Competitiveness of Economy of **Vojvodina**

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Content

FOREIGN TRADE

2.1 Indicators of competitiveness

2.1.1 Competitiveness concepts and measuring

Competitiveness of a country's economy can be defined as an ability to employ one's own resources in the most rational way in accordance with international specialisation and commerce so that the end result would be the growth of standard of living and gross national income. At an international plan, competitiveness is reflected in the highest possible share of national economy in the world (global) production and international commerce. However, this is not enough if the results of national economy are not taken into consideration through the request for increase of employment and standard of living.

The initial concepts of economic development linked competitiveness with comparative advantages of a country's economy. Those comparative advantages are based on different levels of work productivity or production that is realised through combination of available factors such as: labour, capital, land, technology, natural resources that are abundant in the country. However, competitiveness based solely on this principle can prove as counter-productive for a national economy because everything comes down to relative expenses and available natural resources.

This concept of competitiveness was confuted in practise, which could be seen in the examples of Japan and Sweden. Namely, the subject countries do not posses the above-mentioned comparative advantages and they are still exceptionally competitive. On the other hand, there are examples of the most productive Manufacture of certain product for renowned world manufacturers in a poor country where the workers are paid the minimum wages. Such production enables competitiveness of this foreign manufacturer, but does not provide competitiveness for that country at macroeconomic level.

Contrary to initial concepts, contemporary concepts emphasise that following factors are important for competitiveness, which means for the development of economy: knowledge, experience in production and the ability to satisfy the needs of the market. Competitiveness is actually based on increase of productivity, constant innovations, promotion of product quality and constant introduction of modern technology.

The prevailing concept of competitiveness from the end of the twentieth century puts national productivity in focus.

The creator of this concept was Michael Porter[1]. According to this concept, the following factors are not of significance for competitiveness: macroeconomic situation, natural resources, government's policy, but what is needed is productivity in use of natural resources. According to him, four determinants of competitiveness are known to create an environment in which the national companies compete and are being established. It can be said for a country that it is accomplishing competitive advantage in those branches of economy in which those four determinants are most favourable. Those four determinants represent the so-called Porter's "national diamond" and it is linked with:

a) Production factors that incorporate natural human resources, capital, infrastructure, and technology. Availability of these production factors in a larger volume makes only the assumption for creating and enhancing of competitiveness;

b) Demand factors that can serve as a driving engine of competitive advantage through national demand with high level of requirements;

c) Accompanying industries through the existence of competitive sectors that incorporate suppliers, distributors, contractors, and that support competitive production, and

d) Strategies and rivalries of companies that foster innovations and strengthen competitiveness.

When conducting the research on country's economy all determinants from Porter's "national diamond" must be taken into consideration. Given concepts of competitiveness, seem abstract so they must be concretised for the needs of establishing competitiveness of national economies. Two studies are used for this purpose that contain a unique synthesised index of country's competitiveness.

1 See Porter, The Competitive Advantage of Nations, MacMillan, New York, 1990.

The most renowned study is the Global Competitiveness Report[2]. According to the latest Competitiveness Report for the years 2009/2010, the Republic of Serbia is at the 93rd place out of 133 countries, which is actually a decline for eight places compared to the position that Serbia used to occupy a year before that. Among the neighbouring countries, Serbia is ranked better only than Albania, which is at the 96th place, and Bosnia and Herzegovina, which is at the 109th place. The latest Report measured the level of development for twelve basic indicators:

1) Status of institutions and legal state (Serbia was ranked 110th out of 133 ranked countries);
2) Infrastructure (107th place);
3) Macroeconomic stability (111th place);
4) Health care and elementary education (46th place);
5) University education and other forms of specialised training (76th place);
6) Commodity market (112th place);
7) Labour market (85th place);
8) Sophistication of financial market (92nd place);
9) Technological readiness (78th place);
10) Market size (67th place);
11) Business sophistication (102nd place), and
12) Innovations (80th place).

Within those 12 basic indicators, we measured 110 detailed indicators. Each of those indicators was evaluated using a set of indices so that with an appropriate weighing, the competitiveness index is created for each of those basic indicators and later the competitiveness index for the entire national economy.

The second Study that is used for ranking of national economies according to the level of competitiveness is the World Competitiveness Yearbook[3]. The Yearbook includes 57 countries and in methodological approach for each of those countries, we measured 329 indicators of competitiveness divided in four major categories that were divided into twenty sub-categories. The four major categories are:

1) Economic performance;
2) Government efficiency;
3) Business efficiency, and
4) Infrastructure.

Unlike the previously mentioned studies, this Study is mainly business oriented and therefore intended primarily for providing information for enterprises, investors, and financial companies. Republic of Serbia is not placed on the list so we did not focus on this study in greater detail.

2.1.2 Models of comparative advantage

Traditional theories of comparative advantages are Ricardian theory and Heckscher-Ohlin-Samuelson model of the so-called HOS model of international trade.

In Ricardian theory, differences in technological equipping are of vital importance for comparative advantage of a country considering that according to that theory the countries will specialise in manufacture of products providing them comparative advantage in relation to some other country.

On the other hand, HOS model assumes that technologies in different countries are at the same level so that comparative advantages are the result of availability of different factors. This means that the country in question will specialise in manufacture of a product the Manufacture of which will require the use of production factor that the country disposes with the most. Such a factor (labour, capital, land) usually has a lower price, which affects its more intensive use in production and results with lower production costs leading to a comparative advantage in the end. HOS model was the dominant model until the early 1980s when new theories of international trade started to emerge that focused primarily on the changed understanding of interdependence between technology and commerce.

2 Global Competitiveness Report – annual publication of the World Economic Forum.
3 World Competitiveness Yearbook, issued by: Institute for Management Development

Contemporary economic theory emphasises that investments in research and development are primary factors of creating differences in technological equipping of a certain country. Actually, those technological differences represent the basis of comparative advantages and if companies in that country implement modern technology in production, the result will be that the products of better quality and consequently the revenues will be higher. It is obvious that modern economic theory analyses technology and commerce dynamically through the process of continuous innovations in products based on modern technology, growth in trade with these products in developed countries and transfer of technology and production into developing countries at some later stage. What is important to emphasise is that this new theory emphasises that a country's place in a competition match is not guaranteed because of at least two reasons:

1) It is necessary to have constant large scale investments into research and development in order to accomplish and keep comparative advantage, and

2) Developing countries can adopt modern production processes through transfer of technology from the developed countries and later on, along with raising of technological competitiveness, they can successfully integrate themselves in exchange of these products.

Implementation of modern technology inevitably leads to creating of products that will stand out in the market in relation to the competition. Because of this, we will have an increase in offer, reduction of production costs, increased efficiency in use of production factors, growth in export revenues and improvement of performances of the existing products etc.

If we look at the position of our country concerning implementation of modern technology, it is obvious that most of our manufacturers are not technologically competitive at the world market. Namely, financing of research and development, structure of registered patents, scope and form of technology transfer as well as structure of the employees in the research sector are highly unfavourable.

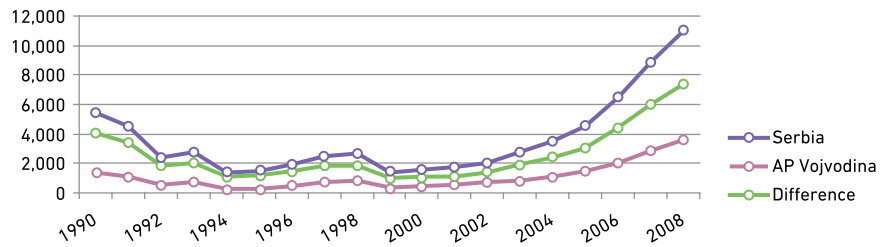
Our main task is to find an adequate strategy for promotion of export through identifying of products in which the AP Vojvodina has comparative advantages. For that purpose, we will use empirical measurements of the revealed comparative advantage that is marked with RCA (Revealed Comparative Advantage) mark that we will talk about more in Paragraph 3.2.7.

2.2 Structure of foreign trade exchange of the AP Vojvodina

2.2.1 Dynamics and structure of foreign trade exchange of the AP Vojvodina in the period from 1990 to 2008

By the end of the twentieth century, foreign trade of the AP Vojvodina, as well as that of the Republic of Serbia whose part it is, was exposed to sanctions and severe limitations imposed by the international community, NATO aggression, wars that were waged in the former Yugoslavia and unstable domestic political situation. Such conditions have determined the dynamics of foreign trade exchange of the Republic of Serbia and AP Vojvodina.

Chart 2.2.1. Values of export of Serbia, AP Vojvodina and differences (mil USD)



Comparison of values of export of the Republic of Serbia and AP Vojvodina for the period from 1990-2008 shows that the difference between the values was 70.6% of export of the Republic of Serbia on the average, with far greater deviations from the average prior to 2000 (see Table 2.2.1.1 in Annex B). The highest deviations were present during the years when sanctions were in power (1994-1995) but it could not be said that those years show realistic relationship of these two values. However, at the same time Table 2.2.1.1 shows that the dynamics of export of the Republic of Serbia for the observed period does not indicate the dynamics of export in the AP Vojvodina in an adequate way. This means that export as well as the whole foreign trade exchange of the AP Vojvodina must be analysed separately from the Republic of Serbia even though external and internal limitations for development of foreign trade relationships were the same for the Republic of Serbia and AP Vojvodina.

External and internal limitations lead to serious worsening of structure of foreign trade exchange that resulted with the decline of import that consequently lead to the fact that technology became obsolete by the end of 1990s. Domestic production has hence become non-competitive, i.e. the environment in which it was taking place was extremely unfavourable. The

collapse of the SFRY and sanctions imposed by the United Nations resulted with the fact that foreign trade exchange operated in utterly irregular conditions and beyond all the rules that had ever been set in the world trade.

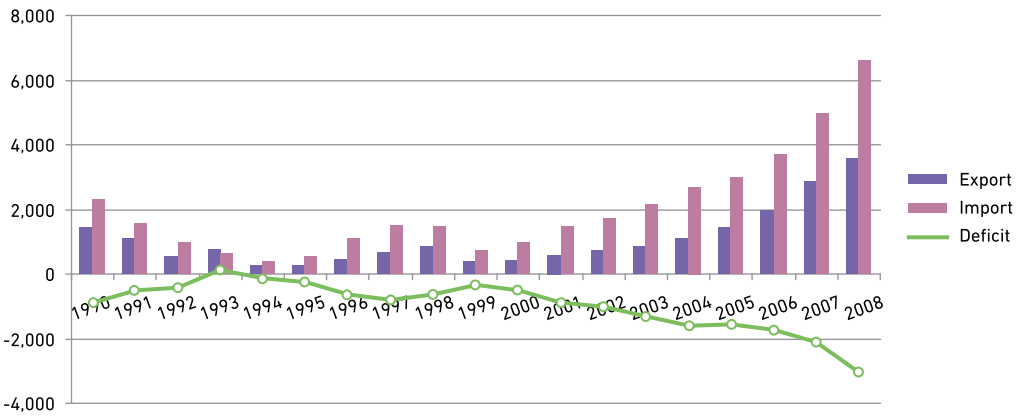
Re-introduction of the Republic of Serbia in international community after the changes from 2000, set grounds for foreign trade exchange growth in the Republic of Serbia and AP Vojvodina (see Chart 2.2.1). However, the devastated economy of the Republic of Serbia and AP Vojvodina was not able to fully use those positive tendencies within a short period of time, so that economy of the AP Vojvodina needed six years to reach and exceed the export value form 1990, while it took seven years for the economy of the Republic of Serbia to accomplish the same.

Liberalisation of export was carried out by the middle of 2001, with measures of economic policy aimed at affecting technical modernisation of economy along with parallel development of competition at domestic market. Aside from positive, liberalisation also had negative effects considering that it was carried out within a short period of time and that it was too excessive for devastated economy from the end of 1990s.

Those changes lead to two-digit growth rates of foreign trade exchange of the AP Vojvodina. The value of export from 1990, as it was already mentioned, was reached in 2005 and the value of export from 1998 (taken as the last year before the NATO aggression) was reached in 2003.

In 2000, the value of export of the AP Vojvodina was 429.7 million USD, which was 48.6% less than in 1998. The value of export in 2001 was 581 million USD, which was 35.2% more than in 2000. In 2002, export reached the value of 732.3 million USD (26% more than the year before that).In 2003, export of the AP Vojvodina was 845.8 million USD, which represented an increase of 15.5% compared to the previous year. Significantly higher export values were recorded since 2004. In 2004, export was 29.6% higher compared to the preceding year and it reached the value of 1095.8 million USD. In 2005, export was 1438.7 million USD (an increase of 31.2% in comparison with 2004) while the increase in 2006 was 38.7% and the value of nearly 2 billion USD was reached. The largest growth rate compared to the preceding year since 1998 was recorded in 2007, and it was 42.7%, while the value of export was 2846 million USD. In 2008, because of the influence of the world economic crisis, the export growth rate declined significantly and it was 25.2% compared to 2007 even though the value of export was 3562.6 million USD.

Chart 2.2.2. Commodity exchange of the AP Vojvodina with foreign countries



Based on the data used for Chart 2.2.2 it is obvious that import has been raising a lot faster than export after re-integration of our country in international community. As the result of that, the deficit in commodity exchange has been dynamically rising since 2000, especially in the period from 2000 to 2004 and in the last three analysed years: in 2000 it was 518.3 million USD (an increase of 49.8% compared to the preceding year), in 2001 it was 876.6 million USD (an increase of 69.1%), in 2002 it was 1013.8 million USD (an increase of 15.7%), in 2003 it was 1293.1 million USD (an increase of 27.6%), in 2004 it was 1581.7 million USD (an increase of 22.3%), in 2005 it was 1570.6 million USD (decline of 0.7%), in 2006 it was 1708.6 million USD (an increase of 8.8%), in 2007 it was 2114.8 million USD (an increase of 23.8%) and in 2008 it was 3036.7 million USD (an increase of 43.6% compared to the preceding year).

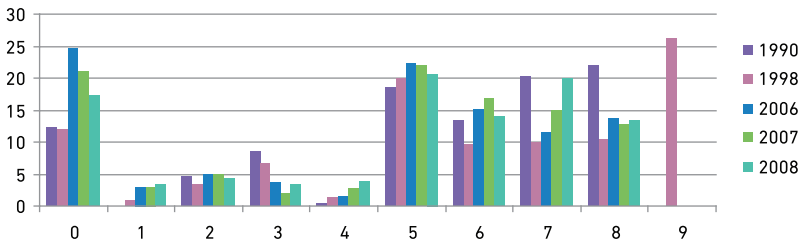
In 2008, export was 326.5% higher than the one realised in 1998 while import was 345.5% higher, so that the deficit in exchange of goods from 2008 was higher for 370% compared to 1998. When we compare the data form 2008 with the ones from 1990, we get somewhat better results: in 2008 export was 152.2% higher, while import was 185.8% higher and because of those trends, the deficit is 239% higher.

Based on the data of total values of export, import and deficit in commodity exchange it is obvious that the increase in foreign trade exchange of the AP Vojvodina has become more dynamic within the last three years in favour of import unlike export that has shown somewhat more moderate trends and this is what tells us that there are certain structural obstructions for its faster growth.

2.2.2 Dynamics and structure of foreign trade exchange of the AP Vojvodina at the SITC Rev.3 sectors level

Changes in the structure of foreign trade exchange of the AP Vojvodina will first be analysed at the highest level of aggregating of SITC- sector level (see Tables 2.2.2.1 and 2.2.2.2 in Annex B). The lowest share of the AP Vojvodina in export for the observed periods was realised in the first, second, third and fourth sector. At the same time, these sectors do not record significant changes in share in total export so that their share for the observed periods ranges from 13.7% in 1990 to 14.9% in 2008.Table 2.2.2.1 shows that export in the AP Vojvodina is dominated by the zero, fifth, sixth and eight sector, the shares of which for the observed period range from 86.3% in 1990 to 85.2% in 2008.

