

## Lithuanian Export Competitiveness: Comparison with other Baltic States

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*For small economies, as the case of Lithuania, export is substantial in sustaining growth and vitality. Export development has contributed significantly in terms of capital inflows, employment, expansion of industry and widening the production base. Export has also allowed domestic industries to achieve some economies of scale, which otherwise would not have been possible due to the limited domestic market size. Nowadays the results, changes and dynamics of foreign trade are best indices to evaluate capabilities of national companies to compete in open global economy.*

*Lithuanian industry restructuring process, forced by global market competition and economic integration to European Union, presented the market failures and imperfections in the industry of Lithuania, especially in the areas of management, progress of science and technique, information technologies and communications. Lithuanian industry does not have higher technologies in such level as developed countries. The significance of low value-added industries in Lithuania is obvious, nevertheless, performance of relatively high-value added productions is important for improving export development in the future. In considering results of restructuring of industry, the most common approach is to evaluate the degree of export specialization of the country and main changes of export volumes.*

*One of the most applied tools to measure the export specialization of industry has been the revealed comparative advantage index (RCA), suggested by Balassa (1965), which represents foreign trade relative prices and prevailing factor as well product market distortions. Large differences in country sizes can cause problems when applying the RCA across countries, for instance, if export of particular commodity forms a very large share of total domestic export, but forms a very small component of total world export, extremely high indicator values will be recorded. Such modified indices are presented in modern theories.*

*This paper presents Lithuanian export competitiveness in 2000–2007 with trade based modified indices of revealed comparative advantage. Lithuanian export competitiveness is also compared with other small Baltic states: Latvia and Estonia. Results of RCA study reveal competitive advantage in several commodities. This paper analyses the changes in the pattern of Baltic States export specialization and provides an analysis of the shifting export specialization at product category level and links this analysis to the export potential. In the presence of growing trade liberalization, competitive pressures, and the changing structure of world demand, it is important to reassess the factors that influence the export competitiveness.*

Keywords: *export competitiveness, reveal comparative advantage.*

### Introduction

The gradual reduction in trade barriers, led by the process of economic integration and globalization, strengthens export development, so more attention is now being paid to promoting export competitiveness. For small Baltic States export plays an important role in promoting economic growth and development. Baltic States have been faced with problems such as restructuring of economic system, changing trade markets and patterns, declining of domestic demand of most merchandises, reduction of competitive ability, narrow export base, lower economies of scale. According to Melnikas (2008), Baltic States have similar natural, technological, social, legal, cultural, political and other factors of economic development. It is a characteristic of all Baltic countries to have the same economic reforms and development problems. Baltic States do not own strategically important natural resources, therefore, to make the best out of what these States have, it is essential that they identify their comparative advantage in products of traditional branches of industry.

Nevertheless, after performing the analysis of scientific literature it became evident that the results of indexes of competitive ability of production, the results of foreign trade, their dynamics had not been analyzed profoundly yet, tendencies of their changes are not substantiated duly. There has been limited research carried out on Lithuanian export competitiveness. This paper tries to measure Lithuanian export competitiveness in 2001–2007 in comparison to other Baltic States. There are many definitions and different measures to assess export competitiveness, so this paper uses the modified revealed comparative advantage (RCA\*) index to measure Lithuanian export competitiveness in comparison to Latvia and Estonia. These countries have similar economic structures, similar types of merchandise exports, mainly dominated by agricultural and light industry products. In addition, it would be worth to study how Lithuanian exports performances are ranked amongst the other Baltic States, as compared to the countries with similar economic structures.

The estimation of export competitiveness and analysis changing export specialization is a significant scientific problem. The paper is targeted towards solving this problem and it is considered to analyze the changes of specialization of Lithuanian export in the context of economic integration to the EU and globalization in the changing economic conditions in Lithuania. Thus, the focus of this paper is export competitiveness.

**Object of scientific research** – export specialization and export competitiveness.

**The main aim** of this paper is to present the analysis of indices which reveal comparative advantage of commodities groups of Lithuanian industry during 2001–2007 in comparison with Latvia and Estonia; to reveal the analysis of changes of export specialization.

**Research tasks** of the paper are to analyze the conceptions and main issues of measuring export competitiveness on the basis of contemporary theories, to perform the analysis of modified RCA\* (revealed comparative advantage) indexes of industries of Lithuanian merchandises during 2001–2007; to compare the RCA\* results with Latvian and Estonian export competitiveness indices.

**Methods of the scientific research** that have been employed in the paper are scientific analysis and summarizing of literature, mathematic calculations, comparative analysis of statistic indexes.

The paper is organized as follows: the first part analyses Lithuanian experience in embracing economic integration and trade liberalization. The second part outlines the theoretical basis of the RCA index and also provides a brief literature survey. The results of the selected indices are presented in the third part. Lithuanian RCA\* indices are analyzed over the study period, and then, RCA\* in export commodities are compared with the results of other Baltic States.

