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FIFTEEN YEARS LATER

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APPLYING TRADE FACILITATION MEASURES FOR INCREASING REGIONAL TRADE IN SOUTHEAST EUROPE

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Abstract

In this paper we analyze the exchange of goods between the countries in Southeast Europe (SEE). By application of the gravity model of international trade, we determine the drivers of trade among 10 SEE countries: Albania, Bosnia and Hercegovina, Bulgaria, Croatia, Montenegro, Moldova, North Macedonia, Romania, Serbia and Slovenia. The focus of the research is to evaluate the influence of Trade Facilitation Indicators (TFIs) developed by OECD on intraregional trade. These indicators cover a wide range of existing border procedures determined as trade facilitation measures. The individual estimations show that, after controlling for the usual gravity model variables, seven out of the total eleven TFIs show a positive and significant impact on trade in SEE. These results point to the existence of a potential for a further boost of the intraregional trade by improving the activities related to information availability, formalities-documents, fees and charges, formalities-automation, formalities-procedures, appeal procedures and governance.

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Keywords: SEE countries, OECD Trade Facilitation Indicators, gravity model, trade, trade facilitation.

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Introduction

Living in the middle of the Balkans, in a region politically and economically divided into several small neighboring economies heavily dependent on imports of basic goods and energy, is motivation to pay attention to trade liberalization issues and the advantages of implementation of trade facilitation measures. Physical barriers and all the deferent trade policies applied at national, but at the same time negotiated at regional or European level, created a significant number of visible and non-visible trade and non-trade barriers. These barriers additionally lowered the poor efficiency and productivity of the Balkan countries, created significant losses to their economies and diminished the competitiveness of their exports to foreign markets. The division of the region, all the obstacles to the physical border infrastructure, the differences in the trade policies and the variety of combinations of visible and non-visible trade barriers, affected not only the exports from the region but also the transiting goods, thus making all the individual economies from the region unattractive for foreign investors, especially for investment in the form of foreign direct investment.

Having in mind relevant economic literature, this research is based on the viewpoint that trade facilitation is an area in international trade that deals with the alleviation of certain administrative and customs procedures to decrease the trade transaction costs, which happens to be its first and most obvious benefit. However, empirical evidence also confirms that trade facilitation might also lead to potential advantages such as stimulating substantial export diversification, increment of productivity, creation of new jobs, and finally, increment of FDI inflows (OECD, 2021).

The reaction of CEFTA-2006 member-states to the COVID-19 pandemic crisis regarding coming to a mutual agreement on the implementation of new trade facilitation measures, thus enabling faster movement of essential goods across the borders and the effects thereof, was the focus of previous research. However, the latest developments with the Ukrainian crisis, which at present faces for certain the European continent with, among all other unfortunate issues, a severe energetic crisis with the unpredictable possible outcome(s), inspired us to look further and spread our research also over some of the countries from Southeast Europe. Aware that Southeast Europe might be defined in different ways for the needs of certain research, this research follows the effects of eleven trade facilitation indicators upon the economies of the following ten countries: Albania, Bosnia and Hercegovina, Bulgaria, Croatia, Montenegro, Moldova, North Macedonia, Romania, Serbia and Slovenia. Thus, the research is done for six CEFTA-2006 members (excluding

Kosovo, for which data are non-available), and four EU member-states that share borders, being neighboring countries to CEFTA-2006 countries.

The research is based on the gravity model to evaluate the effects of trade among the countries from the SEE by implementing trade facilitation measures at the national level. The analysis is done by eleven so-called Trade facilitation indicators (TFIs) developed by OECD to measure trade facilitation in separate countries: involvement of the trade community, fees and charges, formalities-documents, information availability, formalities-automation, advance rulings, formalities-procedures, internal border agency co-operation, external border agency co-operation, appeal procedures, and governance and impartiality. The results of the model pointed out that seven out of eleven indicators have a significant impact on the trade of the SEE countries.

