TRADE FACILITATION INDICATORS AND THEIR POTENTIAL IMPACT ON TRADE BETWEEN THE COUNTRIES OF SOUTH-EASTERN EUROPE

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Abstract

In this paper we base our analysis on previous OECD findings and analysis of trade facilitation indicators for assessing relative economic and trade impact of specific trade facilitation measures for the countries of South-Eastern Europe. In the analysis we plan to include all CEFTA-2006 members, except Moldova, and other countries which are part of this region: Bulgaria, Romania and Greece. We plan to construct twelve trade facilitation indicators (TFIs) that correspond to the main policy areas under negotiations at the WTO. The indicators are composed from seventy-eight variables, whose values are drawn from publicly available data. We plan to use these indicators in gravity model in order to estimate the impact of those policy areas on trade volumes between the countries of the region. The use of individual trade facilitation indicators should also enable countries to better assess which trade facilitation measures deserve priority.

1. INTRODUCTION

Trade facilitation is the field where further liberalization can be achieved and possible trade growth can be obtained. All countries agree that undertaking measured in this field can be beneficial for increasing their trade and the trade of their partners. The concept of trade facilitation under the auspices of the WTO refers to "measures for expediting the movement, release and clearance of goods, including goods in transit" (World Trade Organization, 2014).

The growing importance of trade facilitation is acknowledged with the signing of the new Agreement on Trade Facilitation at the WTO Ministerial Conference held in Bali in December 2013. In November 2014 WTO members adopted a Protocol of Amendment to insert the new

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agreement in Annex 1A of the WTO Agreement. The Trade Facilitation Agreement will enter into force once two-thirds of members have completed their domestic ratification process.

The Trade Facilitation Agreement contains three sections: the first refers to measures that countries can undertake to facilitate the movement of goods in international trade, the second refers to special and differential treatment provisions for developing country members and least-developed countries, and the third section contains institutional arrangements and final provisions (World Trade Organization, 2014). The measures for trade facilitation have been organized in twelve articles numbered in the first section, as follows: publication and availability of information; opportunity to comment information before entry into force, and consultations; advance rulings; procedures for appeal or review; other measures to enhance impartiality, non-discrimination and transparency; disciplines on fees and charges imposed on or in connection with importation and exportation and penalties; release and clearance of goods; border agency cooperation; movement of goods intended for import under customs control; formalities connected with importation, exportation and transit; freedom of transit; and customs cooperation (World Trade Organization, 2014, pp. 1-20).

Based on the negotiations that were conducted before the signing of the WTO Trade Facilitation Agreement OECD has undertaken work to develop Trade facilitation indicators (TFIs) and measure their relative economic and trade impact on trade flows and trade costs in WTO member countries. The work was conducted in two phases. The first phase was conducted in 2011 by constructing twelve Trade facilitation indicators for twenty-five OECD members and Hong Kong, China (Moïsé et al., 2011, pp. 5-7). The second phase of the OECD work continued in 2013 by constructing sixteen Trade facilitation indicators for all WTO member countries and observers. The number of indicators has increased because of the development of four transit-specific indicators for taking account of transit trade which is of significant issue for developing landlocked and transit countries. The analysis was conducted for one hundred and seven countries at various stages of development, of which ninety-six were WTO members and eleven WTO observers (Moïsé and Sorescu, 2013, pp. 5-9).

The goal of this paper is to measure the impact of Trade facilitation indicators on bilateral trade flows for the countries in South-Eastern Europe in the most recent period (2008-2012). We use the OECD data base for the values of the Trade facilitation indicators for these countries[1] and apply them in augmented gravity trade model to estimate their impact on bilateral trade flows.

In this paper we analyze a selected group of countries from the region of South-Eastern Europe (SEE). We included five countries which are currently members of the CEFTA-2006 agreement: Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia[2]. Moldova is excluded although it is a CEFTA-2006 member since it shares only a small portion of trade with the above mentioned countries. As a part of the geographical region of South-Eastern Europe we included Bulgaria, Croatia, Romania and Greece although they are EU members and by some indicators are much better off than the other countries in the group. Namely, the geographical closeness and border-sharing can be enhancing factors for increasing mutual trade.

The paper is organized as follows. Section 2 presents the existing literature on gravity models with particular emphasis on the selected group of countries from the SEE region. Section 3 presents the research objectives while in Section 4 we explain the empirical model and its specifications used for the analysis, as well as the input data. Section 5 discusses the empirical results of the different specifications of the gravity model. In Section 6 we highlight the main conclusions from the results in order to give future prospects for trade policy directions for these countries.

