of such a policy were satisfactory in the early stages (the economy displayed an annual average growth rate of 6 per cent between 2001 and 2008), this was accompanied by significant internal and external imbalances (Dabrowski – Myachenkova 2018).

Moreover, the achieved growth rate was insufficient and structurally inadequate for solving the unemployment problem, while the structural change, similar to the one of many other economies in transition, was abrupt and unsustainable (for instance, a share of the manufacturing industry in GDP came down to only 17.4%; EI-MAT and EF-FREN 2010).

4. THE 2011 STRATEGY OF INDUSTRIAL DEVELOPMENT

Since 2000, there has been a great number of sector and spatial strategies, which never turned into proper policies and implementation projects. Only after the devastating effects of the global financial crisis, an umbrella strategic document for an explicit formulation of all development policies, strategies and reforms appear. Namely, at the beginning of 2011, the Ministry of Economy and Regional Development and the Republic Development Fund created the document named "Strategy and Policy of Industrial Development of the Republic of Serbia 2011–2020" (Official Gazette of RS, no. 55/2011).

Apart from the key development aims and a narrower definition of the reformed growth strategy, the document listed the aims, measures and activities necessary for a new industrial policy:

- The backbone of the prospective economic growth is an industrial growth, which assumes that there is a dynamic growth of investments;
- The prospective industrial growth will primarily rely on the export-oriented growth of the manufacturing industry sector towards the EU market.

Dominated by the most propulsive branches struck by a fast technological knowledge- and innovation-based progress, the change in the manufacturing industry structure is most efficiently affected by means of attracting direct foreign investments, as the basic source of the economic and industrial development funding.

The expected results of industrial development in the period of 2011–2020 included:

- industrial production volume will increase by 100%;
- the share of the exports will rise to 50% of GDP;
- the conditions of a 10% average annual growth of investments will be guaranteed;
- an average annual inflow of foreign direct investments (FDI) was expected to reach 2.35 billion euros;
- the number of employees in the manufacturing industry will increase by 75,000 employees.

If these goals could be achived, an average growth rate of 7.3% in the manufacturing industry and an average annual GDP growth rate of 5.8 per cent were planned. The point is that the endogenisation of technological development would bring about the specific conditions within the institutional structures of the overall social and economic system, which would eventually lead to a business environment striving for a more efficient generation, implementation and economic valorisation of innovations, based on the basic criterion – the creation of the conditions for a long-term sustainable development (Official Gazette of RS, 55/2011: 8).

5. THE EFFECTS OF THE REFORMED GROWTH STRATEGY

After more than seven years of the presentation of the Industry Growth Strategy (IGS) of Serbia, it can be concluded that the draft of the most expected key outcomes was wrongly devised, and very little has been done to prepare and implement the reforms and policies that would improve the key (internal) assumptions that the whole projection was based upon. This statement can be proved by a simple observation of the macro-economic indicators of the economic flows from 2010 onwards. Clearly, the industrial policies based on the Endogenous Growth Model have been purely declarative. In reality, they resembled more – as many developing countries found already – the Harod-Domar model (1947) based essentially on capital imports from abroad.

The primary drawbacks of the IGS 2011–2020 were related to the unrealistic expectation that the investment flow would stand at 25% of GDP during the projected period. With an average of 18.8% during the observed period, Serbia remained far below the level of the investment flow of the Western Balkans countries (World Bank 2017): Albania (27.9%), Bosnia and Herzegovina (22.7%), Croatia (25.5%), and particularly behind the Eastern European EU member countries, such as Hungary (23.6%), Slovakia (25.0%) or globally (23.6%). The reasons were numerous, but also predictable.

Under the circumstances of economic instability in the post-crises period, both at the domestic and EU market, it was unreal to forecast a stable inflow of FDI, with an average annual amount of 2.3 billion EUR, as the key source of economic growth and development funding. Consequently, the disregard of other sources of funding, along with an absence of other serious stimulations of the economic policy led to an average 18.8% investment share in GDP only. An average real annual inflow of FDI of 1.876 billion EUR after 2010, accounting for an average share of 4.9% in GDP, was substantially below the projections. This resulted in an extremely modest growth in GDP of 0.77% per annum, and it was far behind the projected annual rate of 5.8%.

The analysis of the FDI structure showed that 41.3% or 775 billion EUR annually of its sources were directed towards the industry sector, which was wholly insufficient to bring about some serious structural changes in the GDP generation. With a low rise in GDP and an unfavourable FDI structure, it was impossible to achieve an average annual growth in the manufacturing industry higher than 2.8%, which was far below the projected 7.3% rise. This resulted in a significantly lower *per capita* production in the manufacturing industry compared to Bulgaria, Hungary, Romania and the Czech Republic (UNIDO 2018: 224–227).