### **Lithuanian trade reforms and liberalization**

The period of economic system transformation since 1990, economic integration to the European Union and globalization has changed the Baltic States trading patterns, as well as the measures employed by countries to compete in the world where trade is being liberalized. Significant aims of foreign trade policy were integration into the international trading system, development of free trade agreements and trade liberalization.

Recently, competitiveness has attracted a lot of attention, as a result of the increasing size of international trade, led by the integration and globalization. The concept of competitiveness covers a lot of aspects, from production costs, product differentiation, parameters of quality to exchange rates. The results of researches of the Lithuanian international competitiveness were presented by Snieska (2008), Purlys (2007), Ciburiene, Zaharieva (2006), Urbonas, Maksvytiene (2003), Vilkas (1999) and others. The theoretical issues and factors of competitiveness and problems of industrial enterprises were presented by Rutkauskas (2008), Navickas, Malakauskaite (2007), Snieska, Draksaite (2007), Snieska, Juscius (2008), Kubrak, Koval, Kavaliauskas, Sakalas (2007). For small economies export competitiveness is essential for promoting economic development and survival in the global world. Growing share of export in total output causes higher productivity growth rate, and growing share of imports in total output indicates a bigger degree of specialization and competition (Ciburiene, Zaharieva, 2006). Development of competitiveness is an identification of competitiveness factors and their appearance circumstances (Rutkauskas, 2008).

Prasad (2000) maintains that export is a primary source of foreign exchange for small and vulnerable

economies, so its long term survival is dependent upon its ability to compete with exports of similar products from other countries in the international market.

In 1995 Lithuania became a signatory of the General Agreement to Tariff and Trade (GATT) and after ratifying the World Trade Organization (WTO) arrangements in 2001, it became a member of the WTO. Membership in the WTO gave stability and reliability in trade relations – factors that are significant for trade partners and investors. Lithuanian trade with the third countries has become more liberal, transparent and predictable, while Lithuania – more attractive to foreign investment. Membership in the WTO has major importance in export promotion, improving the business environment. Since then, Lithuania has gradually moved towards more free trade by introducing a simplified tariff band structure and simultaneously decreasing the average tariff rate to internationally acceptable levels. According to Purlys (2007), the EU membership had a significant impact on the further dynamics of Lithuanian foreign trade, so average annual export growth rate reached 14 percent in 2004, jumped to 27 percent in 2005 after trade barriers were removed.

As a result of the economic integration to European Union in 2005, policies of export development promotion, Lithuanian economy has significantly opened itself up to external trade. Relatively high level of trade openness index is an objective inherent for small economies such as the Lithuanian economy (Jakutis, Liukaitis, Samulevicius, 2007). The trade openness index measures that the ratio of exports and imports of goods to nominal Gross Domestic Product (GDP) has increased from about 80 percent in 1996 to about 108 percent in 2007. The significant rise in the openness index in 1996–2007 shows the effect of export promotion and an increase of import demand. However, the index fell in 1999, attributed to a fall in both exports and imports, as a result of the economic crisis in Russian economy.

### **Conceptions of Export Competitiveness**

The concept of comparative advantage is widely used in modern economic literature to evaluate the patterns of trade and specialization of countries in commodities which have a competitive advantage. Balassa (1965) outlined that it is difficult to measure competitiveness due to the lack of comprehensive data on factor costs, so the most widely accepted indirect approach is the revealed comparative advantage (RCA) index, which reveals the comparative advantage of a nation from its past trade data.

Balassa (1965) suggested that export results could be used to reveal the comparative advantage of a particular country in the absence of comprehensive data on factor costs. The pattern of commodity exports reflects relative costs as well as differences in non-price factors that can be expected to determine the structure of export. Balassa (1986) restricted his analysis to manufactured goods only, as distortions in primary products, such as subsidies, quotas and special arrangements, would not reflect the real comparative advantage. RCA index represent post trade relative prices and a prevailing factor as well as product market distortions.

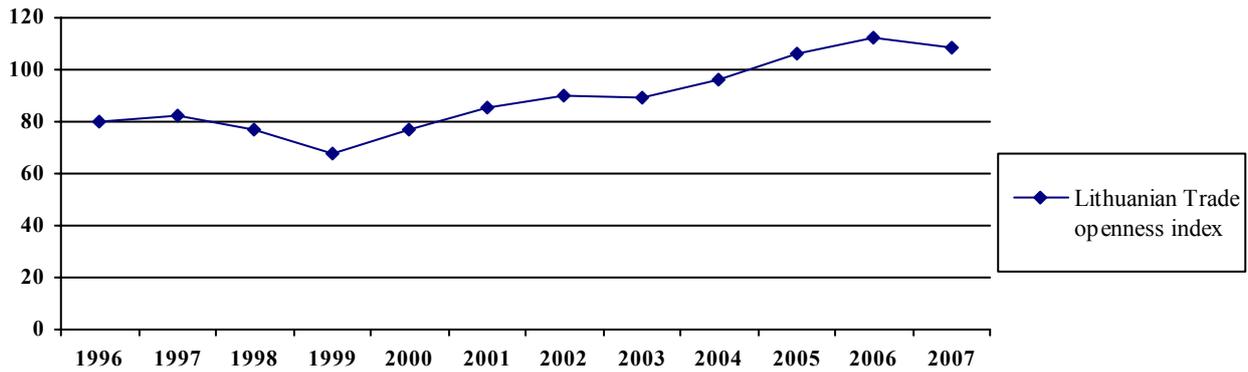


Figure 1. Lithuanian Trade openness index

Source: calculated by the author according to the data of The Department of Statistics to the Government of the Republic of Lithuania.