2. LITERATURE REVIEW

Gravity models have been extensively used in economic literature dealing with international trade issues. They were first introduced in 1961 by Linder, then used by Tnbergen in 1962 and followed by Linnemann in 1966. Their basic is used to explain that trade among countries is directly affected by their economic size and inversely affected by the distance between the countries, measured as distance between their economic centers. The basic form of the gravity model has been augmented by adding additional factors that influence international trade. According to Cheng and Wall (2005) usually four variables are commonly added: common language, common border, accession to free trade arrangement and common territory in the past (such as the countries of former Yugoslavia or the former Soviet Union).

Gravity models are simple but have high explanatory power and that's why they are usually referred to as the workhorse for applied international trade. Some authors argue that gravity models have produced some of the clearest and most robust empirical findings in economics (Leamer and Levinsohn, 1995). However, there are problems with their application in certain situations. One of their main faults is defining the specifications that should be estimated. Usually, these models have been basically used on intuition as to which variables should be included in the models. Recently, a number of "theoretical" gravity models have been developed and they use various micro-founded theories of international trade to develop gravity-like models (Shepard, 2012). Some of these are based on technological differences – Ricardian model (Ricardo, 1817), factor endowments – Heckscher-Ohlin model (Ohlin, 1933), emphasize the importance of monopolistic competition and increasing returns to scale – Helpman and Krugman model (Helpman and Krugman, 1985) or capture the multilateral resistance relationships – Anderson and van Wincoop model (Anderson and van Wincoop, 2004).

The models have been frequently applied in explaining trade among Central and Eastern European countries. Some of the most influential studies in this field are those of Hamilton *et al.* (1992), Baldwin (1994), Havrylyshyn and Al-Atrash (1998), Kaminski *et al.* (1996), Jakab *et al.* (2001), Egger and Pfaffermayr (2003), Fidrmuc and Fidrmuc (2003) and Bussière *et al.* (2005) (Tosevska-Trpcevska and Tevdovski, 2014, p. 113).

For the countries of South Eastern Europe the literature doesn't have much evidence. There is a study by Christie (2001; 2004) pointing out that significant differences between actual and potential trade, both within the SEE region and between the SEE region and developed countries, is mainly due to the lack of transport infrastructure. Other authors analyze the trade liberalization in the SEE countries. They have estimated the impact of tariff and nontariff barriers on exports of manufactured goods and found that nontariff barriers exhibit larger effects on trade and also conclude that preferential trade agreements between SEE countries will have a limited impact on their mutual trade since their trade potential has already been reached (Damijan *et al.*, 2006). Authors like Bjelić *et al.* (2013) have focused their research on one part of the SEE region, i.e., Western Balkans countries or the countries that are still not EU members. They've been analyzing the effects of nontariff measures on intraregional trade and on their exports to the EU as their main export market. Their finding pointed that technical barriers to trade significantly reduce Western Balkans trade with the EU. Tosevska-Trpcevska and Tevdovski (2014) have applied gravity model to measure the influence of certain customs and administrative barriers on trade between the countries of South Eastern Europe. They found that 10 percent reduction of the costs both in

importer and exporter countries may lead to an approximately 10 percent increase in export, while a 10 percent reduction of the time at the border both in importer and exporter countries may lead to a 5.5 percent increase in export (Tosevska-Trpcevska and Tevdovski, 2014, p. 121).

Table no. 1 presents the main findings of the studies that are based on gravity models. The introduction of the trade facilitation indicators in the gravity models for developed countries started recently. Moïsé et al. (2011) assess the economic and trade impact of the twelve trade facilitation indicators for the OECD countries. They found that formalities – procedures indicator accounts for 5.4% of potential trade cost savings, indicator advance rulings for 3.7%, indicator formalities - automation for 2.7%, and indicator fees and charges for 1.7%. Moïsé and Sorescu (2013) suggested that greatest impact on trade volumes and trade costs have the indicators related to the availability of trade-related information, the simplification and harmonization of documents, the streamlining of procedures and the use of automated processes. They found that the combined effect of improvements in these areas is greater than the simple sum of the impact of individual measures, reaching almost 14.5% reduction of total trade costs for low income countries, 15.5% for lower middle income countries and 13.2% for upper middle-income countries. The trade facilitation indicators are not yet applied in the gravity models for the CEE or SEE countries, as the best knowledge of the authors.