By long-range relying on FDI as the basic source of economic and industrial growth funding, other, primarily domestic, investment funding sources in the economic and industrial

policy have been deliberately disregarded. Firstly, the country's share in the investment funding was far below any minimum in the observed period. An unsatisfactory situation could also be found in the structure of loan portfolios of domestic banks and the scope of domestic investments, i.e. the use of domestic savings, as the most valuable development resource (Gligorijević – Ćorović 2018: 251–252). The chief reason for a low competitiveness level was an incomplete and inadequate system of financing the economy (Veselinović – Makojević 2016: 43).

Positive trends within the given period were noticed in the Serbian commodity exports, while external imbalances started to rectify. During the period of 2010–2016, commodity exports to the world market increased by 9.3% on average. In spite of the slow recovery of the EU economies from the financial crisis aftershocks, an average 11% increase in exports to this market was achieved. At the same time, an average growth rate of the total Serbian exports amounting to 3.5% was achieved, while the import from the EU countries rose by 4.2% on average. The deficit in the global foreign exchange went down from 5.226 billion EUR in 2010 to 3.958 billion EUR in 2016. The share of exports in GDP rose from 33% in 2010 to 48% in 2015 (World Bank 2017).

The manufacturing industry significantly contributed to the reduction in the external imbalances of the country, and its share in the total Serbian exports increased from 90% in 2010 to 96% in 2016. Thus, the following question arises: which factors have predominantly influenced the favourable trends in the foreign exchange of Serbia after 2010, and to what extent have these factors supported the new growth model?

Positive trends in terms of reducing external imbalances were largely the result of a slower growth of Serbian imports in the post-crisis period. Basically, this situation was the result of changes in the correlation between GDP growth and aggregate demand, particularly the final consumption expenditure. While GDP showed an extremely slow average growth rate of 0.8% per annum, the final consumption expenditure demonstrated a negative trend of an average rate of –0.2% per annum.

The balance between the final consumption expenditure rate and the GDP rate was partly due to the stagnation in the level of the personal consumption expenditures of the population, i.e., real incomes, whose level responded to the growth in the unemployment rate during 2010–2012 and a minimum growth in GDP in the given period.

The stabilisation of this trend in the public consumption expenditure was caused by implementing the measures of fiscal consolidation from 2015 onwards (Gligorijević – Ćorović 2018: 247).

6. THE COMPETITIVENESS OF THE SERBIAN MANUFACTURING INDUSTRY ON THE EU MARKET

Over the last 15 years the manufacturing industry of Serbia has lost some of its key determinants of competitiveness. Apart from a drastic decline in the volume of production that occurred in the 1990s, during the transition process most of the industries sustained a decrease in the quality of the vertical integration of production; the raw material sector was practically destroyed and amounted to its mere manufacturing capacities. In the same process, some of the sectors of the supporting industry were shut down, which further hindered industrial development. The entry

of FDI, especially the *green field* investments, aggravated the extant structural imbalance between the raw materials sector and manufacturing capacities.

The structure of imports was marked by an increase in the relative share of intermediate goods, which were used to serve the needs of the foreign investments; therefore, this relative share increased from 51.5% in 2008 to 58.7% in 2016 (Statistical Office of the Republic of Serbia 2017). The size of the domestic market was significantly reduced, while its long-term isolation and containment adversely affected the competitive capabilities of the domestic producers on the international market. However, some indicators suggest that since 2010 there have been some advances in the level of the Serbian manufacturing industry competitiveness.

The above-mentioned conclusions can be confirmed by numerous analyses of the economic and competitiveness trends that can be found in the Serbian economic literature. The first voluminous studies focused on the initial stages of the transitional processes from 2001 until 2006 (Jefferson Institute 2006). Successive papers, primarily and to the greatest extent, deal with the analysis of competitiveness among states, using the Global Competiveness Index (GCI). More ambitious studies (e.g. Kovačević 2010: 3–39) analysed the Serbian competiveness level taking into consideration all 12 pillars of competitiveness of this methodology. Other scientific contributions were concerned with some of the elements of the composite structure of the GCI including foreign trade financing (Kozomara 2010: 43–59), the deficit of the balance of payments (Kovačević 2010: 59–69), an institutional determination of competiveness (Leković 2016: 3–16), and an influence of the industrial policy (Gligorijević – Bošković 2007: 101–116.), etc. Moreover, the competitiveness analysis using the method of the Constant Market Share Analysis (Stanišić – Milovanović 2016: 95–106) takes an important place in scholarly articles.

When it comes to measuring competitiveness in the post-crisis period by means of the ITC methodology, our paper represents a unique contribution, as it offers an explicit way of detecting the scope and dynamics of the effects of the reformed growth model on the change in the structure and competitiveness of certain industry branches and the manufacturing industry as a whole.

