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# Export of Travel Services in Western Balkans: A Gravity Model Approach

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## ABSTRACT

This paper investigates the importance of travel service exports in Western Balkans countries. It identifies the key drivers and barriers in exporting travel services for five Western Balkan economies, in their intraregional trade and in trade in travel services with the EU. We use a gravity model, estimated over 2013–2019, applying the Poisson pseudo-maximum likelihood estimator. The results of the trade gravity model reveal that GDP, geographical distance, and cultural characteristics such as language and historical similarities and cultural heritage influence travel services.

## KEYWORDS

Export; gravity model; regional integration; travel; Western Balkans

## JEL CLASSIFICATION

F14; F43; F63

## Introduction

Global trade in services has increased significantly as world markets have become more integrated and trade in services more liberalized and deregulated. Although services represent a dominant share of GDP in most countries, their significance in world trade is still less important than goods trade. However, the trade of travel services is prominent among the total world services trade and is a significant determinant of GDP growth for many countries, both large and small.

The Western Balkans economies<sup>1</sup> are small and developing economies with a significant share of services in GDP. Travel services play an essential role in total exports. All Western Balkan countries, except Albania, became independent after the dissolution of Yugoslavia. Today, Montenegro and Albania have been significantly more dependent on service exports, and travel services particularly, than they were several decades ago.

Intra-regional trade between the Western Balkan economies is the second most crucial component after trade with the EU, accounting for one-fifth of all exports and a tenth of all imports. Over time, regional trade liberalization and the liberalization of trade regimes in trade with the EU have been significant. However, trade partners of Western Balkans economies in services are more diverse. Intra-regional trade liberalization began in 2000 with the Memorandum of Understanding on Trade Liberalization and Facilitation, forming a network of 32 bilateral Free Trade Agreements (FTAs). However, the real boost to regional trade for Western Balkans economies with the revised Central European Free Trade Agreement (CEFTA) from 2006, which absorbed concessions from previous FTAs. Service trade liberalization in intra-regional Western Balkans trade is enabled with CEFTA

Additional Protocol 6 (AP6) on Trade in Services, adopted in 2019 and entered into force on January 11, 2021, creating a regional market with 20 million customers.

The main aim of this paper is to explore the main determinants of travel services exports in Western Balkan countries by using the gravity model framework. This approach allows us to identify the main patterns of tourism flows in the region, which substantially contribute to the region's economy. More broadly, we use a relatively large sample to test the relevance of the gravity framework in trade for tourism economics. The gravity model of trade in travel services was estimated using the sample that includes five of the six Western Balkans economies. Due to the lack of data, Kosovo\* is included in the model only as a partner economy but not in the sample. The factors we analyze include GDP, geographical distance, language, cultural proximity, and shared history. This study is one of the few empirical studies to use the gravity trade methodology for tourism analysis. Furthermore, it is the only study focusing on the Western Balkans region.

The following is a breakdown of the paper's structure. After the introduction, we focus on a literature review presenting relevant studies in the field. We start our analysis using descriptive statistical methods. Then we estimate the econometric model of panel data in the section on data and methodology and then discuss obtained empirical results. In the final section, we present conclusions and list of the relevant literature.

## Literature Review

Trade in services has expanded significantly in recent years, as technological advancements have made it easier to trade, and global markets have become more integrated, resulting in increased international demand in the services industry. Until the late 1990s, travel and transportation accounted for most of global services trade. These are “conventional” services because they need face-to-face interactions. The number of “modern” services has dramatically expanded in the last decades: financial and insurance services, intellectual property charges, communication and computer services, professional and management consulting, and technical services. (Reserve Bank of Australia, 2019). All of these have benefited from technological advancements and changes in the regulatory environment in recent decades.

However, for less developed countries, “conventional” services are particularly important, as most have a comparative advantage (Ilahi et al. 2019). First, the ability to export services is important for helping an economy to thrive in a balanced long-term manner. According to Mishra et al. (2011), services can provide an alternate path to growth and financial flows. Additionally, according to Francois and Hoekman (2010), services as an export growth engine could be a fundamental driver of all enterprises' competitiveness. Second, as the world becomes more integrated, it is crucial to know if global economic conditions affect the service sector in the same way they affect the goods industry. The fact that service exports are less volatile than goods exports is a major feature of service trade (Loungani et al. 2017), as demonstrated during the Global Financial Crisis (GFC). Where trade of goods fell to its lowest point since the Great Depression, services trade scarcely fell at all. The World Trade Organization (WTO) has pointed out that “international trade in commercial services has been less volatile than merchandise trade in the last 20 years, indicating the greater resilience of services to global macroeconomic upheaval” (World Trade Organization 2015). The opposite was observed in the last crises that have been

sparked by the global COVID-19 pandemic recently (COVID 19 pandemic), as trade in services in Europe declined more rapidly in 2020 compared to goods trade (Eurostat<sup>2</sup>). It applies to OECD countries also. According to Organization for Economic Cooperation and Development (OECD), “In 2020, trade in services declined more and has been recovering at a slower pace than goods trade”. This is due to trade in travel and tourism services which slumped dramatically because of all health restrictions. Some digitally delivered services, such as telecommunications and information technology, have sharply risen. In OECD economies, exports of services have dropped by 16.7% in 2020, twice the drop of trade in goods that was 8.2% in the same year (OECD 2022). Dumičić et al. (2017) concluded that destination marketers should focus their promotional efforts during recessions on markets that are physically close to the destination. Nevertheless, our analysis does not cover the period of the COVID-19 outbreak.

Western Balkans economies have gradually opened up and become more export-oriented in recent decades (Shimbov, Alguacil, and Suárez 2019). Based on research by Uvalić and Cvijanović (2018), these countries have implemented structural reforms that have resulted in a premature fall in manufacturing and an enormous increase in the services sector. While in terms of travel services, most Western Balkans countries have a competitive advantage. Bacovic, et al. (2020), confirmed these conclusions and show that in the short run, the export of travel services positively impacts GDP growth in Western Balkans. In the long run, the export of travel services positively impacts GDP growth, but only at the 10% significance level. These authors evidenced a strong relevance of the export of travel services in achieving current account balance equilibrium.

The factors that influence service exports and imports are more challenging to quantify than those that affect trade of goods. Aside from the same factors that drive goods trade, such as price, demand, and output level, services trade is more subject to regulation and institutional quality than goods trade. Many empirical studies use a gravity model to investigate determinants of services imports and exports. Much evidence in literature confirms the effectiveness of gravity model application in this field. The gravity methods and equation, as applied to the magnitude determinants of international trade flows between countries, has become “one of the most empirically successful tools in economics,” based on Anderson and van Wincoop (2003). Tinbergen (1962) introduced the gravity trade model for the first time in 1962. He is credited with the first complete elaboration of the trade equation and responsible for the complete empirical linkage of trade volume to GDP, distance, and trade barriers. Although the model has been improved since then, the core premises remain the same, with some additional factors have been introduced, such as the importance of the language spoken by trading partners, as well as trade expenses (policy obstacles, information costs, contract enforcement costs, legal and regulatory expenses, local distribution costs, and costs associated with the usage of multiple currencies) based on findings of Anderson and van Wincoop (2004) as well as Melitz and Toubal (2014).

Kimura and Lee (2006) show that gravity equations predict trade in services better than trade in commodities. In the latest research, different factors that could contribute to services export among countries have been examined. K (2018) found that cultural proximity, trade restrictions, and free trade agreements can help explain services trade, particularly tourism. For Lee and Park (2016), as informal barriers decreased, trust has become a key factor for services export expansion, where countries with comparative ethnic and religious histories may naturally have more confidence that services will be

better understood and fulfilled. Christen (2017) addresses the effect of proximity in terms of distance and time zones, with the latter being a critical component in service delivery.

With the success of the tourism sector and its growing importance in the integration of trade, the gravity equation has been researched in the tourism demand literature intensively. Although the gravity model was used first in the early 1960s, the gravity approach was used to examine the tourism sector only since the 1970s. Gravity models have been tested in the tourism sector in a series of studies as (Durden and Silberman 1975; Gordon and Edwards 1973; Kliman, 1981; Malamud, 1973; Pyers 1966; Quandt and Baumol 1969; Freund and Weinhold 2002; Kimura and Lee 2006; Head, Mayer, and Ries 2009; Anderson, Milot, and Yotov 2011.

