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# REVEALED COMPARATIVE ADVANTAGE AND MERCHANDISE EXPORTS: THE CASE OF MERCHANDISE TRADE BETWEEN CROATIA AND THE REST OF THE EUROPEAN UNION MEMBER COUNTRIES

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#### Abstract

The main objective of this paper is to explore the relationship between merchandise exports and revealed comparative advantage (RCA) indicators of Croatian exports on the European Union (EU) market. For this purpose the main hypothesis is defined as follows: a Croatian merchandise export is positively correlated with RCA indicators on the EU market. Based on the empirical tests and using the defined econometric model for the period 1995-2012, the main hypothesis of research was confirmed; meaning correlation between indicators of RCA in merchandise exports on the EU market in the long and short run is confirmed. Positive and statistically significant relationship was found between RCA in export of raw materials excluding fuel and level of merchandise export as well as RCA in export of machinery and transport vehicles and level of merchandise export.

Key words: revealed comparative advantage, merchandise export, Croatia, European Union

#### 1. INTRODUCTION

As it has been recognized since the period of mercantilism, export growth is essential for every country due to numerous reasons. Export growth is particularly important for small countries whose market does not have a substantial purchasing power to utilize economies of scale. Export growth can influence positively the employment level as well as economic growth of the exporting country. Observed at the micro level, it is generally accepted that exporting firms are more efficient in production as compared to firms that are focused on domestic market (Bernard and Jensen, 1999). Countries that have more open borders are also countries that tend to grow quickly (Frankel and Romer, 1999). Furthermore, due to the recent global financial and economic crisis, which brought about recession in many countries, the hypothesis on the export-led growth has gained considerable attention of scientific community and professionals. The potential solution to the crisis is increasingly seen in exporting to the markets of those countries that are reported to have higher economic growth and, in line with this, greater demand for goods (Santos, Ribeiro and Carvalho, 2013).

According to Stojčić, Bečić and Vojinić (2012), as opposed to Slovenia that develops merchandise exports competitiveness based on products quality of export, Croatian merchandise exports competitiveness is still based on lower costs of production. However, merchandise exports competitiveness based on lower costs has limited growth potential.

This paper has the aim to explore the correlation between the revealed comparative advantages (RCA) and Croatian merchandise exports. Following this, the research hypothesis is defined: a Croatian merchandise export is positively correlated with indicators of revealed comparative advantages on the EU market.

With empirical verification of the main hypothesis, conclusions about the significance of branches of economic activity in which the Republic of Croatia has revealed comparative advantage in merchandise exports in the long and short run are to be made.

The paper consists of five parts. After the first, introductory section, the second part contains a literature review. Methodology and empirical data are presented in the third section, and the results in the fourth part of the paper. The fifth part is the conclusion.

#### 2. LITERATURE REVIEW

Comparative advantages, no matter from what they stem are the most important theoretical assumption of international trade. Comparative advantage is

subject to different interpretations when extended beyond the classical trade theory and, particularly, with respect to its measurement (Siggel, 2006). There are two main theories of international trade to distinguish two different sources of comparative advantage: Ricardo and Heckscher - Ohlin (HO).

According to Harrigan (1997) and according to Lai and Zhu (2007) Ricardo's theory of comparative advantage achieves its relevance in explaining trade between capital abundant countries. Studies of sector growth and competitiveness of the EU economy (Sieber and Silva-Porto, 2009) suggest a conclusion that patterns of trade between countries at a high level of development is increasingly determined by product differentiation. According to Debaere (2003), HO theory of comparative advantage largely explains international trade in cases where the sample countries are heterogeneous in terms of achieved level of economic development and the production factors abundance.

Lin, Cai, and Li (1996) suggest that the strategy based on comparative advantages is the best choice of strategy for the purpose of maximizing benefits of trade, no matter of what is the source of comparative advantage.