7. COMPETITIVENESS OF THE MANUFACTURING INDUSTRY OF SERBIA ON THE EU MARKET BY APPLYING THE ITC METHODOLOGY

The selected tools of the ITC methodology used to determine the level and changes in the competitiveness of both the individual branches and the whole Serbian manufacturing industry on the EU market are primarily based on the analysis of the market share trends of these sectors and the entire manufacturing industry in the imports from the EU market – the most important international partner in this economic sector of the Republic of Serbia. In that sense, the paper analyses the data on the value of the whole manufacturing industry exports to the EU market in the last ten years, as well as the data on imports to the EU market for each individual branch over the same period (Table 1).

The decision to examine the competitiveness of the Serbian manufacturing industry under the circumstances of constant changes on the global and EU markets, in particular, conditioned the use of dynamic analytical tools derived from the *market share analysis*, such as the *absolute change in the EU market share* and *change in the EU market share*.

Table 1. Export values by individual branches of the manufacturing industry towards the EU market, 2007–2016 (billion EUR)

Subsector	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Food and beverages	439	462	504	531	675	616	693	691	813	935
Tobacco products	0	2		1	3	2	2	2	2	1
Textiles	33	32	31	38	68	65	80	114	128	144
Wearing apparel, fur and leather products and footwear	412	425	361	392	450	435	448	524	550	626
Wood products (excluding furniture)	91	81	56	66	84	87	105	111	111	121
Paper and paper products	46	51	62	82	122	107	128	183	213	215
Printing and publishing	19	24	19	19	19	26	31	30	40	36
Coke, refined petroleum products and nuclear fuel	22	25	83	162	99	134	245	241	192	198
Chemicals and chemical products	357	400	162	312	338	238	408	403	460	572
Rubber and plastic products	281	301	246	295	358	414	509	757	795	914
Non-metallic mineral products	61	67	34	35	50	47	44	55	59	77
Basic metals	1,064	1,169	614	929	1,068	618	561	673	797	760
Fabricated metal products	166	165	135	153	241	284	280	269	259	271
Machinery and equipment accounting, computing machinery, medical, precision and optical instruments	30	81	102	82	96	155	162	79	83	92
Electrical machinery and apparatus and radio, television and communication equipment	322	413	351	534	469	548	652	795	946	1,247
Motor vehicles, trailers, semi-trailers and other transport equipment	142	238	282	308	253	723	1,690	1,744	1,794	1,933
Furniture, manufacturing n.e.c.	60	69	56	71	86	97	126	179	266	327
Total	3,545	4,004	3,101	4,010	4,479	4,596	6,163	6,850	7,507	8,470

Source: www.intracen.org: Trade statistics – International Trade Center.

By use of these indicators, the authors analysed absolute and relative changes in the share of exports value of the Serbian manufacturing industry in the imports of such goods into the EU market, which is by far the most important market regarding this sector of the Serbian economy.

7.1. Market share of the Serbian manufacturing industry in the EU

The analysis of the market share of the Serbian manufacturing industry in the EU market points to an insignificant impact of total exports of the whole Serbian manufacturing industry (maximum 0.18%), and its individual branches (maximum 0.43%) on the EU economic flows. Only a group of individual products or certain product groups, the so-called "export stars" exhibited a slightly more significant impact, although the key value of this instrument is reflected in the dynamic character of the competitiveness flows. Bearing this in mind, the results of the analysis are significantly more encouraging.

Before the outburst of the global economic crisis, the market share of the Serbian manufacturing industry in its main market was continuously rising due to a relatively fast absolute exports growth. During the crises itself and immediately after it, there were no significant changes in the market share of this sector of the Serbian economy in the EU market. The market share in 2009 stood at 0.101%, and it was slightly lower compared to the 0.104% market share in 2008, although there was an absolute reduction in the exports by 900 million EUR.

In 2010, 2011 and 2012, this indicator stabilised at slightly above 0.110%. As of 2013, positive changes correlating with a substantial absolute rise in the exports volume occurred. The market share rose from 0.148% in 2013 to 0.184% in 2016. However, the presented data should not be interpreted as indicators of a stable competiveness level of this part of the Serbian economy during the global financial crisis. Primarily, they are the result of the decline in the absorption capacity of the EU market during the crises years due to the reduction in the economic activities of the countries of this economic group and similar trends of the Serbian exports in the early years of the post-crises period.

During the observed period, out of the total of 17 analysed industries, only two – basic metals and the production of coke and refined petroleum products – demonstrated a decline in the market share. As far as the former is concerned, this was due to the absolute decline in the exports caused by the change in the ownership of one steel mill; while, in the latter case, such a situation was caused by the insufficient dynamics of export growth. Moreover, the production of wearing apparel and leather products stagnated, while other industries exhibited a growth in their respective market shares in the EU market.