Applying a gravity model, Eilat and Einav (2004) examined the factors of bilateral tourism mobility over time. Their findings imply that various factors influence tourism, including price elasticities, currency rates, destination risk, shared borders, and common language. Different studies have found a significant impact of the use of a shared currency on tourism flows (Gil-Pareja, Llorca, and A 2007), or various exchange rate regimes (Santana-Gallego et al. 2010; Ulucak, Yücel, and Ç 2020). Durbarry (2004) employs a gravity model to analyze the tax implications for the tourist business, while Khadaroo and Seetanah (2008) investigate the impact of transportation infrastructure on international tourism movements. Some authors emphasize direct air links as an important factor in promoting tourism flows (Koo, Lim, and Dobruszkes 2017). Neumayer (2010) used a gravity model to examine the influence of visa requirements on international tourism flows. Vietze (2012) investigates the impact of religious affiliation on tourist arrivals in the United States. Eryiğit et al. (2010) concluded that the eight-factor model can explain the majority of tourism flows in Turkey (GDP per capita, tourism, climate index, population of the source country, tourism pricing index, distance, earthquake, neighboring country, and September 11 terrorist events). In addition to these factors, the impact of mega-events on international tourism (Fourie and Santana 2011) and cultural affinity and ethnic reunion (Fourie and Santana 2013) have been explored, as well as economic policy uncertainty by Jia, et al. (2020).

In connection to regional integration effects Khalid, Okafor, and Burzynska (2022) in their study investigated the effect of regional trade agreements (RTAs) on bilateral tourism flows using a panel gravity data set of 163 destination countries and 171 source countries in the period from 1995 to 2015, and concluded that all types of RTAs have a positive and significant effect on bilateral tourism flows. Koh and Kwok (2018) researched the influence of intraregional integration in ASEAN on travel and found that successful regional cooperation has spurred global travel and tourism. The study of Grieveson, Holzner, and Vuksic (2021) did not focus specifically on travel services but has shown an important regional effect in CEFTA 2006 intraregional trade.

Our research presented in this paper adds to the literature on the drivers of tourism in intra-regional CEFTA trade and trade of Western Balkans economies with the EU, using the gravity model, taking into account the factors of GDP, distance, common language, cultural proximity, and shared history. Previous research using gravity modeling in services focusing on Western Balkans and travel services is scarce.

## Export of Travel Services in Western Balkans

The importance of services in international trade has grown in many countries in previous decades, not only from the perspective of income growth and employment but also the export. The role of services in international trade has become important in recent decades. While exports of goods and services have grown in most European countries during the last two decades, growth in the export of services was even higher.

The travel industry is a significant and growing sector in all Western Balkan economies. The average annual growth of international tourist arrivals from 2010 to 2018 was almost equal in Western Balkans countries compared to the European average. In Southern/Mediterranean Europe,<sup>3</sup> it was 6.3%, while in Europe was 4.8%, and in World 5.0%.<sup>4</sup> International tourism receipts grew in 2018 compared to 2017 by 6.9% in Southern/Mediterranean Europe, 4.9% in Europe, and 4.4% in the world.<sup>5</sup>

In all countries from the sample,<sup>6</sup> the number of tourist arrivals has grown since 2013, with the most significant growth in absolute terms evidenced in Albania and Montenegro. In Albania, the number of tourist arrivals has increased from 2.8 in 2013 to 5.34 million in 2018, or 189%. In Montenegro, it has increased from 1.3 to 2.07 million, or by 60%.

In the structure of export of travel services, personal travel is the dominant category in all countries.<sup>7</sup> In Albania, personal travel represents, on average, 80% of the export of travel from 2014 to 2018, with a share of education and health-related travel lower than 10%. In Bosnia and Herzegovina, the share of personal travel in total travel services export has increased from 80% in 2014 to 87% in 2018. In Montenegro, personal travel makes up 98–99% of total travel services exported (most travel export is noneducation or health-related). The share of personal travel export is very high in Serbia also, 98% of total travel services export. In North Macedonia, other than education and health-related personal travel represents 97% of total personal travel export.

Among services, travel services are the ones most WB countries have specialized in. We estimated the average values of the Revealed Comparative Advantage Index (RCA)<sup>8</sup> for goods, services, and travel services, from 2013 to 2019. We have seen that specialization in the export of travel services is quite strong in most countries from the sample. The value of the RCA for the export of travel services is the largest in Montenegro and Albania (Table 1). Therefore, the travel industry is a significant economic sector in all Western Balkans countries in our sample (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia).

Empirical analysis has shown that the volume of export of travel represents 9% of GDP on average in all countries from the sample from 2013–2019 (Table 2). As the services exporting sector, the export of travel is the most significant sector in Montenegro and

**Table 1.** RCA index for goods, services and travel, 2013–2019.

Country	RCA goods	RCA services	RCA travel
	Mean	Mean	Mean
Albania	0.58	2.38	6.31
Bosnia and Herzegovina	0.98	1.03	1.97
Montenegro	0.27	3.44	8.97
North Macedonia	0.99	1.03	0.80
Serbia	0.96	1.13	1.04

Note: Authors' calculations based on the WTO data.

**Table 2.** Export of travel, all services and goods as % of GDP (average), Western Balkans, 2013–2019.

Country	Export of travel	Export of services	Export of goods
	Mean	Mean	Mean
Albania	13.7	21.77	17.75
Bosnia and Herzegovina	4.72	1.33	32.88
Montenegro	21.2	33.81	9.05
North Macedonia	2.76	14.60	47.79
Serbia	2.75	12.46	35.25
All	9.04	18.15	28.54

Note: Authors' calculations, based on data from the WTO and World Development indicators.

Albania, while the least significant in Serbia and North Macedonia. In total export of goods and services, the export of travel services is also the most significant sector in Montenegro and Albania, representing almost half of the total export.

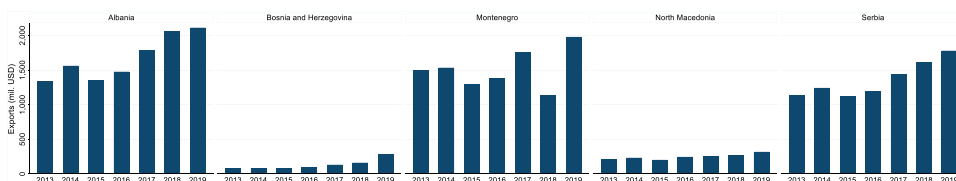
Three of the considered Western Balkans countries report relatively high exports of travel services, exceeding 1.5 billion USD in some years. Among them, Albania and Serbia showed remarkable growth in this segment of exports, as evidenced by the data presented in Figure 1. Montenegro had more volatile export flows. However, considering its population and total exports, tourism is the most significant for its economy. Bosnia and Herzegovina and North Macedonia lag behind the other countries in the region regarding travel services exports. Bosnia and Herzegovina does, however, report some growth in this sector.

The export of travel services has strong relevance for the current account equilibrium and output growth in the short run. Bacovic et al. (2020) show that the export of travel services has a positive impact on short-term growth but is also a significant determinant of sustainable current account equilibrium in Mediterranean countries.<sup>9</sup>

## Data and Methodology

### Model

In the international trade literature, the gravity model is often used to analyze bilateral trade flows (Tinbergen 1962). Recently, many studies used of the model in analyzing the trade flows in the service sector (Tham et al. 2018). Some authors suggest that this methodological approach can be extended to analyze tourism flows (Morley, Rosselló, and Santana-Gallego 2014; Santana-Gallego, Ledesma-Rodríguez, and V 2016). The idea is supported by recent studies which successfully implemented this approach in several contexts, including the analysis of tourism flows in China, Turkey, remote island economies, and some African



**Figure 1.** Travel service exports of Western Balkans countries in 2013–2019. Source: Authors' calculations based on OECD data.

