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Trends in the revealed comparative advantages of the EU member states

Abstract. Today, more and more countries incorporated into international trade are causing higher competition in the world market. The paper is focused on the sectoral structure of the European Union (EU) exports in the 2000-2015 period. The purpose of the paper is to identify the main sectors in which the EU member states are the most competitive and to find out changes in the sectoral structure of the EU exports which occurred in the monitored period. The trade analysis was carried out with regard to the Revealed Comparative Advantage (RCA) index. The results of the analysis showed a different structure, as well as a number of Standard International Trade Classification (SITC) divisions, in which the EU member states achieved the RCA in their exports. While the differences in the number of sectors in which the EU member countries achieved the RCA were not found among the «old» and «new» EU member states, they were obvious among big and small EU member states. During the whole period, the largest number of SITC divisions with the RCA was recorded in Denmark, Spain and Italy. The export of Cork and wood manufactures (SITC 63) recorded the RCA in 17 member states of the EU was the most competitive sector in the EU export during the whole period.
Keywords: Competitiveness; Export; European Union; Revealed Comparative Advantage (RCA)
JEL Classification: F10; F15; F19

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Анотація. Сьогодні все більше і більше країн, залучених до міжнародної торгівлі, впливають на збільшення рівня конкуренції на світовому ринку. У цій статті увагу приділено галузевій структурі експорту країн-членів ЄС за період 2000–2015 рр. Метою даної роботи є визначення найбільш конкурентоспроможних галузей економіки країн-членів ЄС, а також виявлення змін у галузевій структурі експорту країн Європейського Союзу за вказаний вище період. Аналіз торгівлі було проведено з урахуванням індексу виявлених конкурентних переваг. Результати аналізу продемонстрували відмінності у галузевій структурі та цілому ряді категорій Міжнародної стандартної торговельної класифікації, відносно яких країни-члени ЄС мають конкурентні переваги. Було виявлено, що відмінності в галузях експорту країн-членів ЄС, у яких зазначені країни мають конкурентні переваги, не пов'язані з тим, чи є окремо взята країна «новим» чи «старим» членом ЄС. Разом із цим, такі відмінності ставали очевидними з урахуванням того, чи ця окремо взята країна має велику чи малу територію. Також було встановлено, що впродовж усього досліджуваного періоду найбільшу кількість категорій Міжнародної стандартної торговельної класифікації, відносно яких країни-члени ЄС мали виявлені конкурентні переваги, мали Данія, Іспанія та Італія.
Ключові слова: конкурентоспроможність; експорт; Європейській Союз; виявлені конкурентні переваги.

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Аннотация. Сегодня всё больше и больше стран, вовлеченных в международную торговлю, влияют на увеличение уровня конкуренции на мировом рынке. В данной статье внимание уделено отраслевой структуре экспорта стран-членов ЕС за период 2000–2015 гг. Целью данной работы является определение наиболее конкурентоспособных отраслей экономики стран-членов ЕС, а также выявление изменений в отраслевой структуре экспорта стран Европейского Союза за указанный выше период. Анализ торговли был проведен с учетом индекса выявленных конкурентных преимуществ. Результаты анализа показали различия в отраслевой структуре, а также в целом ряде категорий Международной стандартной торговой классификации, в отношении которых страны-члены ЕС имеют конкурентные преимущества. Было определено, что различия в отраслях экспорта стран-членов ЕС, в которых эти страны имеют конкурентные преимущества, не связанны с тем, является ли отдельно взятая страна «новым» или «старым» членом ЕС. Вместе с тем, такие различия становились очевидными с учетом большей или меньшей площади территории этой отдельно взятой страны. Также было установлено, что на протяжении всего исследуемого периода наибольшее количество категорий Международной стандартной торговой классификации, по которым страны-члены ЕС имели конкурентные преимущества, наблюдалось в отношении Дании, Испании, а также Италии.
Ключевые слова: конкурентоспособность; экспорт; Европейский Союз; выявленные конкурентные преимущества.