As for the quality of an increase in the competitiveness of the Serbian manufacturing industry, the key consideration refers to the structure of the size of the market share of the industries that showed a rising trend, given their technological level. Based on the classification of industries in accordance with the ISIC Rev. 3 and technology classification of the manufacturing value added, as well as the classification of manufacturing sectors by technological intensity (low technology, medium-low technology, medium technology and high technology activities), the low technology industries, with an average market share of 0.22%, take the largest market share compared to other industries. In 2016, the medium-low technology industries had a market share of 0.20%, while the exports from medium- and high

technology manufacturing industries to the EU market had the medium-sized market share of 0.14%.

The analysis leads to the conclusion that the increase in the competitiveness of exports based on the growth in the market share of the low-technology industries.

7.2. The absolute and the relative increase in the market share of the Serbian manufacturing industry in the EU market

The dynamic aspect of the increase in the market share of individual branches of the Serbian manufacturing industry in the EU market was analysed by means of methodological tools, such as the *absolute change of the world market share* and *change in world market share*. This analysis, however, shows somewhat different growth tendencies of competitiveness, specifically from the point of view of tendencies related to the changes in the market share structure. Relative growth indicators point to the fact that, in the observed period, the high technology industries achieved the most dynamic increase in the average market share, amounting to 586%. The slowdown growth is the characteristic of the low technology industries, whose market share increased by 213% on average, while the medium-low technology sectors showed a moderate increase in the market share of 273%.

This situation is the result of extensive FDI to Serbia, which are mostly directed to the automotive industry and electrical equipment production. Speaking of absolute changes, these sectors take the greatest share in Serbian exports. In order to maintain such a positive trend, the economic policy and the state government need to support a dynamic inflow of high-tech investments and stimulate the continuous growth of the above-mentioned industrial branches (Table 2).

7.3. "Stars" of the Serbian manufacturing industry

The NEP is concerned with the determination of the growth trends of the most important export products of the Serbian manufacturing industry, which are popularly referred to as the "stars" of the national export. With the exception of the export of frozen raspberries, the exports of other "star" products from the Republic of Serbia cannot significantly or predominantly affect the price trends or conditions of sale on their respective markets. However, from the point of view of prospective changes in the structure of Serbian exports, it is interesting to analyse the market share trends of these major export products in the observed period. Among the products with a sustained increase in the market share, the following stand out: soybean oil and its fractions, components/parts for electric motors and generators, electric motors, paper, cardboard and cellulose strips, plastic pipes and hoses, insulated cables and coaxial cables, carbonated mineral water, refrigerators, freezers and other cooling equipment. The encouraging fact is that the aforementioned products are manufactured by medium and medium-low technology industries. The major Serbian export products with fluctuating market shares mostly belong to the low-technology commodities, and are, therefore, exposed to an increasingly strong pressure of exports by other developing countries.

It can be concluded that the presented analysis points to an unambiguous conclusion that the competitiveness of the "star" export products of the manufacturing industry, rests upon the market share of the low-technology products. Positive changes are visible and driven by the use

Table 2. The absolute and the relative increase in the market share of individual branches of the manufacturing industry in the EU market, 2007–2016

Subsector	Absolute increase in the market share of the manufacturing industry in the EU market (%)	Absolute increase in the relative share of the Serbian manufacturing industry in the EU market (%)
Food and beverages	0.086	61.702
Tobacco products	0.009	157.633
Textiles	0.129	296.649
Wearing apparel, fur and leather products and footwear	0.039	17.082
Wood products (excluding furniture)	0.093	51.873
Paper and paper products	0.238	532.368
Printing and publishing	0.086	264.802
Coke, refined petroleum products and nuclear fuel	0.044	1,093.709
Chemicals and chemical products	0.025	38.515
Rubber and plastic products	0.080	33.233
Non-metallic mineral products	0.040	47.456
Basic metals	–0.156	–41.828
Fabricated metal products	0.178	152.342
Machinery and equipment accounting, computing machinery, medical, precision and optical instruments	0.016	277.857
Electrical machinery and apparatus and radio, television and communication equipment	0.144	322.111
Motor vehicles, trailers, semi-trailers and other	0.262	1,709.297
Furniture, manufacturing n.e.c.	0.329	320.451
Total	**0.101**	**121.745**

Source: Calculations based on the statistical data published by ITC.

of FDI in the medium-low and medium technology industries, while the exports of high technology products, in terms of their volume, do not have a significant market share in the EU market.