The RCA index, known as the Balassa index, is defined using only export data:

$$RCA_i^A = (x_i^A/X^A) / (x_i^w/X^w)$$

Where:

- $x_i^A$  – Country A exports of product  $i$ ;
- $X^A$  – Total exports of country A;
- $x_i^w$  – World exports of product  $i$ ;
- $X^w$  – Total world exports;

The index reveals a comparative advantage in export of commodity  $i$  by country  $A$  if the index's value is greater than one, and disadvantage if the index's value is less than one, with respect to the world or a set of reference countries, so a set of reference can also be used as the denominator, especially for cross country comparison. Measures of revealed comparative advantage (RCA) have been used to assess a country's export potential. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential, as opposed to situations in which the number of products that can be competitively exported is static. It can also provide useful information about potential trade prospects with new partners. Countries with similar RCA profiles are unlikely to have high bilateral trade intensities unless intra-industry trade is involved. RCA measures, if estimated at high levels of product differentiation, can focus attention on other non-traditional products that might be successfully exported. The RCA index is often measured by the product's share in the country's exports in relation to its share in the world trade. A value of less than unity implies that the country has a revealed comparative disadvantage in the product. Similarly, if the index exceeds unity, the country is said to have a revealed comparative advantage in the product.

Balassa (1965) applied the RCA index to evaluate the RCA of the US, Canada, the European Common Market, the UK, Sweden and Japan. Since then, the RCA index has been applied to numerous reports and academic publications (Prasad, 2004, Lee, 1995, Maule, 1996, Rana, 1988, Amir, 2000).

Laursen (1998) outlined that major problem with the RCA index is that large differences in country sizes can cause

problems when applying the RCA across countries. For instance, if export of certain commodity forms a large share of total domestic export, but forms a very small component of total world export, extremely high indicator values will be recorded (Mlangeni, 2000).

Amir (2000) used the export competitiveness index (XC) to estimate the manufacturing success (or failure) in contesting high growth markets. By incorporating changes in a country's world market share, XC index provides a better indicator of export performance of a product or a set of products. A rise in the value of XC over time reflects a product's success in contesting high growth world markets. Export competitiveness of country  $A$  in export of product  $i$   $(XC_i^A)_t$  is expressed as a ratio of world market share of country  $A$  in export of  $i$  in period  $t$  (the period under review) to its world market share in the previous period.

$$(XC_i^A)_t = (x_i^A/x_i^w)_t / (x_i^A/x_i^w)_{t-1}$$

If XC of a product takes a value of greater than one, this points towards rising export competitiveness. Similarly, a value of less than one implies declining market share in world markets. This index can also be seen as a ratio of the growth rate of country  $A$  export in product  $i$  to the growth rate of product  $i$  in world markets.

According to Yeats (1985), it is other problem of RCA application, when export restraints, such as general versus the nations tariffs on the same item, and national exports incentives (like subsidies) that are applied to a wide range of produced products in most countries around the world, result in biased RCA values.

Moreover, Balassa (1965) maintained that the use of export and import ratios would account for the imported intermediate goods used for production of export commodities, and thus reveal the real comparative advantage of a nation.

Nevertheless, to overcome the problem of upward biased RCA index values Laursen (1998) adjusted the RCA index to make it symmetric, that the adjusted index values were between  $-1$  and  $+1$ . Laursen (1998) identified this index as the RSCA which is defined as:

$$RSCA_i^A = (RCA_i^A - 1)/(RCA_i^A + 1)$$

Positive (negative) values of RSCA show a competitive advantage (disadvantage) in exporting product  $j$ .

Mlangeni (2000) used the net trade to total trade ratio to evaluate a country's trade performance, which accounts for the possibility of exporting and importing within a particular commodity category. This index is represented as:

$$\text{Net Exports } RCA_i = (X_i - M_i)/(X_i + M_i)$$

Where:

$X_i$  - Country A exports of product  $i$ ;

$M_i$  - Country A imports of product  $i$ ;

This ratio also ranges from  $-1$  to  $+1$ . The values indicate comparative disadvantage when it is between  $-1$  and  $0$ ; when the value is between  $0$  and  $+1$ , it illustrates a comparative advantage, if it is equal to  $0$ , it indicates that export and import of a particular product are equal. More specifically, this index measures the degree of specialization of a country in exporting a particular commodity.

The RCA results are useful indicators in measuring export competitiveness, especially when used with other related indices (particularly, the RCSA and Net Exports RCA) to overcome some of the limitations of the RCA index.