1. Introduction

The European Union (EU) has been the leading exporter and importer of goods and commercial services in the world for a long time. In 2015, the EU had 28 member states (EU-28) and its share in the world merchandise trade reached more than one third, while the share of other important merchandise exporters, such as China and the USA, was about 14 percent and 9 percent, respectively (WTO, 2016) [16]. However, there is a general tendency that the share of the EU and other developed countries, such as the USA, Japan, etc. has been gradually declining *qui bono* developing countries, especially the so-called emerging economies. The purpose of the paper is to identify the main sectors in which the EU member states are the most competitive and to find out changes in the sectoral structure of exports of the EU member states in the 2000-2015 period. During the last 16 years, the export of the EU individual countries has been influenced by different factors, such as trade liberalisation and economic integration, free movement of capital and foreign direct investment caused by low interest rates in the world, etc. The financial and economic crisis in

the world in 2008 also hit the export competitiveness of some countries. All these facts influenced not only the exports of the EU member states, but also their competitors in the world.

Although the EU-28 performs against the non-EU member states in trade negotiations as one unit via the EU institutions and the Common Commercial Policy of the EU, the EU member states are significantly heterogeneous economies with a different economic structure. If the EU endeavours to be more competitive in the future, it is important to follow up the changes in the comparative advantages and trade structure of individual member states of the EU. The intention is usually focused on the EU leading exporters, such as Germany, France, the Netherlands and the United Kingdom or the EU as one unit [3-4; 11]. However, smaller EU exporters, such as the Czech Republic or Slovakia also play an important role. They are very often part of global value chains and they contribute to the growth of trade gains of big multinational companies that have headquarters in countries that are in the list of the leading exporters in the world. The structure of the paper is as follows. Firstly, the current state of knowledge will be depicted. Secondly, the methodology and data of my own analysis will be described and then the results of the analysis will be presented. In conclusion, the main facts will be summarised.

2. The current state of knowledge

The export structure of the EU-27, i.e. without Croatia, was analysed by Cheptea et al. (2013) [3] in the frame of the whole EU external competitiveness in the 2000-2010 period. The authors found out that the decline recorded by European exporters is attributable purely to the performance and not to the adverse orientation of their exports, and that price competitiveness has not been the main driver of the observed losses. They also state that the international integration of the EU has increased and confirm it by arguing that the EU exports still embodied less domestic value added in 2011 compared to 1995 and consequently more foreign value. The sectoral specialisation and geographical orientation of the EU-27, Euro Area and exports of other selected countries was analysed by Cheptea et al. (2012) [4] by using the Constant Market Share (CMS) decomposition and the econometric shift-share approach. The results of their analysis showed an increase of the EU's share in the world market for top-range products, mainly in the sectoral structure of the EU exports, despite competitiveness losses.

Other authors analysed the external competitiveness of only some EU countries. For example, Fojtikova (2009) [6] found out the RCA of the Czech Republic in its exports to the EU in SITC 6, 7 and 8 during the 2002-2006 period. Leichter et al. (2010) [8] focused on Italy's external competitiveness and depicted some negative trends, including the loss of export market share. The author also showed that there was some positive development in terms of quality upgrading and firm restructuring. Bojnec and Ferto (2014) [2] focused their analysis of export competitiveness of the EU-27 in the 2000-2011 period only on one market, i.e. on the dairy products market. Looking forward, the analysis of the external competitiveness of the EU candidate countries is also important. Orszaghova et al. (2013) [10] focused on six candidate countries of the EU within the period of 1999-2011 and considered various indicators of short and long-term competitiveness, including those related to export performance. The results of their analysis showed that all candidate countries have increased their number of export products and trading partners, but only a few have been able to export more complex products. On the whole, many papers about the external competitiveness of the EU have been published until now, but none of them includes a long-term analysis of the RCA of the individual member states of the EU-28.

3. Methodology and data

The analysis of the paper is focused on finding out the export structure of the individual member states of the EU by applying the Reveal Comparative Advantage (RCA) index. The concept of the Revealed Comparative Advantage (RCA) was first developed by Bella Balassa (1965) [1] and was based on Ricardo's theory of comparative advantage.

The RCA index shows a sectoral composition of a country's exports to the global exports. In this way, it is a measure of a country's relative advantage or disadvantage in a specific industry as evidenced by trade flows (The World Bank, 2013) [13]. It is calculated as follows:

$$RSA_{ijk} = (x_{ijk} \; / \; X_{ij}) \; / \; (xw_{jk} \; / \; X_{wj}), \tag{1}$$

where x is the value of exports of product k from country i to destination j, and X is the total exports from i to j; w indicates the world.

If the result of the index is between 0 and 1, it indicates a comparative disadvantage, while being above, 1 it indicates a comparative advantage.