Therefore, with the intention to explore the comparative advantages of exporting various indices of revealed comparative advantages (RCA) were developed. Balassa (1964) developed an index called revealed comparative advantage. Lafay (1992) developed an index of discovered comparative advantage, which is called Lafay indicator. These indices are used in various studies of international trade.

However, Hoen and Oosterhaven (2006) showed that the standard measure of RCA, ranging from 0 to  $\infty$ , has problematic properties. Due to its multiplicative specification, it has a moving mean larger than its expected value of 1, while its distribution strongly depends on the number of countries and industries. Hoen and Oosterhaven (2006) argue that these properties make its outcomes incomparable across time and place and its economic interpretation problematic and propose an alternative measure.

Indices of RCA show realized comparative advantage in the exports of a country, not a source of comparative advantage (Utkulu and Seymen, 2004).

De Benedictis and Tamber (2002) analyzed advantages and disadvantages of the most often used RCA index, the Balassa index. They argue that new studies which tried to circumvent by undertaking some transformations of the original index also have introduced further and important limitations.

Indices of RCA are arguably useful as one of the few formal ways of measuring the sector identity and intensity of a country's comparative advantage and disadvantage; yet their consistency with the most familiar theories of trade patterns has not always been clear, despite Balassa's efforts (Richardson and Zhang, 2001).

Widgren (2005) researched comparative advantage and its development across selected Asian, American and European countries for the period 1996-2002 calculating the Balassa index of RCA using industry data at the 4-digit level. Among the sample of countries, the USA is an exception: its comparative advantage is based on intensive use of highly skilled labour and not on physical capital. Asian countries and the new EU member states have considerable overlap in their comparative advantage. These countries can be divided into three groups: (1) those who converge towards the countries whose RCA is based on intensive use of human capital and not so much physical capital (Estonia, Hungary, the Czech Republic and China), (2) those who do not converge and their RCA is based on intensive use of unskilled labour and not physical capital (Romania, Lithuania, Turkey and India) and (3) those who do not converge and their RCA is based on intensive use of unskilled labour and physical capital (Latvia, Slovakia, Poland and Slovenia). The EU15 has shifted in a skill-intensive direction. It reached Japan and Korea during the latter half of the 1990s and early 2000s (Widgren, 2005).

Kaitila (2001) analyzed the trade between Central and Eastern European countries and the European Union for the period 1993-1998 and among other methods calculated the RCA indices for the Central and Eastern European countries. The results indicate that the comparative advantage of the analyzed countries in the observed period have developed in quite different directions.

Kaitila and Widgren (1999) analyzed RCA in trade between the Baltic countries and the EU. So-called similarity indices for the Baltic countries' exports to the EU and Balassa indices of RCA are calculated. They conclude that the Baltic countries compete against each other in the EU market, but that their trade is geographically dispersed.

Serin and Civan (2008) analyzed Turkey's comparative advantage in the tomato, olive oil, and fruit juice industries and how this has changed over the period 1995-2005 in the EU market. They used two indexes: the RCA and the comparative export performance (CEP) index and regression analysis. Both, index and regression results, indicate that Turkey has a strikingly high comparative advantage in the fruit juice and olive oil markets in the EU but this is not the case in the tomato market.

Ferto and Hubbard (2002) analyzed the competitiveness of Hungarian agriculture in relation to that of the EU employing four indexes of revealed comparative advantage, for the period 1992 to 1998. The results suggest that despite of significant changes in Hungarian agriculture during the 1990s, the pattern of revealed comparative advantage has remained fairly stable. They argue that RCA indices, despite their limitations, provide a useful guide to underlying comparative advantage.

Also, Seyoum (2007) used RCA indexes to measure developing countries' comparative advantages in selected services for the period 1998-2003. The results indicate that strong comparative advantages exist for many developing

countries in transport, and travel services. There is substantial room for improvement in financial and business services. Also, their revealed comparative advantages remain, by and large, stable and do not show a fundamental shift in the structure of their comparative advantages (Seyoum, 2007).