After the introduction, the paper explores relevant economic literature on trade facilitation and provides data on the OECD Trade Facilitation Indicators for the countries in the analysis. In the next section, the model is presented, the way it was constructed and the data. The following section elaborates on the results obtained from the model and in the last section, some conclusions from the research are presented.

Literature review

This study relates to two broad streams of literature. First, the topic of the paper is closely linked to the growing body of research on the effects of trade facilitation on trade. Second, it is linked to the gravity model-based research on the determinants of trade in the Southeast Europe countries.

The first group of research presents estimations of the favorable effects of trade facilitation measures on trade flows. According to a study by WTO, the complete implementation of the WTO Trade Facilitation Agreement should lead to increase of exports under the intensive margin of trade of at least 9.1%, which would be particularly beneficial for developing and low-income countries (WTO, 2015). More conservative estimations by Beverelli et al. (2015) point to at least a 0.23% increase in exports, measured by the extensive margin of trade, due to the implementation of trade facilitation measures. Further empirical evidence highlighting the favorable effects of trade facilitation on exports is provided by the estimations by Moïsé et al. (2013), Volpe Martincus et al. (2015), Persson (2013) and Fontagné et al. (2016).

The second stream of research examines the determinants of trade within the region of SEE and its potential in a gravity framework. One of the first empirical efforts is by Christie (2002), analyzing the trade flows of a sample of SEE countries in a gravity model. Bussière et al. (2005) applied a gravity model for the CESEE countries which are in the euro area and tried to analyze the factors of trade integration. The analysis has shown that the integration in trade between most of the largest CEE countries in the euro area is already relatively advanced, while the

SEE countries still have the potential for integration. Similarly, Kucharčuková et al. (2010) show that the international trade of the SEE countries is still below its potential, due to weak institutions and past regional conflicts. These findings are later confirmed by the gravity model by Pillaha (2012). In addition, his research shows that trade in the SEE region is adversely impacted by the transportation distance between countries, while FTAs are positively linked to regional trade integration. The importance of regional integration, particularly for the subregion of the Western Balkans, is also emphasized in the work by Murgasova et al. (2015), Trivić and Klimczak (2015), Pere and Ninka (2017) and Kaloyanchev et al. (2018).

This research specifically builds upon earlier estimations by Toševska-Trpčevska and Tevdovski (2016) on the influence of trade facilitation indicators on trade in SEE countries for the period 2008-2012. The specifications from the model showed that several factors, such as availability of information, trade community involvement, appeal procedures, automation of formalities and agency cooperation, can have a positive effect on exports. Trade facilitation effects on regional trade are later re-examined by Toshevska-Trpchevska et al. (2022) in a gravity panel model on a smaller sample of CEFTA-2006 countries. With the current study, the analysis is extended by broadening the sample of countries and the time under consideration, to provide a more comprehensive assessment of the developments in the implementation of trade facilitation and regional trade outcomes.

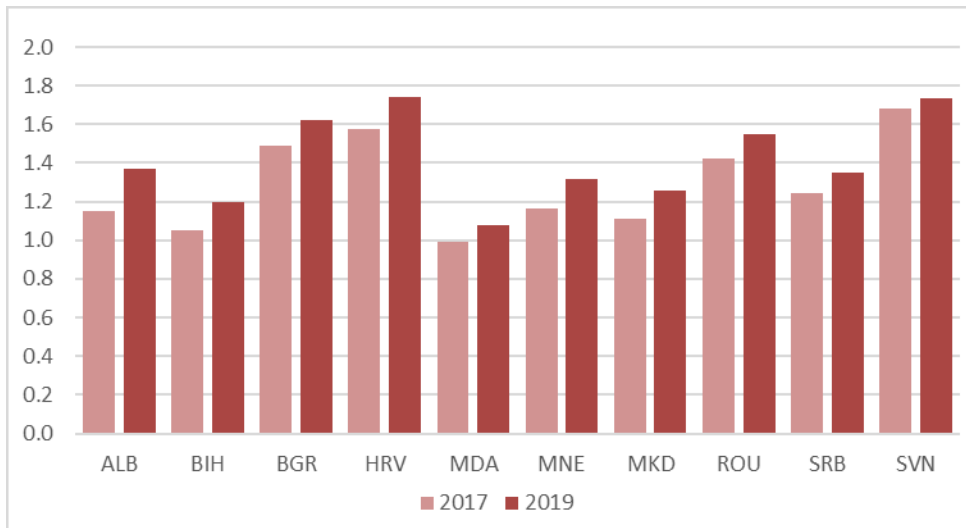
Trade facilitation and recent developments in SEE countries