However, there are some limitations. For example, Siggel (2006) [12] argues that a high volume of export can be influenced by some market distortions, such as subsidies or undervalued exchange rates. Because of this fact Siggel (2006) states that the RCA index expresses more export competitiveness than comparative advantage.

Some authors tried to develop the original RCA index. For example, Yu et al. (2009) [17] proposed the normalised revealed comparative advantage index (NRCA) as an alternative measure of comparative advantage. The NCRA index is comparable across commodity, country and time, and is recommended for quantitative regional research. In order to specify the Balassa index, Costinot, et al. (2012) [5] also developed a new RCA index that enables to isolate the exporter-specific factors driving trade flows. Leromain and Orefice (2012) [9] picked up the idea from Costinot et al. (2012) and proposed some improvements, i.e. they covered a higher product disaggregation and extended the sample of partner countries and the time span. They created a database of the RCA index, based on an econometric estimation procedure and compared the results of the Balassa index and the new RCA index. Cheptea et al. (2013) [3] measured the RCA of the EU on a gross basis as well as on a value added basis, but the results were not too different.

In spite of the fact that alternative indexes of RCA were developed, the Balassa index is still widely used. In order to achieve the purpose of the paper, the analysis of the RCA in this paper is based on the traditional Balassa index and includes data about the total foreign trade (the extra-EU trade as well as the intra-EU trade) of the individual EU member states. This means that it is abstracted from the integration aspect. The data about the export of the EU countries were obtained from the UNCTADStat [14].

The calculation of the export structure was carried out in the area of merchandise trade and the products are based on the Standard International Trade Classification (SITC), Rev. 3 commodity classification, at a two-digit level which includes 67 commodity groups. Table 1 shows the structure of the SITC code at one and two digit levels.

The analysis covers the 2000-2015 period. During these 16 years, the number of the EU member states increased from 15 to 28 after enlargements in 2004, 2007 and 2013. Thus, the analysis includes 28 states which are currently the EU member states, namely: Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

4. Results

Table 2 shows comprehensive results of the RCA index for all the EU member states that cover the 2000-2015 period.

The results of the RCA index showed that the EU-28 achieved a revealed comparative advantage in the exports of Food and live animals (SITC 0), Beverages and tobacco (SITC 1), Chemicals and related products (SITC 5), Manufactured goods (SITC 6) and Machinery and transport equipment (SITC 7) for the whole monitored period.

Contrary to these results, a revealed comparative disadvantage of the EU-28 was recorded in the exports of Crude materials (SITC 2), Mineral fuels, lubricants and related materials (SITC 3), Animals and vegetable oils, fats and waxes (SITC 4)

and also Miscellaneous manufactured articles (SITC 8), with the exception of the year 2008.

The development of the RCA in the section of Commodities and transaction, n. e. s. (SITC 9) was positive for the EU-28 until 2011, but later the results of the RCA index were lower than one, which signalised a comparative disadvan-

tage in export. However, the analysis of the RCA carried out on a more detailed product level showed in which sectors the EU member states were the most competitive individually.

Austria recorded a RCA in 19 divisions of SITC, mostly in the export of machinery and transport equipment, but the highest RCA indexes were recorded in division 63. The level

Tab. 1: **Detailed structure of the Standard International Trade Classification, Rev. 3**