countries (Adeola and Evans 2020; Dropsy, Montet, and Poirine 2020; Ulucak, Yücel, and Ç 2020; Xu et al. 2019). However, to the best of our knowledge, CEFTA 2006 region has yet to be a subject of similar studies. We address this gap in the literature by formulating and estimating a gravity model of travel services exports, investigating the effects of various standard determinants such as countries' sizes, geographic distance, relative costs, and other potentially significant factors suggested by the related literature. The following equation represents the model specification:

$$EXP_{ijt} = \beta_0 GDP_{it}^{\beta_1} GDP_{jt}^{\beta_2} D_{ij}^{\beta_3} RP_{ijt}^{\beta_4} PS_{it}^{\beta_5} UNESCO_{it}^{\beta_6} \exp\left(\delta_1 LANG_{ij} + \delta_2 CURRENCY_{ij} + \delta_4 CEFTA_{ij} + \mu_j + \lambda_t\right) \varepsilon_{jt}$$

where  $EXP_{ijt}$  denotes exports of travel services of a country  $i$  (destination country) to a country  $j$  (origin country) in the time period  $t$ ,  $GDP_{it}$  is the gross domestic product of a destination country,  $GDP_{jt}$  is the origin country,  $D_{ij}$  is a distance between the destination and origin country,  $RP_{ijt}$  is relative prices between the countries,  $PS_{it}$  is the Political Stability and Absence of Violence index value for the destination country in a given year,  $UNESCO_{it}$  is the number of UNESCO World Heritage Sights in a destination country,  $LANG_{ij}$ ,  $CURRENCY_{ij}$ , and  $CEFTA_{ij}$  refer to dummy variables denoting the common language, history, currency, and CEFTA 2006 membership, respectively. The term  $\mu_j$  represents individual effects,  $\lambda_t$  - the time-specific effects, while the  $\varepsilon_{jt}$  refers to the error term.

In the analysis, we use the original multiplicative functional form without any transformations, which is the most consistent with the theoretical gravity model. A description of the variables considered in our model is provided in Table 3.

**Table 3.** Variables definitions and data sources.

Variable	Definition	Unit	Source
$EXP_{ijt}$	The value of travel services exports	Mil. USD	OECD BaTIS Database
$GDP_{it}$	Gross domestic product of the destination country	Tril. USD	UNCTADStat
$GDP_{jt}$	Gross domestic product of the origin country	Tril. USD	UNCTADStat
$POP_{it}$	Population of the destination country	Mil. persons	UNCTADStat
$POP_{jt}$	Population of the origin country	Mil. persons	UNCTADStat
$DIST_{ijt}$	Distance between the capital cities of the destination and origin country	000 km	CEPII
$RP_{ijt}$	Relative price approximated as the ratio between gross domestic products per capita of the destination and origin country.	Unit	Authors' calculations based on UNCTADStat data
$PS_{it}$	Political Stability and Absence of Violence/Terrorism index	Unit	World Governance Indicators, World Bank
$LANG_{ijt}$	Dummy variable for common language	0 or 1	CEPII
$HISTORY_{ijt}$	Dummy variable for common history	0 or 1	CEPII
$CURRENCY_{ijt}$	Dummy variable for common currency	0 or 1	CEPII
$UNESCO_{it}$	Number of UNESCO World Heritage Sights in the destination country	Unit	UNESCO
$CEFTA_{ijt}$	Dummy variable for common participation in CEFTA 2006 agreement	0 or 1	CEFTA 2006

All the monetary values are expressed in terms of constant prices. OECD BaTIS Database refers to Balanced Trade in Services database available at: [https://stats.oecd.org/Index.aspx?DataSetCode=BIMTS\\_CPA#](https://stats.oecd.org/Index.aspx?DataSetCode=BIMTS_CPA#), UNCTADStat refers to the statistical portal of the United Nations Conference on Trade and Development (<https://unctadstat.unctad.org/EN/>), CEPII refers to Centre d'Etudes Prospectives et d'Informations providing the database at: [http://www.cepii.fr/cepii/en/bdd\\_modele/presentation.asp?id=8](http://www.cepii.fr/cepii/en/bdd_modele/presentation.asp?id=8), and the information on parties of Central European Free Trade Agreement (CEFTA 2006) is available at: <https://cefta.int/cefta-parties/>.

By estimating the values of the coefficients in our model, we investigate how the standard gravity model variables affect travel exports. The essential prediction of Tinbergen's theoretical framework is that the trade flows are higher between the larger and geographically closer countries. For this reason, we include in the model gross domestic products of destination and origin countries as proxies of the economies' sizes, as well as a geographic distance between the capital cities of the countries as an approximation of their spatial proximity. Thereby, the gross domestic product values are expressed in terms of constant prices to control inflation. A common, alternative method of approximating the effects of countries' sizes is using the population as the independent variable. Considering the idiosyncrasy of tourism, where small economies can have a highly developed tourism sector, the size of the destination country is likely to matter less than the size of the country of origin in determining the intensity of the trade flows in travel services. We follow this approach as a means to check the robustness of the estimation results for the baseline model. In line with the approach of Adeola and Evans (2020), Ulucak et al. (2020), and Xu et al. (2019), we augment the basic gravity model by introducing a proxy of the relative prices. The introduction of this variable in the model is critical in examining the determinants of travel services exports, as the travel expenses are generally lower for the tourists visiting destinations in which the prices are relatively lower compared to the country of origin. For this reason, we expect that the lower relative prices positively affect travel services exports. We also considered the role of political stability in the region as a relevant factor impacting the exports of travel services. Greater levels of political instability in a destination country are likely to be detrimental to the arrival of tourists to a particular destination, especially considering the region's historical context. Finally, we consider the role of tourist attractions in increasing travel services exports. We approximate the destination's attractiveness by considering the number of UNESCO World Heritage Sights in a country. A higher count of the sights is expected to attract more tourists, ultimately resulting in higher travel services exports.

The gravity model is also augmented with four dummy variables denoting commonalities of countries' pairs in terms of language, history, currency, and participation in the CEFTA 2006 agreement. In the case of the Western Balkans region, the common language, to a large extent, overlaps with the shared history, as Serbo-Croatian was the official language of the Former Yugoslavia. For this reason, the two variables exhibit a very high level of correlation,<sup>10</sup> and their simultaneous inclusion in the model would lead to the multicollinearity problem. To address this, we included common language in the baseline model using the shared history variable as a robustness check. Common currency between the origin and destination country could reflect lower travel costs, as tourists do not need to exchange money for the local currency, saving the conversion costs. For this reason, a positive effect of the common currency is expected. Finally, CEFTA 2006 agreement liberalized the trade between the signatory countries. Lately, significant efforts have been done to extend the liberalization to services sector. For this reason, the common participation in this agreement could positively affect the travel services exports. Finally, our gravity model includes the individual and time effects to control for the heterogeneity of the countries and the time periods observed, not otherwise controlled for by the included independent variables. This allows us to reduce potential model misspecification biases.

## Method

In our analysis, we use a static gravity panel data model for estimating the effects of previously discussed factors on travel service exports. We focus only on the tourism segment of the services sector, which allows us to address the potential aggregation bias. Namely, the gravity model variables could exert different effects on exports, depending on the sector, which would yield imprecise estimates if the estimation were conducted using a highly aggregated data. By focusing on one sector, we limit the generalizability of the results for other sectors, but we increase the precision of the effects estimated for tourism.

There are various approaches how to estimate the gravity model. In the context of tourism research, Dropsy et al. (2020) used two-stage-least squares and quasi-maximum likelihood techniques, while other authors used a more common generalized least squares and generalized method of moments approach (Adeola and Evans 2020; Xu et al. 2019). The approaches described above rely on the logarithmic transformation of the gravity model in order to linearize it and estimate the parameters. However, this approach is problematic if the variables contain zero values as it leads to the nonrandom truncation of the sample, making the estimates biased.

Considering that 31.56% of our sample contains zero trade flows, we opted for the Poisson Pseudo-Maximum Likelihood approach in estimating the model, initially proposed by Silva and Tenreyro (2006). The advantage of this method is that it allows us to estimate the model in its original, theoretically consistent non-linear form without losing the observations related to zero trade flows (Burger, Van Oort, and Linders 2009). The adequacy of our approach was tested using the Regression Equation Specification Error Test (Ramsey 1969). The test results for our baseline models showed no evidence of model misspecification.