Faustino (2008) investigated the relationship between all types of intraindustry trade and comparative advantage using revealed comparative advantage index. He found strong evidence of an inverted-U relationship.

RCA in Croatian merchandise exports was the subject of some current research. According to Teodorović and Butorac (2006) improvement in exports and revealed comparative advantages of Croatia can be achieved through the performance of key determinants of productivity and competitiveness. In this regard, recommendations to encourage new investment projects, investment in research and development and application of innovation, investment in human capital and the application of new technologies are given. According to Butorac (2007), there is a stagnation or decline in the competitiveness of Croatian exports in the EU25 countries. According to Bezić, Cerović, and Galović (2011) low investment, low productivity and innovation in the manufacturing industry in Croatia negatively affects the development of the international competitiveness of exports. Positive RCA of net exports in the manufacturing industry in the period 2005-2009, is identified by authors in exports of beverages and tobacco products and exports of raw materials except fuels. Like already mentioned, according to Stojčić, Bečić and Vojinić (2012), Croatian merchandise exports competitiveness is still based on lower costs of production which leads to limited growth potential.

## 3. METHODOLOGY AND EMPIRICAL DATA

The main hypothesis is focused on exploring the correlation of time series. Economic time series are often non-stationary because they contain different trends. If two time series contain the same trend, i.e. if they are cointegrated, the error correction model can be applied and Engle-Granger cointegration approach (Engle and Granger, 1987). According to Granger, if two time series are co-integrated, then there must be causality in the Granger sense, at least in one direction. In order to empirically verify the causal relationship between exports and indicators of revealed comparative advantages, the Granger causality test is used.. Granger (1969) causality test is one of the earliest developed methods with the aim of quantifying the causal effects in time series. It is based on the generally accepted fact that the cause precedes effect which it consequently creates. It can be said that X causes Y in Granger sense if past values of X can help predict future values of Y better than only past values of Y. Granger causality test can be carried over stationary or co-integrated time series. Granger causality test involves estimating the following model:

$$Y_{t} = \mu_{t} + \sum_{i=1}^{p} \alpha_{i} \cdot Y_{t-i} + \sum_{i=1}^{q} \beta_{i} \cdot X_{t-i} + \varepsilon_{t}$$

Where  $\mathcal{E}$  denotes white noise and rest of the equation the deterministic component. The null hypothesis can be tested using the F-test. If the p-value is lower than the present level of significance, the null hypothesis is not accepted and it is concluded that the first observed time series causes the second time series, in Granger sense.

In the first step of the model, using appropriate statistical tests, namely the Augmented Dicky Fuller test, property of stationarity of the observed variables is tested. Following the completion of stationarity test using the least squares method, the parameters of the model will be defined. Verification of the model assumptions will be conducted by applying appropriate statistical methods.

Autocorrelation of residuals (errors) of the model will be assessed by the Durbin-Watson's test, Breusch-Godfrey's test and the correlogram.

Heteroskedasticity variance is verified by using White's heteroscedasticity test, while for verifying the normality of distribution of residuals Jarque-Bera test is used

If merchandise exports in the mentioned period correlates with merchandise exports in sectors in which Republic of Croatia has revealed comparative advantage, it is expected that merchandise exports of identified activities to be non-stationary time series in levels of the same order of integration, and ultimately co-integrated time series, and accordingly, the error correction model will be defined.

We follow the methodology from Nonejad and Zamani (2013) to determine Croatian merchandise exports developments and the role of product level revealed comparative advantages of Croatian exports on the EU market.

We firstly assume income in EU27 and price as a merchandise exports determinants:

$$RI = \beta_0 + \beta_1 \cdot EU_{27} + \beta_1 \cdot REER + \varepsilon_i$$

where:

*RI* denotes Croatian merchandise exports(million HRK) from Croatia expenditure approach, constant previous year prices, reference year 2010, 1995 - 2012 (ESA 2010),

 $EU_{\rm 27}$  denotes gross domestic product in EU 27 (million EUR) (at prices of the previous year) available at Eurostat.

