

# THE EVALUATION OF BALKAN COUNTRIES CLOTHING TRADE WITH EU-28 BASED ON THE ANALYSIS OF COMPARATIVE ADVANTAGES INDICES

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## ABSTRACT

This paper presents an analyses of the trade competitiveness of the clothing sector of Balkans countries' vis-à-vis the EU-28 using 3 indicators: the Balassa index (RCA), the Vollrath's revealed competitiveness (VRC), and Lafay Index (LFI), during 2000–2015. All analyzed countries experienced a decrease in their comparative advantage, though it still remained on a high level in the case of Turkey, Macedonia, and Albania in on acceptable level in the case of Romania. We observed weakening comparative advantage stability, underpinned by convergence of revealed comparative advantage pattern.

**Keywords:** Competitiveness, comparative advantage, clothing industry

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## INTRODUCTION

Traditionally, textile and clothing industry has been playing a significant role in the economic development and foreign trade of the Balkans. The geographical distribution of production in the garment industry has changed considerably in the past decades resulting in significant economic losses in Europe and North America and important gains especially in Asia. The question is how the Balkans have been influenced by the globalization of clothing production, given that the textile and clothing industries is considered to be traditional for this region. The Balkans is economically the least developed region of Europe, and is considerably differentiated within itself by level of economic development. All Balkan countries had to face challenges such as restructuring of economic system, changing trade markets and patterns, reduction of competitive ability, contracted export base, and lower economies of scale. In presented context, we considered opportune to study and compare the current place of Balkan countries on the clothing European market.

**The main aim** of this paper is to measure and compare the trade competitiveness of the clothing industry of Balkans countries' vis-à-vis the EU-28 using 3 indicators: the Balassa index (RCA), the Vollrath's revealed competitiveness (VRC), and Lafay Index (LFI), during 2000–2015. The results of this research will help business and policymakers by highlighting the trends in structural change in the clothing trade in each of the observed countries.

**Methods** of the scientific research that have been employed in the paper are literature survey, mathematic calculations,

and comparative analysis of statistic indexes. To provide background for the analysis, the difference between the concepts of comparative advantage and competitiveness is presented briefly in the first section. The second section is about methodology, methods and data used; indices of comparative advantage are developed to examine trade competitiveness of the clothing industry of Balkans countries' vis-à-vis the EU-28. The final part draws some conclusions based on the findings and recommendations.

## 1. COMPARATIVE ADVANTAGE AND COMPETITIVENESS

The theory of comparative advantage is old but still relevant to compare a country's factor endowment structures; their trade patterns and give some predictive indicators. The concept of comparative advantages has the foundation in trade theory and is usually used in modern economic literature to describe the basic economic benefits that countries get from trading with one another. Comparative advantage occurs if a country is relatively better in producing a specific product than other countries. Given limited resources, a country's choice to specialize in the production of particular goods is basically influenced by its comparative advantage. There are numerous models that are used to analyze the source of comparative advantage, in this paper we focus on the two most representative: the classical model, developed by Davis Ricardo and the Heckscher–Ohlin model (H–O model), developed by the Swedish economists Eli Heckscher and Bertil Ohlin (see table 1) (1, 2, 3)

**Table 1.** Ricardian Model vs Heckscher-Ohlin Model

Ricardian Model (Classical Theory)	Heckscher-Ohlin Model (Neoclassical Theory)
2-2-1 Model (2 countries-2 commodities-1 factor)	2-2-2 Model (2 countries-2 commodities-2 factors)
There is only one factor of production: labor.	There are two factors of production: labor and capital.
Is expressed in terms of labor theory of value	Is expressed in terms of money/price theory
The difference in the cost ratios between countries is due to the difference in the skill and efficiency of labor	The relative differences in factor endowments are the causes for the differences in the prices of produces.
The principle of comparative costs is applicable only to international trade.	The principle of comparative costs is applicable to all trade; whether internal or international.
The welfare aspect of the trade is more significant.	The cause of international trade is more important than its welfare aspect.
The model applies in the short-term because the technology can change internationally over time.	The model presume that in the long-term, countries have the same technology.
Countries should specialize in producing goods that they can do best.	Countries should produce and export goods using the resources that they have in abundance.