Sections of SITC	Division of SITC: two digit codes
0. Food and live animals	00-Live animals, 01-Meat and meat preparations 02-Dairy products and birds' eggs 03-Fish, crustaceans, molluscs and aquatic invertebrates, and preparations thereof 04-Cereals and cereal preparations 05-Vegetables and fruit 06-Sugars, sugar preparations and honey 07-Coffee, tea, cocoa, spices, and manufactures thereof 08-Feeding stuff for animals (not including unmilled cereals) 09-Miscellaneous edible products and preparations
1. Beverages and tobacco	11-Beverages 12-Tobacco and tobacco manufactures
2. Crude materials, inedible, except fuels	21-Hides, skins and furskins, raw 22-Oil-seeds and oleaginous fruits 23-Crude rubber 24-Cork and wood 25-Pulp and waste paper 26-Textile fibres and their wastes 27-Crude fertilizers, other than those of division 56, and crude minerals 28-Metalliferous ores and metal scrap 29-Crude animal and vegetable materials, n.e.s.
3. Mineral fuels, lubricants and related materials	32-Coal, coke and briquettes 33-Petroleum, petroleum products and related materials 34-Gas, natural and manufactured 35-Electric current
4. Animal and vegetable oils, fats and waxes	41-Animal oils and fats 42-Fixed vegetable fats and oils, crude, refined or fractionated 43-Animal or vegetable fats and oils, processed; etc.
5. Chemicals and related products, n.e.s	51-Organic chemicals 52-Inorganic chemicals 53-Dyeing, tanning and colouring materials 54-Medicinal and pharmaceutical products 55-Essential oils and resinoids and perfume materials; etc. 56-Fertilizers 57-Plastics in primary forms 58-Plastics in non-primary forms 59-Chemical materials and products, n.e.s.
6. Manufactured goods classified chiefly by material	61-Leather, leather manufactures, n.e.s., and dressed furskins 62-Rubber manufactures, n.e.s. 63-Cork and wood manufactures (excluding furniture) 64-Paper, paperboard and articles of paper pulp, of paper or of paperboard 65-Textile yarn, fabrics, made-up articles, n.e.s., and related products 66-Non-metallic mineral manufactures, n.e.s. 67-Iron and steel 68-Non-ferrous metals 69-Manufactures of metals
7. Machinery and transport equipment	71-Power-generating machinery and equipment 72-Machinery specialized for particular industries 73-Metalworking machinery 74-General industrial machinery and equipment, 75-Office machines and automatic data-processing machines 76-Telecommunications and sound-recording and reproducing apparatus and equipment 77-Electrical machinery, apparatus and appliances 78-Road vehicles (including air-cushion vehicles) 79-Other transport equipment
8. Miscellaneous manufactured articles	81-Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s. 82-Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings 83-Travel goods, handbags and similar containers 84-Articles of apparel and clothing accessories 85-Footwear 87-Professional, scientific and controlling instruments and apparatus, n.e.s. 88-Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks 89-Miscellaneous manufactured articles
9. Commodities and transactions not classified elsewhere	91-Postal packages not classified according to kind 93-Special transactions and commodities 96-Coins (other than gold coins), not being legal tender 97-Gold, non-monetary

Source: [15]

Tab. 2: **Sectors with a Revealed Comparative Advantage in the EU Member States in 2000-2015**