*REER* denotes real exchange rate (HRK/EUR) data from Croatian National Bank.

Afterwards, efforts will be made to correlate merchandise exports of Croatia with indicators of revealed comparative advantages in identified activities. Since we are interested in discovering revealed comparative advantage of Croatian export products on EU market and its role for merchandise export level, RCA index is appropriate indicator.

Based on the demand function, the following econometric model is defined:

$$RI = \beta_0 + \beta_j \cdot RCA_j + \varepsilon_i$$

The RCA index is calculated as follows:

$$RCA_{i,j} = \frac{\frac{x_{i,j}}{X_i}}{\frac{x_{a,j}}{X_a}}$$

where:

 $x_{i,j}$  - exports of product j from Croatia,

 $X_i$  - total exports from Croatia,

 $x_{a,j}$  - total exports of product j from the EU27,

 $X_a$  - total exports from the EU27.

A comparative advantage is "revealed" if RCA>1; the greater the index, the stronger the advantage. If RCA is less than 1, the country is said to have a comparative disadvantage in product, commodity or industry. Depending on the characteristics of the observed variables, an autoregressive model with distributed increments (ARDL) and error correction model (ECM) is intended to be used. By testing this hypothesis, revealed comparative advantages of Croatian merchandise exports and their impact on exports in the long and short term, will be researched. By verification of this hypothesis, key activities in the mentioned period that determine the Croatian exports will be investigated.

To verify the hypothesis, Balassa index of RCA index is calculated using UNTCAD data for the period from 1995 to 2012. The specified index takes into account the level and structure of merchandise exports of Croatia and EU27 countries. Croatian merchandise exports (RI) data by expenditure approach, constant previous year prices, reference year 2010, 1995 - 2012 (ESA 2010) are available at Croatian Bureau of Statistics.

Characteristics of observed variables are listed in Table 1.

 $\label{eq:Table 1} Table \ 1$  Mark and variable description in the model of Croatian merchandise exports and RCA in exports to the EU27 market

Variable mark	Variable description	MIN	MAX	AVERAGE	MID- RANGE
RCA_FLS	RCA in Food and live stock	0.94	7.31	3.66	4.12
RCA_BT	RCA in Beverage and tobacco	0.90	15.40	4.44	8.15
RCA_RMEF	RCA in Raw materials, except fuel	1.89	8.61	4.35	5.25
RCA_AVFO	RCA in Animal and vegetable fats and oil	0.26	18.25	1.79	9.26
RCA_PCAM	RCA in Products classified according to the material	0.69	2.30	1.22	1.50
RCA_MTV	RCA in Machinery and transport vehicles	0.34	4.46	2.30	2.40
RCA_DFP	RCA in Different finished products	2.39	7.09	4.34	4.74
RI	Merchandise exports of Croatia (million HRK)	25.745	58.968	42.620	42.356
EU <sub>27</sub>	GDP in the EU <sub>27</sub> (million EUR)	7.177.118	12.619.038	10.340.339	9.898.078
REER	HRK/EUR real exchange rate	6.8122	7.671234	7.307	7.241

Source: Authors.

#### 4. RESULTS AND DISCUSSION

RCA in the EU market is the ratio of exports share of each product in the total merchandise exports of Croatia and exports share of each product in the total merchandise exports of the EU27. Analyzing the trend of revealed comparative advantage indicators in Croatian merchandise exports in regards to the EU27 in the period of 1995-2012, it can be concluded that the Republic of Croatia since 2007, has the highest level of revealed comparative advantages in the exports of raw materials except fuels to the EU27 markets. These products are intensive in natural resources. Merchandise exports to the EU27 marks higher proportion of raw materials, excluding fuel.

The highest average index of the revealed comparative advantage on the EU27 market during the 1995-2012, Croatia has achieved in exports of beverages and tobacco. In second place was exports of raw materials except fuels, while in third place are various finished products. According to this indicator Croatia lags the most in the exports of chemical products.