Table no. 1 – The main finding of the studies that apply gravity model in the CEE and SEE

Study	Geographical coverage	Variables	Main findings
Hamilton et al. (1992)	76 countries in the World with focus on Eastern Europe (19 industrial and 57 developing countries)	GNP, export, population, distance, adjacency, trade preferences, variety of dummy variables	Country's potential supply of exports depends on its national product and on ratio of its production of export to total production. Larger economies are more able to satisfy their own needs under autarky. The main natural obstacles to international trade are transport and transactional costs. Common border reflects reductions in both cultural and transportation frictions between adjacent countries over and above the effect of distance. The principal artificial obstacles to trade are trade policies.
Baldwin (1994)	17 exporting countries and 20 partners (EC and EFTA countries, USA, Japan, Canada and Turkey)	GDP, export, population, distance, variety of dummy variables	The EU-12 together should export an extra $16.8 billion to the CEECs, but the poor-four (Spain, Portugal, Greece and Ireland) are projected to account for only $1.6 billion of this. In absolute dollar amounts, the big 'winners' will be the UK, France and Italy. Exporters based in Eastern economies are likely to be more dependent on Eastern markets than exporters based in Western economies. Nevertheless, the EU-15 will account for the lion shares of sales in the medium term.
Havrylyshyn and Al-Atrash	Transition countries	"disequilibrium gravity model", exports, distance,	About half of the group of countries in transition is becoming as open as similar market economies, but that many others

Study	Geographical coverage	Variables	Main findings
(1998)		structural transformation index, real effective exchange rate	remain relatively closed. Geographic diversification to the European Union is found to be greater the closer is geographic proximity and the more advanced the country is with reforms.
Jakab *et al.* (2001)	Developed and emerging economies	Export, nominal GDP, population, distance, variety of dummy variables	Czech Republic and Poland have substantial potential remaining to achieve their trade potential with respect to EU, while Hungary achieved its potential by 1997.
Egger and Pfaffermayr (2003)	APEC countries	GDP, population, trade costs and proxies	Proper specification of a panel gravity model should include main (exporter, importer, and time) as well as time invariant exporter-by-importer (bilateral) interactions effects.
Fidrmuc and Fidrmuc (2003)	OECD countries (excluding Iceland, Mexico and Korea), and selected Central and Eastern European countries	Import, GDP, distance, variety of dummy variables	Very strong home bias around the time of disintegration, with intra-union trade exceeding normal trade approximately 43 times in the former Soviet Union and Czechoslovakia, and 24 times in the former Yugoslavia. Disintegration was followed by a sharp fall in trade intensity.
Bussière *et al.* (2005)	61 country including Central and Eastern European Economies	Trade, real GDP, distance, cultural, historical and political factors	Trade integration between most of the largest CEECs and the euro area is already relatively well advanced, while some Baltic and South Eastern European countries still have significant scope for trade integration.
Christie (2001)	Southest Europe	Import, real GDP, distance, variety of dummy variables	Southeast Europe in 1999 was not a region from the point of view of international trade because the trade flows between the countries of that region were in too many instances much lower than one would expect for countries that are geographically so close to one another. It seemed likely that the countries of Southeast Europe would not (re-) integrate economically with one another, but rather become or remain small peripheral economies each with strong trade links to the EU-15.
Christie (2004)	Southest Europe	Import, real GDP, distance, variety of dummy variables	Accession countries trading with the EU15, and therefore intra-EU15 flows are on average significantly higher than flows between the accession countries and the EU15.
Damijan *et al.* (2006)	Southest Europe	Import, GDP, distance, volatility, variety of dummy variables	Western Balkan countries have reached their trade potential for almost all sectors while Eastern Balkan countries have outreached them. The preferential trade agreements between SEE countries will have a limited impact on their mutual trade since their trade

Study	Geographical coverage	Variables	Main findings
			potentials are already reached. All SEE countries' trade is below its potential with the rest of the world.
Bjelić *et al.* (2013)	Western Balkans	Import, GDP, distance, volatility, variety of dummy variables	For Western Balkans the technical barriers to trade are main barriers when goods are exported to the European Union. Administrative barriers are also important factor that affects Western Balkans economies' trade, but these effects are not significantly higher for the Western Balkans' intraregional trade.
Tosevska-Trpcevska and Tevdovski (2014)	South-Eastern Europe	Export, GDP, distance, documents, costs, time, variety of dummy variables	The number of days spent at the border and costs paid in both importer and exporter countries had significant negative influence on the volume of trade in the period 2008-2012. In addition, sharing the same border and being part of the former Yugoslav market are important determinants of trade in the SEE region.
Moïsé *et al.* (2011)	OECD countries	Export, distance, trade facilitation indicators, variety of dummy variables	For OECD countries, the policy areas that seem to have the greatest impact on trade volumes and trade costs are advance rulings, information availability, formalities and procedures and inter-agency cooperation.
Moïsé and Sorescu (2013)	OECD countries	Export, distance, trade facilitation indicators, variety of dummy variables	The most significant trade facilitation measures (i.e. those that have the highest impact on trade volumes) are information availability, harmonization and simplification of documents, automated processes and risk management, streamlining of border procedures and good governance and impartiality.