Discrepancies in the regulatory frameworks and the non-tariff barriers pose a severe hindrance to international trade. Therefore, beyond its original focus on the simple reduction of tariffs and the elimination of quantitative restrictions, the current global trade policy is focused on measures aimed at reducing non-tariff restrictions on trade. By facilitating cross-border economic activity, the trade policy can support the competitiveness and growth of the economy.

Trade facilitation has the potential to create valuable global economic advantages. By eliminating customs-related delays and increasing the speed of delivery, trade facilitation promotes efficiency gains, lowers overall input costs, stimulates domestic and export demand, as well as production. According to the OECD estimates, complete implementation of the TFA could potentially lead to increase of world trade by 0.6% and the overall output by up to 0.5%, across all country groups (OECD, 2021). Over the long-term trade, facilitation impacts resource allocation and wages, which could eventually translate into rising incomes and welfare gains (OECD, 2021).

The OECD Trade Facilitation Indicators (TFIs) are a useful tool in assessing and monitoring policies aimed at border procedures streamlining, trade costs reduction and stimulation of trade flows. They are a valuable instrument for monitoring and comparing the trade facilitation performance of economies. In

Figure 1 the average values of implemented trade facilitation measures in the SEE countries are presented. These results point to that these countries have experienced improvement in the trade facilitation field from and average score of 1.288 in 2017 to 1.422 in 2019.

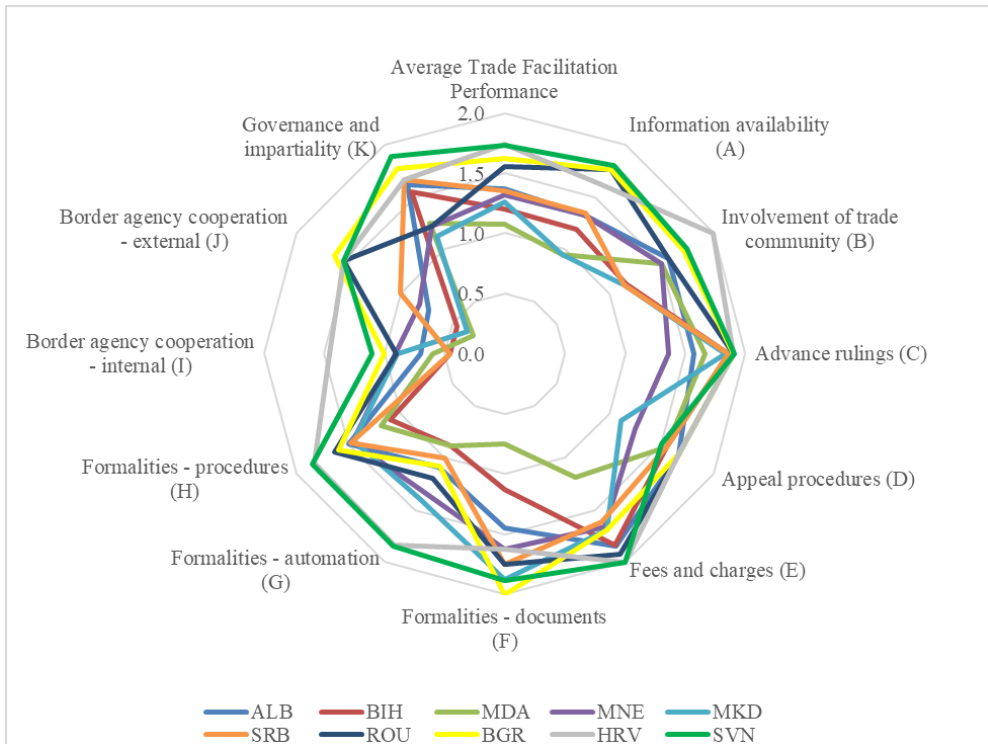


Source: OECD Trade Facilitation Indicators database.