We firstly estimate merchandise exports as a function of income in EU 27 and real exchange rate of HRK against EUR. Like one can see in Table 2, RI and REER are integrated of order one but EU27 is integrated of order two. So we can run only multiple linear regression model assuming EU27 in a second difference and REER in a first difference independent variables and RI in a first difference dependent one.

Table 2 Income and price influences on Croatian merchandise exports

VARIABLE	MODEL DESCRIPTION	CONSTANT VALUE (α)/ COEFFICIENT OF CONSTANT (β)	P - VALUE
RI	dependent variable		
α	constant	2403.617	0.00
$D(EU_{27,2})$	independent variable	0.0087	0.00
D(REER; 1)	independent variable	-3079.898	0.47
Significance of the defined model (F-test)	7.592		0.00
Determination coefficient (R <sup>2</sup> )	0.558570		

Source: Authors.

Like one can see in Table 2 Croatian merchandise exports has been influenced by GDP in EU27 but not by HRK/EUR real exchange rate. Residuals in the estimated models are normally distributed. We found no heteroscedasticity in variance and no autocorrelation in residuals of the estimated model.

We firstly wanted to specify merchandise export level from Croatia as a function of RCA and Income in EU27, but we found multicolinearity problem between Income in EU27 and RCA. If income from EU27 influence merchandise exports level than it must be the case that income influence it's structure as well. So we abandoned the variable Income in EU27. We took RCA as defined Balassa (1964) since it provides good insight in revealed comparative advantages of Croatian exports on EU market.

The indicators of revealed comparative advantages are defined and calculated according Balassa (1964), for products where average revealed comparative advantage in the EU market during the period from 1995 to 2012, are more than one. Indicator movements in the period from 1995 to 2012 are associated with the movements of the level of Croatian exports in the same period. In the first step a linear multiple regression model is defined which will be used for estimating which variables can be correlated in the research (Table 3).

Table 3
Estimated model of Croatian merchandise exports and RCA in merchandise exports to the EU market

VARIABLE	MODEL DESCRIPTION	CONSTANT VALUE (α)/ COEFFICIENT OF CONSTANT (β)	P - VALUE
RI	dependent variable		
α	constant	4854857	0.02
RCA_FLS	independent variable	18000.09	0.95
RCA_BT	independent variable	-125477.9	0.32
RCA_RMEF	independent variable	1003728	0.00
RCA_AVFO	independent variable	72115.97	0.50
RCA_PCAM	independent variable	-4070604	0.01
RCA_MTV	independent variable	830247.6	0.02
RCA_DFP	independent variable	506351.4	0.10
Significance of the defined model (F-test)			0.00
Determination coefficient (R <sup>2</sup> )	0.937177		

Source: Authors.

Since we observe time series, we firstly test stationarity characteristics for the observed variables. Table 4 shows Augmented Dickey-Fuller Test results.

Table 4
Augmented Dickey-Fuller Test in the model of Croatian merchandise exports and RCA in exports to the EU market

VARIABLE		P - VALUE
RI	around zero	0.96
	around the constant	0.80
	in first differences	0.00
RCA_RMEF	around zero	0.87
	around the constant	0.82
	in first differences	0.00
RCA_MTV	around zero	0.56
	around the constant	0.42
	in first differences	0.00
RCA_PCAM	around zero	0.58
	around the constant	0.22
	in first differences	0.00
$EU_{27}$	around zero	0.99
27	around the constant	0.40
	in first differences	0.08
	in first differences	0.09
	around constant	
	In second differences	0.00
REER	around zero	0.88
	in first differences	0.00

Source: Authors.

Like one can see in Table4, variables RI, RCA\_RMEF, RCA\_MTV, RCA\_PCAM and REER are integrated of order one. Furthermore, EU<sub>27</sub>is integrated of order one only at 10% significant level.