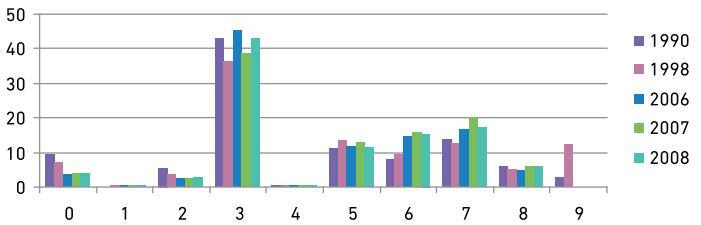
Chart 2.2.3. Share of SITC Rev.3 sectors in total export of the AP Vojvodina in percentage



The share of the zero sector (Food and live animals) increased for the observed period from 12.3% in 1990 to 17.3% in 2008, so that the zero sector was the third significant export sector in 2008 while in 1990 it was the fifth. The share of the fifth sector (Chemical and related products, n.e.s.) increased from 18.5% in 1990 to 20.6% in 2008 and became the first by importance with respect of export while in 1990 it was the third. The sixth sector (Manufactured goods classified chiefly by material) improved its share slightly from 13.3% in 1990 to 14.1% in 2008, and remained the fourth by importance during both of the observed years. The share of the seventh sector (Machinery and transport equipment) declined slightly from 20.3% in 1990 to 19.9% in 2008, but aside from that fact, the sector remained at the second position with respect of the value of export. The important downfall of share was noticeable in the eight sector (Miscellaneous manufactured articles) with 21.9% in 1990 to 13.3% in 2008, so it fell from the first place it held in 1990 to the fifth in 2008. Speaking in total, the share of the fifth, sixth, seventh and eighth sector declined from 74.9% in 1990 to 67.9% in 2008.

The analyses of results by sectors points to an unfavourable export structure of the AP Vojvodina with significant share of the zero and sixth sector (that mainly consists of various semi-processed products), which grew from 25% in 1990 to 31.3% in 2008. Besides, in relation to 2009, a decrease of importance of the seventh and eighth sector was also noticed. They are the sectors with production at the highest level of processing. Considering the fact that the seventh sector is at the same time the most dynamic one in the world trade, it reflects even more the unfavourable structure of export of the AP Vojvodina. The only favourable fact is that the share of the fifth sector has not declined which alleviates otherwise grim picture of worsening of the structure up to a certain extent (see Chart 2.2.3).

Chart 2.2.4. Share of SITC Rev.3 sectors in import of the AP Vojvodina expressed in percentage



However, to fully evaluate the quality of changes in foreign trade exchange of the AP Vojvodina we also need to analyse the structure of products on the import side. Table 2.2.2.2, (see Annex B) shows that the highest share in total import is held by the third sector (Mineral fuels, lubricants and related materials) that makes up almost half of the import. When export of the AP Vojvodina from 2008 is compared with the one from 1990, it is evident that the structure of import has not changed much as it is the case with export (see Chart 2.2.4).Relative relationships between sectors are almost balanced and the positive change in comparison with 1990 is that the share of the sixth sector has increased for 7.2% and that of the seventh for 3.5%. What is unfavourable in the structure of the import is that the share of all Manufacturing sectors has declined (sectors 5 to 8) compared to the year 2007. Structure of import formed in such a way indicates that the economy of the AP Vojvodina is highly dependent on import and to a relative worsening of import structure because of decline in significance of import of equipment and machines in comparison with the previous year that was relatively low itself compared to the total value of import (import of equipment in 2008 makes up only one sixth of the total import).

Bearing in mind the already known fact that economies of the Republic of Serbia and the AP Vojvodina have been lagging behind in technological sense since the end of the 1990s and that the average share of import of equipment for the last three years was only 18.1%, the structure of import should be promoted in the direction of more significant share of equipment in total import in the years to come so that the structure of export offer could be improved as well with the tendency of increase of significance of products in which the share of newly added value is proportionally higher and which can achieve higher prices at the world market.

However, in order to get a more precise picture of dynamics and structure of foreign trade exchange of the AP Vojvodina, it is necessary to analyse the dynamics and structure of foreign trade at the level of groups of products of SITC that will be dealing with in the following Paragraph.

2.2.3 Dynamics and structure of foreign trade exchange of the AP Vojvodina at the level of SITC Rev 3. groups of products

Previous considerations of dynamics and structure of foreign trade exchange of the AP Vojvodina will be complemented with the analysis at the level of groups of products that have been determined with a three-digit level of SITC Rev 3 classification. Each of the Tables 2.2.3.1 and 2.2.3.2 (in Annex B) presents ten groups of products with the highest share in export, namely import of the AP Vojvodina for the selected years of 1990, 1998, and 2000.

Table 2.2.3.1 shows that in 1990 there are only two groups of products from the seventh sector in first ten groups of products making 40.6% of the total export. They are: Machine tools working by removing metal or other material (6th place with the share of 3.4%) and Equipment for distributing electricity, n.e.s. (10th place with the share of 2.4%). This means that majority in the first ten groups of SITC products is made up of: labour intensive products (the first place belongs to Footwear with the share of 7% and the ninth place belongs to Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted with the share of 2.7%); Petroleum oils and oils obtained from bituminous minerals (other than crude) from the third sector take the second place with the share of 6.3%; Meat and canned products from the zero sector take the fifth place with the share of 3.5%; Hydrocarbons, n.e.s., and their halogenated, sulphonated, nitrated or nitrosated derivatives from the fifth sector take the seventh place with the share of 3.0%. The list of the first ten group of SITC products contains also Medicaments (including veterinary medicaments) (3rd place with the share of 5.2%) and Polymers of ethylene, in primary forms (4th place with the share of 4.1%) from the fifth sector and Floor coverings, etc. (8th place with the share of 3.0%) from the sixth sector.

In 1998, first ten groups of products that made up 30.4% of the total export contain five groups that were also on the list of first ten groups of products in 1990 (Petroleum oils and oils obtained from bituminous minerals (other than crude), Polymers of ethylene, in primary forms, Hydrocarbons, n.e.s., and their halogenated, sulphonated, nitrated or nitrosated derivatives, Medicaments (including veterinary medicaments), and Footwear. We should also point out the fact that the list of first ten groups contains only one group from the seventh sector, i.e. Ships, boats (including hovercraft) and floating structures (6th place with the share of 2.7%).

In 2008, first ten groups of products made up 39.7% of the total export. Only one group of products from the seventh sector was included on the list: Rotating electric plant, and parts thereof, n.e.s. (1st place with the share of 6.0%). The list includes four groups of products that appeared in two previously analysed years (Petroleum oils and oils obtained from bituminous minerals (other than crude), Polymers of ethylene, in primary forms, Hydrocarbons, n.e.s., and their halogenated, sulphonated, nitrated or nitrosated derivatives, and Medicaments (including veterinary medicaments). There are also groups of products that were not registered in the two previously analysed years (Articles, n.e.s., of plastics, Sugars, molasses and honey, Fixed vegetable fats and oils, "soft", crude, refined or fractionated, Clothing accessories, of textile fabrics, whether or not knitted or crocheted (other than those for babies), and Alcoholic beverages).

From the presented analyses, it can be concluded that the structure of export of the AP Vojvodina is dominated by labour intensive products, food and products from the chemical sector. We should point out the fact that is important for competitiveness of the AP Vojvodina, i.e. that the range of products from the chemical sector also includes technologically advanced products from pharmaceutical industry. However, the unfavourable fact is that certain technologically and capital intensive products are not on the list in none of the analysed years

When it comes to import (see Table 2.2.3.2 in Annex B), in 1990 first ten groups of products made up 52.2% of the total import and 40.4% of them were Petroleum oils and oils obtained from bituminous minerals, crude and Natural gas, whether or not liquefied. Other products include Motor cars and other motor vehicles principally designed for the transport of persons (other than motor vehicles for the transport of ten or more persons, including the driver), including station-wagons and racing cars, and Medicinal and pharmaceutical products, other than medicaments of group 542 that belong to technologically and capital intensive products, Fertilizers (other than those of group 272), and Food.

In 1998, first ten groups of products made up 46.6% of the total import and 36.2% of them were Petroleum oils and oils obtained from bituminous minerals, crude and Natural gas, whether or not liquefied. In first ten groups of products, we have

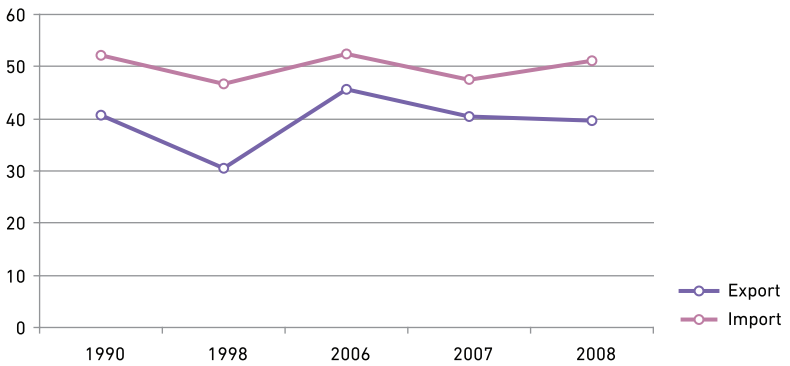
two groups from the seventh sector: Other machinery and equipment specialized for particular industries; parts thereof, n.e.s. that participated with 1.2% and Non-electrical machinery, tools and mechanical apparatus, and parts thereof, n.e.s. that participated with 1.1%. Other products include Footwear, Paper and paperboard (that appeared only that year on the list of first ten groups of products), Fertilizers (other than those of group 272), and Miscellaneous chemical products, n.e.s.

When we compare the year 2008 with the two previous years, it is evident that Petroleum oils and oils obtained from bituminous minerals, crude and Natural gas, whether or not liquefied, certain capital-intensive products (Motor cars and other motor vehicles principally designed for the transport of persons (other than motor vehicles for the transport of ten or more persons, including the driver), and Motor vehicles for the transport of goods and special-purpose motor vehicles) and products of the metal industry are still present on the import side.

It is also evident from the presented Tables (2.2.3.1 and 2.2.3.2) that export of ten largest groups of products was slightly reduced during the analysed years from 40.6% in 1990 to 30.4% in 1998 and 39.7% in 2008. When it comes to import, the share of ten most significant groups of products recorded far smaller variations from 52.2% in 1990 to 46.6% in 1998 and 51.1% in 2008.

The Chart 2.2.5 presents summarised shares of first ten groups of products for the analysed years.

Chart 2.2.5. Summarised share of first ten groups of products in the total import and export of the AP Vojvodina in percentages



2.2.4 The level of concentration and specialisation of export and import of the AP Vojvodina

The analysis at the level of groups of products indicates that export had a lower concentration than import during the entire analysed period, which is contrary to the expectations for the small territory that should have a higher level of concentration in export.

It can be seen from the Chart 2.2.5 that the level of concentration during the analysed years for ten groups of the most significant products was most emphasised in 2006, while in the years that followed that indicator was in decline only to reach the lowest level in 2008. This tells us that after 2006 came the period that was characterised by the lack of concentration and inadequate specialisation in export. To verify this assumption at the level of total trade and not only based on first ten groups of SITC products, we will incorporate another indicator into the analysis, the so-called specialisation index (S4) of import and export determined by the following formula:

$$S = \sum(X_i/\sum X_i)^2$$

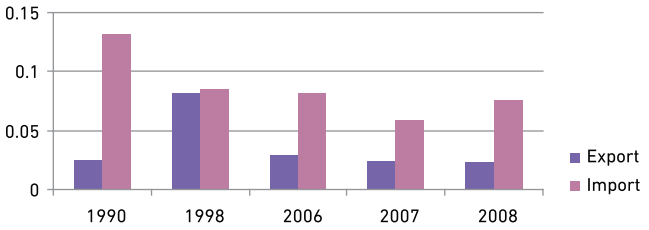
where the expression in the brackets represents the share of each group of products in the total value of the export, i.e. import. As the coefficient S gets closer to zero, the level of concentration is lower, namely there is a large dispersion of export, i.e. import, and when coefficient S has the maximum value one, this means that the entire export, i.e. import was realised through one group of products.

Table 2.2.4.1. Specialisation indexes of export and import of the AP Vojvodina

YEAR	EXPORT	IMPORT
1990	0.025333	0.131131
1998	0.082473	0.085113
2006	0.029329	0.081654
2007	0.023849	0.059116
2008	0.023009	0.075993

4 Roldos, J.E.: Along-run perspective on trade policy instability and growth

Chart 2.2.6. Specialisation indexes of export and import of the AP Vojvodina



The results given in Table 2.2.4.1 show that our hypothesis based on analysis of ten most significant groups of products is not valid when we add the total value of export to the analysis. Table 2.2.4.1 shows that after 1998, a decline in concentration (specialisation) occurred, which was not shown by the analysis based on ten most significant product groups. The increased concentration in export in 1998 was the result of the loss of market due to sanctions that were in force and numerous obstacles, i.e. barriers that were imposed by the international community during those years. This tells us that higher diversification of export and its low level of specialisation happened after liberalisation of foreign trade exchange.

The question arises why the results concerning the level of concentration of export in those two analyses differ. Namely, the Chart 2.2.5, which includes only first ten groups of products with the highest share according to value, shows that the highest concentration level was registered in 2006, while Table 2.2.4.1, which includes all groups of products, shows that the highest concentration level was registered in 1998. Having performed the additional analyses we concluded that the level of concentration in 2006 was greatly affected by ad hoc export of corn that was in high demand that year at the world market, and significant export of refined sugar in the European Union that was the result of preferential status granted by the European Union for export of that product with the aim to revitalise huge processing capacities in the Republic of Serbia and especially in the AP Vojvodina. Thus, the results from the 2006 are more the result of circumstances and not of some devised strategy of export and its concentration. Therefore, it can be said that the results presented in Table 2.2.4.1 are more realistic as an indicator of the level of export concentration.

It can also be seen from Table 2.2.4.1 that specialisation of export was also at the low level in 1990, which brings us to a conclusion that the AP Vojvodina did not have a recognisable export in the sense of renowned brand that would represent certain competitive national product and that would have its place at the world market at that time.

Comparing the specialisation index of export and import, we can notice that concentration of import remained more or less the same during the analysed years and that concentration of export was lower than that of import for the time period covered.

The results that were shown in Table 2.2.4.1 are in opposition with the theory, practice stating that the smaller a country, i.e. the territory is the specialisation indexes of its export should be higher, and specialisation indexes of import should be lower. Namely, a smaller territory has resources that are more modest and a relatively small market at its disposal, so it is rendered unable to successfully develop all branches of production and due to that fact, it is unable to create a more significant diversification of production and export. This fact imposes specialisation on small countries, i.e. territories that represents a model of mastering Manufacture of certain group of products the placement of which would increase its share and competitiveness at the international market.

Considering the fact that specialisation indexes of export of the AP Vojvodina are low and that they are lower than specialisation index of import during the whole analysed period, it can be concluded that the AP Vojvodina still lacks the strategy of export, that export is still not focused and that there are no significant changes in comparison with 1990 as the starting year of analysis.