The export specialization (ES) index is a slightly modified RCA index, in which the denominator is usually measured by specific markets or partners. It provides product information on revealed specialization in the export sector of a country and is calculated as the ratio of the share of a product in a country's total exports to the share of this product in imports to specific markets or partners rather than its share in world exports:

$$ES = (x_i^A/X^A) / (m_i^K/M^K)$$

Where:

$x_i^A$  - Country A export of product  $i$ ;

$X^A$  - Total exports of country A;

$m_i^K$  - Market K imports of product  $i$ ;

$M^K$  - Total import of market K.

The export specialization index ES is similar to the RCA in that the value of the index less than unity indicates a comparative disadvantage and a value above unity represents specialization in this market.

RCA\* is a transformed RCA rate. RCA\* determines the comparative share of product's international trade among other products. Branch receives the net export earnings, if the indicator value is greater than zero.

$$RCA^*_i = \left( \frac{X_i - M_i}{X_i + M_i} - \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} \right) * 100$$

Where:

$X_i$  - Country A exports of product  $i$ ;

$M_i$  - Country A imports of product  $i$ ;

$X_j$  - Country A exports of all others products except  $i$  ( $j = 1$  to  $n$  and  $j \neq i$ );

$M_j$  - Country A imports of all others products except  $i$  ( $j = 1$  to  $n$  and  $j \neq i$ );

This ratio ranges from  $-200$  to  $+200$ . When the indicator values range from  $100$  to  $-100$ , the formula is transformed:

$$RCA^*_i = \left( \frac{X_i - M_i}{X_i + M_i} - \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} \right) * \frac{100}{1 - \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)}}$$

$$\text{if } \frac{X_i - M_i}{X_i + M_i} > \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} \text{ and}$$

$$RCA^*_i = \left( \frac{X_i - M_i}{X_i + M_i} - \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} \right) * \frac{100}{1 + \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)}}$$

$$\text{if } \frac{X_i - M_i}{X_i + M_i} < \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} .$$

The RCA index and other modified indices have been widely used in cross country and product specific comparisons to assess competitiveness. According to Prasad (2004), RCA indexes are relative measures, therefore results should be treated with caution and with understanding of their limitations. While an analysis of revealed comparative advantage of the industrial sector is helpful in analyzing structural change in export specialization, the revealed comparative advantage indices (RCA) do not reflect an industry's export competitiveness in the world markets.

Bernatonyte, Normantiene (2007) estimated the importance of Lithuanian intra-industry trade by using Grubel-Lloyd index, as intra-industry trade fails to reflect the comparative advantage and represent international trade within industries.

Falvey, Greenaway, Yu (2004) analyzed links between industrial restructuring, exporting and productivity, using a large level dataset for Swedish manufacturing firms.

According to Viilmann (2003), competitiveness is not expressed only in the lowest prices of commodities. Viilmann (2003) thinks, that competitiveness does not derive from minimization of costs and prices, but presupposes appropriate strategy in market development or penetration, and suggests a method to assess Estonia's external competitive position – Constant-Market-Shares analysis of export growth, which handles export growth as co-impact of four factors: global market growth effect, commodity composition effect, market share effect and change in competitiveness.

This paper uses the RCA\* indices to explicitly assess Lithuanian export competitiveness with Baltic States. The purpose of this comparison is to rank Lithuanian export amongst Latvian and Estonian export.

### The results of Lithuanian export competitiveness in comparison with other Baltic States

The estimation of Lithuania RCA\* indices in comparison with the other Baltic countries (see Figure 2) shows that during the study period (2001–2007) Lithuania has enjoyed a competitive advantage in several export categories. These broad export categories are: live animals and animal products (dairy produce), vegetable products (edible vegetables, cereals, products of milling industry),

prepared foodstuffs (preparations of meat and fish, prepared animal fodder, tobacco), products of the chemical industry (inorganic chemicals, fertilizers), plastics and articles thereof, wood and articles of wood, textile articles (articles of apparel and clothing accessories), base metal and articles (nickel, lead and article thereof), vessels (ships, boats and floating structures), miscellaneous manufactured articles (furniture and bedding).

Specifically, Estonian major domestic export categories that have a comparative advantage are: live animals and animal products, wood and articles of wood, miscellaneous manufactured articles. Estimation of Latvian RCA\* indices shows good competitive ability in these categories: live animals and animal products, prepared foodstuffs, wood and articles of wood, textile articles, base metal and articles, miscellaneous manufactured articles.

The analysis of commodities of traditional branches of Baltic state's industries showed, that major domestic commodities such as animal products, prepared foodstuffs, wood and wood articles, textile articles and furniture maintained their competitiveness from 2001 to 2007, because their RCA\* indexes remained in positive values (Table 1). The study of the RCA\* rate changes showed that the RCA\* index decreased in traditional industries, which were described as strong trade groups in the aspect of export. We see that no less important is the development of traditional industries, concentrating their efforts on innovation – improving already manufactured products and technologies, focusing on the industry, creating higher added value.