Country	Code of SITC Division (max. value of the RCA index in 2000-2015)
Austria	11 (2.94), 24 (3.88), 27 (1.34), 35 (14.87), 54 (2.28), 58 (2.26), 61 (2.54), 63 (5.74), 64 (3.11), 67 (2.23), 69 (2.51), 71 (2.57), 72 (2.49), 73 (2.46), 74 (1.82), 78 (1.42), 81 (2.89), 89 (1.51)
Belgium	01 (1.78), 02 (2.38), 05 (1.87), 07 (1.91), 23 (1.89), 27 (1.46), 51 (2.91), 53 (2.28), 54 (3.94), 55 (1.47), 56 (2.26), 57 (3.07), 58 (1.92), 59 (1.81), 63 (1.27), 66 (4.34), 67 (1.90), 78 (1.64), 85 (1.71)
Bulgaria	04 (6.60), 06 (3.18), 12 (7.79), 22 (9.40), 24 (1.75), 27 (2.48), 28 (2.85), 35 (12.30), 56 (9.78), 63 (2.26), 68 (6.37), 81 (2.93), 82 (1.95), 84 (5.88), 85 (4.13)
Croatia	02 (1.39), 03 (2.34), 09 (5.36), 11 (2.20), 12 (6.18), 24 (12.49), 27 (3.16), 56 (9.42), 61 (6.48), 64 (1.62), 66 (2.28), 69 (1.87), 79 (6.10), 82 (3.49), 84 (3.22), 85 (4.81)
Cyprus	02 (13.45), 05 (8.28), 11 (6.68), 12 (86.58), 21 (5.38), 27 (7.60), 54 (6.17)
Czech Republic	24 (2.02), 35 (7.12), 58 (1.52), 62 (3.19), 63 (2.20), 64 (1.36), 67 (1.95), 69 (3.19), 73 (2.21), 74 (1.96), 78 (2.60), 81 (3.70), 82 (2.78), 89 (1.62)
Denmark	00 (9.54), 01 (9.61), 02 (6.06), 08 (3.14), 09 (5.30), 11 (1.65), 21 (24.45), 29 (5.44), 35 (3.58), 41 (11.24), 53 (1.67), 54 (3.40), 58 (1.37), 69 (1.84), 71 (31.15), 74 (1.95), 81 (1.90), 82 (4.00), 84 (1.62), 87 (1.37), 89 (1.60)
Estonia	02 (3.59), 03 (3.66), 07 (6.49), 24 (14.46), 35 (11.07), 53 (3.68), 63 (9.75), 69 (2.17), 81 (6.85), 82 (5.50)
Finland	02 (1.89), 21 (16.90), 24 (8.35), 25 (12.75), 58 (1.75), 63 (3.89), 64 (13.76), 67 (3.04), 68 (2.07), 72 (2.88), 81 (2.43)
France	00 (3.88), 02 (3.02), 04 (2.79), 06 (2.07), 08 (1.54), 09 (1.69), 11 (5.73), 35 (5.97), 41 (2.23), 53 (1.30), 54 (2.41), 55 (4.22), 59 (2.24), 62 (1.83), 64 (1.37), 67 (1.35), 71 (2.02), 79 (6.58), 83 (3.37)
Germany	02 (1.71), 52 (1.17), 53 (2.02), 54 (1.88), 55 (1.40), 58 (1.91), 59 (1.77), 62 (1.31), 64 (1.67), 69 (1.58), 71 (1.82), 72 (1.93), 73 (2.61), 74 (2.06), 78 (2.37), 79 (1.94), 87 (1.59)
Greece	02 (4.61), 03 (4.18), 04 (2.21), 05 (8.74), 09 (2.15), 11 (2.01), 12 (11.57), 26 (8.71), 27 (10.19), 42 (9.46), 55 (2.37), 58 (2.44), 68 (4.06)
Hungary	00 (3.43), 01 (2.92), 04 (1.84), 08 (1.99), 22 (2.10), 62 (2.80), 63 (1.50), 71 (4.56), 76 (4.99), 77 (1.51), 81 (2.16), 82 (2.07)
Ireland	00 (4.04), 01 (4.61), 02 (4.27), 09 (6.02), 11 (2.77), 21 (2.46), 51 (9.70), 54 (10.63), 55 (8.11), 59 (3.69), 87 (2.32), 89 (1.98)
Italy	04 (1.23), 05 (1.61), 09 (1.39), 11 (3.00), 53 (1.60), 54 (1.75), 55 (1.48), 58 (2.13), 61 (6.36), 62 (1.37), 64 (1.57), 65 (1.93), 66 (1.75), 67 (1.76), 69 (2.06), 72 (2.47), 73 (3.52), 74 (2.82), 81 (2.96), 82 (3.65), 83 (3.76), 84 (1.94), 85 (4.04), 89 (1.42)
Latvia	02 (5.24), 03 (3.81), 21 (5.27), 24 (49.77), 32 (2.81), 53 (1.66), 63 (17.10), 65 (2.29), 67 (3.48), 81 (3.40), 82 (4.72)
Lithuania	00 (4.58), 03 (2.75), 07 (1.63), 08 (5.17), 12 (5.84), 24 (6.91), 33 (2.51), 56 (25.06), 58 (1.75), 61 (3.00), 63 (4.79), 65 (2.13), 81 (3.34), 82 (5.90)
Luxembourg	00 (2.61), 02 (6.01), 12 (4.77), 55 (1.99), 58 (4.96), 62 (6.32), 63 (3.83), 64 (2.87), 65 (2.27), 66 (1.75), 67 (10.63), 68 (2.61), 69 (1.54), 89 (2.33)
Malta	77 (6.17), 89 (1.93)
Netherlands	00 (4.20), 01 3.01), 02 (4.05), 05 (2.52), 07 (10.16), 08 (2.93), 09 (3.04), 11 (1.75), 12 (5.00), 29 (8.70), 41 (2.13), 42 (1.84), 43 (4.33), 51 (2.06), 52 (1.43), 53 (1.50), 56 (1.68), 57 (2.16), 59 (1.69), 75 (1.99)
Poland	01 (3.32), 02 (2.68), 05 (2.12), 06 (2.12), 07 (2.16), 09 (2.18), 32 (10.56), 35 (3.66), 55 (2.59), 62 (2.09), 63 (5.21), 64 (2.83), 68 (2.20), 69 (2.65), 71 (2.25), 79 (2.56), 81 (2.35), 82 (7.30)
Portugal	02 (1.75), 03 (2.73), 11 (4.59), 24 (2.55), 53 (2.43), 58 (2.43), 62 (2.86), 63 (8.11), 64 (3.72), 65 (2.87), 66 (2.33), 69 (2.06), 78 (1.67), 81 (2.23), 82 (3.18), 84 (3.53), 85 (8.25)
Romania	00 (6.51), 22 (4.80), 24 (7.06), 63 (5.18), 67 (3.53), 82 (4.49), 84 (7.23), 85 (11.07)
Slovakia	24 (2.69), 62 (3.94), 63 (2.45), 64 (2.47), 67 (4.16), 69 (1.77), 74 (1.50), 78 (3.45), 81 (4.51). 82 (3.35), 85 (2.61),
Slovenia	21 (2.73), 24 (4.31), 35 (8.41), 53 (3.56), 54 (3.26), 55 (1.88), 61 (3.16), 62 (3.98), 63 (4.81), 64 (2.91), 68 (2.14), 69 (2.25), 73 (1.63), 74 (1.46), 78 (1.76), 81 (4.08), 82 (7.04)
Spain	00 (1.82), 01 (2.50), 03 (2.10), 05 (5.60), 09 (1.55), 11 (2.83), 21 (1.92), 27 (2.17), 29 (1.35), 42 (4.03), 53 (2.23), 54 (1.60), 55 (2.12), 57 (1.35), 58 (1.18), 61 (1.53), 62 (2.46), 63 (1.41), 64 (1.52), 66 (1.70), 67 (1.41), 69 (1.48), 78 (2.73), 85 (2.26)
Sweden	24 (6.97), 25 (5.84), 28 (1.54), 43 (2.40), 54 (2.67), 63 (1.66), 64 (6.94), 67 (2.11), 69 (1.37), 71 (2.01), 72 (1.51), 73 (1.53), 76 (3.41), 82 (1.76)
United Kingdom	00 (1.70), 11 (3.78), 53 (1.65), 54 (2.80), 55 (2.14), 59 (1.59), 71 (3.13), 87 (1.62), 89 (1.87)