3. RESEARCH OBJECTIVE

The purpose of this paper is to measure the impact of Trade facilitation indicators on bilateral trade flows for the countries in South-Eastern Europe in the most recent period (2008-2012). We use the OECD data base for the values of the Trade facilitation indicators for these countries and apply them in augmented gravity trade model to estimate their impact on bilateral trade flows according to Moïsé and Sorescu (2013). We follow Moïsé and Sorescu (2013) and apply the same model to this subset of countries

We analyze a selected group of countries from the region of South-Eastern Europe (SEE). We included five countries which are currently members of the CEFTA-2006 agreement: Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia. We excluded Moldova although it is a CEFTA-2006 member because it shares only a small portion of trade with the above mentioned countries. As a part of the geographical region of South-Eastern Europe we included Bulgaria, Croatia, Romania and Greece although they are EU members and by some indicators are much better off than the other countries in the

group. Namely, the geographical closeness and border-sharing can be enhancing factors for increasing mutual trade.

4. THE EMPIRICAL MODEL AND DATA

First we explain the empirical model used to measure the influence of the trade facilitation indicators on trade. In the second part we explain the data used in the model.

4.1 The Empirical Model

The empirical model contains panel data of nine selected countries from South-Eastern Europe and trade flows among them in the period 2008-2012 (360 balanced panel observations). We use gravity model based on specifications proposed by Moïsé *et al.* (2011) and Moïsé and Sorescu (2013). The log-linearized form is:

$$lnEXP_{ijt} = \beta_0 + \beta_1 lnDis_{ij} + \beta_2 LANG_{ij} + \beta_3 BORD_{ij} + \beta_4 YUM_{ij} + \beta_5 TFI\_X_* + \lambda_t + \varepsilon_{ijt} \qquad (1)$$

Subscripts i, j, and t indicate respectively exporting country, importing country, and year. The variables are as follows: EXP_{ijt} is the exports from country i to country j expressed in millions of US dollars, Dis_{ij} is the geographical distance between the main economic centers of countries i and j, $LANG_{ij}$, $BORD_{ij}$ and YUM_{ij} are dummy variables, and TFI_X_* is the variable referring to specific trade facilitation indicator. The variable $LANG_{ij}$ is a dummy variable equal to 1 for countries that share a common language and 0 otherwise, $BORD_{ij}$ is a dummy variable equal to 1 for countries that share a common border and 0 otherwise, and YUM_{ij} is a dummy variable equal to 1 for countries that were part of the ex-Yugoslav market and 0 otherwise. We include YUM variable in order to capture the effect of sharing the same market in the past. It is analogously to the standard dummy variable in the gravity model that captures the effect of colonial ties from the past.

The variable TFI_X_* is geometric average of the TFI_X indicators:

$$TFI\_X_* = \sqrt{TFI\_X_i \cdot TFI\_X_j} \qquad (2)$$

where X is the specific trade facilitation indicator (A, B, …, L). Since we analyze in total 11 trade facilitation indicators, we run 11 regressions with the form specified in (1).

4.2 The Data

The analysis is based on annual data for the trade exchange. The source for exports data is the UN Comtrade Database, except for data on Macedonia in 2008, where the source is International Trade Statistics of the National Bank of Macedonia (2016). Data on GDP are from the World Bank Database. Data on geographical distance between the economic centers of two countries are from the website http://www.worldatlas.com.

Data for the Trade facilitation indicators is obtained electronically and directly from OECD. For countries outside the OECD area the analysis is based on TFIs latest available data as of January 2013 and the set of TFIs as constructed in "Trade Facilitation Indicators: The Potential Impact of Trade Facilitation on Developing Countries Trade" (Moïsé and

Sorescu, 2013). For OECD countries (Greece), the analysis is based on country replies received by June 2010 and the set of indicators as constructed in "Trade Facilitation Indicators: The Impact on Trade Costs" (Moïsé *et al.*, 2011).