In the groups of live animals and animal products the strong specialization of Lithuanian export is obvious in the group of meat and meat products, in the group of milk and dairy products, and the vegetable products, but since 2004 indicators decreased, suggesting that economic integration has strengthened competition in these products. Estonia's export performance in this group of commodities is positive, which shows strong competitive conditions between Baltic States. Latvian RCA\* indicators are lower in this group, but they have become positive since 2004 and are growing rapidly.

In the group of prepared foodstuffs the strong competitive abilities in the international market are shown by Lithuanian RCA\* indexes of meat and fish products, though during the period of 2001–2007 these indexes had a tendency of increase. Estonian and Latvian export results of these products were worse, but the Latvian RCA\* rate increased.

Export of wood and articles of wood significantly surpass the import in all Baltic States, but indexes have a tendency of decline, so in 2001–2007 RCA\* decreased significantly, this indicates that the export positions are weakening. The strongest position in this group is retained by Latvia. The lack of improvement in timber industry competitiveness could be attributed to domestic factors: wood industry is a traditional branch in all Baltic States, which depends on local resources, so may lead to the problem of raw materials shortages.

In the group of textile and textile articles strong competitive abilities in the international market are characteristic to knitted, tatted and tailored clothing and

other ready-made articles of textile. Silk, wool, cotton, vegetable fibers, shoes, carpets and floor coverings have a strong import specialization. In certain sectors of industry, for instance, in the industry of clothing and sewing, the volumes of re-export influence the foreign trade rates. During 2001–2007 the RCA\* index had a little downward trend in all Baltic States. Lithuanian textile industry competes most successfully among Baltic States, but the decrease of RCA\* in articles represents a decline of trade opportunities at the local and international market. The export performance indices of these commodities should be treated with caution, because of lower production costs, that cause export competitiveness.

The analysis reveals the growing competitive advantage in the group of miscellaneous manufactured articles (particularly furniture) of Lithuania and Estonia, because the RCA\* rate during the period was positive and had a growth trend.

Although Lithuanian chemical production RCA\* indexes are negative, the analysis of competitive ability indexes of groups of commodities indicates that fertilizers, glues and ferments have the assumptions for forming competitive advantages in the international market in the group of mineral products. Thus, these products provide possible avenues for increasing export earnings. Plastic products export volume exceeds the imports to Lithuania, so a significant change was noticed in this group in 2007.

The export volumes are increasing in the group of machinery and mechanical appliances, electrical equipment parts thereof. Specialization of export during the analyzed period is increasing in the group of vehicles, aircraft, transport equipment, especially in the groups of aircrafts, spaceships and vessels, boats and floating constructions.

The potential possibilities to compete in international market have optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus, produced in Lithuania.

Figure 2 shows the results of the RCA\* index, which exhibits Latvian export specialization of base metals and articles of base metal. The export volumes increased in the group of vegetable products, but decreased in raw hides and skins, leather and articles thereof, so positive RCA\* indices in 2001–2006 became negative in 2007.

The analysis of Estonian RCA\* indices reveals growing competitive advantage in the groups of mineral products, animal and vegetable fats and oils, pulp of wood and cellulose materials, the RCA\* indexes of these groups have increasing tendency.

Overall, the calculated RCA\* indices show that Baltic States export competitiveness is restricted to a narrow range of export commodities of traditional branches. The RCA\* indices are useful in indicating the weak and strong sectors, and a structural shift in export patterns of an economy. Moreover, Lithuanian RCA\* indices have been high for only some of commodities, indicating no significant changes in commodity export patterns during the study period. But the study shows that in 2001–2007 the indicators of traditional industries had a decreasing tendency.