Source: Own calculation

of the RCA index in the individual divisions of SITC remained at a similar level for the whole time, with small exceptions. For example, while Austria achieved a revealed comparative disadvantage in the export of meat and meat preparations at the beginning of the monitored period, the RCA was recorded in 2005-2015.

Belgium was competitive in the export of products in 20 divisions of SITC. The predominant volume exports with a RCA belonged to the section of SITC 5 and SITC 0. There are some cases in which Belgium obtained the RCA during the monitored period (for example division 26 and 41) or reversely lost the RCA (for example, SITC 00, SITC 35, etc.).

Bulgaria achieved its RCA in 15 divisions of SITC for the whole period, especially in the export of crude materials, such as cork and wood, crude fertilisers, metalliferous ores and metal scrap, etc. The export of miscellaneous manufactured articles was also very competitive at this time. The highest level of the RCA index was recorded in the SITC 35 division. The development of the RCA in the other divisions was variable, with a different level of the RCA index.

Croatia achieved its RCA in 17 divisions of SITC in 2000-2015. The exports of beverages and tobacco were the most competitive, but the exports of sections 6 and 8 were also usually competitive.

Cyprus achieved its RCA only in 7 divisions of SITC for the whole period. The RCA exports were especially from sections SITC 0, SITC 1 and SITC 2. In these sections, some changes in the development of the RCA were also recorded. Most exports from sections SITC 5, SITC 6, SITC 7, SITC 8 and SITC 9 were carried out with a revealed comparative disadvantage.

The Czech Republic achieved its RCA in 14 divisions of SITC. The exports of products from sections SITC 6, SITC 7 and SITC 8 were the most competitive during the monitored period.

Denmark achieved its RCA in the highest number of SITC divisions among the EU member states, i.e. in 25 divisions, and the RCA was also the most diversified across different sections.

Estonia achieved its RCA in 10 divisions of SITC, especially in SITC 6 and SITC 8. The highest level of the RCA index was recorded in the SITC 24 division for the whole period.

Finland was competitive in 11 divisions of SITC. The most competitive were exports of manufactured goods and crude materials. France had a RCA in 19 divisions of SITC. Food and live animals, chemicals and manufactured goods were the most often exported with its RCA.

Germany is the largest exporter among the EU member states and its comparative advantage in export was obvious especially in chemicals, manufactured goods and machinery and transport equipment. In total, Germany achieved the RCA in 17 divisions of SITC for the whole period.