8. RCA INDEX AND THE RESULTS OF OTHER RESEARCH ON THE COMPETITIVENESS OF THE SERBIAN ECONOMY

The *Balassa Index of Revealed Comparative Advantage (RCA)* compares the share of export value of the observed sector in the national export value and the share of the export value of the stated sector in the total world exports. According to this specialization index, if the index value of revealed competitive advantages of a particular sector of the national economy exceeds 1, the sector is considered to be a significant exporter and is, therefore, assumed to be competitive.

The method of measuring macro-competiveness plays an important role in the comparative analyses of the competitiveness levels of certain countries, see for Japan and the USA (Balassa – Noland 1989), for the Southeast Asian countries (Reza 1983), for Turkey, Bulgaria, the Czech Republic, Hungary, Poland and Romania (Yılmaz 2003). Furthermore, special attention should be paid to the analysis of sub-sector competitiveness of the agri-food industry of Hungary (Fertő – Hubbard 2002).

During the observed five-year period, the *RCA* of the entire manufacturing industry had a positive value of around 1. During the pre-crises year of 2007 the RCA index had a value greater than 1, and the same trend kept up in the period from 2014 onwards. In the period from 2008 to 2013 (except for 2012), the value of RCA Index was continuously below 1. Taking into consideration the obtained export values, it could be said that the post-crisis period in the Republic of Serbia started only after 2014. Moreover, RCA trends in the post-crisis period point to slow structural changes which might bring about an increase in the share of the manufacturing industry in the GDP formation, and to very modest effects of the proclaimed growth model reforms (Table 3).

Furthermore, the trends of this indicator, showing a global aspect of national competitiveness and specialisation areas of the industrial structure, are significantly different in comparison to the changes in the market share of certain branches and the entire Serbian manufacturing industry in the EU market. There are obvious differences between the crises and the post-crisis periods. The RCA Index indicates that competiveness fell during the crisis period of 2008–2009, as well as during the post-crisis period in 2010, 2011 and 2013 (the value of RCA was below 1); nevertheless, during the absolute growth of the Serbian exports, this index has not shown any significant changes in the growth of competitiveness (the value was around 1) since 2014.

By applying the method of the absolute change in the market share, we came to the conclusion that in the crisis and post-crisis period there were no significant changes in the market share of this Serbian economic sector in the EU market. These differences can be partially explained by a relatively high orientation of the Serbian exports towards the EU market, as well as by a slower recovery of this market in comparison to the global ones in the post-crisis period.

Other studies of this problem pointed to the similar trends of the competiveness level of the Serbian export commodity market, measured by means of the RCA index in the pre-crisis, crisis, and post-crisis period. Most of these studies heavily rely on the *Global Competitiveness Index* (GCI) from the Global Competitiveness Report (Table 4).

Apart from the minimal changes in the GCI Index (whose score ranges from 1 to 7) up to 2015, what is obvious is a continuously low ranking of Serbian competitiveness (below the 93rd rank), which puts it in the third, i.e., the last group of countries presented by the Global

Table 3. RCA index, 2007–2016

Subsector	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Food and beverages	1.52	1.33	1.59	1.41	1.52	0.93	1.24	1.17	1.25	0.94
Tobacco products	0.03	0.16	0.26	0.07	0.26	0.27	0.10	0.13	0.12	1.08
Textiles	0.46	0.44	0.52	0.50	0.78	0.65	0.75	0.91	0.93	0.98
Wearing apparel, fur and leather products and footwear	2.63	2.44	2.27	1.98	1.98	1.00	1.59	1.55	1.42	1.10
Wood products (excluding furniture)	2.03	1.87	1.70	1.57	1.81	0.87	1.82	2.01	1.81	1.11
Paper and paper products	0.62	0.64	0.93	0.96	1.29	0.74	1.30	1.49	1.60	0.93
Printing and publishing	0.58	0.69	0.62	0.55	0.53	1.04	0.75	0.68	0.78	0.87
Coke, refined petroleum products and nuclear fuel	0.05	0.04	0.19	0.25	0.12	2.19	0.21	0.23	0.23	1.00
Chemicals and chemical products	0.74	0.72	0.34	0.54	0.48	1.11	0.45	0.41	0.42	0.97
Rubber and plastic products	2.67	2.60	2.60	2.90	2.40	1.21	2.47	1.77	1.70	1.04
Non-metallic mineral products	0.92	1.13	0.75	0.62	0.77	0.81	0.56	0.63	0.60	1.04
Basic metals	5.56	3.76	3.36	3.30	2.92	1.13	1.33	1.40	1.54	0.91
Fabricated metal products	1.39	1.22	1.41	1.16	1.58	0.73	1.47	1.91	1.67	1.14
Machinery and equipment accounting, computing machinery, medical, precision and optical instruments	0.08	0.20	0.31	0.19	0.21	0.90	0.28	0.20	0.18	1.08
Electrical machinery and apparatus and radio, television and communication equipment	0.70	0.76	0.84	0.98	0.77	1.26	0.82	0.92	0.95	0.96
Motor vehicles, trailers, semi-trailers and other	0.26	0.42	0.66	0.57	0.45	1.26	2.14	1.98	1.68	1.18
Furniture, manufacturing n.e.c.	1.08	1.15	1.11	1.14	1.27	0.90	1.43	1.80	2.28	0.79
Total	1.00	0.95	0.96	0.95	0.91	1.05	0.97	1.02	1.02	1.00

Source: Calculations based on the statistical data published by ITC.