Figure 1. Average Trade Facilitation Performance in SEE countries, 2017 and 2019

Figure 2 analyzes the separate eleven trade facilitation indicators across SEE countries. From the data presented in Figure 2 we could say that these countries have best performing results in the following trade facilitation indicators: 1.776 is the average score for advance rulings, 1.745 is the average score for fees and charges, and 1.583 is the average score of formalities-documents. The SEE countries have shown that they have their worst scores of trade facilitation indicators of 0.846 in internal border agency cooperation and 0.994 in external border agency cooperation.

In sum, the average values of the Trade facilitation indicators show that the SEE countries have shown improvement in the field of trade facilitation. Still, there remains room for further improvement, especially in terms of cross-border agency cooperation – internal and cross-border agency cooperation - external.



Source: OECD Trade Facilitation Indicators database.

Figure 2. Trade Facilitation Performance in SEE countries, 2019

The Empirical Model and Data

The model used in the paper tries to provide a qualitative analysis of the bilateral trade relations of the countries from Southeast Europe (SEE) and the influence of Trade facilitation indicators on their mutual trade. Countries that are being analyzed are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Moldova, North Macedonia, Romania, Serbia and Slovenia. Kosovo is excluded from the analysis due to the lack of data. The trade flows among the countries in the SEE region proved to be stable, due to the geographical proximity of the countries and similar rates of economic growth. However, the trade orientation of the region is dominantly towards the European Union.

In the dataset annual data on trade from 2006 to 2020 are included. With these data we have obtained more than 1.300 observations to make our estimations. For the analysis we have applied panel estimation of standard gravity model. The original gravity model is proposed by Linder (1961) and Linnemann (1966), and it is based on Newton's theory of gravitation. The model is widely used in papers that focus on international trade (Deardorff, 1995, Anderson and van Wincoop, 2003).

The estimates are made in E-views based on the OLS model, without effects. For the gravity model we have applied the following specifications:

$$\ln [EXP]_{ijt} = \beta_0 + \beta_1 \ln [GDPdiff]_{jt} + \beta_2 \ln [SumPOPULATION]_{it} + \beta_3 \ln [BORDimp]_{jt} + \beta_4 \ln [DISTANCE]_{ij} + \beta_5 [LANG]_{ij} + \beta_6 [(TFI_X^*)]_{ij} + \lambda_t + \varepsilon_{ijt}$$

The dependent variable $[EXP]_{ijt}$ represents the exports from country i to country j expressed in millions of US dollars.

In terms of independent variables, we measure distance relative to trade flows, economic size, and population, and we add two binary variables that measure common language, and common border. In separate regressions, we estimate the influence of each Trade facilitation indicator.

There are five independent variables included in the model. The variable $[sumPOPULATION]$ is calculated as a natural logarithm of the product of the populations of two countries and represents the relative size of both countries by their population. To capture the level of difference in economic development between the trading partners included in the analysis we used the variable $[GDPdiff]$. It is calculated as a natural logarithm of the difference between the maximum value and the minimum value of the GDP per capita between trading partners. The variable $[DISTANCE]$ measures the geographical distance between the biggest cities of countries i and j expressed in km. The variable $[LANG]$ is a binary variable equal to 1 for countries that have common language and 0 otherwise and $[BORD]$ is a binary variable equal to 1 for countries that have common border and 0 if they don't have common border. It is expected that countries that have similar languages and share a common border, will have reduced transaction costs that will result in higher bilateral trade.