## Data

In order to estimate our gravity model, we use a sample containing the bilateral data on exports of travel services between the five Western Balkans countries (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia) on one side and 198 partner economies for each of the five countries on the other side. The list of the partner economies included in the sample is provided in Table A2 in the Appendix. The country pairs were observed between 2013 and 2019, yielding a balanced panel of 6895 observations. The particular period is chosen due to data considerations. The sample size provides full coverage of travel services exports for the observed economies in the observed period, allowing for a highly efficient gravity model estimation.

Descriptive statistics for the variables in our sample are provided in Table 4. From the data presented, we can see a large dispersion of travel services exports for the observed country pairs. Namely, in almost a third of instances, these flows are zero, whereas in several instances, we observe exports exceeding 500 million USD per year. The variables related to Western Balkans countries show a much lower dispersion than the corresponding variables, related to the trade partners. The sample contains a relatively low share of observations of commonality between the country pairs. For example, only 1% of the observed country pairs share the same language, and around 2% share the same history and currency.

**Table 4.** Descriptive statistics of the sample.

Variable	Obs.	Mean	Std. Dev.	Min	Max
EXP <sub>ijt</sub>	6895	4.98	22.50	0	511.9
GDP <sub>it</sub>	6895	0.02	0.01	0.004	0.053
GDP <sub>jt</sub>	6895	0.38	1.65	0	20.07
POP <sub>it</sub>	6895	3.57	2.80	0.63	8.92
POP <sub>jt</sub>	6895	37.80	142.14	0.005	1433.78
DIST <sub>ijt</sub>	6895	6.06	4.07	0.16	18.15
RP <sub>ijt</sub>	6895	241.70	462.17	2.28	7318.78
PS <sub>it</sub>	6895	0.01	0.28	-0.42	0.50
LANG <sub>ijt</sub>	6895	0.01	0.11	0	1
HISTORY <sub>ijt</sub>	6895	0.02	0.15	0	1
CURRENCY <sub>ijt</sub>	6895	0.02	0.14	0	1
UNESCO <sub>it</sub>	6895	3.71	1.00	2	5
CEFTA <sub>ijt</sub>	6895	0.03	0.16	0	1

The sample used in this study was constructed by collecting data from several databases of international organizations. Namely, the data on travel services exports were collected from the OECD Balanced Trade in Services database. The United Nations Conference on Trade and Developments provided the data on gross domestic product and population. Political Stability and Absence of Violence/Terrorism index values were obtained from the Worldwide Governance Indicators database of the World Bank. The data on geographic distances and country commonalities were obtained from the CEPII database, and data on UNESCO World Heritage Sights by country were collected by the authors using the information on the UNESCO World Heritage Convention website. The dummy variable for CEFTA 2006 was constructed by the authors based on the information provided by the Central European Free Trade Agreement.

## Empirical Results

We present the estimation results for our baseline model in Table 5. All the estimations presented in the table were conducted using the total sample. Column (1) refers to the baseline model represented by equation (1). Column (2) is a specification in which we use an alternative measure of cultural proximity (common history instead of common language used in the baseline model). In Column (3), we present the estimation results for a specification where the country sizes were approximated with population rather than gross domestic product. Finally, Column (4) refers to the specification similar to the one presented in Column (3), but where a different cultural proximity variable was used. In Columns (5), (6), (7), and (8), we present the estimation results for the augmented baseline models previously described, including the variables controlling for political stability and destination attractiveness. All the specifications are statistically significant, as evidenced by the Chi-square statistics. Furthermore, the pseudo-coefficient of determination values suggest that all of the considered specifications fit the data rather well. Among them, specification (1) is the best fit.

The results suggest that the country of origin size is a significant determinant of travel services exports of Western Balkans countries. All the variables related to the country of origin positively effect exports at 1% significance level. In the case of the specifications using the gross domestic product as a proxy of the economy size, the coefficient values show that an increase in the gross domestic product of the origin country by 1 billion USD leads to the

**Table 5.** Baseline model estimation results (dependent variable: travel exports).

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP <sub>it</sub>	24.398 (36.474)	24.175 (36.596)			22.789 (36.057)	22.538 (36.182)		
GDP <sub>jt</sub>	0.229*** (0.010)	0.229*** (0.010)			0.230*** (0.010)	0.229*** (0.010)		
POP <sub>it</sub>			-1.911 (1.625)	-1.901 (1.632)			-1.29 (1.786)	-1.288 (1.790)
POP <sub>jt</sub>			0.003*** (0.000)	0.003*** (0.000)			0.003*** (0.000)	0.003*** (0.000)
DIST <sub>ijt</sub>	-0.388*** (0.025)	-0.388*** (0.025)	-0.326*** (0.023)	-0.325*** (0.023)	-0.388*** (0.025)	-0.388*** (0.025)	-0.326*** (0.023)	-0.325*** (0.023)
RP <sub>ijt</sub>	-0.006*** (0.000)	-0.006*** (0.000)	-0.010*** (0.001)	-0.010*** (0.001)	-0.006*** (0.000)	-0.006*** (0.000)	-0.010*** (0.001)	-0.010*** (0.001)
PS <sub>it</sub>					0.194 (0.411)	0.196 (0.413)	0.158 (0.404)	0.159 (0.405)
LANG <sub>ijt</sub>	1.036*** (0.158)		1.026*** (0.161)		1.035*** (0.157)		1.026*** (0.161)	
HISTORY <sub>ijt</sub>		0.736*** (0.125)		0.698*** (0.128)		0.736*** (0.125)		0.698*** (0.128)
CURRENCY <sub>ijt</sub>	-0.419** (0.179)	-0.487*** (0.182)	-0.556*** (0.181)	-0.624*** (0.183)	-0.420** (0.179)	-0.487*** (0.182)	-0.556*** (0.181)	-0.624*** (0.183)
UNESCO <sub>it</sub>					0.564** (0.264)	0.563** (0.273)	0.414 (0.308)	0.408 (0.316)
CEFTA <sub>ijt</sub>	0.157 (0.150)	0.295** (0.139)	0.495*** (0.150)	0.640*** (0.139)	0.158 (0.150)	0.296** (0.139)	0.495*** (0.150)	0.640*** (0.139)
Constant	3.112*** (0.727)	3.110*** (0.729)	11.041* (6.198)	10.997* (6.227)	0.764 (1.399)	0.767 (1.432)	6.923 (7.609)	6.937 (7.625)
Observations	6,895	6,895	6,895	6,895	6,895	6,895	6,895	6,895
Chi-squared	908.91 (0.000)	890.49 (0.000)	1292.73 (0.000)	1265.99 (0.000)	918.39 (0.000)	900.82 (0.000)	1287.92 (0.000)	1262.51 (0.000)
R <sup>2</sup>	0.583	0.579	0.554	0.550	0.583	0.580	0.555	0.550
RESET	5.57 (0.135)	5.47 (0.141)	3.23 (0.198)	3.13 (0.209)	3.89 (0.143)	3.84 (0.147)	3.45 (0.178)	3.19 (0.214)

Robust standard errors are provided in the parentheses. Statistical significance levels of 1 and 5% are represented by "\*\*\*" and "\*\*," respectively. Chi-squared refers to chi-squared statistics and the value in the parenthesis underneath refers to the respective p-value. R<sup>2</sup> denotes the pseudo-coefficient of determination. RESET refers to Ramsey Regression Equation Specification Error Test statistic and the corresponding p-value (in parentheses).

average increase in Western Balkans countries' travel services exports to that origin country by 0.026%. The results are in line with the theoretical gravity model, which suggests that the larger the size of the partner economy, the more significant trade flows will be established. The result also implies that contractions for partner economies have a negative effect on tourism exports. The effects are robust to changes in specification.

Interestingly, the size of the destination country does not appear have a significant impact on travel services exports of the same country. The coefficients are insignificant for the gross domestic product and the destination country's population. This contrasts the theoretical expectations of the gravity model, indicating an important difference between tourism and total exports. It appears that the demand-side factors primarily drive exports in the tourism sector in the Western Balkans region. The results could also be a consequence of focusing on the countries with similar tourism capacities, where the larger economy size does not reflect larger capacities, economies of scale in the tourism sector and abilities of attracting tourists.

As expected, the geographic distance has a negative effect on travel services exports. Namely, all things being equal, an increase in the geographic distance between the capitals of the destination and origin country by a thousand kilometers decreases the travel service

exports by between 38.4% and 47.4%, depending on the specification. In all specifications, the results are statistically significant at a 1% level. Such results suggest that tourism inflows are highly sensitive to geographic distance, which likely reflects the increased travel costs of tourists from more distant countries and worse transport connectivity.