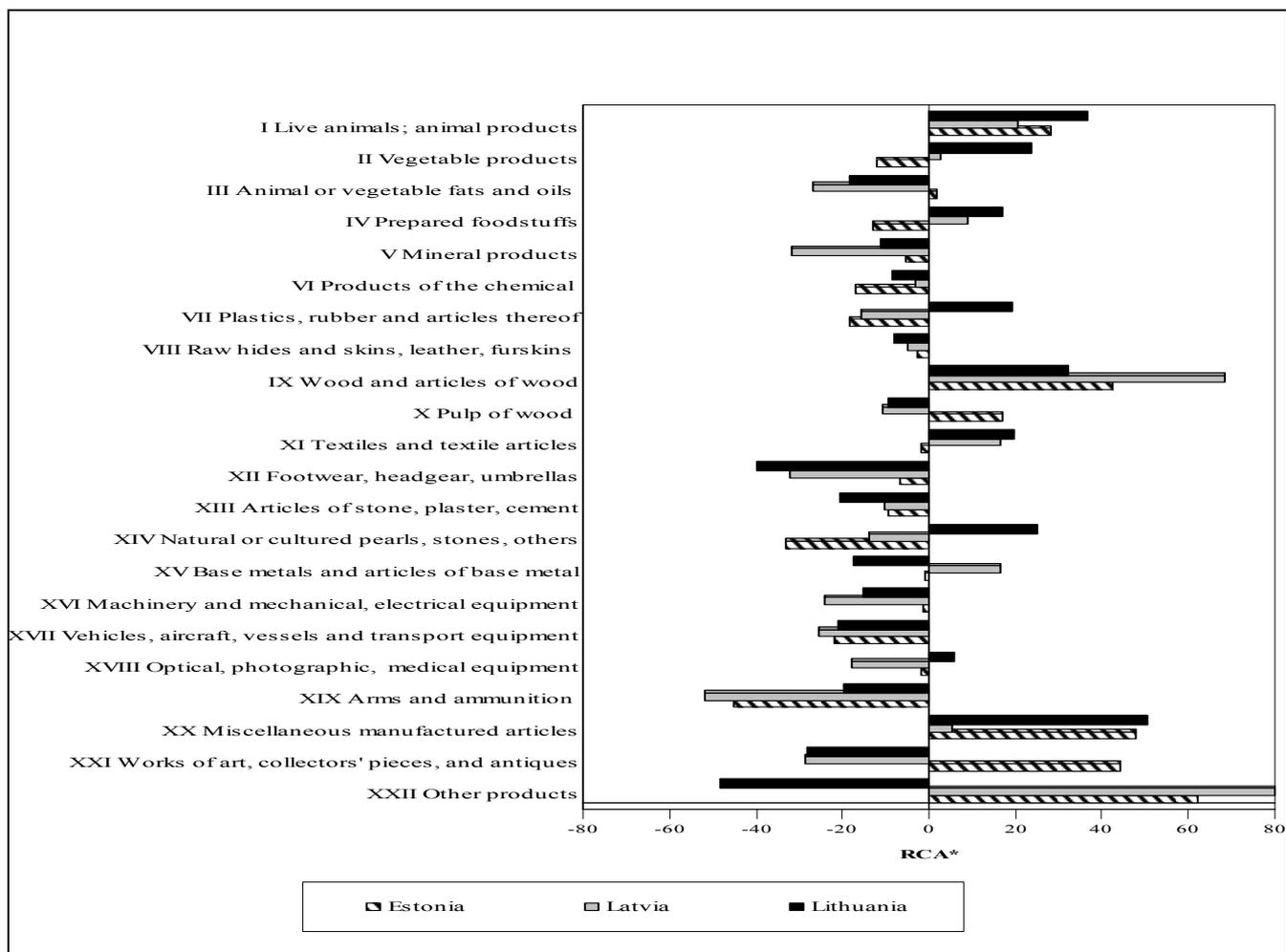


Figure 2. Lithuanian, Latvian and Estonian RCA\* indices for selected commodities in 2007

Source: calculated by the author according to the data of The Department of Statistics to the Government of the Republic of Lithuania.

Table 1

RCA\* indices of commodities of traditional industries

	2001	2002	2003	2004	2005	2006	2007
Live animals; animal products							
Lithuania	29.1	37.1	35.8	38.5	31.1	34.7	36.6
Estonia	26.2	29.4	22.8	30.2	25.8	27.3	28.3
Latvia	-8.5	-14.9	-10.8	0.02	2.3	17.0	20.7
Prepared foodstuffs							
Lithuania	9.5	10.9	11.3	7.2	14.5	16.1	17.1
Estonia	-5.9	-2.6	-5.9	-17.4	-21.2	-12.5	-12.8
Latvia	-2.5	3.0	-2.0	0.1	5.5	8.4	9.1
Wood and articles of wood							
Lithuania	57.4	55.3	51.0	40.5	35.2	34.4	32.1
Estonia	67.7	68.5	64.7	57.2	51.0	46.2	42.4
Latvia	91.1	88.8	84.9	79.1	75.8	74.8	68.3
Textiles and textile articles							
Lithuania	29.1	29.9	28.1	23.6	23.2	22.8	19.7
Estonia	17.8	16.0	17.5	12.6	10.0	1.1	-1.9
Latvia	26.7	25.4	26.5	25.6	23.5	21.5	16.7
Miscellaneous manufactured articles							
Lithuania	40.6	49.8	53.4	55.0	54.0	52.6	50.7
Estonia	45.5	51.4	56.0	57.2	54.8	48.8	47.9
Latvia	26.9	26.5	23.1	25.5	16.6	11.1	5.5

Source: calculated by the author according to the data of The Department of Statistics to the Government of the Republic of Lithuania.

The traditional industrial branches with low technological susceptibility prevail in Lithuania, where 64 percent of all manufacture production is made; in the sectors of average-low technologies – 19.5 percent, average-high 14 percent and industries of high technologies constitute only 2.5 percent of total manufacture production in 2007. However, the analysis of changes of Lithuanian export in accordance with the level of technological developments had showed a gradually growing export of average-high technology and average-low technology industries, however, the parts of high and low technology industries decline.

## Conclusions

The analysis of exports pattern, specialization and competitiveness showed that Lithuanian export is largely dependent on the export commodities of traditional industries. This is natural because of resources of the main raw materials and technological level of industry.