 The construction of the Trade facilitation indicators has been done by reorganization of the trade facilitation measures mentioned in the twelve articles in the Draft Consolidated Negotiating Text and later included in the twelve articles of the new Agreement on Trade Facilitation. The reorganization has been done by taking into account similarities between measures and areas where further distinctions were warranted. For the needs of the second phase of research four additional trade facilitation indicators have been developed for developing landlocked and transit countries but the countries of South East Europe were not included in that analysis. For the purposes of this paper and the analysis of the nine South-Eastern European countries we use the following twelve trade facilitation indicators:

   A. Information availability;
   B. Involvement of trade community;
   C. Advance Rulings;
   D. Appeal Procedures;
   E. Fees and charges;
   F. Formalities – Documents;
   G. Formalities – Automation;
   H. Formalities – Procedures;
   I. Border agency cooperation – internal;
   J. Border agency – external
   K. Consularization;
   L. Governance and Impartiality (Moïsé and Sorescu, 2013, pp. 8-9).

 The indicator Information Availability refers to publication of trade information, including information on internet and the establishment of enquiry points. The indicator involvement of the trade community measures the intensity of consultations between the government and the traders. The indicator Advance rulings refers to the existence of prior statements by the administration to requests from traders concerning the classification, origin, valuation method, etc. applied to specific goods at the time of importation and to the rules and procedures applied to these statements. The next indicator, Appeal procedures measures the possibility and modalities to appeal administrative decisions by border agencies. Fees and charges is an indicator that explains the disciplines on the fees and charges that countries apply to import and export transactions. Formalities – Documents is the indicator that measures the simplification of trade documents, the harmonization in accordance with international standards and the acceptance of copies by separate countries. The indicator Formalities – Automation refers to the electronic exchange of data, the application of automated border procedures and the use of risk management techniques in the countries. The following indicator, Formalities – procedures refers to applying streamlined border controls, the establishment of single windows concepts as one point for submission of all required documents for trade, the application of post-clearance audits, and the introduction of authorized economic operators' programs. The indicator Border agency cooperation – internal refers to the cooperation between various border agencies within the same country and the indicator Border agency cooperation – external refers to the cooperation between the border agencies of neighboring and third countries. The indicator Consularization refers to the imposition of consular transaction requirements. This indicator has been abolished in the analysis of the countries of South East Europe as these countries

don't impose consular transaction requirements in trade transaction and this measure has also been abounded in the text of the new Agreement on trade facilitation. The last indicator on Governance and impartiality has been added by the OECD, and is not contained in the new Agreement on trade facilitation. This indicator refers to customs structures and functions, to their accountability, internal system audit and ethics policy.

In Table no. 2 we give an overview of the values of the Trade facilitation indicators for the countries in South-East Europe.

Table no. 2 – Trade Facilitation Indicators (TFIs) for the countries in South-East Europe

	TFI_A	TFI_B	TFI_C	TFI_D	TFI_E	TFI_F	TFI_G	TFI_H	TFI_I	TFI_J	TFI_L
Albania	1.600	2.000	2.000	1.667	1.750	1.000	0.750	1.133	2.000	1.667	1.857
Bosnia and Herzegov.	1.111	0.500	1.833	1.200	1.750	1.500	1.000	1.154	2.000	0.000	n.a.
Bulgaria	1.800	1.500	1.857	1.500	1.250	1.500	1.000	1.467	1.500	0.667	1.714
Croatia	1.900	2.000	1.857	1.333	1.000	1.167	1.750	1.615	2.000	0.000	1.429
Greece	1.308	0.750	1.325	2.000	0.667	1.200	2.000	0.300	1.000	1.000	1.000
Macedon.	1.900	2.000	2.000	1.667	2.000	1.833	2.000	2.000	2.000	1.667	1.857
Monteneg	1.900	n.a.	1.800	1.833	2.000	2.000	1.000	n.a.	2.000	n.a.	n.a.
Romania	1.800	1.000	2.000	1.500	1.750	1.833	1.750	1.571	1.000	0.667	1.857
Serbia	1.833	0.500	n.a.	1.286	n.a.	2.000	1.667	1.250	2.000	n.a.	n.a.

Source: OECD

The scores for the indicators have been obtained by following multiple binary schemes where the top score is 2 and it corresponds to the best performance or best result. The indicators, themselves, have been computed from seventy eight (78) different variables obtained from different data sources: questionnaire from the Global Express Association (GEA) compiled in Global Express Association Customs Capabilities Report, World Trade Organization Trade Policies Reviews, Countries Customs websites and Customs Codes, data from the World Bank Doing Business indicators, section on Trading across Borders, data from World Bank Logistic Performance Index (LPI), data from the World Economic Forum (WEF) Global Competitiveness Report (GCR), Institutional Profiles Database (IPD) and other sources like OECD Directorate for Financial Affaires – Administrative Barriers Reports for CEFTA parties (Moïsé and Sorescu, 2013, pp. 52-54).