The estimation results show that relative prices negatively affect travel services exports at 1% significance level in all specifications. The coefficient values also suggest an economically significant effect, considering that an increase in the relative prices in destination country by 1% point decreases the value of travel services exports between 0.6% and 1.0%, depending on which specification is observed. This implies that the more relatively expensive the destination country becomes, the higher travel costs it incurs to the tourists. The tourists respond by opting for relatively less expensive destinations. The sensitivity to prices also suggests that Western Balkan countries, despite the efforts of some of the countries, are yet to establish themselves as luxury tourism destination.

The impact of political stability on travel services exports in the Western Balkans region was found to be insignificant. This is likely due to the political stabilization the region experienced in recent years. The region exhibits sufficiently high levels of political stability compared to the dire situation in the 1990s so as not to deter foreign visitors. This is likely why this factor is no longer a detrimental force affecting the export of travel services.

Common language has a substantial and statistically significant positive effect on travel services exports at a 1% level, as evidenced by all the specifications. The estimated coefficients suggest that if the destination and the origin countries share the same language, the tourism inflows are nearly tripled in comparison to the inflows from countries of similar characteristics that do not share the same language with the destination country. The results indicate that the countries in the region strongly attract tourists with similar cultural backgrounds. The effect likely reflects the established connections between the countries from the past, which affect the tendency of the tourists in the region to opt for the familiar destinations. Similar, albeit less pronounced, we found effects in the specifications where shared history is present in place of the common language. The interpretation of these results is similar to before. Namely, the results suggest that the cultural familiarity of the tourists with the destination strongly affects their decision to visit a particular country in the Western Balkans region.

A surprising result refers to the effects of the common currency, which suggests that tourists are less likely to visit a destination if it has the same official currency as the country of origin. This contrasts the expectation that a common currency reduces the exchange and, thus, travel costs. However, the result more likely reflects a specific situation in the Western Balkans region. Namely, Montenegro adopted the Euro as the official currency. At the same time, most tourists come from other countries in the region, as well as countries such as Russia and Ukraine, which do not share the same currency. As Montenegro is the only destination country in our sample, which shares a common currency with the countries of origin, its specific structure of tourists is driving the peculiar results we observed.

We also find evidence indicating that the attractiveness of the destination country, approximated by the number of UNESCO World Heritage Sites, could have a positive impact on the exports of travel services. Namely, the coefficients in the two considered specifications are statistically significant at the 5%. They indicate that a single increase in the number of UNESCO World Heritage Sites could increase travel services exports by approximately 75.8%. However, the results are sensitive to changes in specification.

Finally, our results suggest that CEFTA 2006 agreement could positively affect travel service exports of its signatories. However, the result is not robust to changes in the specification. With the initiatives of trade liberalization within the services sector in CEFTA 2006, the effect of the agreement could become more significant in the future. The reason is that protocol on liberalization in trade in services in CEFTA 2006 integration is recent, and it is not still fully implemented.

In Table 6, we present the robustness checks for the previously discussed results. Each of the previously presented four specifications was estimated using the subsamples to test the sensitivity of the values of the coefficients and their statistical significance. The subsamples were formed by shortening the time frame of the analysis and excluding the first and the last year of the total sample, reducing the number of observations in all instances to 5,910. All the specifications used in the robustness checks are statistically significant as a whole at 1% level and have similar explanatory power as the baseline models, as evidenced by the values of the pseudo coefficient of determination.

The estimation results presented in Table 6 show that the previously discussed empirical results are robust. All the variables in the robustness checks maintain the same direction and high statistical significance of the effects we determined. Furthermore, even the

**Table 6.** Baseline model robustness checks.

Variables	(1)		(2)		(3)		(4)	
	2014–2019	2013–2018	2014–2019	2013–2018	2014–2019	2013–2018	2014–2019	2013–2018
GDP <sub>it</sub>	21.261 (38.583)	53.849 (54.636)	20.822 (38.675)	53.626 (54.454)				
GDP <sub>jt</sub>	0.228*** (0.010)	0.234*** (0.010)	0.228*** (0.010)	0.234*** (0.010)				
POP <sub>it</sub>					-1.42 (2.147)	-2.017 (2.448)	-1.413 (2.153)	-2.015 (2.441)
POP <sub>jt</sub>					0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
DIST <sub>ijt</sub>	-0.389*** (0.027)	-0.390*** (0.027)	-0.388*** (0.027)	-0.389*** (0.027)	-0.323*** (0.024)	-0.328*** (0.024)	-0.322*** (0.024)	-0.328*** (0.025)
RP <sub>ijt</sub>	-0.006*** (0.000)	-0.006*** (0.000)	-0.006*** (0.000)	-0.006*** (0.000)	-0.011*** (0.001)	-0.011*** (0.001)	-0.010*** (0.001)	-0.010*** (0.001)
PS <sub>it</sub>	-0.034 (0.543)	0.171 (0.451)	-0.033 (0.549)	0.173 (0.453)	-0.037 (0.528)	0.138 (0.446)	-0.036 (0.534)	0.139 (0.448)
LANG <sub>ijt</sub>	1.067*** (0.166)	0.919*** (0.161)			1.065*** (0.171)	0.909*** (0.165)		
HISTORY <sub>ijt</sub>			0.767*** (0.132)	0.646*** (0.132)			0.735*** (0.136)	0.608*** (0.134)
CURRENCY <sub>ijt</sub>	-0.412** (0.185)	-0.418** (0.196)	-0.483** (0.188)	-0.473** (0.198)	-0.552*** (0.187)	-0.554*** (0.198)	-0.624*** (0.189)	-0.610*** (0.200)
UNESCO <sub>it</sub>	0.537* (0.288)	0.375 (0.252)	0.539* (0.300)	0.373 (0.260)	0.400 (0.320)	0.162 (0.339)	0.400 (0.329)	0.155 (0.344)
CEFTA <sub>ijt</sub>	0.137 (0.162)	0.217 (0.158)	0.273* (0.151)	0.338** (0.149)	0.480*** (0.162)	0.557*** (0.158)	0.624*** (0.152)	0.686*** (0.149)
Constant	0.951 (1.559)	0.918 (1.585)	0.943 (1.598)	0.926 (1.607)	7.556 (8.941)	10.718 (10.408)	7.519 (8.964)	10.728 (10.374)
Observations	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910
Chi-squared	804.18 (0.000)	802.92 (0.000)	791.24 (0.000)	787.14 (0.000)	1111.18 (0.000)	1050.77 (0.000)	1093.72 (0.000)	1027.17 (0.000)
R <sup>2</sup>	0.590	0.580	0.586	0.577	0.558	0.551	0.554	0.547

Robust standard errors are provided in the parentheses. Statistical significance levels of 1 and 5% are represented by "\*\*\*" and "\*\*," respectively. Chi-squared refers to chi-squared statistics and the value in the parenthesis underneath refers to the respective p-value. R<sup>2</sup> denotes the pseudo-coefficient of determination.

coefficient values are nearly unchanged by the changes in the sample, indicating a high reliability of the obtained results. The only exception is the number of UNESCO World Heritage Sights, which is only significant in some of the specifications.

In our analysis, we also explored if the effects of various factors differ in different segments of tourism inflows. Namely, we analyze how the effects of our gravity model variables differ in the case of travel service exports of CEFTA 2006 countries to the European Union Countries, other CEFTA 2006 countries, and the rest of the world. The results of the analysis are presented in Table 7.

As previously, all the specifications are statistically significant at a 1% significance level. The effects are also similar, with some differences depending on the tourism flows observed. For instance, positive and statistically significant effect at a 1% level of the gross domestic product of the origin country is found in all specifications. However, the effect is much more pronounced in the intraregional travel services exports. Good economic performances of the CEFTA 2006 signatories increase the travel export services of other signatories. However, contraction in these economies could severely affect intraregional tourism flows.