The question arises what should be done in the period to come in order to change the above-mentioned situation in foreign trade exchange of the AP Vojvodina. Firstly, it would be necessary to formulate the strategy of export that would bring changes in the structure of products (by creating products that would be characterised by an increased newly added labour) that would be recognisable at the international market and after creating of such product to formulate the export marketing strategy that would improve sale, in addition to quality and other attributes that a product needs to have.

Apart from specialisation index, we used the so-called sector concentration index in the analysis, that bears the mark of the number of used groups of products and that is most often defined by the following formula

$$CR3^{5}=\sum^{3}_{i=1}\mathbf{X}_i/\sum^{n}_{i=1}\mathbf{X}_i$$

showing the share of appropriate number of selected sectors, i.e. groups of products with the highest export in the total value of export with the world, or total value of export with a certain group of countries. It is known that import is less concentrated than export and that small countries, i.e. territories specialise in the narrower group of products. For the purpose of

5 Prema engleskom izrazu: Concentration Index

this analysis, we measured the share of three groups of products with the highest share in the total export of the AP Vojvodina with the world and the European Union.

Table 2.2.4.2. Concentration Indexes (CR3) of export and import of the AP Vojvodina

YEAR	EXPORT		IMPORT	
	WORLD	EU	WORLD	EU
1990	18.5	19.5	42.6	10.6
1998	14.3	28.0	37.4	8.3
2008	16.2	26.2	40.3	12.8

The results of this analysis are presented in Table 2.2.4.2. What can be noticed from the insight into the results from the above-mentioned Table? First, it is evident that export of the AP Vojvodina in foreign trade exchange is less concentrated than import during the three analysed years. It is another evidence that shows the absence of strategy in foreign trade exchange policy that is manifested through the lack or absence of specialisation. Opposite is the case when it comes to the exchange of the AP Vojvodina with the EU countries where export is more concentrated than import, which is common in practice. This indicates that there is some sort of more specialised export in the EU than in the rest of the world, an don the other hand, that import from other countries is more concentrated than that from the EU, which is mostly due to the structure of import that is reflected primarily in import of raw materials, in particular of fuels (oil and gas).

Table 2.2.4.3. Concentration Indexes (CR10) of export and import of the AP Vojvodina

YEAR	EXPORT		IMPORT	
	WORLD	EU	WORLD	EU
1990	40.6	44.4	52.2	25.2
1998	30.4	50.4	46.6	20.4
2008	39.7	51.7	51.1	28.2

Apart from the three groups of products with the highest share in export, i.e. import, we also looked at ten largest groups of products that participate in the exchange with the world and the EU and their share according to sector Concentration Index CR10, the results of which can be seen in the Table 2.2.4.3. A tendency that was noticed while observing the first three groups of products occurred also in the first ten groups of products. Namely, the increased concentration of export in the EU compared to export in the world and at the same time higher concentration of import from the world than from the EU was found during all the analysed years.

The listed results indicate that the structure of foreign trade exchange of the AP Vojvodina measured through concentration is unfavourable. This is the reason that prompts formulating of strategy that should respect the influence of all internal and external factors that are reflected mostly in possibility for development of production and export of certain activities that correspond to the structure of the demand at the international market.

2.2.5 Dynamics and structure of foreign trade exchange of the AP Vojvodina at the level of SITC Rev 3. products

The analyses conducted at the level of SITC Rev 3. products (see Tables 2.2.5.1 to 2.2.5.4 in Annex B) indicated that products from manufacturing sector with the highest newly added labour have made their way to the first 20 products with respect of the value of export of the AP Vojvodina in 1990. Hence, five products from the seventh sector (Machinery and transport equipment) found their place on the list, while only two products from the previously mentioned sector found their place on the list in 2008. The most dominant on the list of 20 products were products from the fifth sector (Chemicals and related products n.e.s.) with six products on the list, and their number increased to seven in 2008. At the same time, the number of products from the zero sector (Food and live animals) has remained the same, i.e. three products found their place on the list in the first and the last analysed year and it did not change significantly during the analysed period. Products that are on the list for all the analysed years and that can be considered as traditional export products of the AP Vojvodina because of that include Medicaments, n.e.s., put up in measured doses or in forms or packings for retail sale, Polyethylene having a specific gravity of less than 0.94, Propene (propylene), and Polyethylene having a specific gravity of 0.94 or more. It can be concluded that chemical industry was the basis of competitiveness for the observed period (1990-2008).

On the import list of first 20 products in 1990, the most dominant were the products from the zero sector – Food and live animals (six products) while in 2008 only one product from the previously mentioned sector remained. During the analysed years, products from the third sector were present (Mineral fuels, lubricants, and related materials) and those were: Petroleum, petroleum products and related materials, Natural gas, in the gaseous state and Lubricating petroleum oils and oils obtained from bituminous minerals, other heavy petroleum oils and heavy oils obtained from bituminous minerals (other

than crude), and heavy preparations, n.e.s., containing not less than 70% by weight of petroleum oils. This speaks of high import dependence when it comes to sources of energy. Apart from the above-mentioned, Other wheeled tractors were also constantly on the list.

When it comes to the list of first 20 products according to value, the third sector increased its share in 2008 in comparison with 1990 from three to six products. They are: Petroleum, petroleum products and related materials, Natural gas, in the gaseous state, Gas oils, Motor spirit (gasoline) and other light oils, Butanes, liquefied, and Propane, liquefied. Among other sectors that were on the list in 2008, there are three products from the seventh sector (Machinery and transport equipment) and they are: Motor vehicles for the transport of persons, n.e.s., Other wheeled tractors, and Motor vehicles for the transport of goods, n.e.s. When it comes to products from the seventh sector, there were no significant oscillations on the list and their number ranged from three to six products depending on the analysed year. As far as products from the fifth sector are concerned, their share has not changed significantly during the observed period and their number is around four. Apart from the above-mentioned products, the list also includes one product from the eight sector- Pantyhose, tights, stockings, socks and other hosiery (including stockings for varicose veins and footwear without applied soles), knitted or crocheted, four products from the sixth sector and one product form the second sector (Wood of coniferous species, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed, of a thickness exceeding 6 mm).

The good side of those lists, based on the analysis, is that there were no significant oscillations when it comes to products from the seventh sector that serve as the basis for start up of production in the Manufacturing sector.

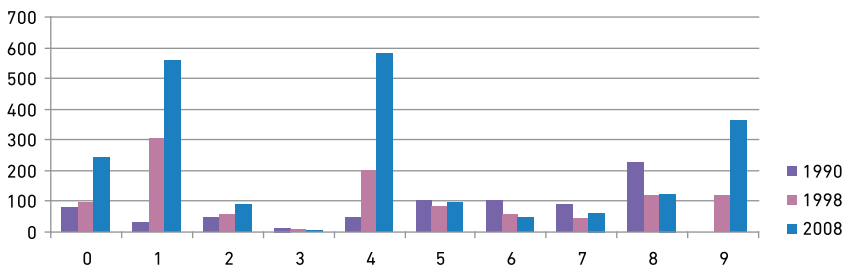
2.2.6 Coverage rate of import with export of economy of the AP Vojvodina

Coverage rate of import with export, as one of the important indicators of economy's competitiveness, indicates that the highest rate of coverage of import with export was in 1993 when export revenues completely covered the import payments. However, that result was reached under irregular conditions and cannot be considered as valid from the point of qualitative analysis. Since 2000, which was marked by greater opening of the country, we notice the tendency of lowering of the rate of coverage of import with export. Coverage rate of import with export in 1990 was 61% only to reach 56% in 1998, which represents the decline of 5%.

In the period from 2000 to 2008, the lowest coverage rate of import with export was in 2003 when it was 39.5%, which means that only two fifths of payments were covered by export revenues and the highest coverage rate of import with export was in 2007 when it was 57.7%, which means that nearly three fifths of payments were covered by export revenues. In 2008, the coverage rate of import with export was 7% lower in comparison with 1990, and it was 2% lower in comparison with 1998.

The rate of coverage of import with export was around 5.1% in the last three years (2006-2008) and it was better than in the period from 2000 to 2005 when it made 42.6%. In 2008, the rate of coverage of import with export, although better in comparison with the average coverage rate (2000-2005), began to decline compared to the previous year, which means that the effects of world economic crisis started to be felt.

Chart 2.2.7. Rate of coverage of import with export according to SITC Rev.3 sectors



When we look at the coverage rate of import with export according to SITC Rev 3. sectors (see Chart 2.2.7) it can be seen that five sectors had a lower coverage rate in 2008 compared to 1990 (the third, fifth, sixth, seventh and eighth sector). In 1990, only three sectors had the coverage rate higher than 100%, only two were in the interval from 75% to 100%, two were in the interval from 50% to 75%, and three sectors were in the interval lower than 50%.

In 2008, the situation improved slightly as far as this indicator was concerned, so that in five sectors, we had the rate of coverage of import with export higher than 100%, in two sectors it was in the interval from 75% to 100%, in one sector it was in the interval from 50% to 75%, and in two sectors it was in the interval lower than 50%. The analysis of coverage of import with export by sectors shows that the coverage rate has declined in all Manufacturing sectors (sectors 5-8) compared to 1990. The most significant decline is in the eighth sector - 105.22%, followed by the sixth sector with 51.37% of decline. The seventh sector is placed third by decline in coverage with 27.62% and it represents, as it is known, the most sophisticated sector. The smallest decline in coverage of 4.56% was realised within the Manufacturing sector in the fifth sector.

Even though these results indicate that the deficit within the Manufacturing sector increased in 2008, this does not have to mean anything if the structure of import is dominated by equipment and not the commodity for final consumption. This change towards renewal of technical basis of the economy would lead to an increased production and export and that would result in smaller deficit and, eventually, a higher rate of coverage of import with export in the years to come.

2.2.7 Empirical measuring of the revealed comparative advantage of foreign trade exchange of the AP Vojvodina

The revealed comparative advantage is marked with RCA6. The formula for the revealed comparative advantage would be

$$RCA^i=(X^i-M^i)/(X^i+M^i)$$

where: RCAi means newly revealed comparative advantage in trade with product i;

Xi means value of the export of product i;

Mi means value of import of product i.

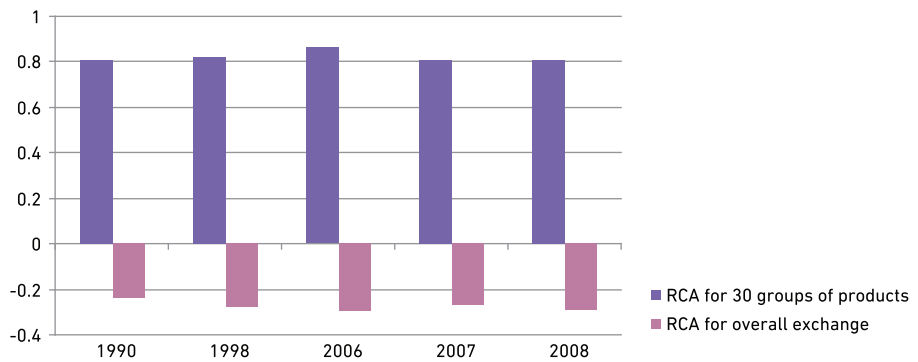
At the level of total foreign trade exchange, the RCA indicator represents the relationship between foreign trade balance and total foreign trade exchange with the world. The analysis of this indicator for individuals years in the period from 1990 to 2008 shows that RCA had negative values during the whole period, except in 1993. We already mentioned that 1993 was not representative for the qualitative analysis because at that time we exported what we could and imported what we had to because of the sanctions imposed by the UN SC. The deficit of the AP Vojvodina amounted to one quarter of the total value of commodity exchange in 1990 and in 2008, it reached approximately one third of the total value of commodity exchange. During the analysed period, the trends in export and import were directed towards the deficit increase along with the increase of total foreign trade exchange. This brings us to a conclusion that the economy of the AP Vojvodina is up to a certain extent dependent on import, on the one hand, and, on the other hand, this points to a decline of general competitiveness of its export.

In order to get to the as precise conclusions as possible on the revealed comparative advantages of the AP Vojvodina, we made the detailed RCA analysis based on the data that refer to the groups of products. By calculating the RCA coefficient, we can identify groups of products that can serve as potential carriers of export growth, i.e. we can identify groups of products in which the AP Vojvodina has a revealed comparative advantage. Empirical measurement was carried out on the basis of data that were disaggregated up to the level of (three-digit level of SITC Rev 3. classification). Positive value of RCA for the concrete group of products means that the AP Vojvodina has the comparative advantage in trading with these products and negative value of RCA means that the AP Vojvodina has no comparative advantage.

The number of groups of products with positive RCA ranged from 72 in 1990 to 75 in 2008. Therefore, the number of groups of products in which comparative advantage was discovered has increased for three compared to the year 1990. The number of groups of products with negative RCA was 179 in 1990, only to reach 177 in 2008, i.e. it was reduced by two. Therefore, from the presented data it can be seen that there were no drastic changes in relation to 1990 when it comes to number of groups of products in which the comparative advantage was revealed as well as of those in which comparative advantage was not revealed.

We calculated the RCA for all the groups of products that have appeared in foreign trade exchange of the AP Vojvodina and their total number was 255. Out of 255 groups of products in total, we analysed around 10% of groups of products that had the highest value of RCA during the analysed period (see Table 2.2.7.1 and Chart 2.2.8).

Chart 2.2.8. RCA for the first 30 groups of products and for the total exchange of the AP Vojvodina



6 English expression reads: Revealed Comparative Advantage

Table 2.2.7.1. Sectoral distribution of 30 groups of products with the highest RCA

SECTOR	1990	1998	2006	2007	2008
0	8	8	12	9	8
1	1	1	2	2	2
2	6	5	8	7	8
3	2	2	1	0	0
4	0	1	1	1	2
5	2	1	2	3	2
6	3	5	2	5	3
7	5	5	1	2	4
8	3	2	0	0	0
9	0	0	1	1	1
Total	30	30	30	30	30

When we compare RCA calculated for total foreign trade exchange of the AP Vojvodina and RCA calculated for the first 30 groups of products, we notice that there is a growth tendency in a total coefficient for the group with the best RCA coefficient that goes in parallel with the decline in RCA coefficient in total trade of the AP Vojvodina. Namely, in 1990 the total coefficient was 0.81 only to reach 0.82 in 1998 and its maximum value of 0.86 in 2006. Within the last two analysed years, the total coefficient was 0.81% with the decline of RCA coefficient in the total foreign trade exchange. With the above-mentioned RCA trends, positive balance of foreign trade exchange for the most successful groups increased from 505.5 million USD in 1990 to 1,225.5 million USD in 2008. However, the foreign trade balance of the remaining groups of products recorded lower results so that the negative balance for the total foreign trade exchange increased from 895.7 million USD in 1990 to 2,932.6 million USD in 2008.

When we analyse the structure of 30 groups of products with the highest RCA coefficient by sectors (see Table 2.2.7.1) we get the following picture for 1990: the highest share was realised by the group of products from the zero sector (8 groups) and the second sector (6 groups) that make up around one half of the list and they increased their share in 2008 to 16 groups of products, 8 from each sector. Practically those two groups range at approximately around one half of the number of products with the highest RCA during the analysed period, except in 2006 when those two groups made almost two thirds of groups of products with the highest RCA. At the same time, the importance of the Manufacturing sector (sectors 5-8) declined. Thus, nine groups of products were on the list of products in 2008 compared to thirteen groups in 1990, thirteen in 1998 and ten in 2007. Groups of products with the highest RCA coefficient are presented in Table 2.2.7.2 in Annex B.