Source: own representation of the main theories (1, 2, 3)

Therefore, a country has a comparative advantage in the producing those products which uses the relatively abundant resource in that country more intensively and it should specialize in producing goods that it can do best. Over time, the H-O model has been developed by many economists by dropping some of its simplifying hypothesis and acknowledging the differences, however, without changing the fundamental role of variable factor proportions in international trade. There was add to the model some practical considerations (such as tariffs, production technology, and factor price differences, consumption, productivity) to increase the model's predictive power, or as a mathematical way of discussing macroeconomic policy options. A country's comparative advantage in a product can change over time due to changes in any of the determinants of comparative advantage including resource endowments, technology, demand patterns, specialization, business practices, and government policies.(4)

The concept of competitiveness has many interpretations; some scholars use the term synonymously or in a similar way as the comparative advantage while others view it as an economy-wide characteristic. However, competitiveness always involves comparisons between companies or industries in different countries.

While theories defining the comparative advantage have been developed, the question that arises in this context is how to apply the theory in determining the comparative advantage of countries. The concepts of competitive advantage as the basis for the measurement of competitiveness were introduced by Liesner (1958) (5) but refined and popularized by Bela Balassa (1965, 1977) (6) in terms of the revealed comparative advantage (RCA), known as Balassa's index. On the basis of Balassa's index, a country is specialized in exports of a certain product if its market share in that product is higher than the average or, equivalently, if the weight of the product of the country's exports is higher than its weight of the exports of the reference area. Based on the basic concept of revealed comparative advantage, many different RCA indices have been suggested. Vollrath (1991) offered alternative measures of revealing a comparative advantage which include the effects of both the imports and exports of a country. (7). The Lafay index (LFI) shows the alternative measures of specialization, with taking into account both exports and imports flow. It allows analyzing the position of a specific product within the foreign trade structure of every analyzed country. (8)

**Table 2.** Indicators of comparative advantage

Index	Formula	Meaning
Balassa's Revealed Comparative Advantage Index/ RCA	$RCA_{ij} = (X_{ij} / X_{it}) / (X_{nj} / X_{nt})$ Where: X-exports, i -the country, j-commodity/industry, n-world or a set of countries t- all product groups.	$RCA_{ij} > 1$ indicates country i has a comparative advantage in production of j; the greater the index, the stronger the advantage. $RCA_{ij} < 1$ indicates that country i has a comparative disadvantage in production of j; the smaller the index, the greater the disadvantage.
Vollrath's Revealed Competitiveness Index (VRC)	$R_{Cij} = \ln (RX_{Aij}) - \ln (RMA_{ij})$ Relative export advantage: $RXA$ $RXA_{ij} = (X_{ij} / X_{it}) / (X_{nj} / X_{nt})$ Relative import advantage : $RMA$ $RMA_{ij} = (M_{ij} / M_{it}) / (M_{nj} / M_{nt})$	A positive value of the indices reveals a comparative advantage, while a negative value reveals a comparative disadvantage.
Lafay Index /LFI	$L_{ij} = 100[(X_j - M_j)/(X_j + M_j) - S_k(X_{ik} - M_{ik})/S_k(X_{ik} + M_{ik})] / [(X_j + M_j)/S_k(X_{ik} + M_{ik})]$ X and M are exports and imports for country i, good j .	Country is considered to have a comparative advantage (disadvantage) in a given commodity when the balance in relation to GDP exceeds (is less than) the attributed balance, i.e. exceeds (is less than) zero. The comparative advantage neutral point is thus when the net exports marks zero.

Source: own representation of the main theories (6,7,8)

## 2. RESULTS AND DISCUSSION

We have calculated all the indicators described in Table 2. To analyze the trade patterns and changes in the Balkan States, on the European Union (UE 28) clothing markets during the period of 2000-2015.