The analysis of traditional industries, presented in this paper, revealed, that major domestic commodities such as animal products, prepared foodstuffs, wood and wood articles, textile articles and furniture maintained competitiveness from 2001 to 2007, because their RCA\* indexes retained positive values, but the RCA\* index decreased in traditional industries, which were described as strong trade groups in the aspect of export. Latvia and Estonia retained strong positions in almost all traditional branches of industry. The specialization of Lithuanian export during the analyzed period increased in the group of aircrafts, spaceships and vessels, boats and floating constructions, optical, photographic, cinematographic, measuring, medical instruments and apparatus.

The analysis of changes of Lithuanian export in accordance with the level of technological developments showed that export of average-high technology and average-low technology industries gradually increased, but the areas of high and low technology industries declined. Lithuanian industrial policy strategy set out the key strategic actions, creating favorable business conditions for companies, creating high value-added activities, fostering innovation, supporting competitive conditions and high value-added export. An important strategic orientation received both advanced industries and traditional industries, generating high added value and recognized as a relatively competitive international market.

Moreover, Lithuanian RCA\* indices have been high for only some of the commodities and the analysis showed, that significant changes in commodity export patterns during the study period were not observed. Changing the steady industrial structure by increasing the shares of high technologies industries is not simple, and there are no clear tendencies observed in Lithuanian industry within the analyzed period. Big investments into scientific research, education and technologies are necessary for this purpose.

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Asta Sabonienė

#### Lietuvos eksporto konkurencingumas: Baltijos šalių palyginimas

Santrauka

Eksporto plėtros reikšmė yra ypač svarbi mažų šalių ekonomikos augimui, vertinant kapitalo iplaukas, užimtumo rodiklius, pramonės gamybos bazės augimą. Eksportas sudaro sąlygas vidaus pramonės masto ekonomijai, kuri nebūtų įmanoma dėl riboto vidaus rinkos dydžio.

Užsienio prekybos rezultatai, jų pokyčiai geriausiai atspindi nacionalinių įmonių gebėjimus konkuruoti atviros pasaulinės ekonomikos sąlygomis.

Globali konkurencija ir ekonominė integracija sąlygoja Lietuvos pramonės struktūros pokyčius, kurie atskleidė Lietuvos pramonėje egzistuojančius rinkos trūkumus, nepakankamą vadovybą, mokslo ir techninės pažangos, informacinių technologijų ir komunikacijų lygį. Lietuvos pramonė dar nėra įsisavinusi aukštųjų gamybos technologijų tokiu lygiu kaip išsivysčiusios šalys ir Lietuvos eksporto konkurencingumą daugeliu atveju lemia mažesnės gamybos sąnaudos. Tradicinių žemųjų technologijų pramonės šakos svarbios Lietuvos pramonėje. Tačiau ne mažiau svarbi aukštųjų technologijų pramonės šakų plėtra, lemianti eksporto didėjimo galimybes ateityje.

Pasiektą pramonės sektoriaus konkurencinį pranašumą tarptautinėse rinkose atspindi užsienio prekybos rezultatai, eksporto ir importo mastai, vertinant pagal atskiras prekių grupes. Vienas iš dažniausiai taikomų metodų pramonės restruktūrizacijos rezultatams vertinti yra eksporto specializacijos nustatymas. Vienas iš svarbiausių rodiklių ekporto specialiacijai vertinti – tai Balassa (1965) pasiūlytas atskleisto lyginamojo konkurencinio pranašumas indeksas RCA, atskleidžiantis, kokios prekių grupės yra svarbiausios eksporte. RCA rodiklis leidžia įvertinti tiek importo prasiskverbimo lygį į vietinę rinką, tiek identifikuoja tarptautinėse ir vietinėse rinkose sėkmingiausiai konkuruojančias prekių grupes. Taikant šį rodiklį susiduriama su problemomis dėl itin skirtingo šalių dydžio, todėl šiuolaikinėje teorijoje analizei taikomi modifikuoti lyginamojo pranašumo rodikliai.

Straipsnyje analizuojami Lietuvos eksporto konkurencingumo rodikliai 2001–2007 m. laikotarpiu ir palyginami su kitų mažų Baltijos šalių – Latvijos ir Estijos – rodikliais. Šalies eksporto konkurencingumo rodiklių pokyčių įvertinimas didėjant prekybos liberalizacijai ir keičiantis prekybos sąlygoms ES ir panaudojimas formuojant eksporto rėmimo politiką yra aktuali mokslinė problema. Straipsnis skiriamas šioms problemoms nagrinėti.

**Mokslinių tyrimų objektas:** Lietuvos eksporto rodikliai ir eksporto konkurencingumas.

**Straipsnio tikslas:** ištirti Lietuvos pramonės pagamintų prekių grupių lyginamojo konkurencinio pranašumo rodiklius 2001–2007 m. laikotarpiu, atlikti Baltijos šalių lyginamąjį eksporto specializacijos analizę.