Comparative advantages were accomplished mostly with primary products, which were imposed by the level of economic development and the labour force price, as the factor of production. Namely, during all three analysed years, agricultural products were on the list of 30 groups of products with the highest RCA coefficient. Looking at it on a long-term basis, such export structure cannot and should not be a long-term solution. Namely, agricultural production is under the influence of large number of factors primarily related to climate, so that possible comparative advantage can be easily lost. Naturally, this does not mean that these sectors should be neglected. It is possible to realise good results with the above-mentioned structure of foreign trade exchange as well, but it would be necessary to shift from primary to final products that achieve better price at the international market. This means that instead of wheat, flour, corn, sugar, meat, fruits and vegetables we should export products made of them, i.e. the structure should consist of processed agricultural products.

2.2.8 Relative significance of export of the AP Vojvodina in relation to the rest of the territory of the Republic of Serbia

In section 2.2.1, it was mentioned that by comparing the values of export of the Republic of Serbia and export of the AP Vojvodina we get a value indicating us that the dynamics of export of the Republic of Serbia at the level of total trade does not represent well the dynamics of export of the AP Vojvodina. However, if those two values are analysed at the level of sectors, namely groups of SITC Rev 3. products, we conclude that the dynamics of export of the Republic of Serbia represents well the dynamics of export of the AP Vojvodina only in the fourth sector (Animal and vegetable oils, fats and waxes) and that the difference between the analysed values was 9.5% in 1990 and 5.4% in 2008. Therefore, it can be said that nearly the entire export of this sector is going on from the AP Vojvodina.

If the analyses are conducted at the level of 30 groups of products with the highest RCA coefficient values in export of the AP Vojvodina, we get a somewhat better picture on the representativeness of dynamics of export of the Republic of Serbia in relation to the dynamics of export of the AP Vojvodina. Hence, in 2008 we had three groups of such products (two of which are form the Manufacturing sector and one is from the zero sector), in 2007 we has four of such groups (three groups from

the Manufacturing sector and one from the zero sector) and in 2006 we had three groups (two groups from the Manufacturing sector and one from the zero sector) within which almost the entire export was taking place in the AP Vojvodina, while in 1990 we had only one such group that was from the third sector.

2.2.9 Comparison of AP Vojvodina with similar regions in Europe

The analysis of competitiveness of economy of the AP Vojvodina would not be complete without a comparison with other regions in Europe. For that purpose, we used the so-called European Competitiveness Index that is published in the publication titled "European Competitiveness Index". The last published data were for the years 2006 and 2007. The level of competitiveness was measured in the publication for 118 regions. The level of development in four basic fields was measured for each region: economy, infrastructure, education, and creativity. The total number of indicators that are used for creating of this index is 64. We would like to emphasise, that in our opinion the most important indicators include GDP per capita, work productivity, unemployment rate, average gross monthly salary, number of employees in economy, public sector and higher education per one thousand inhabitants, costs per employee in economy, public sector and higher education, number of patents per million inhabitants, length of highways per km2, length of railroad per km2, loaded and unloaded cargo in air transport per one thousand inhabitants, number of vehicles per one thousand inhabitants, employment in selected sectors of industry with special emphasis on high technology sectors, number of companies per one million inhabitants in selected sectors of industry with special emphasis on high technology sectors, number of students per one thousand employees of all levels of education (higher, high, specialist studies) and productivity in selected sectors (public, financial, service, building industry, utilities, trade with real estate etc.).

As far as the total European Competitiveness Index is concerned, the Region de Bruxelles-Capitale with the index of 193.5 takes the first place; the second place goes to Uusimaa region in Finland with the index of 188.3; the third place goes to Ile de France region with the index of 185.2; the fourth place goes to Stockholm region with the index of 177.8 and the fifth place goes to Etela-Suomi region with the index of 175.4. The last place is taken by the Wschodni region in Poland with the index of 37.6.

Regretfully, there are no results for the AP Vojvodina in this publication. However, there are some calculations that were made by using the criterion from the above-mentioned publication for measuring of level of development of the AP Vojvodina in the above-mentioned fields and they showed the European Competitiveness Index for the AP Vojvodina of 59.4. Comparing it with the indices of 118 European regions, the AP Vojvodina would take the 103rd place on the list. The result shows clearly that the AP Vojvodina is somewhere in the lower part of the list and that the only bright point out of 64 indicators are the indices related to education. According to all other important indicators, the AP Vojvodina would be placed far below the European average. The fact that particularly the picture of competitiveness of the AP Vojvodina is a low competitiveness in indicators referring to creativity, although the number of patent applications has increased but they do not seem to have found their place in practice.

Apart from comparing the AP Vojvodina with other regions using the European Competitiveness Index, we also compared the similarities between the similar provinces in Europe when it comes to foreign trade exchange of the AP Vojvodina. For this purpose, we selected the province from one European Union Member State and the province from the CEFTA Member State. The criteria that guided us in selection of provinces included the size of the territory, number of inhabitants and economic structure.

One of the selected provinces is Trentino-Alto Adidge that represents one of the twenty provinces in Italy and one of the five autonomous regions with special status, i.e. a high level of autonomy. The province is divided in two districts, i.e. counties: Trentino and Southern Tyrol that altogether incorporate 339 municipalities. As far as the landscape of Alto Adidge is concerned, it is a typical region in the Alps with narrow valleys and rough terrain. The area spreads across 13,607 km2 and it has 1,017,246 inhabitants, making 1.7% of the total population of Italy and with the density of population of 74.8 inhabitants per km2.

The second selected province was Osijek-Baranja County that includes the entire Croatian part of Baranja and a part of Slavonija that gravitates to Osijek. The County is divided in 7 cities and 35 municipalities. The number of inhabitants from the Census from 2001 is 330,506 and the County spreads across 4,152 km2 with the density of population of 79.6 inhabitants per km2. The structure of the economy is based on agriculture and food industry.

The Autonomous Province of Vojvodina as an integral part of the Republic of Serbia is geographically positioned in the north of the country, it spreads across 21,506 km2 with 2,031,992 inhabitants, which according to the Census from 2002 made 21.6% of the total population of the Republic of Serbia. The density of the population is 94.5 inhabitants per km2. The AP Vojvodina is made out of 7 districts and 46 municipalities. As far as economy is concerned, it is based on abundance of arable land that makes up 84% of its territory and the food industry. Apart from what we have mentioned, there are also the basic industry and industry of pharmaceutical products

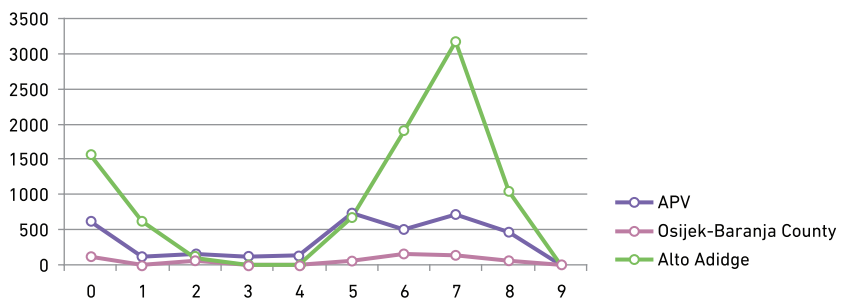
In order to consider the position and level of competitiveness of the AP Vojvodina in relation with the selected regions Trentino-Alto Adidge and Osijek-Baranja County, we analysed the structure of foreign trade exchange by SITC sectors and calculated the RCA indicators for the last three analysed years (see Table 2.2.9.1 in Annex B).

If we look at the average value of the total export for the last three analysed years for selected provinces, we can see that export results of the Alto Adidge province are almost three times higher than those of the AP Vojvodina are, while export of the AP Vojvodina compared to Osijek-Baranja County is almost five times higher. The analysis of the results by SITC sectors indicates that the highest share in export of the Alto Adidge province was realised by the seventh sector (around 35%), sixth sector (over 20%), zero sector (over 14%) and eighth sector (over 12%). The share of the Manufacturing sector that is the most important in achieving competitiveness of export of Alto Adidge province is around 76%, which makes four fifths of its export. The highest share in the export of Osijek-Baranja County was realised by the zero sector (around 25%), sixth sector (around 23%), seventh sector (around 21%), and the eighth sector (around 21%). The share of the Manufacturing sector in total export of Osijek-Baranja County is around 67%, which makes a little more than two thirds of its export. When it comes to the AP Vojvodina, as we have mentioned before, the highest share in export is realised by the fifth sector (around 22%), zero sector (around 21%), seventh sector (15.4%) and sixth sector (15.3%). The share of the Manufacturing sector in total export of the AP Vojvodina is around 66%, which makes less than two thirds of its total export. It can be concluded that the AP Vojvodina has a more unfavourable structure of export in relation to Alto Adidge region and Osijek-Baranja County that is reflected through a relatively high share of the zero sector and relatively low share of the sixth, seventh and eighth sectors.

The seventh sector participates the most in the import structure of Alto Adidge with 29.6% and the sixth sector participates with 21.5%. Osijek-Baranja County has a similar structure of import as the province of Alto Adidge, with the addition that the share of the seventh sector is somewhat higher and it makes 31.6%, while the share of the sixth sector is 22%. Unlike those two regions, the import structure of the AP Vojvodina is dominated by the third sector with the share of 42.2% and the seventh sector with the share of 18.1%, which is less favourable in relation to the above-mentioned provinces. The result of such an unfavourable import structure is the consequence of high dependence of energy resources on the one side, and an inadequate updating of technological basis of economy, on the other side.

The indicator of revealed comparative advantage shows that Alto Adidge province had a positive RCA during three analysed years at the level of total foreign trade exchange as opposed to the AP Vojvodina that had the negative RCA for the same period. Osijek-Baranja County recorded positive RAC for the first two years of the analysed period, which worsened due to world economic crisis from 2008 and fell from 0.01 in 2007 to -0.06 in 2008. When RCA indicator is analysed per most important sectors, i.e. sectors that have the highest share in foreign trade exchange of the analysed provinces, it can be seen that in the zero sector all three provinces had a positive RCA, and that that the AP Vojvodina had the best RCA indicator. In the Manufacturing sectors, which are the most important from the aspect of competitiveness creating, all the provinces mainly had a negative RCA in the fifth sector, with the emphasis that the AP Vojvodina had the best RCA indicator even though it was negative, and that Osijek-Baranja County had the highest deficit and consequently the worst RCA. In the sixth sector, Alto Adidge province had positive RCA during the three analysed years as opposed to the AP Vojvodina that had negative RCA and the highest deficit in exchange of products from the sixth sector. In Osijek-Baranja County, there was the growth of RCA indicator from -0.01 in 2007 to 0.06 in 2008. In the seventh sector, Alto Adidge province also had the positive RCA as opposed to Osijek-Baranja County and the AP Vojvodina that had the negative RCA, with the addition that the AP Vojvodina had more unfavourable negative RCA in relation to Osijek- Baranja County. In the eighth sector, Osijek-Baranja County and the AP Vojvodina had positive RCA, with the addition that it was much more favourable in Osijek-Baranja County, while Alto Adidge province had a slight worsening of the RCA indicator of the balanced total exchange towards a mild deficit.

Chart 2.2.9. Export of the AP Vojvodina, Osijek-Baranja County and Alto Adidge province by SITC sectors, 2008



In general, it can be said that Alto Adidge province is the most developed compared to the AP Vojvodina and Osijek-Baranja County and that the AP Vojvodina has to invest additional efforts in order to change the economic structure in favour of a higher share of products from the Manufacturing sector through faster restructuring of economy and continuous high level investments and not to build the concept of comparative advantages on products from the zero, first and fourth sector since it can be easily lost in those sectors.

For detailed analysis of competitiveness level, we used the structure of foreign trade exchange by SITC sections for 2008. We chose first 20 sections with the highest share in import and export of appropriate province with calculated RCA and we compared them with corresponding sections of two other provinces.

Table 2.2.9.2 (see Annex B) shows first 20 SITC sections with the highest share in export of the AP Vojvodina in 2008 with calculated RCA. At the same time, the results were given for two other provinces. Those 20 sections make 77.8% of the total export of the AP Vojvodina, and in total export of Osijek-Baranja County, they participate with 42%, while they participate with 63.5% in the total export of Alto Adidge province. The calculated RCA indicator for those 20 sections for the AP Vojvodina makes -0.13, it makes -0.06 for Osijek-Baranja County and 0.06 for Alto Adidge province. The AP Vojvodina recorded positive RCA indicators in 14 SITC sections while the highest value of 0.90 was realised in the sixth section (Sugars, sugar preparations and honey) and this was thanks to the preferential treatment that products form that section enjoyed in export in the EU countries. There were 14 sections out of the first 20 SITC sections that belonged to the Manufacturing sector. Out of that number, nine sections have positive RCA indicators and the most favourable RCA indicator within the Manufacturing sector belongs to section 79 (Other transport equipment) and its value is 0.81.

Compared to two other provinces, the AP Vojvodina realised competitive advantages in the following sections: section 71 (Power-generating machinery and equipment), section 51 (Organic chemicals), section 89 (Miscellaneous manufactured articles, n.e.s.), section 04 (Cereals and cereal preparations), section 57 (Plastics in primary forms), section 06 (Sugars, sugar preparations and honey), section 54 (Medicinal and pharmaceutical products), section 42 (Fixed vegetable fats and oils, crude, refined or fractionated), section 79 (Other transport equipment) and section 62 (Rubber manufactures, n.e.s.).

Table 2.2.9.3 (see Annex B) shows first 20 SITC sections with the highest share in export of Osijek-Baranja County for 2008 with the calculated RCA indicator. Those 20 SITC sections make 93.9% of the total export of Osijek-Baranja County, and their share in the total export of the AP Vojvodina is 48%, while they participate with 46.8% in the total export of Alto Adidge province. The calculated RCA indicator for these 20 SITC sections for Osijek-Baranja county is 0.22, for the AP Vojvodina the RCA indicator is 0.02 and for Alto Adidge province it is -0.07. Osijek-Baranja County recorded the positive RCA values in 12 SITC sections, while the highest value of 1.00 belonged to section 28 (Metalliferous ores and metal scrap). There were 12 sections out of the first 20 SITC sections that belonged to the Manufacturing sector. Out of that number, a positive RCA value was recorded in six sections and the most favourable RCA indicator within the Manufacturing sector of 0.74 was recorded in section 84 (Articles of apparel and clothing accessories).

Compared to two other provinces, Osijek-Baranja County realised competitive advantages in the following 9 sections: section 64 (Paper, paperboard and articles of paper pulp, of paper or of paperboard), section 66 (Non-metallic mineral manufactures, n.e.s.), section 55 (Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations), section 84 (Articles of apparel and clothing accessories), section 24 (Cork and wood), section 28 (Metalliferous ores and metal scrap), section 63 (Cork and wood manufactures (excluding furniture), section 82 (Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings) and section 09 (Miscellaneous edible products and preparations)

Table 2.2.9.4 (see Annex B) shows first 20 SITC sections with the highest share in export of Alto Adidge province for 2008, with the calculated RCA. These 20 sections make 87.8% of the total export of Alto Adidge province; their share in the total export of the AP Vojvodina is 42.7%, while they participate in the total export of Osijek-Baranja County with 64.8%. The calculated RCA indicator of those 20 sections for Alto Adidge province was 0.19, in the AP Vojvodina it was -0.19 and in Osijek-Baranja County it was -0.04. Alto Adidge province had positive RCA in 13 SITC sections, with the highest value of 0.92 that was realised in section 52 (Inorganic chemicals). There were 16 sections out of the first 20 SITC sections that belonged to the Manufacturing sector. Out of that number, 10 sections recorded positive RCA values and the most favourable RCA indicator for the Manufacturing sector of 0.92 was realised in the section 52 (Inorganic chemicals).