As can be seen, the Balassa index is decreasing for all countries in the Balkans. In 2015, countries with the highest RCA index of competitiveness at garment industry on the EU market are Albania (8.07), Republic of Macedonia (5.64) and Turkey (5.04). The largest decreases at the RCA index were recorded in Albania, Republic of Macedonia and Turkey where the value in 2015 was equal with the half value recorded in 2000. The countries that registered a comparative disadvantage in the production of clothing are Montenegro (0.14) and Slovenia (0.41).

According to the index Vollrath which takes into account not only exports but also imports, the same decreasing trend is observed. In 2015, the highest value of the index VRC was registered in Macedonia (2.83) and in Turkey (2.46) followed by Albania (1.74) and Bulgaria (1.69). Slovenia (-0.27) and Montenegro (-1.86) have negative values. This means that these countries have a comparative disadvantage at the garment export on the EU 28 market.

After Lafay index most specialized countries are Macedonia (5.15), Albania (5.12) and Turkey (4.38).

In conclusion, regardless of the indicator used, the most competitive countries in the clothing's trade are Albania, Republic of Macedonia and Turkey while at the opposite pole is Montenegro and Slovenia.

**Table 3.** Evolution of comparative advantage indicators, reported to EU 28, 2000-2015.

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
RCA	Albania	16.05	15.05	15.11	14.50	14.69	14.21	14.05	13.57	13.39	12.48	9.35	8.65	7.86	7.19	6.83	8.07
	Bulgaria	6.30	7.52	8.00	8.43	7.93	6.98	6.04	5.46	4.50	4.52	3.85	3.34	3.20	3.08	3.07	2.88
	Bosnia and Herzegovina				2.05	1.72	1.62	2.28	2.15	2.14	2.18	1.81	1.81	1.82	1.87	1.96	2.12
	Croatia	4.59	4.43	4.39	4.07	3.53	3.07	2.59	2.39	2.21	2.28	2.13	2.25	2.21	2.09	2.82	2.64
	Greece	5.67	5.44	5.62	5.65	5.34	4.39	3.71	3.38	3.12	2.57	2.01	1.73	1.42	1.35	1.27	1.13
	Montenegro							0.05	0.07	0.12	0.21	0.18	0.09	0.15	0.11	0.17	0.14
	Romania	9.71	10.28	9.88	9.78	9.02	7.89	6.83	5.41	4.25	3.52	3.20	3.00	3.06	2.68	2.53	2.37
	Serbia							2.47	2.55	2.60	2.98	2.14	2.12	2.38	2.11	2.06	1.90
	Slovenia	1.92	1.71	1.33	1.14	1.05	1.06	0.92	0.84	0.72	0.63	0.61	0.49	0.45	0.43	0.45	0.41
	Macedonia	10.41	11.61	12.62	12.68	12.81	11.55	10.56	9.44	10.65	10.06	8.67	7.63	7.94	7.44	6.60	5.64
	Turkey	10.19	8.95	9.41	8.93	7.96	7.62	7.03	6.54	5.32	5.28	5.77	5.36	4.96	5.20	5.15	5.04
VRC	Albania	2.11	2.11	2.06	1.98	2.02	2.06	2.01	1.97	2.10	2.36	2.00	1.96	1.86	1.67	1.68	1.74
	Bulgaria	2.00	1.96	1.88	1.91	2.02	2.14	2.14	2.10	2.04	2.02	1.83	1.87	1.85	1.78	1.74	1.69
	Bosnia and Herzegovina				1.26	1.10	0.76	1.13	1.18	1.22	1.30	1.08	1.15	1.09	1.10	1.13	1.22
	Croatia	1.43	1.65	1.84	1.77	1.61	1.44	1.17	0.96	0.93	0.93	0.82	0.79	0.78	0.81	0.68	0.66
	Greece	1.71	1.65	1.94	1.88	1.72	1.41	1.24	1.00	0.89	0.75	0.54	0.47	0.43	0.40	0.34	0.16
	Montenegro							-2.02	-2.08	-1.91	-1.28	-1.52	-2.27	-1.81	-2.24	-1.72	-1.86
	Romania	2.54	2.60	2.55	2.61	2.69	2.63	2.62	2.41	2.08	1.91	1.89	1.82	1.76	1.68	1.64	1.58
	Serbia							1.85	1.62	0.89	1.63	1.51	1.32	1.53	1.38	1.33	1.37
	Slovenia	0.57	0.50	0.34	0.29	0.51	0.56	0.42	0.32	0.09	-0.11	-0.06	-0.24	-0.24	-0.23	-0.24	-0.27
	Macedonia	4.21	3.93	4.10	3.83	3.77	2.81	2.95	2.95	3.17	3.15	3.12	3.19	3.16	3.03	2.98	2.83
	Turkey	4.22	3.94	4.06	3.90	3.65	3.56	3.28	3.04	2.63	2.46	2.46	2.48	2.55	2.54	2.53	2.46
LFI	Albania	9.60	9.07	8.82	8.59	8.71	7.83	7.40	6.94	6.93	7.09	5.48	5.07	4.61	4.33	4.30	5.12
	Bulgaria	5.77	6.97	7.25	7.60	6.88	5.81	4.77	4.17	3.31	3.70	2.75	2.42	2.27	2.20	2.26	2.09
	Bosnia and Herzegovina				0.98	0.71	0.40	1.02	0.97	0.97	1.14	0.73	0.79	0.74	0.80	0.89	1.06
	Croatia	3.25	3.45	3.48	3.08	2.45	1.84	1.22	0.90	0.77	0.82	0.58	0.57	0.57	0.58	0.56	0.42
	Greece	3.77	3.64	3.96	3.69	3.06	2.18	1.58	1.08	0.82	0.49	0.12	0.03	-0.01	-0.06	-0.15	-0.42
	Montenegro							-0.40	-0.44	-0.49	-0.53	-0.62	-0.76	-0.67	-0.81	-0.74	-0.71
	Romania	9.84	10.69	10.27	10.10	8.81	7.19	5.80	4.30	3.13	2.82	2.33	2.13	2.10	1.85	1.80	1.64
	Serbia							1.43	1.39	0.95	1.96	1.19	1.12	1.36	1.22	1.20	1.13
	Slovenia	0.46	0.31	-0.02	-0.09	0.15	0.18	0.02	-0.07	-0.24	-0.51	-0.41	-0.47	-0.41	-0.40	-0.47	-0.48
	Macedonia	11.17	12.94	13.46	13.56	12.77	10.56	9.29	8.21	8.99	9.11	7.38	6.54	6.62	6.41	6.01	5.15
	Turkey	10.30	10.14	10.56	9.87	8.14	7.32	6.27	5.70	4.40	4.77	4.56	4.13	3.93	4.17	4.42	4.38