The variable TFI_X^* is referring to a natural logarithm of the product of the value of trade facilitation indicators of both trading partners. Eleven specifications use different OECD trade facilitation indicators: involvement of the trade community, fees and charges, formalities-documents, information availability, formalities-automatization, advanced rulings, formalities-procedures, border agency cooperation - internal, border agency cooperation – external, appeal procedures, and governance and impartiality.

This variable makes it possible to see at the same time how improvements in specific TFI could affect both, exporters, and importers. The values of the indicators are from 0 which is the lowest to 2 which is the highest value. For the purposes of this analysis, we have rescaled the values of the indicators from 0-10. The variable TFI_X^* is constructed as a natural logarithm of the product of a specific TFI for importer and exporter.

$$TFI_X^* = TFI_{XJ} * TFI_{Xi}$$

We apply the letter X ranging from A, B, ..., to K to denote specific trade facilitation indicator. We run 11 regressions to analyze the influence of each of 11 OECD trade facilitation indicators. Since there is high correlation between the trade facilitation indicators, we needed to apply different specifications of the model for each indicator (Wilson, 2010).

The analysis is based on annual data. The source for export data is the International Monetary Fund, Direction of Trade Statistics. Data on GDP per capita and population are extracted from the World Bank Database. Data on the geographical distance between the economic centers of the two countries are from the website <http://www.worldatlas.com>. We have obtained the data for the Trade facilitation directly through e-mail from OECD responsible persons. Since 2012 the indicators are published every two years, and since then there were measures in 2015, 2017 and 2019. In our analysis we have included the values of all four trade facilitation indicators for the countries.

Results

In Table 1 we present the results from the analysis. For this research, eleven regressions are run to measure the influence of each of the Trade Facilitation Indicators (TFIs) on export among the subset of ten countries from Southeast Europe. The results from the eleven regressions enable us to verify the model and indicate a robustness check. In all eleven regressions, the results from the four independent variables: population, GDP, language, and distance are stable and highly statistically significant. This means that a bigger population and higher GDP in the countries that trade has a positive impact on their export performances. Also, countries that share a common or similar language have a higher probability to trade among themselves. The influence of the variable distance is with a negative sign which is the nature of gravity models. Increasing the distance between the countries is expected to influence on decreasing the probability to trade and decreasing the distance between them should have positive impact on their mutual trade. The variable border appears to be insignificant in most of the cases.

Out of eleven TFIs, eight are highly statistically significant at a 99% level of export. These are information availability, formalities-documents, fees and charges, formalities-automation, formalities-procedures, internal border agency-cooperation, appeal procedures, and governance and impartiality. All indicators have positive signs except for the indicator: internal border agency cooperation. This means that improving the results in the field of internal border agency cooperation will have a negative influence on these countries' export, i.e., the export will decrease. But for the purposes and the goal of this paper, the task was to define the trade facilitation measures in which countries could intervene and enhance their export and trade potential. In this regard we would like to point out that the highest positive effects for increasing export among the countries of Southeast Europe would be possible by undertaking measures to decrease and

harmonize the formalities-documents, to decrease the fees and charges to trade and to decrease and ease the trading procedures. The coefficients of the Trade facilitation indicators measuring formalities-documents, fees and charges and formalities-procedures are highest. 1% improvement in the indicator Formalities-documents could lead to a 1.22% increase in export among the countries in Southeast Europe. 1% improvement in the indicator Fees and charges could lead to a 1.06% increase in mutual export. 1% improvement in the indicator Formalities-procedures could lead to a 0.91% increase in mutual trade. These results indicate that there are still customs and administrative procedures that hinder trade among the countries in Southeast Europe and these results should be considered when creating future trade policies and initiatives.