**Tyrimo metodai:** literatūros mokslinė analizė ir apibendrinimas, matematiniai skaičiavimai, statistinių rodiklių lyginamoji analizė.

Lietuvos eksporte vyrauja tradicinių pramonės šakų produkcija – maisto produktai, tekstilės gaminiai ir drabužiai, odos ir kailių dirbiniai, chemikalai ir chemijos pramonės gaminiai, mediena ir jos dirbiniai. Gyvulių ir gyvūninės kilmės produktų grupėse stipri eksporto specializacija išryškėja gyvų gyvūnų grupėje, pieno ir pieno produktų grupėje, tačiau rodikliai nuosekliai mažėja. Tai rodo stiprėjančią konkurenciją šiais produktais. Estijos eksporto specializacija taip pat stipri šioje produktų grupėje, o Latvijos RCA\* nuosekliai augo 2001–2007 m. laikotarpiu. Paruoštų maisto produktų grupėje stiprios konkurencines galimybes tarptautinėje rinkoje rodo gaminiai iš mėsos ir žuvies RCA\* rodikliai. Šios prekių grupės rodikliai tiriamuoju laikotarpiu nedaug augo ir buvo geresni nei kitų Baltijos šalių. Chemijos pramonės šakų produkcijos konkurencingumo rodikliai neigiami, tačiau sėkmingai tarptautinėje rinkoje konkuruojama tokiais gaminiais, kaip trąšos, albituminės medžiagos, klijai ir fermentai. Chemijos pramonės pardavimų lyginamasis svoris bendroje pramonės struktūroje yra vienas iš didžiausių, todėl neigiami RCA\* pokyčiai rodo mažėjančias konkurencines galimybes ne tik šakos, bet ir šalies pramonės mastu. Medienos ir medienos dirbinių eksportas gerokai viršija importo apimtį, tačiau 2001–2007 m. laikotarpiu RCA\* rodikliai itin sumažėjo. Tai rodo, kad eksporto pozicijos silpnėja. Estijos ir Latvijos RCA\* rodikliai medienos ir medienos dirbinių grupėje yra gerokai didesni nei Lietuvos. Tai atskleidžia stiprią konkurencinę situaciją vienoje iš svarbiausių tradicinių pramonės šakų. Tekstilės medžiagų ir dirbinių grupėje stiprios konkurencines galimybes tarptautinėje rinkoje turi megzti, nerti ir siūti drabužiai bei kiti gatavi tekstilės dirbiniai. Tiriamuoju laikotarpiu RCA\* rodikliai mažėjo. Šioje grupėje Latvijos RCA\* rezultatai yra taip pat geri. Stiprias pozicijas Lietuva ir Estija užima baldų eksporto grupėje, RCA\* rodikliai yra geri ir nedaug didėja.

Lietuvos eksporto specializacija analizuojamu laikotarpiu stiprėjo antžeminio, oro, vandens transporto priemonių grupėje, ypač oro ir laivų, valčių bei plaukiojančių konstrukcijų grupėse. Potencialines galimybes konkuruoti tarptautinėje rinkoje turi Lietuvoje pagaminti optikos, matavimo ir medicinos prietaisai.

RCA\* rezultatai atskleidžia Latvijos eksporto specializaciją netaurinių metalų ir jų dirbinių bei augalinės kilmės produktų grupėse. Tačiau stipriai sumažėjo žaliavinės odos, kailių ir jų dirbinių eksportas. Estijos RCA\* rezultatai rodo didėjančias konkurencines galimybes

mineralinių produktų, gyvulinių ir augalinių riebalų bei aliejaus, celiuliozės ir medienos grupėse.

Aukštųjų technologijų pramonės šakų gaminamų prekių grupių neigiami RCA\* rodikliai atspindi pakankamai žemą konkurencinį lygį, kurį lėmė ekonomikos transformacijos procesai, pažangių technologijų diegimo, inovacijų bei mokslinės pažangos skatinimo problemos. Įvertinant aukštųjų technologijų pramonės šakų reikšmę visai ekonomikai, vienas iš svarbiausių politikos pramonėje uždavinių – skatinti šių šakų plėtrą mažinant verslo riziką, remiant bendradarbiavimą su mokslo institucijomis, dengiant tyrimų išlaidas.

Analizuojant pastarojo dešimtmečio pramonės šakų pasiskirstymo pagal technologijų lygį pokyčius, matome, kad tolygiai auga vidutinio sudėtingumo – aukštųjų bei vidutinio sudėtingumo – žemųjų technologijų pramonės šakų dalys, o mažėja žemųjų ir aukštųjų technologijų pramonės šakų dalys bendroje pramonės struktūroje. Didinti aukštųjų technologijų pramonės šakų dalį pramonėje yra aktuali problema, tačiau ne mažiau svarbi tradicinių pramonės šakų plėtra. 2001–2007 m. tyrimų rezultatai rodo pakankamai stabilią eksporto struktūrą, kurioje vyrauja tradicinių pramonės šakų produkcija.

Raktažodžiai: *eksporto konkurencingumas, lyginamasis konkurencinis pranašumas.*

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