Greece had its RCA in 14 divisions of SITC. The predominant part of exports with the RCA belonged to sections SITC 0, SITC 1 and SITC 2.

Hungary achieved its RCA in 12 divisions of SITC, especially in the exports of food and live animals. The other competitive exports belonged to sections SITC 7 and SITC 8.

Ireland's exports with its RCA were carried out in 12 divisions of SITC. These products belonged especially to sections SITC 0 and SITC 5.

Italy recorded 24 divisions with its RCA in the monitored period. The exports from sections SITC 5, SITC 6, SITC 7 and SITC 8 were competitive most often.

Latvia achieved its RCA in 11 divisions of SITC. The exports with the RCA covered most sections, with the exception of SITC 1, SITC 7 and SITC 9.

Lithuania achieved its RCA in 15 divisions of SITC. The most competitive were exports of food and live animals and manufacture goods.

Luxembourg was competitive in 14 divisions of SITC. The highest number as well as value of the RCA was recorded in section SITC 6.

Malta recorded only 2 divisions in which it exported with the RCA. Namely it was exports of electrical machinery, apparatus and appliances and miscellaneous manufactured articles.

The Netherlands exported with its RCA in 20 divisions of SITC. The competitive exports usually included products from SITC 0, SITC 1, SITC 4 and SITC 5.

Poland achieved its RCA in 18 divisions of SITC. The predominant part of competitive exports was from sections SITC 0 and SITC 6.

Portugal also recorded its RCA in 18 divisions of SITC. Its exports with the RCA included mainly manufactured goods and miscellaneous manufactured articles.

Romania had its RCA in 8 divisions of SITC. These included especially miscellaneous manufactured articles, although the value of the RCA index in this section declined significantly during the monitored period.

Slovakia had its RCA in 11 divisions of SITC. The highest number of the RCA was recorded in sections SITC 6, SITC 7 and SITC 8.

Slovenia achieved its RCA in 17 divisions of SITC. The exports with its RCA included crude materials, chemicals, manufactured goods, machinery and transport equipment and miscellaneous manufactured articles.

Spain achieved its RCA exports in 24 divisions of SITC. The products from SITC 3 and SITC 9 were usually exported with a revealed comparative disadvantage, although the level of the RCA index in SITC 34 and SITC 35 improved at the end of the monitored period.

Sweden achieved its RCA in the exports of 15 divisions of SITC during this period. The highest number of the RCA was recorded in SITC 7.

The United Kingdom had its RCA in 9 divisions of SITC; especially chemicals and miscellaneous manufactured articles were the most competitive exports. In contrast to the other EU member states, the United Kingdom recorded a RCA in exports of coin and gold in some years. However, it should be kept in mind that the leading export SITC divisions may also be heavily dependent on imports of parts and components, and thus have a negative impact on the export performance of a country.

5. Conclusions

The results of the trade analysis have confirmed that the individual member states of the EU achieved the RCA in their exports across different SITC divisions during the 2000-2015period. The exports with the RCA of the EU member countries were logically connected with their structure of economy that is especially influenced by the geographical location and climatic conditions and the tradition of industrial production. The geographical size and the economic level of a country can also have an impact on the level of the RCA and its diversification across sectors. However, no differences were found among the old and new EU member countries in the number of RCAs that the countries recorded during the whole period. Nevertheless, they existed among the individual countries. Denmark, Italy and Spain achieved their RCA in the biggest number of SITC divisions; on the contrary Malta, Cyprus and the United Kingdom achieved the smallest number of SITC divisions with the RCA.

Another important fact is that although Germany was the leading exporter of merchandise in the world, it did not achieve the highest number of divisions with the RCA during the monitored period.

In some cases, individual changes in the number of RCAs achieved by individual countries also occurred during this period. Some sectors were more competitive at the beginning than at the end of the period, and *vice versa,* other sectors were more competitive at the end than at the beginning of this period. It was obvious for the old as well as new EU member states.

The predominant part of the SITC divisions recorded a variable development of the RCA in all EU member states. In order to be more competitive in the future, it is important to accept these structural differences among the EU member states and to support and innovate their exports especially in the sectors in which they achieved an RCA for a long time. As has been said by the former WTO's Director General Pascal Lamy: «*Countries that miss out on international production opportunities risk being marginalized from globalisation*» [7].

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