5. EMPIRICAL RESULTS

The panel data gravity model is used to estimate the impact of trade facilitation indicators on trade in the selected group of countries in the SEE region. The estimates are made in Stata based on random effects model specifications. We employ the random effect panel model because it allows us to include the time invariant variables in the analysis such as distance, common language, shared language, participation in the ex-Yugoslav market and the trade facilitation indicators.

Moïsé *et al.* (2011) argue that usage of the trade facilitation indicators for the latest year available (in our case 2012 year) in the panel model (in our case covering 2008-212) is appropriate since they could be viewed as relatively stable over time.

Table no. 3 (see Appendix) presents the results of the gravity model specification that includes trade facilitation indicator: A. Information availability (TFI_A). As expected, there is positive influence of this indicator on SEE countries bilateral exports. The results imply

that a 10 percent increase of the information availability trade facilitation indicator may lead to an approximately 3.2 percent increase in bilateral export, ceteris paribus. This result is significant on 10% level.

Table no. 4 presents the results of the gravity model specification that includes trade facilitation indicator: B. Involvement of trade community (TFI_B). As expected, there is positive influence of this indicator on SEE countries bilateral exports. The results imply that a 10 percent increase of the involvement of the trade community trade facilitation indicator may lead to an approximately 2.9 percent increase in bilateral export, ceteris paribus. This result is significant on 10% level.

Table no. 5 presents the results of the gravity model specification that includes trade facilitation indicator: C. Advance Rulings (TFI_C). The results imply that this trade facilitation indicator is not statistically significant.

Table no. 6 presents the results of the gravity model specification that includes trade facilitation indicator: D. Appeal Procedures (TFI_D). As expected, there is positive influence of this indicator on SEE countries bilateral exports. The results imply that a 10 percent increase of appeal procedures trade facilitation indicator may lead to an approximately 4.2 percent increase in bilateral export, ceteris paribus. This result is significant on 10% level.

Table no. 7 presents the results of the gravity model specification that includes trade facilitation indicator: E. Fees and charges (TFI_E). The results imply that this trade facilitation indicator is not statistically significant.

Table no. 8 presents the results of the gravity model specification that includes trade facilitation indicator: F. Formalities – Documents (TFI_F). The results imply that this trade facilitation indicator is not statistically significant.

Table no. 9 presents the results of the gravity model specification that includes trade facilitation indicator: G. Formalities – Automation (TFI_G). As expected, there is positive influence of this indicator on SEE countries bilateral exports. The results imply that a 10 percent increase of formalities – automation trade facilitation indicator may lead to an approximately 5.5 percent increase in bilateral export, ceteris paribus. This result is significant on 10% level.

Table no. 10 presents the results of the gravity model specification that includes trade facilitation indicator: H. Formalities – Procedures (TFI_H). The results imply that this trade facilitation indicator is not statistically significant.

Table no. 11 presents the results of the gravity model specification that includes trade facilitation indicator: I. Border agency cooperation – internal (TFI_F). The results imply that this trade facilitation indicator is not statistically significant.

Table no. 12 presents the results of the gravity model specification that includes trade facilitation indicator: J. Border agency – external (TFI_J). As expected, there is positive influence of this indicator on SEE countries bilateral exports. The results imply that a 10 percent increase border agency – external trade facilitation indicator may lead to an approximately 2.5 percent increase in bilateral export, ceteris paribus. This result is significant on 10% level.

Table no. 13 presents the results of the gravity model specification that includes trade facilitation indicator: L. Governance and Impartiality (TFI_L). The results imply that this trade facilitation indicator is not statistically significant.

The results presented in tables 3-13 indicate that sharing common border and distance have positive influence on bilateral trade in SEE, while membership in the ex-Yugoslavian market and common language have not statistically significant influence on SEE bilateral export[3].

6. CONCLUSION

The aim of this paper was to analyze the significance of certain Trade facilitation indicators on trade between the selected group of countries in South-Eastern Europe. The model specifications have shown that only 5 indicators of 11 measured have positive influence on trade in the analyzed period.

The results have shown that the indicators *Information availability, Involvement of the trade community, Appeal procedures, Formalities – Automation and Border Agency cooperation – External* are statistically significant on a 10% level of export. If we look more closely intro the indicators and the variables from which they are constructed, we can observe the specific trade facilitation measures that appear to have significant influence for increasing countries' export. The indicator Information availability is directly linked to the need for increased transparency of trade regulations. It is comprised from several variables like: establishment of a national Customs website, publication of rate duties, establishment of enquiry points, possibility to ask questions to Customs, information on import and export procedures, prior publication of all border procedures, rules and examples of customs classification and agreements with third countries related to these issues and transparency of government policymaking.