Like aforementioned, we left out  $EU_{27}$  due to multicolinearity and we left REER since it's not significant. So we estimated long run equilibrium model between Croatian merchandise exports and RCA in exports to the EU market. The estimates are shown in Table 5.

Table 5
Estimated model of long-run equilibrium between Croatian merchandise exports and RCA in exports to the EU market

VARIABLE	MODEL DESCRIPTION	CONSTANT VALUE (α)/ COEFFICIENT OF CONSTANT (β)	P-VALUE
RI	dependent variable		
α	constant	32780.70	0.00
RCA_RMEF	independent variable	2748.70	0.00
RCA_MTV	independent variable	5688.39	0.00
RCA_PCAM	independent variable	-12495.93	0.00
Significance of defined model (F-test)			0.00
Determination coefficient (R <sup>2</sup> )	0.910677		

Source: Authors.

Estimates in Table 5 show significance for all of the observed variables as well as high determination coefficient that amounts more than 91%. But at the same time, one can see negative influence out of RCA\_PCAM variable. Aforementioned can be defined just as regularity in pattern of Croatian merchandise development and RCA in products classified according to the material on EU market.

Once the long-term equilibrium model of the observed variables is estimated, it is necessary to test the property of stationarity of residuals in the model (U) (Table 6).

Table 6

Augmented Dickey-Fuller test of stationarity of the residuals in the model of long-term equilibrium of Croatian merchandise exports and RCA of exports to the EU market

VARIABLE		P - VALUE
U	around zero	0.00

Source: Authors.

As shown in the Table 6, the residuals in the long-run equilibrium model show the property of stationarity in levels around zero.

Table 7 shows Granger-causality test results between the observed variables.

Table 7
Granger causality test of variables in the model of Croatian merchandise exports and RCA of exports to the EU market

number of lags: 2			
Null hypothesis:	number of observations	F-value	P-value
RCA_PCAM does not Granger cause RI	16	1.90439	0.1949
RI does not Granger RCA_PCAM		0.88257	0.4411
RCA_MTV does not Granger cause RI	16	6.37191	0.0145
RI does not Granger cause RCA_MTV		0.34181	0.7178
RCA_RMEF does not Granger cause RI	16	1.80424	0.2101
RI does not Granger cause RCA_RMEF		1.83389	0.2054
RCA_MTV does not Granger cause RCA_PCAM	16	4.22178	0.0436
RCA_PCAM does not Granger cause RCA_	0.34057	0.7186	
RCA_RMEF does not Granger cause 16 RCA_PCAM		0.12135	0.8869
RCA_PCAM does not Granger cause RCA_	4.03502	0.0485	
RCA_RMEF does not Granger cause RCA_MTV	16	0.63126	0.5501
RCA_MTV does not Granger cause RCA_F	RMEF	1.25623	0.3226

Source: Authors.

According to the Granger causality test (Table 7), it can be concluded that the variable RCA\_MTV representing revealed comparative advantage in the EU market in the exports of machinery and transport vehicles appears before the increase in the level of exports and before an increase in revealed comparative advantage in exports of products classified by material to the EU market. In the same way, it can be concluded that revealed comparative advantages of Croatia in exports of products classified by material to the European Union market come prior to the increase of the revealed comparative advantages in the exports of raw materials except fuels (RCA\_RMEF) to the EU market.

After evaluating the long-run equilibrium model, Table 8presents the model that describes the interdependence of changes in the short term i.e.

relationship between the observed variables in first differences ((D(RI,1),D(RCA\_RMEF,1), D(RCA\_MTV,1),D(RCA\_PCAM,1)) and residuals out of the long-term equilibrium of Croatian merchandise exports and RCA of exports to the EU market with lag one (U(-1)). The estimates are shown in Table 8.