Compared to two other provinces, Alto Adidge realised competitive advantage in the following 9 sections: section 05 (Vegetables and fruit), section 74 (General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.), section 72 (Machinery specialized for particular industries), section 69 (Manufactures of metals, n.e.s.), section 11 (Beverages), section 65 (Textile yarn, fabrics, made-up articles, n.e.s., and related products), section 52 (Inorganic chemicals), section 73 (Metalworking machinery) and section 58 (Plastics in non-primary forms). It is typical for those three provinces that there are only 6 sections with the highest share in export within first 20 SITC sections in which they could compete one with another at the world market: section 89 (Miscellaneous manufactured articles, n.e.s.), section 04 (Cereals and cereal preparations), 84 (Articles of apparel and clothing accessories), 78 (Road vehicles (including air-cushion vehicles), 69 (Manufactures of metals, n.e.s.) and 66 (Non-metallic mineral manufactures, n.e.s.). The above-mentioned assumption could only be verified with the analysis of export structure at the lower levels of grouping of SITC classification for which, unfortunately, we could not get the necessary data.

Table 2.2.9.5 (see Annex B) shows first 20 SITC sections with the highest share in import of the AP Vojvodina in 2008, along with the calculated RCA. These 20 sections make 84% of the total import of the AP Vojvodina, and they participate in total import of Osijek-Baranja County with 61.8%, while they participate with 60.2% in total import of Alto Adidge province. The calculated RCA indicator of those 20 sections for the AP Vojvodina is -0.48, for Osijek-Baranja County it is -0.10 and for Alto Adidge province, it is 0.10. The AP Vojvodina recorded positive RCA in six SITC sections, with the highest value of 0.38 realised by section 51 (Organic chemicals) and the highest negative RCA of -0.99 was realised by section 34 (Gas, natural and manufactured). There were 17 sections out of the first 20 SITC sections that belonged to the Manufacturing sector, four of which belonged to the seventh sector.

Table 2.2.9.6 (see Annex B) shows first 20 SITC sections with the highest share in import of Osijek-Baranja County in 2008 along with the calculated RCA. Those 20 sections make 75.9% of the total import of Osijek-Baranja County; they participate in the total import of the AP Vojvodina with 34.8, while they participate with 60.2% in the total import of Alto Adidge province. The calculated RCA indicator of those 20 sections for Osijek-Baranja County is -0.12, for the AP Vojvodina it is -0.17 and for Alto Adidge province, it is 0.09. Osijek-Baranja County realised a positive RCA in four SITC sections, with the highest value of 0.70 realised in section 64 (Paper, paperboard and articles of paper pulp, of paper or of paperboard) and the lowest value of -1.00 was realised in section 32 (Coal, coke and briquettes). There were 15 sections out of the first 20 SITC sections that belonged to the Manufacturing sector, five of which belonged to the seventh sector.

Table 2.2.9.7 (see Annex B) shows first 20 SITC section with the highest share in import of Alto Adidge province in 2008 along with the calculated RCA. Those 20 sections make 74.3% of the total import of Alto Adidge province; they participate in the total import of the AP Vojvodina with 36.8%, while they participate in the total import of Osijek-Baranja County with 63.2%. The calculated RCA indicator of those 20 sections for Alto Adidge province is -0.01, for the AP Vojvodina it is -0.08 and for Osijek-Baranja County, it is 0.03. Alto Adidge province realised a positive RCA in seven SITC sections, with the highest value of 0.64 realised by section 05 (Vegetables and fruit) and the lowest RCA value of -0.97 was realised by sections 25 (Pulp and waste paper) and 06 (Sugars, sugar preparations and honey). There were 14 sections out of the first 20 SITC sections that belonged to the Manufacturing sector, four of which belonged to the seventh sector.

When it comes to import, it is typical for the AP Vojvodina within the last three years that the lowest share in the total import belongs to products from the seventh sector, which indicates clearly a technological inferiority in relation with Osijek-Baranja County and Alto Adidge province, in which the share of those products is significantly higher. A similar situation is present in the sixth and eighth sector. This shows clearly how changes of the structure of import should be directed in order to accomplish the primary goal on the export side, i.e. higher competitiveness of products for the AP Vojvodina.

2.3 Regional focus of foreign trade exchange of the AP Vojvodina

2.3.1 Basic characteristics of foreign trade exchange of the AP Vojvodina by regions of countries

One of interesting issues that should be analysed refers to geographical and economic zones with which foreign trade exchange is carried out. Until 1990s, the foreign trade exchange was carried out successfully with the countries of the so-called developed West as well as with the countries that belonged to the so-called Eastern block. Apart form the above-mentioned groups of countries, the membership of the SFRY in the Non-aligned movement secured the exchange with those countries as well, but up to a somewhat lower extent. At the beginning of the 1990s, as it is already known, the war broke out in our country so that economic sanctions were imposed on the FRY by the UN Security Council, which consequently caused the foreign trade exchange to be reduced to a small number of countries. Namely, those sanctions made our traditional partners from the West to abandon us and turn to the countries of central and Eastern Europe, which took that opportunity and managed to impose themselves as important partners of the European Union. Upon lifting of the sanctions and re-integration of our country into the international community, the question arises what changes have happened compared to 1990s with respect of geographical focus of our foreign trade exchange and what are the perspectives to overcome negative trends from the 1990s.

Geographical zones, economic zones, and countries to which the AP Vojvodina exports its products represent important factors of the level of development of its foreign trade exchange. Namely, there is the competition at the markets of developed countries, the demand is focused on differentiated industrial products and if products of one country are present on those markets it means that its products satisfy strict competitiveness requirements. Because of that, it is important to analyse changes in regional focus of export taking into account that they are considered another reliable indicator of competitiveness of certain economy.

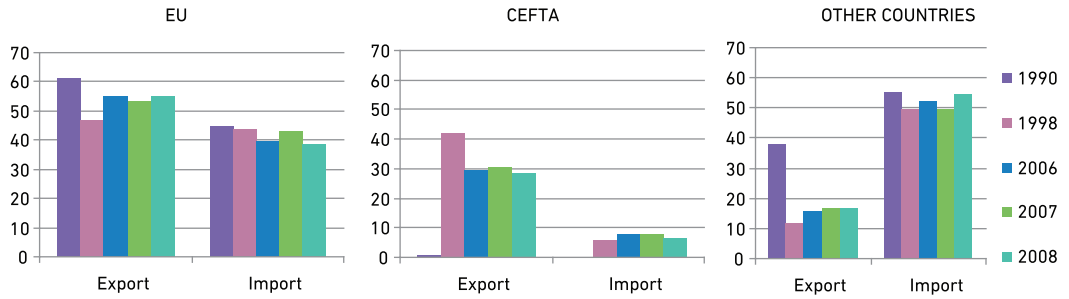
First, we will analyse the dynamics of foreign trade of the AP Vojvodina in relation with three broader groups of countries: European Union Member States, CEFTA Member States and other countries (see Table 2.3.1.1 in Annex B). The significance of the market of the developed countries during the analysed period (1990-2008) was and has remained the highest, with the exception of the period from 1993 to 1995 when sanctions were imposed on our country. The share of the European Union Member States in the total export was the highest in 1990 (61.2%) thanks mostly thanks to additional processing operations that made up to 30% of the total export of former SFRY into the EU, only to decline to an average 54.3% in the period from 2006 to 2008, which means that more than a half of export of the AP Vojvodina went into the EU.

CEFTA Member States became our second partner by significance during the last two analysed years, i.e. from the date of signing of the CEFTA Treaty by the end of 2007. Since we had bilateral free trade agreements with most of the CEFTA Member States, it could be said that they used to be our important partner even before 2007. Naturally, most of the CEFTA Member States did not even exist at the beginning of 1990s. This means that their share can only be measured from the end of the 1990s. The share of the CEFTA Member States with which we had signed free trade agreements made 41.7% in 1998 (mostly

the exchange with the former SFRY republics), and after the signing of the bilateral agreement with all CEFTA Member States, the share of export to those countries stabilised to an average of 29.3% of the total export.

All other countries participated with an average of 16.3% in the total export of the AP Vojvodina within the last three years.

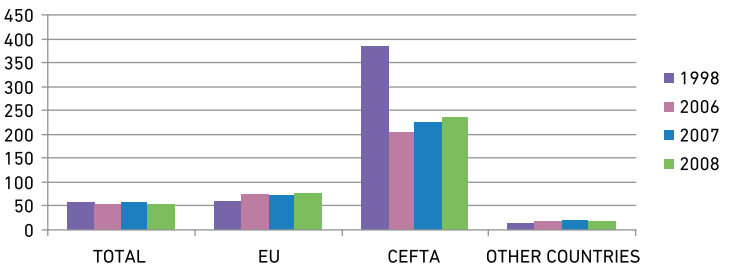
Chart 2.3.1. The share of selected countries in foreign trade exchange of the AP Vojvodina in percentage



When we look at structural dynamics on the import side by selected group of countries, we can see that the EU is an important partner, similar to the export side, that the share of the EU Member States in import was around 50% in 1990s, while it was 40.5% on the average within the last three analysed years. When it comes to import, CEFTA Member States do not represent an important partner and their share in import ranges around 7% on the average. Based on this, it can be concluded that the AP Vojvodina has products that are more competitive in relation to CEFTA Member States. However, other countries participate with over 50% in the total import of the AP Vojvodina and this is due to import of oil from the Russian Federation for the needs of NIS (Oil Industry of Serbia the head-office of which is in Novi Sad).

Based on the previous analysis of dynamics of foreign trade exchange of the AP Vojvodina it can be concluded that the market of the European Union is still by far the most important market for conducting of foreign trade exchange, although the share of these countries has declined from 60% to 55% in export, i.e. from 45% to 40% in import. This can be attributed to isolation of the Republic of Serbia and consequently of the AP Vojvodina from the international market during the 1990s. It is obvious that it is very difficult to restore, within a short period of time, the old positions that were lost by taking over of parts of the market of the developed countries by countries that were at that time undergoing transition just as the Republic Serbia and AP Vojvodina. At the same time, the decline of price and non-price competitiveness of export has contributed to decline in the share of the EU Member States within the last few years compared to 1990s. The significance of the CEFTA Member States has been increasing in the last few years and considering that the share of these countries is significantly higher in export than in import, it can be concluded that due to a higher competitiveness of products from the AP Vojvodina, this is the chance for an increase of export from the current 30% to roughly the amount that is currently taken up by the EU. Other countries (this groups includes a large group of the developing countries) that have realised a relatively modest share within the analysed period could attract a significantly higher total export of the AP Vojvodina as less demanding markets than it was the case until now considering the current quality rate of offer of products from the AP Vojvodina.

Chart 2.3.2. The rate of coverage of import with export of the AP Vojvodina in percentage

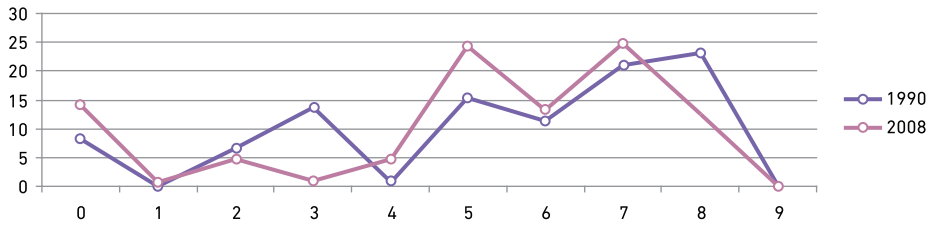


It can be clearly seen in the analysis of coverage of import with export that is presented in Chart 2.3.2 that the decline in the coverage rate for the total exchange was accompanied by the decline in the coverage rate of import with export when it comes to exchange with the EU during the analysed period. In foreign trade exchange with the EU, the coverage rate has declined from its peak of 83.2% in 1990 to its lowest rate of 71.2% in 2007, and it increased to 78% during the last analysed year. In trade with the CEFTA Member States, this indicator has displayed a constant growth trend during the last few years so that it has risen from the lowest of 204.7% in 2006 to 237.1% in 2008. In exchange with other countries, the rate of coverage of import with export has displayed a tendency of decline, so that it has fallen from 42.2% in 1990 to 16.5% in 2008. This means that in the future period an effort has to be made to increase the export to these countries considering the fact that we have mentioned before that these are less demanding markets and that with appropriate marketing it would be possible to reach at least the level from the 1990s.

2.3.2 Revealed comparative advantages in foreign trade exchange of the AP Vojvodina by regions of countries

In the previous paragraph, we could see that in foreign trade exchange of the AP Vojvodina the following markets have emerged as the most important: EU and CEFTA Member States. These two regions have participated with 83.5% when it comes to export and 45.3% when it comes to import. The share of the EU in foreign trade exchange of the AP Vojvodina was the highest compared to other selected regions. The deficit in commodity exchange with the EU makes 554 million USD and it represents 18.9% of the total deficit in foreign trade exchange of the AP Vojvodina with the world. When it comes to CEFTA Member States, i.e. Bosnia and Herzegovina, Croatia, Montenegro, Macedonia, Albania, and Moldavia, the trade with this region has increased in importance during the last three years although the exchange with these countries was not insignificant at the end of 1990s either. This region played an important role in export of the AP Vojvodina, since around 30% of the total export in 1998 went into that region. This contributed to the fact that the AP Vojvodina realised surplus in commodity exchange with this region during the whole analysed period and it made 587.4 million USD in 2008.

Chart 2.3.3. Structure of export of the AP Vojvodina to the EU countries by sectors, in percentage



Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

7 – Machinery and transport equipment

8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

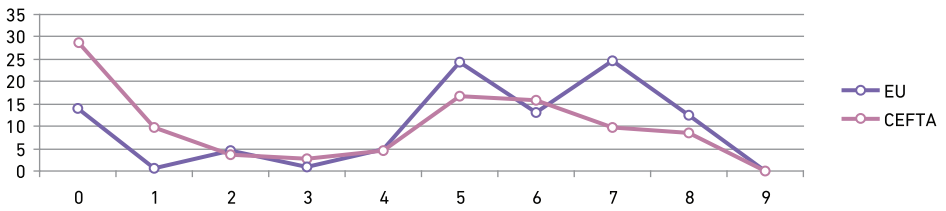
The structure of export of the AP Vojvodina to the EU in the period from 1990 to 2008 it is dominated by the zero, fifth, sixth, seventh and eighth sector (nearly 80% of total share in 1990, i.e. nearly 90% of total share in 2008). In 1990, manufacturing sectors (sectors 5-8) had individually recorded a higher share in total export than the zero sector (Food and live animals). The situation in 1998 was the same as in 1990, all up to 2006 when the fifth sector alone had a higher export than the zero sector. Chart 2.3.3 shows clearly that changes in the structure of export of the AP Vojvodina to the EU are unfavourable (the significance of primary products is increased), while the share of Manufacturing sector has slightly risen.

The rate of coverage of import with export to the EU by sectors is as follows: in 1990, two sectors had higher export than import, in 1998 four sectors and in 2008 six sectors. In 2008, the rate of coverage of import with export was the lowest (8.1%) in the third sector (Mineral fuels, lubricants, and related materials) and the highest (796.4%) in the fourth sector (Animal and vegetable oils, fats and waxes). This means that the highest sector deficit was in the third sector, which is logical considering the fact that the entire energy sector is based on import. The highest coverage in the fourth sector can be explained with significant processing and raw material capacities for Manufacture of animal and plant oils and fats. The processing sector has recorded the continuous deficit in the sixth and seventh sector, which means that we have a high value of import of equipment as well as that of consumers' goods. The deficit in the seventh sector had the following values: 47.2 million USD in 1990; 98.5 million USD in 1998; 288.2 million USD in 2006; 478.6 million USD in 2007, while in 2008, the deficit has declined due to the effects of the world economic crisis and it was 344.9 million USD. This deficit can be explained as the consequence of the lack of competitiveness of the AP Vojvodina in products from the seventh sector. In the same way, the reason for the above-mentioned deficit could be found in the fact that in 2000 we were undergoing the process of modernisation of the outdated equipment, on the one hand, and an increase in import of consumers' goods due to the sudden liberalisation that was carried out in 2000, on the other hand.