The results also indicate that positive results in increasing countries' mutual export could be done by undertaking measures to alleviate the appeal procedures, increase automation of the trading procedures and increase the application of automated trade facilitation solutions, as well as by increasing the transparency and availability of information among the traders and the operators in the region of Southeast Europe. Positive results are expected if countries also undertake measures to improve the whole process of governance and impartiality in trade.

The indicators that measure the involvement of the trade community, advance rulings and external border agency cooperation appear to be insignificant for increasing trade among the Southeast Europe countries.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
No of observations	1302	1200	1182	1302	1182	1302	1302	1200	1302	1302	995
C	-22.460***	-17.722***	-22.070***	-23.998***	-28.698***	-24.756***	-21.040***	-20.050***	-16.500***	-19.148***	-18.526***
Log of Population	0.887***	0.859***	0.915***	0.927***	0.999***	0.888***	0.883***	0.840***	0.836***	0.967***	0.909***
Log of GDP difference	0.289***	0.316***	0.300***	0.285***	0.157***	0.224***	0.273***	0.303***	0.312***	0.205***	0.263***
Border	0.155	0.074	0.126	0.190	0.594***	0.302**	0.092	0.012	0.240*	0.062	-0.087
Language	2.064***	1.929***	2.055***	2.104***	1.980***	1.839***	1.901***	1.871***	2.084***	1.784***	1.890***
Log of Distance	-1.714***	-1.890***	-1.735***	-1.693***	-1.016***	-1.437***	-1.869***	-2.022***	-1.663***	-1.819***	-2.018***
Log of A - Information availability	0.659***										
Log of B - Involvement of the trade community		-0.145*									
Log of C - Advance rulings			0.315								
Log of D - Appeal procedures				0.749***							
Log of E - Fees and charges					1.061***						
Log of F - Documents						1.219***					
Log of G - Automation							0.733***				
Log of H - Procedures								0.912***			
Log of I - Internal border agency											
Log of J - External border agency									-0.627***		
Log of K - Governance and impartiality										0.019	
R-square	0.6048	0.6262	0.5874	0.6033	0.6326	0.6309	0.6159	0.6340	0.6124	0.5644	0.6088
Adjusted R-square	0.6030	0.6243	0.5853	0.6015	0.6307	0.6292	0.6141	0.6322	0.6106	0.5606	0.6064

Table 1. Results for the influence of TFIIs on trade in SEE, 2019

Source: Authors' calculation

Conclusion

The purpose of this paper is to investigate the importance of trade facilitation measures to increase trade among the countries in Southeast Europe. For this goal gravity model is applied to measure the importance of eleven Trade facilitation indicators created by OECD on trade among ten countries from the region. The results have shown that undertaking trade facilitation measures among the countries of Southeast Europe could have a positive impact and increase mutual trade.

The highest importance and greatest effect on increasing export could have the indicators: formalities-documents, fees and charges and formalities-procedures. 1% improvement in the indicator Formalities-documents could lead to a 1.22% increase in export among the countries in Southeast Europe. 1% improvement in the indicator Fees and charges could lead to a 1.06% increase in mutual export. 1% improvement in the indicator Formalities-procedures could lead to a 0.91% increase in mutual trade. Although the performances of these countries in these indicators are of the highest value, this research shows that their improvement could have an even greater impact on increasing export and increasing their mutual trade.

The results from this research indicate that there are still customs and administrative procedures that hinder trade among the countries in Southeast Europe and these results should be considered when creating future trade policies and initiatives. Although these countries trade on a preferential basis among themselves as the European Union has offered preferential treatment in trade to all Western Balkans countries since 2001, this research has shown that trade among the countries in Southeast Europe is hindered by many documents, additional fees and charges and lengthy customs and administrative procedures. Undertaking measures to decrease and simplify the documents, the trading procedures and the fees and charges should have the biggest positive effect on trade. Positive results for increasing these countries' mutual export could be also done by undertaking measures to alleviate the appeal procedures, increase automation of the trading procedures and increase the application of automated trade facilitation solutions, as well as by increasing the transparency and availability of information among the traders and the operators in the region of Southeast Europe.

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