The indicator Involvement of the trade community is comprised from trade facilitation measures that indicate the possible involvement of the trade community by consultations and comments and by identifying targeted stakeholders into preparing trade related laws and regulations. The other significant indicator is Appeal procedures and it refers to a number of basic characteristics of the appeal system in the countries, such as transparency, fairness, accessibility, timeliness and effectiveness of the applicable rules and of outcomes. A well-functioning appeal procedures mechanism ensures transparent application and enforcement of the legislation by the Customs administration and related agencies.

The indicator Formalities-Automation covers a series of very important dimensions of trade facilitation, including the application of automated procedures, the possibility for electronic interchange of documents and the application of risk management procedures. The last significant indicator appears to be the indicator Border Agency cooperation – External. This indicator measures the alignment of working hours of neighboring border crossings, the possibility for development and sharing of common facilities and possibility to perform joint customs controls.

The results obtained from the analysis should be taken into consideration by the individual countries when preparing future trade policy directions. Priority should be given to the measures that appear to be significant for their mutual trade or measures that are covered by these five Trade Facilitation Indicators: Information availability, Involvement of the trade community, Appeal procedures, Formalities – Automation and Border Agency cooperation – External. This means that the countries from South-Eastern Europe should place more attention on undertaking measures and policies that have shown to be significant for improving export (trade) flows.

Another aspect that arises from this analysis is the direction that can be used for setting future CEFTA-2006 prospects. All transition periods for trade liberalization and tariff reduction between CEFTA-2006 members have elapsed and future trade benefits can only be obtained by undertaking trade facilitation measures and reducing customs and administrative procedures. Since most of these countries are small, import dependent and landlocked, undertaking trade facilitation measures, especially by reducing certain customs and administrative procedures, can be the most feasible way to promote export and mutual trade.

The results from this paper can only be considered as indicators for the direction and relative importance of different trade facilitation measures on trade. They, nevertheless, indicate that improving the efficiency of certain customs and administrative procedures and undertaking trade facilitation measures can facilitate trade and help promote export growth and mutual trade.

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APPENDIX

Table no. 3 – Empirical Results of Gravity Model Specifications for Information Availability Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021598	.0007738	2.79	0.007	.0006148	.0037048
LANG	.5911273	.7381002	0.80	0.426	-.8825374	2.064792
BORD	2.692913	.476789	5.65	0.000	1.740973	3.644853
YUM	.0570994	.5138302	0.11	0.912	-.9687957	1.082994
TFI_A	.3163777	.1825445	1.73	0.088	-.0480842	.6808396
_cons	.7529192	.8569113	0.88	0.383	-.9579595	2.463798

R-squared: 39.75%

Table no. 4 – Empirical Results of Gravity Model Specifications for Involvement of trade community Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021656	.0007838	2.76	0.007	.0006006	.0037305
LANG	.5683696	.7468983	0.76	0.449	-.922861	2.0596
BORD	2.709494	.4826252	5.61	0.000	1.745902	3.673086
YUM	.0741058	.5201212	0.14	0.887	-.9643498	1.112561
TFI_B	.2862861	.1694508	1.69	0.096	-.0520332	.6246055
_cons	.7865199	.8513372	0.92	0.359	-.9132297	2.48627

R-squared: 41.84%

Table no. 5 – Empirical Results of Gravity Model Specifications for Advance Rulings Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0022032	.0007795	2.83	0.006	.0006468	.0037596
LANG	.5562931	.7426869	0.75	0.457	-.9265292	2.039115
BORD	2.704062	.4815319	5.62	0.000	1.742653	3.665472
YUM	.1169997	.5140906	0.23	0.821	-.9094152	1.143415
TFI_C	-1.897825	1.342017	-1.41	0.162	-4.577248	.7815987
_cons	5.027495	2.486231	2.02	0.047	.0635749	9.991415

R-squared: 38.92%

Table no. 6 – Empirical Results of Gravity Model Specifications for Appeal Procedures Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021568	.0007751	2.78	0.007	.0006093	.0037042
LANG	.592068	.7387437	0.80	0.426	-.8828813	2.067017
BORD	2.685627	.4779494	5.62	0.000	1.73137	3.639884
YUM	.0622287	.5138929	0.12	0.904	-.9637915	1.088249
TFI_D	.4215933	.2471197	1.71	0.093	-.0717972	.9149838
_cons	.6246841	.9100057	0.69	0.495	-1.192201	2.441569