We analysed the foreign trade exchange of the AP Vojvodina with CEFTA Member States by sectors only within the last three years. The reason for that was that many of the CEFTA Member States did not exist in 1990 and in 1998, we had the bilateral free trade agreement only with the Republic of Macedonia, while various restrictions in foreign trade exchange with other CEFTA Member Sates were in place because of which the comparison with 1998 would lead to wrong conclusions. The share of the zero sector in the total export ranges around one third and at the same time, it has the highest significance in export although the share of manufacturing sector increased from 45.7% in 2006 to 50.5% in 2008.

The rate of coverage of import with export in foreign trade exchange of the AP Vojvodina with CEFTA Member States was higher than 100 at the total level in 2008, while the rate of coverage of import with export was higher than 100 in 8 sectors, and in 2 sectors import was higher than export. The highest coverage rate was realised in the fourth sector (17.9 times higher export than import) and the first sector (9.3 times higher export than import). The highest deficit in 2008 was recorded in the second sector (30.2 million USD) and the third sector (26.9 million USD), which means that those sectors recorded the lowest coverage rate of import with export of 54.9% in the second sector, i.e. 50.1% in the third sector.

Chart 2.3.4. Structure of export of the AP Vojvodina to CEFTA Member States in 2008, in %



Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

7 – Machinery and transport equipment

8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

When foreign trade exchange of the AP Vojvodina with CEFTA and EU Member States is compared (see Chart 2.3.4) it can be concluded that there was somewhat higher specialisation in export when it came to exchange with the CEFTA Member States than with the EU Member States. Namely, in 2008 almost one third of exchange was realised in one (zero) sector, while two sectors (the fifth and seventh) participated with less than one sixth, i.e. they were in the interval from 10% to 25%. Contrary to that, in foreign trade exchange with the EU two sectors (the fifth and seventh) had the share equal to or higher than one fourth, while three sectors (zero, sixth and eighth) were in the interval from 10% to 25%. It is obvious that when it comes to foreign trade exchange with the CEFTA Member States, the market of which is less demanding than that of the EU, the AP Vojvodina has competitive products to offer, in particular in the zero sector that makes up as one third of its export to the CEFTA Member States. Contrary to that, the EU market is characterised by strong competition so that several sectors that are capable of fulfilling the high demands on that market have managed to single themselves out, which also means a certain level of specialisation.

Table 2.3.2.1. RCA of the AP Vojvodina by selected groups of countries and number of sectors with positive RCA

		1990	1998	2006	2007	2008
EU	RCA	-0,09	-0,25	-0,15	-0,17	-0,12
	NUMBER OF SECTORS	2	4	4	6	7
CEFTA	RCA	0,99	0,59	0,34	0,38	0,41
	NUMBER OF SECTORS	4	9	8	9	8
OTHER COUNTRIES	RCA	-0,41	-0,77	-0,72	-0,68	-0,72
	NUMBER OF SECTORS	6	1	3	2	2

An indicator of the revealed comparative advantages in foreign trade exchange of the AP Vojvodina for the analysed period ranges from -0.09 in 1990 to -0.12 in 2008 (see Table 2.3.2.1). Even though the decline in value of RCA indicator was recorded in the analysed period, the number of sectors with positive RCA indicator increased from two in 1990 to seven in 2008. When it comes to foreign trade exchange of the AP Vojvodina with CEFTA Member States, the decline was also noticed, i.e. the decline in the value of RCA indicator in total exchange ranged from 0.99 in 1990 to 0.41 in 2008, while the number of sectors with positive RCA rose from four in 1990 to eight in 2008. The above-mentioned Table also shows that in comparison with 1990, when the RCA indicator in the total trade with the EU was close to zero and in the total trade with the CEFTA Member States it was close to 1, in 2008 the RCA indicator in the total trade with the EU worsened a little (it reached the value of -0.12) as well as in the total trade with the CEFTA Member States (it reached the value of 0.41). However, what needs to be taken in consideration in interpretation of the RCA indicator when it comes to trade with the CEFTA Member States is that the reach of analysis in relation to 1990 was limited due to the fact that most of the CEFTA Member States did not even exist then. Because of that, we made a comparison in relation to 1998 and came up again with worsening of the RCA indicator, although at a much smaller scale: from 0.59 to 0.41. Due to the fact that CEFTA Treaty came into force only by the end of 2007, we analysed the trends in the RCA indicator within three analysed years and got the result that the RCA indicator improved from 0.34 (2006) to 0.41 (2008).

Chart 2.3.5. RCA in total trade of the AP Vojvodina with the EU

Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

7 – Machinery and transport equipment

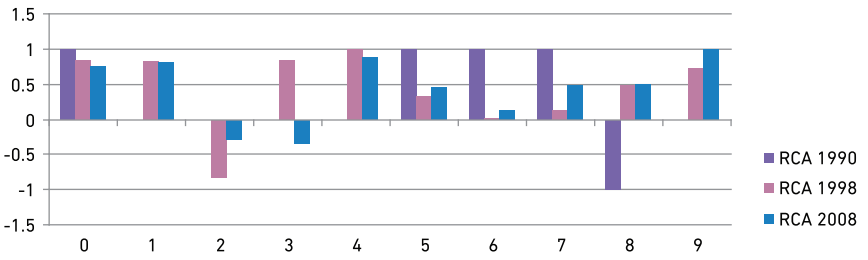
8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

Chart 2.3.5 shows that the most significant changes have taken place in the zero, first, third and fourth sector. In 1990 the zero, first and fourth sector recorded negative RCA, whereas those sectors recorded positive values in 2008. The third sector recorded the opposite trend, i.e. the value of the RCA was positive in 1990 and it was negative in 2008. As far as Manufacturing sectors are concerned, the sixth and seventh sector realised negative RCA values in 2008 (-0.41 and -0.26) while the fifth and eighth sector realised the minimum positive RCA values (0.05 and 0.06). In 1990, the highest RCA value was realised by the third and eighth sector (0.47 and 0.3), while in 2008 the highest value of the RCA indicator was realised by the fourth and zero sector (0.78 and 0.46). In 1990, the lowest value of the RCA indicator was realised by the ninth and first sector (-0.99 and -0.51), while in 2008 the lowest value of the RCA indicator was realised by the third and sixth sector (-0.85 and -0.41).

The Chart 2.3.6 shows that six sectors recorded the improvement of the RCA indicator in relation to 1998 - the second, fifth, sixth, eighth and ninth, while four sectors recorded worsening in the above-mentioned indicator - zero, first, third and fourth. All Manufacturing sectors recorded the improvement of the RCA indicator in relation to 1998.

Chart 2.3.6. RCA in the total trade of the AP Vojvodina with the CEFTA Member States



Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

7 – Machinery and transport equipment

8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

In order to get a better perspective on significance of certain export and import markets, we had to analyse the dynamics of foreign trade exchange with ten most important import, i.e. export markets of the AP Vojvodina in order to see if some changes occurred in the significance of those markets. Among ten countries to which the AP Vojvodina exports the most, only Germany, Italy, and Hungary can be found on the list during all the analysed years since 1990. In 1990, the most important economic partner of the AP Vojvodina when it comes to export was the Russian Federation (see Table 2.3.2.2 in Annex B) with the share of 23.5%. Its relative importance had declined over the analysed period, so that it occupied fifth place in 1998 with 5% of share the fourth place in 2008 with the share of 4%. The importance of Austria as an export market was been declining as well. Namely, in 1990, Austria was placed fourth with the share of 8.9% but it was excluded in 2006. Germany and Italy have retained their positions as the most important export markets on the second, i.e. third place. Since 2006, apart from the above-mentioned countries the following countries have emerged as important export markets: Bosnia and Herzegovina, Republic of Montenegro, and Croatia

The list of ten countries from which the AP Vojvodina was importing the most during the analysed years included the Russian Federation, Germany, Italy, Hungary, and Austria. The importance of the USA and countries of the Middle East (Iran, Iraq) as the import markets declined. In relation to 1990, there were no changes when it comes to the country from which we imported the most, i.e. the Russian Federation is still placed first with the share that increased from 25.9% to 37.4%. Within the last three analysed years, new markets have occurred in relation to 1990 and they are those of China, Croatia, and Slovenia. It can be concluded from the previous analysis that:

a) The EU market is still the most important import and export market of the AP Vojvodina. The list of ten most important export markets includes six EU countries. However, as the result of the lack of competitiveness of export products, the export to the EU market is lower compared to import so that the AP Vojvodina is displaying constant deficit in relation to the EU, which made 18.9% of the total deficit of foreign trade exchange of the AP Vojvodina in 2008.

b) CEFTA Member States show a significant increase in share especially in export of the AP Vojvodina that makes one third of the total export. The share of CEFTA Member States in import of the AP Vojvodina is significantly lower and makes around 10% of its import. The positive fact is that the AP Vojvodina is recording constant surplus in relations with this market and that the rate of coverage of import with export is higher every year.

2.3.3 The impact of bilateral and multilateral agreements on foreign trade exchange of the AP Vojvodina

During the 1990s, the ambience for foreign trade exchange of the AP Vojvodina was not favourable. As it is known, the disintegration of the SFRY began during that period, which resulted with a significant decline in foreign trade exchange. Furthermore, the sanctions that were imposed by the UN Security Council in 1992, as well as the sanctions that were imposed by the EU in 1991, resulted with the fact that the AP Vojvodina was excluded from international exchange of goods as integral part of the FR Yugoslavia. During that period, foreign trade exchange was going on under entirely irregular conditions. Under such circumstances, the foreign trade exchange was accompanied by significant administrative work and non-transparent economic policy that hindered export and import. All those listed factors contributed to significant worsening of export results. With the lifting of the UN SC sanctions and changes that took place in 2000, the FRY was re-integrated in the international environment and flow of goods. Naturally, the devastated economy was not able to absorb all these positive impulses and revive foreign trade exchange operations up to a significant extent within a short time. However, the above-mentioned changes have resulted with significant liberalisation of foreign trade exchange and significant steps towards abolishing most of quantitative limitations from the 1990s were undertaken at that time, which all resulted with an increase in efficiency of foreign trade operations. Apart from re-integration into the international environment, the structural changes in the field of foreign trade were carried out along with the procedure for admission of the FRY into the World Trade Organisation, which by itself meant further adjustment of the foreign trade policy and shifting of protective measures onto the competition policy and environmental protection.

In 2001, the FRY signed the Memorandum of Understanding within the Stability Pact that resulted with the signing of the Free Trade Agreement with the neighbouring countries, which was coinciding with the EU initiatives. In that way, a vast free trade area with the market of 50 million consumers was formed in our region. The foreign trade exchange on that market is carried out with a high level of liberalisation and with numerous privileges in trading. The main goals of the signed Memorandum include: a) enhancing of economic development and stability, b) speeding up of procedures for accession into the WTO and EU, c) stimulating and attracting of foreign investments, d) promoting of possibilities for integration of the signatory parties into the world economy.

By the end of 2000, the preliminary Declaration on co-operation with the EFTA Member States was signed (Switzerland, Norway, Iceland, and Lichtenstein) that enabled asymmetric treatment of products from the Republic of Serbia, meaning of the AP Vojvodina as well, on the markets of those four states. Giving autonomous trade preferentials, the EU stimulated export of countries from the region through duty free export on markets of the EU Member States for almost 95% of products.

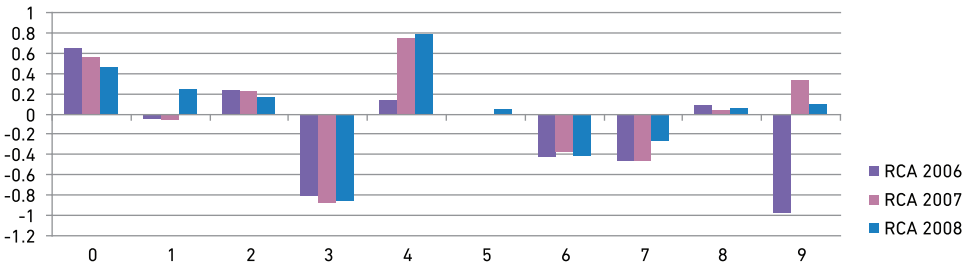
On April 29th, 2008, two agreements were signed in Luxembourg with the European Union and they were: a) Stabilisation and Association Agreement between the Republic of Serbia and the European Union and b) Interim Agreement on trade and trade-related matters between the Republic of Serbia and the European Union. Because of the well-known fact that implementation of the signed agreements is postponed by the EU until the Republic of Serbia receives a positive evaluation regarding its full co-operation with the Hague Tribunal, the Government of the Republic of Serbia decided to implement the Interim Agreement unilaterally. The Agreement sets forth that customs duties for certain Customs Tariff products are to be gradually reduced during the transitional period that will last for six years from the day of commencement of implementation of the Interim Agreement and that for certain Customs Tariffs (that belong to the group of the so-called insensitive products) customs duties are to be reduced to zero immediately.

In addition to the above-mentioned agreements, the Republic of Serbia has also signed free trade agreements with the Russian Federation, Belarus and Turkey, while the preparation for agreements with Iran is in progress.

The Republic of Serbia has done a lot in the field of liberalisation of foreign trade exchange that should ultimately lead to changes in the dynamics and structure of foreign trade of the Republic of Serbia, as well as of the AP Vojvodina. However, it should be emphasised that these effects will become visible only over a longer period of time.

Considering that most of bilateral and multilateral agreements were signed during the last two analysed years, we will analyse the qualitative changes in structure and dynamics of foreign trade exchange using the RCA indicators for these two years.

Chart 2.3.7. RCA in trade of the AP Vojvodina with the EU in 2006, 2007, and 2008 by sectors



Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

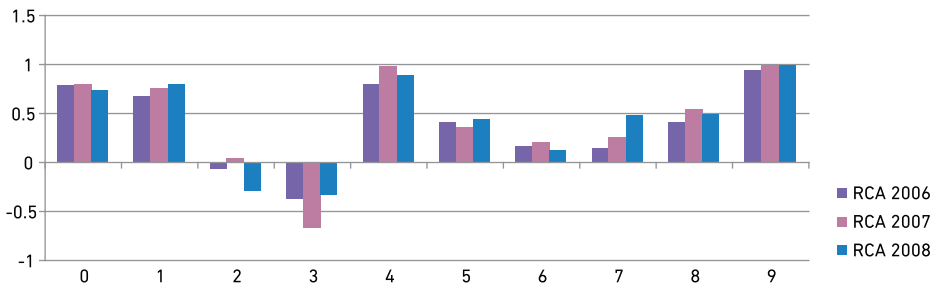
7 – Machinery and transport equipment

8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

The total RCA indicator for foreign trade exchange of the AP Vojvodina with the EU varied during the years: it made -0.15 in 2006, -0.17 in 2007 and -0.12 in 2008. In comparison with 2006, the RCA indicator got worse in four sectors (zero, second, third and eighth sector) while it improved in six sectors (the first, fourth, fifth, sixth, seventh and ninth sector). As far as Manufacturing sectors are concerned, we the RCA indicator got worse in one sector and improved in three sectors compared to 2006. Considering that foreign trade exchange is taking place with incomparably more developed economy, the achieved results are encouraging although the creation of competitive economy according to the EU standards will be achievable only in a long run. Because of that fact, it is very important to analyse the dynamics and structure of exchange with the CEFTA Member States within the last three analysed years. .