Table 4. Economic competitiveness of the Republic of Serbia, measured by the Global Competitiveness Index (GCI)

Global Competitiveness Report	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GCI value	3.7	3.9	3.8	3.8	3.9	3.9	3.8	3.9	3.9	4.0	4.0
Country rank	91	85	93	96	95	95	101	94	94	90	78 (70)
The number of observed countries	131	134	133	139	142	144	148	144	140	138	137

Source: World Economic Forum (WEF).

Competiveness Report. Deviations in 2008 and 2013 were mostly explained by the introduction of new countries into the Report. The studies that analysed all twelve pillars of competitiveness (Kovačević 2010: 29–36) pointed to the "system mistake" in the very transitional growth model, similar to Stiglitz's findings about the endogenous character of the transitional processes (Stiglitz 1999), as the main source of a low level and further decline of the level of Serbian competitiveness. Other reports, based on the Global Competitiveness Reports, point to the results of measuring competitiveness similar to the RCA Index; however, they take into consideration only certain pillars of competiveness. Highlighting a low level of institutional competiveness (below the 120th rank in 2010), some studies point to the importance of conveying comprehensive and qualitative institutional reforms, which should result in establishing a market-favourable business environment (Leković 2016: 3–16).

Concerning the macro-economic situation in the crisis and post-crisis period, when a similar plummet in the level of competiveness (rank 109–131st) occurred, the major reasons for low competitiveness levels are claimed to be related to the fundamental relationships between the Serbian production and expenditure levels, followed by an overwhelmingly low savings.

Significant deviations in the results of measuring Serbian economic competitiveness by means of the RCA and GCI Index have been noted in the post-crises period, since 2016. For the first time, in 2016 and 2017, the GCI Index reached the score of 4 (WEF 2016–2017) across five pillars of competiveness, including: infrastructure, macro-economic environment, health and primary education, higher education and training, goods market efficiency and technological readiness.

Given the aforementioned facts, the Serbian rank significantly rose to 90th, i.e. from 78th position, compared to the observed 137–138 countries. During those years, the RCA Index of the entire manufacturing industry remained stagnant and stayed at the score 1. It is obvious that the RCA Index is rather an indicator of performances or results than an indicator of potentials or processes.

A smaller number of domestic studies on competiveness focuses on the use of the CIP Index (Competitive Industrial Performance Index) proposed by the UNIDO. The CIP Index directly measures the industry results, while the GCI Index indirectly measures certain potentials based on the input values, assuming that there is a positive correlation among them and the economic results. Based on the indicators that Serbia showed, the CIP Index reached the score of 0.040 in 2015, which placed the country at the 68th rank among 148 observed countries (UNIDO 2018:

182), while in 2010, the score of the CIP Index was 0.035, and Serbia was ranked at 72nd. As with other methodologies, this complex indicator also shows that the manufacturing industry displays competitiveness growth, in spite of all its flaws in terms of the dynamics and development structure. What also points to the low competiveness level is the fact that out of 41 ranked European manufacturing industries, the Serbian manufacturing industry occupied the 35th rank in 2012.

However, similar to the indicators of an absolute change in the world market share and the change in the world market share, the RCA Index in the post-crises period indicates that highly technologically advanced industrial branches showed the most dynamic average increase in the share in Serbian GDP, and the most dynamic increase in the Specialization Index.

Identical results were obtained by analysing the trends of the standard deviation of the growth rate of certain branches of the Serbian manufacturing industry (Mićić 2016: 76). The greatest deviations were observed in motor vehicle production, transport equipment, machinery and equipment n.e.c. and computer, electronic and optical products. Although a large portion of the growing exports comes from the technologically developed branches, we are still talking about vertical FDI in the segments of labour-intensive production procedures with low workforce expenses.

As it was the case with the CIP index, a marked drop in the score of the RCA Index in production of food and beverages, leather and leather products, lumber and wood products, rubber and plastic products, primary metals and allied products, and furniture and fixtures (the export of which represents a basis for the competitiveness growth of the Serbian exports to the EU market) is a clear indicator of insufficient investment in the abovementioned industrial branches and an inadequate production industry policy (the area of Serbian competitive edge). This estimation is primarily related to the strategically important production of food and beverages.