Similar idiosyncrasies exist in the case of distance effects. For the travel service exports to the European Union member countries and the rest of the world, the distance has the same effect previously determined in the estimation based on the total sample. However, intraregional travel service exports are much more sensitive to distance. This reflects the geographic positions of the CEFTA 2006 signatories. Namely, most signatories are geographically close, and the tourism flows between these countries are intensive. However, Moldova, also a signatory of the CEFTA 2006 agreement, is much more distant than the other signatories. In addition, its tourists are oriented toward

**Table 7.** Estimation results for trade flows with the European Union, within CEFTA 2006 region and with the rest of the world.

Variables	EU		CEFTA 2006		Rest of the world	
GDP <sub>it</sub>	20.693 (51.032)	19.517 (50.353)	37.44 (76.346)	45.03 (72.716)	31.146 (46.365)	31.228 (46.363)
GDP <sub>jt</sub>	0.680*** (0.029)	0.705*** (0.030)	15.372*** (5.698)	22.717*** (5.981)	0.214*** (0.008)	0.214*** (0.008)
DIST <sub>ijt</sub>	-0.399*** (0.070)	-0.346*** (0.064)	-2.750*** (0.542)	-3.200*** (0.527)	-0.338*** (0.029)	-0.338*** (0.029)
RP <sub>ijt</sub>	0.001 (0.001)	0.001 (0.001)	-0.009*** (0.003)	-0.008* (0.005)	-0.005*** (0.001)	-0.005*** (0.001)
PS <sub>it</sub>	0.319 (0.658)	0.3 (0.658)	0.189 (0.662)	0.228 (0.681)	0.122 (0.454)	0.124 (0.454)
LANG <sub>ijt</sub>	0.678** (0.305)		1.261*** (0.246)		3.373*** (0.247)	
HISTORY <sub>ijt</sub>		0.914*** (0.167)		0.371 (0.269)		3.352*** (0.250)
CURRENCY <sub>ijt</sub>	-0.726** (0.298)	-0.744*** (0.280)			-0.859*** (0.179)	-0.935*** (0.189)
UNESCO <sub>it</sub>	0.486 (0.376)	0.498 (0.339)	-0.046 (0.357)	-0.149 (0.366)	0.569*** (0.208)	0.617*** (0.211)
Observations	980	980	181	181	5742	5742
Chi-squared	633.087 (0.000)	634.855 (0.000)	115.174 (0.000)	83.184 (0.000)	1092.374 (0.000)	1070.34 (0.000)
R <sup>2</sup>	0.560	0.572	0.570	0.526	0.587	0.587

Robust standard errors are provided in the parentheses. Statistical significance levels of 1 and 5% are represented by "\*\*\*" and "\*\*," respectively. Chi-squared refers to chi-squared statistics and the value in the parenthesis underneath refers to the respective p-value. R<sup>2</sup> denotes the pseudo-coefficient of determination.

other, closer destinations such as Romania and Ukraine, which are not signatories of the CEFTA 2006 agreement. The characteristics described above, mostly drive the pronounced negative effects of distance on intraregional travel services exports within the CEFTA 2006 region.

Another exciting result refers to differences in the effects of the relative prices. The relative prices of the destination country do not affect travel service exports to the European Union member states. This could imply that tourists originating from the European Union are much less price sensitive than those from other countries. This could result from the greater income of this group of tourists, paired with relatively low costs and high accessibility of the CEFTA 2006 signatories. In contrast, tourists originating from other CEFTA 2006 signatories, and from the rest of the world, appear to be more price sensitive. The highest price sensitivity is, thereby, found in other CEFTA 2006 countries, which could indicate the lower income and the preference for low-cost destinations of the majority of tourists in those countries.

Commonalities in language have a positive and statistically significant effect at least at a 5% level, similar to previously discussed specifications. On the other hand, the effects of shared history do not maintain robustness when observing groups of origin countries. Common history negatively affects travel service exports to European Union member states. This somewhat unusual result is likely the consequence of the idiosyncrasies of the countries encompassed by the common history variable. Namely, the variable distinguished bilateral travel services trade flows between the countries in our sample (except for Albania), as well as Croatia and Slovenia. The relatively higher income and well-developed domestic tourism in Croatia and Slovenia are likely the main reason for the established adverse effects of shared history. Namely, the tourists from these countries opt either for local or other international destinations rather than for other former Yugoslav republics. This leads to systematically lower travel services exports to countries sharing a common history compared to exports to other countries.

Interestingly, the attractiveness of the destination country offering matters the most for the visitors originating from countries outside of the EU and the CEFTA 2006 regions. The statistic and economic significance of the corresponding coefficient are high, indicating that an increase in the number of UNESCO World Heritage Sights in a destination country by one leads to an increase in exports of travel services of the destination country by up to 85.3%. This suggests cultural heritage is significant for visitors facing higher transport costs and other movement barriers. For visitors from other considered regions, the factor does not have a comparable significance which could reflect a high relative attractiveness of the countries of origin, making the number of sights of the countries in the region an insignificant factor in the decision to visit the region. The result, therefore, implies the need to emphasize the region's cultural heritage in the efforts to promote the inflows of tourists from distant countries of origin. Finally, the previously established adverse effects of a common currency on travel services exports are, for the most part, confirmed in the majority of specifications.

Specifications (1) and (2) of the gravity model of travel services exports are estimated for each of the considered destination countries. The results are presented in [Table 8](#).

All the specifications are statistically significant at a 1% level. The data best fit the gravity model in the case of Serbia, where around 70% of the variability of travel services exports is explained by the factors included in our model.

**Table 8.** Estimation results for the individual Western Balkans economies.

Variables	Albania		Bosnia		Montenegro		North Macedonia		Serbia	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
GDP <sub>ij</sub>	0.279*** (0.030)	0.279*** (0.030)	0.181*** (0.017)	0.191*** (0.018)	0.189*** (0.015)	0.189*** (0.015)	0.232*** (0.016)	0.232*** (0.016)	0.260*** (0.018)	0.259*** (0.018)
DIST <sub>ij</sub>	-0.510*** (0.094)	-0.510*** (0.094)	-0.291*** (0.033)	-0.289*** (0.039)	-0.251*** (0.027)	-0.259*** (0.027)	-0.339*** (0.033)	-0.346*** (0.034)	-0.525*** (0.044)	-0.508*** (0.044)
RP <sub>ij</sub>	-0.013*** (0.002)	-0.013*** (0.002)	-0.008*** (0.001)	-0.005*** (0.001)	-0.003*** (0.000)	-0.003*** (0.000)	-0.005*** (0.000)	-0.005*** (0.001)	-0.008*** (0.001)	-0.007*** (0.001)
LANG <sub>ij</sub>			3.363*** (0.177)	3.363*** (0.177)	0.767*** (0.232)	0.767*** (0.232)	2.463*** (0.277)	2.463*** (0.277)	1.255*** (0.121)	1.255*** (0.121)
HISTORY <sub>ij</sub>			2.100*** (0.337)	2.100*** (0.337)			0.251 (0.176)	0.251 (0.176)		
CURRENCY <sub>ij</sub>					-0.147 (0.230)	-0.147 (0.230)				
CEFTA <sub>ij</sub>	0.662** (0.267)	0.662** (0.267)	-1.283*** (0.245)	-0.321 (0.438)	0.307 (0.215)	0.307 (0.215)	-0.650*** (0.241)	-0.650*** (0.241)	-0.145 (0.188)	0.102 (0.159)
Constant	4.157*** (0.259)	4.157*** (0.259)	0.848*** (0.127)	0.594*** (0.133)	3.425*** (0.233)	3.425*** (0.233)	1.634*** (0.146)	1.634*** (0.146)	3.814*** (0.110)	3.707*** (0.118)
Observations	1379	1379	1379	1379	1379	1379	1379	1379	1379	1379
Chi-squared	286.21 (0.000)	286.21 (0.000)	984.201 (0.000)	517.955 (0.000)	412.324 (0.000)	412.324 (0.000)	526.255 (0.000)	526.255 (0.000)	729.433 (0.000)	920.293 (0.000)
R <sup>2</sup>	0.580	0.580	0.657	0.546	0.424	0.418	0.502	0.485	0.695	0.709

Robust standard errors are provided in the parentheses. Statistical significance levels of 1 and 5% are represented by \*\*\* and \*\*, respectively. Chi-squared refers to chi-squared statistics and the value in the parenthesis underneath refers to the respective p-value. R<sup>2</sup> denotes the pseudo-coefficient of determination.