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### 3. CONCLUSION

The study of the Balkans shows that although most countries have remained competitive, the degree of competitiveness has a negative trend. In order to maintain their competitive advantage, the countries concerned must seek to develop the main factors of competitiveness: labor, capital, but also factors related to production technology, price differences, consumption, and productivity. They also need to capitalize some of the advantages like: local endowments, quality and availability of infrastructure, and proximity to input and product markets.

The main challenges faced by the Balkan states were restructuring of the economic system, changing markets and trade patterns, declining domestic demand for brand less clothing, reducing competitive capacity and economies of scale through outsourcing or subcontracting, and reducing the export base. For a long time, cheap labor has been one of the main strengths of the Balkan clothing industry. Rising

wages in this industry, as a result of labor market pressure or government policy, has led to decreasing competitiveness of these products on the EU market and implicitly to the decrease of exports of garments from these countries. Opening up the labor market for EU citizens, or migrated to better paid sectors, leads to a shortage of workers, especially skilled, which in the long run may lead to lower product quality. Possible effects, to maintain competitiveness, would be pushing the industry into automated technology to reduce human costs, or get higher value-added products. Both variants lead to other competitiveness factors: production technology and capital; factors that are deficient in this area. A possibility of maintaining the competitive advantage is a better strategic positioning of the companies by adopting a diversification strategy. The main opportunities that most of these countries can exploit are related to their geographical position and infrastructure in the garment sector.

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