9. CONCLUSION

The serious consequences of the 2008 global economic crisis in Serbia brought about a review of the previous model of economic growth. In professional and political circles, a general agreement was reached that the stability of economic flows in the post-crisis period must be based on the rapid growth of the manufacturing industry and a strong export orientation. The export competitiveness of goods to the EU market became a central goal.

Since 2010 the competitiveness of the manufacturing industry exports from Serbia to the EU has shown a slight, yet insufficiently dynamic increase. However, our research points to a clear conclusion that such an increase in export competitiveness is largely based on the increase in the market share of the low-technology industrial branches. Positive trends are evident and supported by the fact that, in the observed period, the high-technology industrial branches have recorded the most dynamic average growth in market share; on the other hand, the low-technology industrial branches have shown a slowdown in the export competitiveness growth.

Globally speaking, the RCA Index of the entire manufacturing industry has a score of about 1, which can be considered as a "borderline" positive indicator of the industry competitiveness. However, it is also an indicator of slow structural changes which would bring about an increase in the share of manufacturing industry in the GDP generation. The low *per capita* volume of

production and exports from this sector, especially compared to the countries which had initiated the economic reforms before Serbia, still remains the major problem of the Serbian manufacturing industry. Worrying trends are also detected in the strategically important food and beverage production sector, despite the fact that this sector has an excellent competitive advantage.

If the primary trends of the macro-economic indicators are taken into account, it can be concluded that Serbia has not succeeded in balancing the financing source structure. A long-range relying on FDIs, as the basic source of the economic and industrial development has fallen short of the expectations about a stable gross growth of investments and their scope of around 25% of GDP. Both in terms of volume and structure, external sources do not bridge the financial gap, without whose coverage a high growth will be impossible. Domestic sources of financing investments have been consciously disregarded in the economic and industrial policy, which resulted in unfavourable structural flows in certain sources, eventually leading to a low economic growth.

Positive effects of the fiscal consolidation make space for changes in the economic and industrial policies, which allow for the efficient implementation of the reformed growth strategy. A financial gap, whose bridging is possible only by the use of domestic sources, is to be covered by increasing capital expenditures of the country and considering the possibility of a limited investment-oriented budget deficit. In addition, the domestic banking sector, with appropriate incentives, is bound to be stimulated in such a way as to increase investments to the export-oriented manufacturing industry and resolve the difficult loan settlements. In that sense, it is necessary to carry out a law reform of the domestic financial market and a more active policy related to attracting domestic savings.

REFERENCES

Balassa, B. (1965): *Trade Liberalisation and "Revealed" Comparative Advantage.* The Manchester School.

Balassa, B. – Noland, M. (1989): Revealed Comparative Advantage in Japan and the United States. *Journal of International Economic Integration*, 4(2): 8–15.

Barro, R. J. – Sala-i-Martin, X. (1995): *Economic Growth.* New York: McGraw-Hill.

Dabrowski, M. – Myachenkova, Y. (2018): The Western Balkans: Weak Performance since the Crisis. *Acta Oeconomica*, 2018(S): 85–120.

Durand, M. – Giorno, C. (1987): Indicators of International Competitiveness: Conceptual Aspects and Evaluation. *OECD Economic Studies*, 9: 147–182.

Fertő, I. – Hubbard, L. J. (2003): Revealed Comparative Advantage and Competitiveness in Hungarian Agri-Food Sectors. *The World Economy*, 26(2): 247–259.

Gligorijević, Ž. – Bošković, G. (2007): Industrijska politika u procesu unapređenja konkurentnosti industrije Srbije (Industrial Policy in the Process of Improving the Competitiveness of the Serbian Industry). In: Stanković, Lj. (ed.): *Razvijanje konkurentske prednosti preduzeća u Srbiji u uslovima evropskih integracija (Developing the Competitive Advantage of Companies in Serbia in the Conditions of European Integration).* Niš: Ekonomski fakultet, pp. 101–116.

Gligorijević, Ž. – Ćorović, E. (2018): *Ekonomika industrije (Economics of Industry).* Novi Pazar: Državni Univerzitet u Novom Pazaru, (State university of Novi Pazar).

Helleiner, G. K. (1991): Increasing International Competitiveness: A Conceptual Framework. In: Wen, Y. – Sengupta, J. (eds): *Increasing the International Competitiveness of Exports from Caribbean Countries.* Washington, DC: Economic Institute of the World Bank, pp. 17–26.

Jefferson Institute (2006): *Konkurentnost privrede Srbije 2006 (Competitiveness of the Serbian Economy 2006*). Belgrade.