In all countries, the gross domestic product of the country of origin is an essential factor in their respective travel services exports. There is a positive and statistically significant effect at a 1% level in all cases. The economic effect is similar in all destination countries. This implies that the whole region is susceptible to contractions in the tourism sector in the event of economic crises in the origin countries.

All the considered countries exhibit negative effects of geographic distance on travel services exports. Tourists are more sensitive to higher geographic distance in the case of Albania, North Macedonia and Serbia. This could imply that these countries are mainly focused on attracting tourists from the region, which result from insufficiently developed touristic capacities and image as an attractive distant destination. Contrastingly, Montenegro shows the lowest adverse effects of geographic distance, indicating better performances in attracting tourists from distant countries of origin.

Previously presented results related to the effects of geographic distance, to a great extent, coincide with the adverse effects of the relative prices of the destination countries. The countries more oriented toward tourists originating from the region show more adverse effects of relative prices on travel services exports. This further supports the previously established notion that the tourists in the Western Balkans region appear to be, on average, price-sensitive. Montenegro, which is somewhat less reliant on the tourism inflows originating from the region, shows lower adverse effects of relative prices, likely indicating that the tourists arriving from more distant countries of origin are less price-sensitive.

Common language is a significant factor of export inflows in all the considered destination countries, apart from Albania, which does not share a language with any other country. This implies that cultural proximity plays a vital role in the tourism flows of the countries speaking South-Slavic languages. The effect is the least pronounced in the case of Montenegro, which could indicate that this country diversified its tourist structure more than the other countries in the region. The effects of common history are much more varied. Namely, Bosnia and Serbia have significantly higher exports of travel services to the former Yugoslavian republics than the other analyzed countries. Montenegro, on the other hand, shows insignificant effects of shared history, while the effects in the case of North Macedonia are significantly adverse.

Common currency and CEFTA 2006 membership do not show robust effects on travel services exports in most observed countries. An exception is Albania, which has realized the greatest benefits from the CEFTA 2006 membership in terms of tourism inflows from other signatories. The result for Albania is statistically significant at a 5% level in both considered specifications.

The results of our analysis presented in this paper align with previous literature. Pere and Ninka (2017) also used the gravity model of the Western Balkans region's exports, revealing that similar language and common boundaries with third countries have all impacted trade. Our results suggest that the country of origin's economic size is a significant determinant of travel services exports of Western Balkans countries since an increase in GDP of the origin country by 1 billion USD leads to an average increase in Western Balkans countries' travel services exports to that origin country by 0.026%. It appears that the demand-side factors primarily drive exports in the tourism sector in the Western Balkans region.

The results of our analysis confirmed that geographic distance has a negative effect on travel services exports. Adeola and Evans (2020) found out that the effect of distance is

statistically significant and negative: countries farthest from the origin countries have lesser tourism demand, given the increased transportation costs. Tourism inflows are highly sensitive to geographic distance, which likely reflects the increased travel costs of tourists from more distant countries and worse transport connectivity. Dropsy et al. (2020) confirmed the importance of distance for tourism performance because distance is connected to transportation costs and the economic weights (GDP) of the origin and destination countries.

Common language has a substantial and statistically significant positive effect on travel services exports in our empirical analysis. If the destination and the origin countries share the same language, the tourism inflows are nearly tripled in comparison to the inflows from countries of similar characteristics, which do not share the same language with the destination country. For example, Okafor et al. (2018), discover that having a shared language favors effect on bilateral tourist flows. The results indicate that the countries in the region strongly attract tourists with similar cultural backgrounds. Provenzano's (2015) findings strongly show that the natural and cultural resources of the island, as well as the road infrastructure and urban environment, are critical determinants of tourism demand in Sicily.

Relative prices negatively affect travel services exports since tourists opt for relatively less expensive destinations. The sensitivity to prices also suggests that Western Balkans countries, despite the efforts of some of the countries, are yet to establish themselves as luxury tourism destination.

A surprising result refers to the effects of the common currency, which suggests that tourists are less likely to visit a destination if it has the same official currency as the country of origin. This contrasts the expectation that a common currency reduces the exchange and, thus, travel costs. However, the result more likely reflects a specific situation in the Western Balkans region. Namely, Montenegro, which adopted the Euro as the official currency, has the majority of tourists from other countries in the region, as well as countries such as Russia and Ukraine.

Political instability is not a significant factor in deterring tourists to the Western Balkans region, implying that the countries in the regions have achieved a sufficient level of stability, compared to a turbulent situation in the past. There is some evidence of the importance of cultural heritage in attracting tourists to the region. This factor is particularly pronounced in the bilateral flows between Western Balkans countries and the countries of origin, which are neither members of the European Union nor the CEFTA 2006.

Our results also suggest that CEFTA 2006 agreement could positively affect on travel service exports of its signatories. With the initiatives of trade liberalization within the services sector in CEFTA 2006, the agreement's effect could be more significant in the future. The reason is that protocol on liberalization in trade in services in CEFTA 2006 integration is recent, and it is not still fully implemented. This is an important effect of trade integration, even in the services. This study contributes to the literature as it explains the impact of more variables on the export of travel services in comparison to the earlier studies, which use the gravity model to investigate international trade in Western Balkans.

## Conclusions

In this study, we analyzed the travel services exports of Western Balkan countries. In the analysis, we estimated a gravity model of trade applied in the context of tourism flows in the region. The model was estimated using the sample of 6 countries and 197 of their partner economies between 2013 and 2019. The results indicate the relevance of the gravity model, as the partner economies' sizes and their geographic proximity are significant determinants of tourism flows. In addition, we identified the significance of cultural factors, relative price levels of the destination countries, destination attractiveness, and economic integration. This provides important information for defining tourism development strategies in the region.

Several implications stem from the results of our research. First, the significant effects of partner economy size imply that contractions of partner economies would lead to a decreased export of travel services in the region. This is a particularly relevant point, considering the global slowdown of economic activity due to the COVID-19 pandemic. The importance of the geographic factor in determining the exports of travel services imply that Western Balkan countries could encourage tourism inflows by investing in transport infrastructure, such as railroads and highways. In addition, tourists from more distant destinations could be attracted by offering relatively frequent and cheap flights to the regions. In this sense, the role of national airline markets needs to be carefully examined, which could be a topic for future research. Also, we found that the relevance of common currency as a significant determinant of trade may be reduced by the stronger impact of other factors.

Our results also imply the importance of adjusting the offer of travel services to the characteristics of the visiting tourists, which are often price-sensitive. This is particularly true for the countries such as Albania, which could benefit from focusing on the development of mass tourism offers. On the other hand, Montenegro is a notable exception from this finding. In the case of Montenegro, there is a potential for developing a more elite tourism. Finally, we found some evidence that further integration within the CEFTA 2006 agreement could benefit the development of the tourism sector of all the countries in the Western Balkan region, but this could be tested further when data becomes available.

## Notes

1. These include Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, and Kosovo\* (as a separate customs territory under UN Security Council Resolution No. 1244). Croatia, which also belonged to this group, is not considered at present since it became an EU member on July 1, 2013.
2. Eurostat: GDP and main components (output, expenditure, and income) [nama\_10\_gdp].
3. Albania, Bosnia and Herzegovina, and Montenegro are all Mediterranean countries.
4. Source: UNWTO: International Tourism Highlights, 2019 Edition.
5. Ibid.
6. Data for Kosovo\* were not available.
7. Source of data: ITC, UNCTAD, WTO trade in services database based on IMF statistics.

8. Bela Balassa (1965), defined RCA as 
$$RCA_{ij} = \frac{\sum_j X_{ij}}{\sum_j X_j} \cdot \frac{\sum_i \sum_j X_{ij}}{\sum_i X_i}$$
, Where  $X_{ij}$  is the exports of sector  $i$  from

country  $j$ ;  $\sum_i X_{ij}$  is the total export from country  $j$ ;  $\sum_j X_{ij}$  is the exports of sector  $i$  in the world, and  $\sum_i \sum_j X_{ij}$  is the total exports in the world. The RCA index is a key indicator that measures the degree of export specialization in a particular product or industry. RCA can range from 0 to infinity. When is larger than 1, the country is said to be specialized in that sector of export, while when it is below 1, then there is no specialization.