R-squared: 38.92%

Table no. 7 – Empirical Results of Gravity Model Specifications for Fees and charges Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0022361	.0007696	2.91	0.005	.0006996	.0037727
LANG	.58287	.7397594	0.79	0.434	-.8941073	2.059847
BORD	2.721625	.4760919	5.72	0.000	1.771076	3.672173
YUM	.0806967	.5135034	0.16	0.876	-.9445459	1.105939
TFI_E	.62183	.380235	1.64	0.107	-.1373336	1.380994
_cons	.3213056	1.062234	0.30	0.763	-1.799513	2.442124

R-squared: 39.68%

Table no. 8 – Empirical Results of Gravity Model Specifications for Formalities – Documents Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021968	.0007721	2.85	0.006	.0006553	.0037383
LANG	.5881676	.7393019	0.80	0.429	-.8878963	2.064232
BORD	2.703353	.4769893	5.67	0.000	1.751014	3.655693
YUM	.0719646	.5136562	0.14	0.889	-.9535832	1.097512
TFI_F	.7133445	.4270332	1.67	0.100	-.1392549	1.565944
_cons	.427064	1.00176	0.43	0.671	-1.573014	2.427142

R-squared: 39.49%

Table no. 9 – Empirical Results of Gravity Model Specifications for Formalities – Automation Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021428	.0007775	2.76	0.008	.0005904	.0036951
LANG	.5893495	.739114	0.80	0.428	-.8863393	2.065038
BORD	2.682549	.4787038	5.60	0.000	1.726786	3.638312
YUM	.0606445	.5145796	0.12	0.907	-.9667468	1.088036
TFI_G	.555311	.3301143	1.68	0.097	-.1037835	1.214406
_cons	.7323879	.8746874	0.84	0.405	-1.013982	2.478758

R-squared: 39.59%

Table no. 10 – Empirical Results of Gravity Model Specifications for Formalities – Procedures Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0022617	.0007792	2.90	0.005	.0007059	.0038175
LANG	.5451319	.7490076	0.73	0.469	-.9503101	2.040574
BORD	2.763336	.4810186	5.74	0.000	1.802952	3.723721
YUM	.1056606	.5201884	0.20	0.840	-.932929	1.14425
TFI_H	.8927916	.5838372	1.53	0.131	-.272877	2.05846
_cons	.2098308	1.156995	0.18	0.857	-2.100184	2.519845

R-squared: 39.61%

Table no. 11 – Empirical Results of Gravity Model Specifications for Border agency cooperation – internal Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0022115	.0007728	2.86	0.006	.0006684	.0037545
LANG	.5790704	.7403502	0.78	0.437	-.8990865	2.057227
BORD	2.718132	.4769693	5.70	0.000	1.765832	3.670432
YUM	.0775102	.5146108	0.15	0.881	-.9499434	1.104964
TFI_I	.4225304	.2645568	1.60	0.115	-.1056744	.9507352
_cons	.501137	.9932849	0.50	0.616	-1.48202	2.484294

R-squared: 39.24%

Table no. 12 – Empirical Results of Gravity Model Specifications for Border agency – external Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0021087	.0007806	2.70	0.009	.0005502	.0036672
LANG	.5896354	.7420844	0.79	0.430	-.8919839	2.071255
BORD	2.666665	.4814639	5.54	0.000	1.705392	3.627939
YUM	.0442505	.5172599	0.09	0.932	-.9884923	1.076993
TFI_J	.2466923	.1266376	1.95	0.056	-.0061479	.4995324
_cons	.9341362	.7731515	1.21	0.231	-.6095106	2.477783

R-squared: 42.86%

Table no. 13 – Empirical Results of Gravity Model Specifications for Governance and Impartiality Trade Facilitation Indicator

lnexp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
DISTANCE	.0018693	.000831	2.25	0.029	.0002039	.0035346
LANG	.5297116	.7091365	0.75	0.458	-.8914297	1.950853
BORD	2.622133	.4688531	5.59	0.000	1.68253	3.561736
YUM	-.1089462	.514085	-0.21	0.833	-1.139195	.9213031
TFI_L	1.497405	3.854831	0.39	0.699	-6.227848	9.222659
_cons	-.2217174	6.618257	-0.03	0.973	-13.485	13.04157

R-squared: 39.26%

Notes

[1] The values for the indicators are obtained from OECD and are calculated for the most recent period with the latest information available.

[2] Only Kosovo is not included due to non-existing data in the UN Comtrade Database.

[3] It should be noted that in the dummy variable we specify the existence of a common language only in a few cases. However, some pairs of countries do not have a common language, but similar languages to an extent that this does not create a significant obstacle in business contacts (for example: Croatia and Serbia, Serbia and Macedonia, Croatia and Macedonia, or Macedonia and Bulgaria). These effects are approximated by two other dummy variables: participation in the ex-Yugoslav market and common border.