Table 8
Engle-Granger co-integration approach in the model of Croatian merchandise exports and RCA of exports to the EU market

VARIABLE	MODEL DESCRIPTION	CONSTANT VALUE (α)/ COEFFICIENT OF CONSTANT (β)	P - VALUE
D(RI,1)	dependent variable		
D(RCA_RMEF,1)	independent variable	2847.49	0.00
D(RCA_MTV,1)	independent variable	2415.94	0.01
D(RCA_PCAM,1)	independent variable	-11991.91	0.00
U(-1)	independent variable	-0.862274	0.00
Determination coefficient (R <sup>2</sup> )	0.562362		

Source: Authors.

According to the estimated results in Table 8, one can see that all of the observed variables are significant. Furthermore, residuals out of the long-term equilibrium of Croatian merchandise exports and RCA of exports to the EU market with lag one (U(-1)) influence Croatian merchandise exports with coefficient -0.862274. So one can conclude that if the variables we observe move from long-run equilibrium (deviates) they make together, in e next year 86.22% of deviations will be adjusted.

Testing the assumptions in the model of Croatian merchandise exports and revealed comparative advantages in exports to the EU market (RCA) using the White test (p- value amounts 0.44) showed that the variance is homoscedastic and Jarque-Bera test (p – value amounts 0.96) showed that residuals are normally distributed. Also, correlogram showed that a problem of autocorrelation among the residuals does not exist.

In accordance with the empirical verification, the hypothesis which states that Croatian export is positively correlated with indicators of revealed comparative advantage in the EU marketcan be accepted.

#### 5. CONCLUSION

Based on the research it can be concluded that the main hypothesis of the paper which states: Croatian exports is positively correlated with indicators of revealed comparative advantage in the EU market is accepted. Based on the empirical tests, correlation between indicators of revealed comparative advantage in exports to the EU market both in the long and short run is confirmed. Conducted empirical studies have shown that if the parameters of revealed comparative advantage and the level of exports move away from the state of long-run equilibrium in one year, the next year they will return to the long-run equilibrium at the speed of 86.22%. Positive correlation, both in the long and in the short run, was found between the level of Croatian exports and revealed comparative advantages in exports of raw materials, excluding fuel, and machinery and transport vehicles to the European Union market. In the same manner, conducted empirical testing confirm negative correlation, both in the long and in the short term, between the level of Croatian exports and revealed comparative advantages in exports of manufactured products classified by material to the European Union market. Following Lall (2000), we can conclude that crude materials could be potentially used in domestic production and exported with higher added value, as products with higher technological complexity that occupy an increasing share of international merchandise trade.

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# OTKRIVENE KOMPARATIVNE PREDNOSTI I ROBNI IZVOZ: SLUČAJ ROBNE TRGOVINE REPUBLIKE HRVATSKE S OSTALIM ČLANICAMA EUROPSKE UNIJE

#### Sažetak

Osnovni cilj rada je istražiti povezanost robnog izvoza i pokazatelja otkrivenih komparativnih prednosti (RCA) Republike Hrvatske u robnom izvozu na tržište Europske unije. U tu svrhu definirana je hipoteza rada: robni izvoz Republike Hrvatske pozitivno korelira s pokazateljima otkrivenih komparativnih prednosti na tržištu Europske unije. Na temelju provedene empirijske provjere uz pomoć definiranog ekonometrijskog modela za razdoblje 1995. — 2012., potvrđena je hipoteza istraživanja, odnosno korelacija između pokazatelja otkrivenih komparativnih prednosti u izvozu na tržištu Europske unije i u dugom i u kratkom roku. Pozitivna i statistički značajna povezanost utvrđena u otkrivenim komparativnim prednostima između razine robnog izvoza Republike Hrvatske i otkrivenih komparativnih prednosti Republike Hrvatske na tržištu Europske unije u izvozu sirove materije, osim goriva te strojeva i prijevoznih sredstava.

Ključne riječi: otkrivene komparativne prednosti, robni izvoz, Republika Hrvatska, Europska unija

Jel klasifikacija: F1, F2