Chart 2.3.8. RCA for trade of the AP Vojvodina with CEFTA Member States in 2006, 2007, and 2008 by sectors



Legend:

0 – Food and live animals

1 – Beverages and tobacco

2 – Crude materials, inedible, except fuels

3 - Mineral fuels, lubricants and related materials

4 – Animal and vegetable oils, fats and waxes

5 – Chemicals and related products, n.e.s.

6 – Manufactured goods classified chiefly by material

7 – Machinery and transport equipment

8 – Miscellaneous manufactured articles

9 – Commodities and transactions not classified elsewhere in the SITC

The analysis of trends in RCA indicator for the total trade with CEFTA Member States shows a positive picture within the last three analysed years: in 2006 it was 0.34, in 2007 it was 0.38, and in 2008 it was 0.41. Seven sectors recorded higher value of the RCA indicator in 2008 than in two previous years. In comparison with 2007, four sectors had positive value, while five sectors recorded lower RCA indicator. As far Manufacturing sectors are concerned, three sectors recorded improved RCA values in comparison with 2006 and one sector recorded a decline in value in 2008. In comparison with 2007, two sectors recorded improvement and two recorded decline in value of the RCA indicator. It is obvious from the analyses of the obtained results that the lack of competitiveness of the AP Vojvodina is reflected in exchange with the developed countries, but that it is less emphasised in the exchange with the neighbouring countries because of bilateral and multilateral free trade agreements.

2.4 Qualitative characteristics of foreign trade exchange of the AP Vojvodina and segmentation of the market

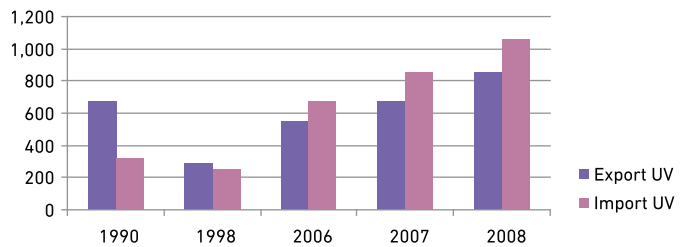
2.4.1 Measuring of competitiveness based on quality

In a contemporary world economy, prices are much less important in explaining competitiveness than it was the case before. Nevertheless, they are still a very important factor of competitiveness in particular in countries that have low income per capita and the market of which is very sensitive regarding changes of prices. In the same way, prices represent a very important factor for stock market products that the subject countries dispose with the most. When it comes to the products that require a higher level of processing, the price factor of competitiveness loses in significance and primacy is taken over by non-price factors a special place among which belongs to quality. Unit labour force costs are mainly used as indicators of price competitiveness that establishes the link between productivity and competitiveness of national economy. Unit labour force cost is defined as a relationship between total work costs and productivity. Work and resource-intensive products (food products, non-ferrous metals, production material, textile, clothes, and wood) are the holders of export on the basis of price competitiveness. For all these products, the price represents an important factor of competitiveness, but their significance in international trade has been declining over the years. On the other hand, competitiveness based solely on price factors is easily lost. Because of that, international market of goods is transforming from price to quality market. Namely, instead of price, the focus is shifting to other characteristics such as quality, shape, user friendliness, life cycle, safety, reliability, speed of delivery, guarantee periods, servicing, and procurement of spare parts etc. Naturally, it should be emphasised that quality is not easy to define precisely because the tastes of consumers change over time, as well as their demands regarding the quality. Quality is usually defined as a group of properties of a certain product that would satisfy certain requirements of consumers.

Measuring of competitiveness via quality of product is very complex. The following indicators are used as basic for measuring of competitiveness via quality: a) unit values of export and import; b) revealed price elasticity; c) classification by revealed price elasticity and d) concept of specific classification of industry by revealed price elasticity.

Out of the above-mentioned indicators for measuring of competitiveness based on quality, we will use the usual one - unit value of export and import. In addition, for the purpose of segmentation of export sectors, or to be more precise, groups of SITC Rev 3. products, we will use the concept of revealed price elasticity. Unit value of export is defined as a relationship between sales expressed in nominal amount and some weight unit, usually weight units expressed in kilograms, and the unit value of import is defined as a relationship between nominal purchases and nominal weight unit. Unit value is a much better indicator of product quality than the price of that product. Based on this, it can be seen that countries that have a higher unit value offer better quality products due to the ability to sell the identical product at a higher price because of better marketing and quality, but also due to specialisation in segments of production with high prices.

Chart 2.4.1. Unit values (UV) of export and import of the AP Vojvodina



According to the data for the total export and import, the unit value of export of the AP Vojvodina was 0.68 USD/kg in 1990 only to decline to 0.29 USD/kg in 1998; it was 0.55 USD/kg in 2006, 0.68 USD/kg in 2007 and 0.85 USD/kg in 2008. Such a low unit value of export is typical for other countries undergoing the transition period as well, and the AP Vojvodina is not excluded from this trend.

Unit value of import of the AP Vojvodina was 0.32 USD/kg in 1990 only to reach 0.25 USD/kg eight years later. In the last three years, the unit value of import varied: it was 0.68 USD/kg in 2006, 0.85 USD/kg in 2007 and 1.06 USD/kg in 2008. A relatively low unit value of import of the AP Vojvodina is the consequence of the structure of import, i.e. a high share of energy sector in the total import, although the unit value of import was the highest in 2008, which in a way tells that the structure of import has improved.

Unit value as an indicator primarily indicates to quality and if countries, namely territories within countries constantly upgrade production as a part of their economic development, i.e. if they are shifting towards products of higher quality that should lead to a positive correlation between unit value of export and gross national product per capita.

Revealed price elasticity can be a valid indicator of the structure of the market, i.e. it can give us an answer to the question whether the particular market is dominated by price or non-price factors of competitiveness. Price factors are dominant if the lower prices lead to higher scope of export, i.e. if higher prices lead to lower scope of export. Non-price factors are dominant when higher prices are accompanied by higher export, i.e. vice-versa if lower prices are accompanied by lower export. Because of that, it would be of interest to analyse in which segments the export is dominant and how the structure of export changes with regards to market segmentation. Therefore, we will conduct the market segmentation into parts that are dominated by price competitiveness or quality competitiveness. For that purpose, we will use the following criteria:

a) The first segment will incorporate groups of products in which the export quantities surpass the import quantities, despite higher unit value of export (QX>QM, PX>PM) where Q stands for quantity, and P for price; X stands for export and M for import. This segment is labelled as segment of successful quality based competitiveness and it should be labelled as a true goal that needs to be reached. Namely, we are talking about successful specialisation that is sophistication of a product;

b) The second segment contains revealed price elasticity of products that have low unit value (QX<QM, PX<PM) in their country of origin. This segment is therefore called the segment of successful price competitiveness;

c) The third segment is made out of products that have high unit values in their country of origin that leads towards the deficit in exchange (QX<QM, PX>PM). This segment marks the deficit in price competitiveness that is caused by high production costs;

d) The fourth segment is made out of products recording deficit in exchange despite low prices (QX<QM, PX<PM): This is a segment of unsuccessful quality competitiveness, i.e. a segment with structural problems.

Naturally, out of all the listed segments, the foreign trade exchange is the most successful in the first segment from the point of view of competitiveness.

Table 2.4.1.1 Segmentation of groups of SITC Rev 3. products of the AP Vojvodina

YEAR	SEGMENTS	SHARE IN EXPORT (%)	BALANCE(THOUSANDS OF USD)	NUMBER OF GROUPS
1990	I	39.2	443,409	28
	II	48.6	373,337	64
	III	7.6	-427,262	64
	IV	4.5	-1,284,934	96
1998	I	40.3	122,852	27
	II	48.2	222,614	61
	III	4.8	-297,395	58
	IV	6.7	-694,203	101
2006	I	22.9	383,080	28
	II	57.9	711,445	57
	III	9.1	-1,401,134	77
	IV	10.1	-1,402,002	90
2007	I	21.0	441,408	26
	II	58.8	1,029,527	62
	III	10.1	-2,353,771	82
	IV	10.1	-1,231,954	83
2008	I	22.1	663,375	25
	II	58.3	1,153,182	70
	III	9.5	-2,594,842	79
	IV	10.1	-2,154,293	78

Table 2.4.1.1 shows the results of division of groups of products into segments according to the data for the total export and import. The results should indicate which products have the potential to achieve surplus due to high quality and which products have lost competitiveness, either because of low quality, or because of structural problems or various obstacles in export. The Table contains division of groups of products into segments for which the following data were calculated: share in total export expressed in percentages, total foreign trade balance, and number of groups in each of those segments.

There were 92 groups of products with higher export than import in 1990 (out of 252 groups), in 1998 that number has declined to 88, in 2006 it fell to 85, in 2007 the number was 88 as it was in 1998, only to increase to 95 in 2008. Based on the first analysis of the presented results it can be noticed that the number of groups with successful price and quality competitiveness was the same in 2008 as it was in 1990, with the addition that the number of groups from the first segment declined by three in 2008, and that the number of groups from the second sector increased by six. The number of groups of products from the first segment declined by one in 1998 in comparison with 1990, only to continue to decline during the last two analysed years and counted only 25 groups in 2008. The share of the first segment in total export was over 39% in 1990, and in 2008 it declined for almost a half, i.e. it was over 22%.

The highest surplus was realised in the second segment (except in 1990 when the highest surplus was realised in the first segment), that included relatively cheap products the market of which is characterised by revealed price elasticity. As far as products from the second segment are concerned, it can be said that export of the AP Vojvodina has risen since lifting of sanctions thanks to low prices and hence the share of this segment in the total export was 48% for 1998, only to increase in value during the last three years to 58%. It is characteristic that the number of groups of products in this segment was increasing constantly for the last three analysed years and in 2008, it reached the number of 70 groups.

The third segment that is made out of products the export of which is too expensive and thus with deficit in exchange, showed a slight increase in share in total export form 7.6% in 1990 to 9.5% in 2008. However, there was an increase of deficit from 427.3 million USD in 1990 to 2,595.1 million USD in 2008, which represented a five-fold increase. At the same time, the number of groups of products in this segment increased from 64 in 1990 to 79 in 2998. All of this tells us that high export prices are the main reason for foreign trade deficit of the AP Vojvodina.

The fourth segment indicates that the majority of groups of products belong to this segment and that its share in total export is around 10%. Export in this segment is not competitive even though the prices are low. It is obvious that this segment lacks appropriate quality of products. The deficit in the fourth segment rose from 1,284.9 million USD in 1990 to 2,154.3 million USD in 2008, which represented an increase of 67.7%. The number of groups of products and trends in deficit, i.e. surplus by segments in three points of time is presented in Charts 2.4.2 and 2.4.3

Chart 2.4.2. Number of groups per segments

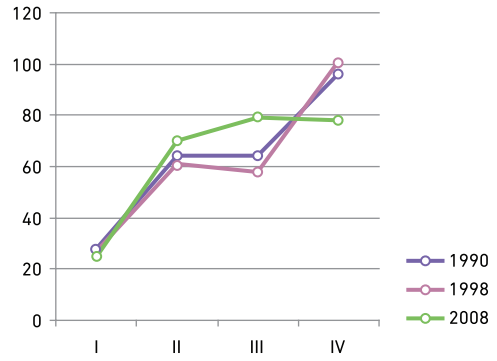
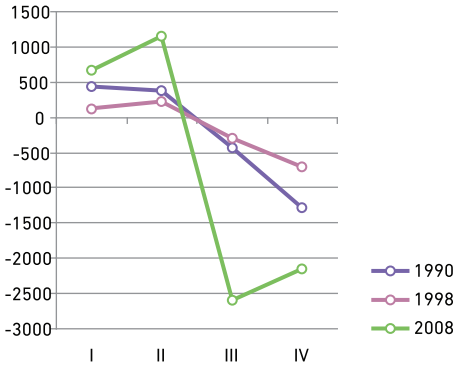


Chart 2.4.3. Foreign trade balance per segments



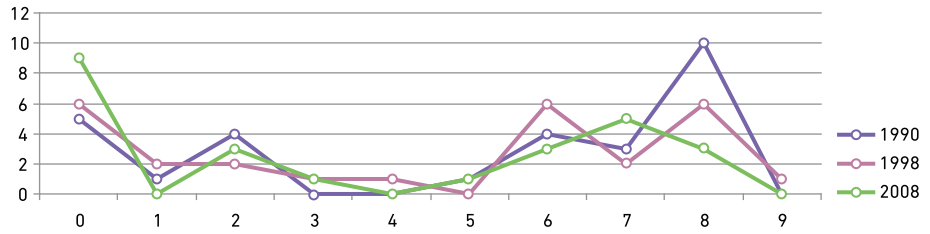
The Charts show a larger number of groups of products where high prices lead to deficit and groups from the fourth segment that are characterised by low unit values and high deficit. Surplus in the first two segments increased in 2008 in comparison with 1990, but the deficit in the third and fourth segment cancelled out the results achieved in first two segments and therefore the total result of foreign trade exchange is unfavourable.

Table 2.4.1.2. Number of groups of products per sectors and segments

SECTOR	1990				1998				2006				2007				2008			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
0	5	7	15	8	6	10	13	6	9	15	7	5	10	15	6	5	9	13	9	5
1	1	1	1	1	2	1	0	1	2	2	0	0	0	3	0	1	0	3	1	0
2	4	7	8	14	2	6	11	12	5	10	7	9	4	11	10	6	3	12	7	10
3	0	4	0	5	1	3	2	3	1	0	5	3	1	1	6	2	1	1	4	3
4	0	2	1	1	1	1	1	1	1	2	1	0	0	3	1	0	0	3	1	0
5	1	9	7	16	0	11	5	16	1	8	6	18	1	8	6	18	1	10	6	16
6	4	16	11	21	6	14	10	21	4	7	19	22	3	8	20	21	3	12	19	18
7	3	11	14	21	2	10	10	28	2	9	16	23	4	7	17	22	5	9	14	22
8	10	7	6	8	6	5	6	13	2	4	16	9	1	6	16	8	3	6	18	4
9	0	0	1	1	1	0	0	0	1	0	0	1	2	0	0	0	0	1	0	0
TOTAL	28	64	64	96	27	61	58	101	28	57	77	90	26	62	82	83	25	70	79	78

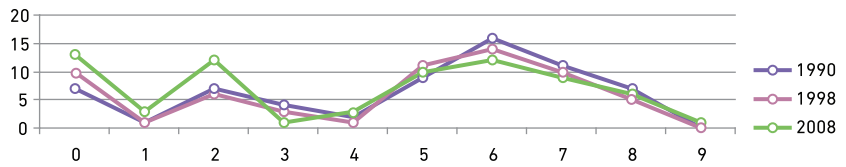
In order to establish the sector structure of four above-mentioned segments for the analysed years, we determined the number of groups of products that belong to the appropriate sectors and separated them by segments (see Table 2.4.1.2).

Chart 2.4.4. Number of groups of products in the first segment per sectors (0-9) SITC Rev 3.