Kovačević, M. (2010): Uzroci niskog nivoa i mere za povećanje konkurentnosti privrede Srbije (Low-level Causes and Measures for Increasing the Competitiveness of the Serbian Economy). In: Kovačević, M. (ed.): *Kako povećati konkurentnost privrede i izvoza Srbije.* (*How to Increase the Competitiveness of the Serbian Economy and Exports*). Belgrade.: NDES, pp. 3–39.

Kovačević, R. (2010): Zaduživanje Srbije u inostranstvu kao izvor finansiranja deficita platnog bilansa: ograničenja i dometi (Borrowing Serbia abroad as a Source of Financing the Balance of Payments Deficit: Limitations and Reach). In: Kovačević, M. (ed.): *Kako povećati konkurentnost privrede i izvoza Srbije*. (*How to Increase the Competitiveness of the Serbian Economy and Exports*). Belgrade.: NDES, pp. 43–59.

Kozomara, J. (2010): Savremeni problemi finansiranja spoljne trgovine Srbije (Contemporary Problems of Financing Serbia's Foreign Trade) In: Kovačević, M. (ed.): *Kako povećati konkurentnost privrede i izvoza Srbije* (*How to Increase the Competitiveness of the Serbian Economy and Exports*). Belgrade.: NDES, pp. 59–69.

Krugman, P. – Hatsopoulos, G. N. (1987): The Problem of U.S. Competitiveness in Manufacturing. *New England Economic Review*, January/February, pp. 18–29.

Leković, V. (2016): Institucionalna determinisanost konkurentnosti nacionalne ekonomije: pouke za Republiku Srbiju (Institutional Determination of the Competitiveness of the National Economy: Lessons for the Republic of Serbia). In: Marinković, V. – Janjić, V. – Mićić, V. (eds): *Unapređenje konkurentnosti Republike Srbije* (*Improving the Competitiveness of the Republic of Serbia*). Kragujevac: Ekonomski fakultet, pp. 3–16.

Mićić, V. (2016): Strukturne promene i konkurentnost privrede Republike Srbije (Structural Changes and Competitiveness of the Economy of the Republic of Serbia). In: Marinković, V. – Janjić, V. – Mićić, V. (eds): *Unapređenje konkurentnosti Republike Srbije* (*Improving the Competitiveness of the Republic of Serbia*). Kragujevac: Ekonomski fakultet, pp. 71–80.

Porter, M. (1990): *The Competitive Advantages of Nations.* London and Basingstoke: McMillan.

Republički zavod za statistiku Srbije (Statistical Office of the Republic of Serbia). (2017): *Statistički godišnjak 2017 (Statistical Yearbook 2017)*. Belgrade.

Reza, S. (1983): Revealed Comparative Advantage in the South Asian Manufacturing Sector: Some Estimates. *Indian Economic Journal*, 31(2): 96–106.

Romer, M. P. (1986): Increasing Returns and Long Run Growth. *The Journal of Political Economy*, 94(5): 1002–1037.

Romer, M. P. (1990): Endogenous Technological Change. Part 2: The Problem of Development: A Conference of the Institute for the Study of Free Enterprise Systems. *The Journal of Political Economy*, 98(5): S71–102.

Solow, M. R. (1957): Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics*, 39(3): 312–320.

Stanišić, N. – Milovanović, G. (2016): Komparativna analiza konkurentnosti izvoza Republike Srbije i drugih tranzicionih zemalja (Comparative Analysis of Export Competitiveness of the Republic of Serbia and Other Transition Countries). In: Marinković, V. – Janjić, V. – Mićić, V. (eds): *Unapređenje*

konkurentnosti Republike Srbije (*Improving the Competitiveness of the Republic of Serbia*). Kragujevac: Ekonomski fakultet, pp. 95–106.

Stiglitz, E. J. (1999): Whither Reform? Ten Years of the Transition. *Proceedings of the Annual Bank Conference on Development Economics 1999 in Washington*. World Bank documents, http://documents.worldbank.org/curated/en/448681468741326292/pdf/multi-page.pdf, pp. 27–57.

UNIDO (2018): *Industrial Development Report 2018*. Vienna. https://www.unido.org/resources-publications-flagship-publications-industrial-development-report-series/industrial-development-report-2018.

Veselinović, P. – Makojević, N. (2016): Izvori finansiranja kao ograničavajući faktor privrednog razvoja Srbije (Sources of Financing as a Limiting Factor in the Economic Development of Serbia). In: Marinković, V. – Janjić, V. – Mićić, V. (eds): *Unapređenje konkurentnosti Republike Srbije* (*Improving the Competitiveness of the Republic of Serbia*). Kragujevac: Ekonomski fakultet, pp. 43–50.

Yilmaz, B. (2003): Turkey's Competitiveness in the European Union: A Comparison with Five Candidate Countries – Bulgaria, The Czech Republic, Hungary, Poland, Romania and the EU15. *Ezoneplus Working Paper*, No.12.