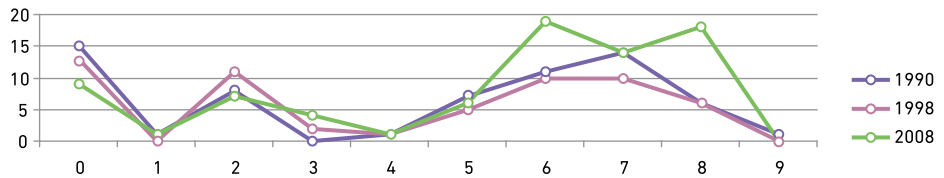
In the first segment (see Chart 2.4.4), that is characterised by proper specialisation and successfully realised quality competitiveness, and that is realising export surplus despite higher unit value of export due to that fact, an increase in the number of groups of products took place in 2008 compared to 1990 in the zero sector (by four), third (by one) and seventh (by two), and decline in number of groups of products in the first (by one), second (by one), sixth(by one) and eighth (by seven) sector. Therefore, were twelve groups of products in the Manufacturing sector that are part of the first segment 2008, while in 1990 there were eighteen groups, which means that products characterised by high quality of production have lost in their quality competitiveness, and that slight improvement of quality took place in groups of products with lower level of processing.

Chart 2.4.5. Number of groups of products in the second segments per SITC Rev.3 sectors (0-9)



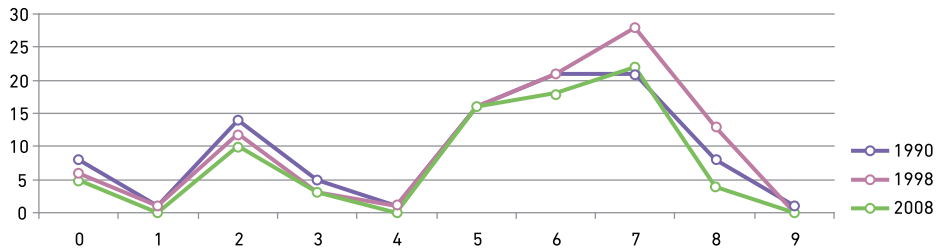
In the second segment (see Chart 2.4.5), that is characterised by groups of products with successful price competitiveness, the total number of groups of products increased by six in compared to 1990, and the trends for groups of products that belong to the second segment per sectors are as follows: an increase in number of groups of products was recorded in the zero sector (from seven to thirteen), first sector (from one to three), second sector (from seven to twelve), fourth sector (from two to three), fifth sector (from nine to ten) and ninth sector (from zero to one). The decline in number of groups of products occurred in the following sectors: in the third sector (from four to one), sixth sector (from sixteen to twelve), seventh sector (from eleven to nine) and in the eighth sector (from seven to six). When we analyse the number of groups of products that belong to the processing sector it can be noticed that the number declined in comparison with 1990 from 43 to 37 in 2008, which tells us that there was the decline in price competitiveness in comparison with 1900.

Chart 2.4.6. Number of groups of products in the third segment per SITC Rev.3 sectors (0-9)



In the third segment (see Chart 2.4.6), which is characterised by groups of products with deficit in exchange that was realised due to high unit values, we register an increase in number of groups of products that belong to the higher stages of processing in particular in the Manufacturing sectors. Namely, the number of groups of products increased in the sixth sector for three and in the eighth sector for eleven in 2008 in comparison with 1990. The number of groups of products in the seventh sector remained the same and in the fifth sector, the number of groups of products decreased by one. In the remaining sectors the situation is as follows: in the zero sector the number of groups of products decreased from fifteen to nine, in the second sector from eight to seven, in the ninth sector from one to zero, and an increase in number was recorded in the third sector from zero to four while there were no changes in the zero sector during the analysed years.

Chart 2.4.7. Number of groups of products in the fourth segment per SITC Rev.3 sectors (0-9)



The fourth segment (see Chart 2.4.7), for which we said that the deficit in foreign trade exchange was realised despite the low prices, meaning that there were some structural problems within it, is characterised by the fact that the number of groups of products that belonged to the processing sector decreased from 64 in 1990 to 60 in 2008. However, only the sixth and eighth sector recorded the loss of three and four groups of products respectively, while the number of groups of products increased in the seventh sector by one and in the fifth sector the number of groups remained the same. As far as trends in number of groups of products in the remaining sectors are concerned the situation is as follows: in the zero sector the number of groups of products decreased from eight to five, in the first sector from one to zero, in the second from fourteen to ten, in the third sector from five to three, in the fourth sector from one to zero and in the ninth sector from one to zero. The positive thing is the fact that the number of groups of products from the fourth segment was decreasing each year but that the share of the number of groups of products from the third and fourth segment was still high especially for groups of products from the Manufacturing sector that are the most important for accomplishing of competitiveness.

Such distribution of groups of products by segments tells us that economy of the AP Vojvodina is characterised by relatively low labour costs and that no appropriate structural adjustment of the economy towards higher Manufacture of products from the first and second segment up to a certain extent and consequently higher export was conducted.

Out of all the analysed groups of products, as we have mentioned earlier, the most important are the groups of products from the first segment that should basically represent the true goal of exchange in the forthcoming period and where surplus in exchange is realised through successful quality based competitiveness. Because of that, we analysed groups of products form the first segment for the analysed years in order to get a clear picture of groups of products that did not lose in competitiveness despite the changes in conditions of production and foreign trade exchange and groups of products existed with comparative advantages that used to exist but were lost over time.

The only group of products that appears in all the analysed years is Meat and meat preparations, which means that within this group of products there has been a constant comparative advantage 1990. It is evident that certain changes in product structure occurred in 2008 in comparison with 1990, so that the list of the products that were the most competitive by quality no longer included Footwear; Articles of apparel and accessories, except textile materials; Men's or boy's coats, capes etc., knitted; Women's or girl's coats, capes, etc.; Men's or boy's coats, capes, etc.; Trunks, suitcases, vanity cases, etc.; Furniture and parts thereof; Non-electric parts and accessories of machinery, n.e.s.; Machine tools working by removing metal or other material; Internal combustion piston engines, and parts thereof, n.e.s.; Lime, cement, and fabricated construction materials; Floor coverings; Veneers, plywood, particle board, and other wood, worked, n.e.s.; Materials of rubber; Medicaments (including veterinary medicaments); Artificial and synthetic fibres; Pulp, paper, and paper waste; Wood, simply worked; Wood in chips or particles and wood waste; Oil-seeds and oleaginous fruits, whole or broken, of a kind used for the extraction of other fixed vegetable oils; Tobacco, manufactured; Tea and maté; Fruit, preserved, and fruit preparations (excluding fruit juices); Meal and flour of wheat and flour of meslin; Crustaceans, molluscs and aquatic invertebrates. Instead of those, the advantages were gained in the following groups of products: Butter and other fats and oils derived from milk; Wheat (including spelt) and meslin, unmilled; Meal and flour of wheat and flour of meslin; Sugars, molasses and honey; Spices; Margarine; edible mixtures or preparations of animal or vegetable fats or oils or of fractions of different such fats or oils; Furskins, raw; Non-ferrous base metal waste and scrap, n.e.s.; Ores and precious metal concentrates; Residual petroleum products, n.e.s., and related materials; Plastic waste; Materials of rubber; Wood manufactures, n.e.s.; Silver, platinum and other metals of the platinum group; Rotating electric plant, and parts thereof, n.e.s.; Electric power machinery; Trailers and semi-trailers; Railway vehicles (including hovertrains) and associated equipment; Cinematographic films; and Works of art.

Comparing groups of products from the 2008 with the ones form 1990, it can be clearly seen that the structure of export of the AP Vojvodina changed in the direction of reduction of quality based competitiveness of products from Manufacturing sector and that it was focused more on the increase of presence of products from the zero and second sector.

2.4.2 Analyses of factor and technological exchange intensity

Modern theoretical concepts analyse technology and trade in a dynamic context, i.e. through the process of continuous upgrading of products on the basis of updated technology, increase of trade with those products in the developed countries and after that the transfer of technology and production to the developing countries. However, the position of states in competitive struggle are not guaranteed because of at least two reasons: a) maintaining of comparative advantage requires constant investments in research and development; b) developing countries can catch up with the developed countries through transfer of technology from the developed countries and later on diversify successfully their export towards integrating capital and technology intensive products in foreign trade exchange independently, along with increasing of technological development. The use of modern technology results with Manufacture of products that set themselves apart on the market compared to the competitive products. This leads to increase in demand, decline in production costs, increase of efficiency of use of production factors, improvement of performances of the existing products, growth of export revenues etc.

If we analyse technological competitiveness indicators such as funds allocated for research and development, structure of employees in the research sector, structure of the registered patents, scope and form of technology transfer, structure of the research units etc., we will inevitably come to a conclusion that they are unfavourable in the case of the Republic of Serbia and the AP Vojvodina.

In order to be able to monitor the indicators of technological competitiveness we had to start from the classification that observed factor intensities on the one side and applied technology on the other side. According to the above-mentioned classification of groups of products by three-digit SITC classification, we came up with four groups of products7:

a) Groups of products that are made in human capital intensive branches :

b) Groups of products that are made in capital intensive fields;

c) Groups of products that are made in labour intensive fields;

d) Groups of products that are made in resource intensive fields.

After this main distribution, we conducted sub-division of groups of products into human capital intensive fields and those that are resource intensive. In human capital intensive fields, the division is carried out according to technology that is used for Manufacture of groups of products from this field. Namely, the fields are divided in fields with the advanced technology and those with technology at the medium level of development, where those technologies can be capital or labour intensive. They are usually the fields where production requires a highly qualified labour, i.e. the work of scientists, engineers, researchers etc. (see Tables 2.4.2.3 and 2.4.2.4 in Annex B). In the fields that are resource intensive, the sub-division is made into low and high level resource intensive fields, while high-level resource intensive are divided into human capital intensive fields and others. Groups of products that are manufactured in capital and labour intensive fields are not sub-divided since labour intensive fields are characterised by low qualified labour and capital intensive fields include all those fields that are not included in the first and fourth division.

Table 2.4.2.1. Specialisation in export of the AP Vojvodina according to factor availability and technological intensity (Share in manufacturing sector)

Groups of products	1990	1998	2006	2007	2008
Human capital intensive	37.0	41.8	39.3	38.9	42.1
Advanced technology	9.0	8.3	7.7	7.1	7.5
Labour intensive	1.3	1.4	0.9	1.1	1.1
Capital intensive	7.6	6.9	6.8	6.0	6.4
Technology at the medium level of development	18.1	22.0	21.4	20.3	18.7
Labour intensive	7.9	4.7	6.2	7.7	7.3
Capital intensive	10.2	17.3	15.3	12.6	11.4
Resource intensive	9.9	17.1	13.9	11.3	10.0
Other	0.3	0.2	1.3	1.3	1.4
Other	9.9	11.5	10.1	11.5	15.9
Capital intensive	4.8	2.7	1.9	1.6	1.3
Labour intensive	39.1	29.0	30.5	27.1	29.6
Resource intensive	13.4	23.3	23.4	26.8	23.1
Low level	4.6	4.7	8.1	9.8	8.9
High level	8.8	18.5	15.3	17.0	14.3
Human capital intensive	7.9	16.7	13.8	15.1	13.2
Other	1.0	1.9	1.5	2.0	1.0
Other	0.4	0.0	0.4	0.7	0.6

7 See Legler-Schulmeister Methodology published in the OECD Study titled »The Competitiveness of Transition Economies« from 1998

We divided all groups of products from SITC Rev 3. classification using the above-mentioned principles and we presented them in Table 2.4.2.1 in which we calculated the share of those groups of products in the total export of Manufacturing sector (sectors 5-8) that is the holder of competitiveness.

Table 2.4.2.1 shows that the dominant position in export of the AP Vojvodina for all the analysed years is held by groups of products that are human capital intensive and that their share in the total export of the Manufacturing sector rose from 37% recorded in 1990, to 42,1% recorded in 2008. Second by significance are labour intensive groups of products, the share of which in Manufacturing sector fell from 39.1% in 1990 to 29.6% in 2008, while the third by significance are resource intensive groups of products, the share of which in the total export of manufacturing sector increased from 13.4% recorded in 1990 to 23.1% in 2008.

The impact of technology on trends in competitiveness can be more clearly analysed through structure of human capital intensive groups of products. Technology at the medium level of development plays a more important role within this group than advanced technology, even though the importance of advanced technology has recorded a relatively small decrease in comparison with the 1990s. The share of technology at the medium level of development in the total export of Manufacturing sector has increased in comparison with 1990 for only 0.6%, while at the same time the share of advanced technology has decreased by 2.5% in comparison with 1990 when it was 9%.

Within resource intensive products, over one-half of products are human capital intensive groups of products, i.e. here is a high percentage of developmental work included in the structure of total expenses. The share of resource intensive products that are human capital intensive groups of products increased from 7.9% in 1990 to 13.3% in 2008.

Table 2.4.2, presents the coverage rate of import with export depending on the factor availability and technological intensity. The analysis of data lead us to the conclusion that in foreign trade exchange only within labour intensive groups of products the rate of coverage of import with export was over 100%, i.e. export was higher than import. Namely, the rate of coverage within labour intensive products was 113.4% in 2008, which represented a 100.3% decrease in comparison with 1990 when it was 13.7%. The above-mentioned trend tells us that a high level decline of competitiveness has occurred within products with which the AP Vojvodina had comparative advantage during the 1990s. The fact that during the analysed period the rate of coverage of import with export has decreased in all groups of products is also unfavourable.

Table 2.4.2.2. Coverage rate of import with export of the AP Vojvodina according to factor availability and technological intensity (Share in manufacturing sector)

Groups of products	1990	1998	2006	2007	2008
Human capital intensive	80.4	52.6	53.8	52.4	65.0
Advanced technology	121.7	64.3	68.8	62.0	81.2
Labour intensive	55.2	40.5	24.4	32.7	39.6
Capital intensive	153.4	73.0	90.4	74.1	99.4
Technology at the medium level of development	53.3	39.1	40.2	39.2	39.4
Labour intensive	49.8	19.2	25.2	30.4	32.7
Capital intensive	56.3	54.5	52.9	47.8	45.3
Resource intensive	81.7	67.3	78.9	70.7	70.4
Other	5.1	2.9	11.9	12.4	12.5
Other	212.4	112.0	120.2	103.9	196.5
Capital intensive	276.3	78.8	38.8	37.7	38.1
Labour intensive	213.7	99.8	119.4	106.4	113.4
Resource intensive	74.2	78.6	67.3	78.3	70.7
Low level	64.3	65.6	66.4	95.6	98.7
High level	80.6	82.9	67.8	70.9	60.1
Human capital intensive	92.5	113.4	101.5	107.2	81.5
Other	39.5	24.2	17.2	19.8	13.7
Other	153.1	15.8	196.9	509.3	417.3

It is of special significance to analyse the human capital intensive groups of products within which 65% of import in 2008 was covered with export, while in 1990 the coverage was 80%. The fact that is particularly unfavourable is that within this group of products there was a decrease in coverage rate in the advanced technology section - group of capital intensive products from 153.4% in 1990 to 99.4% in 2008, which means that the decline in coverage rate occurred within the group of products in Manufacture of which expert labour and modern technology make the most important components. Somewhat more favourable situation is in the advanced technology section -group of labour intensive products where the decline in coverage rate was less than it was in the group of capital intensive products (the decline by 15.6% in comparison with 1990). The fact that the decline in this category of products is lower is encouraging, considering that there is the demand for products from this group on the markets of the developed countries.

The structure of export of the AP Vojvodina analysed through factor availability and technological intensity is still not favourable because the work and resource intensive products have higher percentage of their joint share in the total export of the Manufacturing sector than the human capital intensive groups of products. It can be said for the AP Vojvodina that is on the track of changes in structure of export towards an increase of share of human capital intensive groups of products. Nevertheless, the AP Vojvodina is still in the group of countries, territories, and regions with a relatively high level of share of work and resource intensive products.