9. Montenegro, Albania, and Bosnia and Hercegovina are Mediterranean countries.
10. The results of correlation analysis are provided in the Appendix in Table A1.

## Disclosure Statement

No potential conflict of interest was reported by the author(s).

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## References

- Adeola, O., and O. Evans. 2020. "ICT, Infrastructure, and Tourism Development in Africa." *Tourism Economics* 26 (1): 97–114. <https://doi.org/10.1177/1354816619827712>.
- Anderson, J. E., C. A. Milot, and Y. V. Yotov 2011. "The Incidence of Geography on Canada's Services Trade." *National Bureau of Economic Research Paper*. 17630. <http://www.nber.org/papers/w17630>.
- Anderson, J., and E. Van Wincoop. 2003. "Gravity with Gravitas: A Solution to the Border Puzzle." *The American Economic Review* 93 (1): 170–92. <https://doi.org/10.1257/00028280332145214>.

- Anderson, J. E., and van Wincoop, E. (2004). Trade Costs. *Journal of Economic Literature*, 42(3), <https://doi.org/10.1257/0022051042177649>, 691–751.
- Bacovic, M., D. Jacimovic, and Smolovic J. Cerovic. 2020. “Impact of Export of Travel Services on Current Account Balance and Growth in Mediterranean Countries.” *Prague Economic Papers* 29 (6): 710–28. <https://doi.org/10.18267/j.pep.748>.
- Burger, M., F. Van Oort, and G.-J. Linders. 2009. “On the Specification of the Gravity Model of Trade: Zeros, Excess Zeros and Zero-Inflated Estimation.” *Spatial Economic Analysis* 4:167–90. <https://doi.org/10.1080/17421770902834327>.
- Christen, E. 2017. “Time Zones Matter: The Impact of Distance and Time Zones on Services Trade.” *The World Economy* 40 (3): 612–31. <https://doi.org/10.1111/twec.12326>.
- Dropsy, V., C. Montet, and B. Poirine. 2020. “Tourism, Insularity, and Remoteness: A Gravity-Based Approach.” *Tourism Economics* 26 (5): 792–808. <https://doi.org/10.1177/1354816619855233>.
- Dumičić, K., J. Mikulić, and Časni Č. A. 2017. “Tourism Spending Behaviour Before and After the 2008 Financial Crisis: A Dynamic Panel Investigation.” *Tourism Economics* 23 (1): 223–28. <https://doi.org/10.5367/te.2015.0528>.
- Durbarry, R. 2004. “Tourism and Economic Growth: The Case of Mauritius.” *Tourism Economics* 10 (4): 389–401. <https://doi.org/10.5367/0000000042430962>.
- Durden, G. C., and J. Silberman. 1975. “The Determinants of Florida Tourists Flows: A Gravity Model Approach.” *The Review of Regional Studies* 5:31–41. <https://rrs.scholasticahq.com/article/10421.pdf>.
- Eilat, Y., and L. Einav. 2004. “The Determinants of International Tourism: A Three Dimensional Panel Data Analysis.” *Applied Economics* 36:1315–28. <https://doi.org/10.1080/000368404000180897>.
- Eryiğit, M., E. Kotil, and R. Eryiğit. 2010. “Factors Affecting International Tourism Flows to Turkey: A Gravity Model Approach.” *Tourism Economics* 16 (3): 585–95. <https://doi.org/10.5367/000000010792278374>.
- Fourie, J., and M. Santana. 2011. “The Impact of Mega-Events on Tourist Arrivals.” *Tourism Management* 32:1364–70. <https://doi.org/10.1016/j.tourman.2011.01.011>.
- Fourie, J., and M. Santana. 2013. “Ethnic Reunion and Cultural Affinity.” *Tourism Management* 36:411–20. <https://doi.org/10.1016/j.tourman.2012.10.002>.
- Francois, J., and B. Hoekman. 2010. “Services Trade and Policy.” *Journal of Economic Literature* 48 (3): 642–92. <https://doi.org/10.1257/jel.48.3.642>.
- Freund, C., and D. Weinhold. 2002. “The Internet and International Trade in Services.” *The American Economic Review* 92 (2): 236–40. <https://doi.org/10.1257/000282802320189320>.
- Gil-Pareja, S., R. Llorca, and Martínez J. A. 2007. “The Effect of EMU on Tourism.” *Review of International Economics* 15:302–12. <https://doi.org/10.1111/j.1467-9396.2006.00620.x>.
- Gordon, I. R., and S. L. Edwards. 1973. “Holiday Trip Generation.” *Journal of Transport Economics and Policy* 7 (2): 153–68. <https://www.jstor.org/stable/20052319>.
- Grieverson, R., M. Holzner, and G. Vuksic. 2021. “Regional Economic Cooperation in the Western Balkans: The Role of Stabilization and Association Agreements, Bilateral Investment Treaties and Free Trade Agreements in Regional Investment and Trade Flows.” *Eastern European Economics* 59 (1): 3–24. <https://doi.org/10.1080/00128775.2020.1846130>.
- Head, K., T. Mayer, and J. Ries. 2009. “How Remote is the Offshoring Threat?” *European Economic Review* 53 (4): 429–44. <https://doi.org/10.1016/j.eurocorev.2008.08.001>.
- Ilahi, N., A. Khachatryan, W. Lindquist, N. Nguyen, F. Raei, and L. Rahman. 2019. “Lifting Growth in the Western Balkans the Role of Global Value Chains and Services Exports.” *European Departmental Paper Series* 19. Washington, DC: International Monetary Fund. <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2019/11/11/Lifting-Growth-in-the-Western-Balkans-The-Role-of-Global-Value-Chains-and-Services-Exports-46860>.
- Jia, F., X. Huangb, X. Xuc, and H. Sun. 2020. “The Effects of Economic Policy Uncertainty on Export: A Gravity Model Approach.” *Prague Economic Papers* 29 (5): 600–22. <https://doi.org/10.18267/j.pep.754>.
- K, Nordås H. 2018. “What Drives Trade in Services? Lessons from the Nordics.” *Applied Economics* 50 (33): 3532–45. <https://doi.org/10.1080/00036846.2018.1430334>.

- Khadaroo, J, and Seetanah, B. (2008). The role of transport infrastructure in international tourism development: A gravity model approach. *Tourism Management*, 29(5), 831–840. <https://doi.org/10.1016/j.tourman.2007.09.005>
- Khalid, U., L. E. Okafor, and K. Burzynska. 2022. “Do Regional Trade Agreements Enhance International Tourism Flows? Evidence from a Cross-Country Analysis.” *Journal of Travel Research* 61 (6): 1391–408. <https://doi.org/10.1177/00472875211028321>.
- Kimura, F., and H. H. Lee. 2006. “The Gravity Equation in International Trade in Services.” *Review of World Economics* 142 (1): 92–121. <https://doi.org/10.1007/s10290-006-0058-8>.
- Kliman, M. (1981). A quantitative analysis of Canadian overseas tourism. *Transportation Research Part A: General*, 15(6), 487–497. [https://doi.org/10.1016/0191-2607\(81\)90116-3](https://doi.org/10.1016/0191-2607(81)90116-3)
- Koh, S. G. M., and A. O. J. Kwok. 2018. “ASEAN Beyond Talk Shop: A Rejoinder to Regional Tourism.” *Current Issues in Tourism* 21 (10): 1085–90. <https://doi.org/10.1080/13683500.2016.1267114>.
- Koo, T. T. R., C. Lim, and F. Dobruszkes. 2017. “Causality in Direct Air Services and Tourism Demand.” *Annals of Tourism Research* 67:67–77. <https://doi.org/10.1016/j.annals.2017.08.004>.
- Lee, C. W., and S. Park. 2016. “Does Religious Similarity Matter in International Trade in Services?” *The World Economy* 39 (3): 409–25. <https://doi.org/10.1007/s40822-022-00212-w>.
- Loungani, P., S. Mishra, C. Papageorgiou, and Ke Wang. 2017. “World Trade in Services: Evidence from a New Dataset.” *International Monetary Fund*. Washington, D.C Working Paper No. 17/77. <https://www.imf.org/en/Publications/WP/Issues/2017/03/29/World-Trade-in-Services-Evidence-from-A-New-Dataset-44776>.
- Malamud, B. (1973). Gravity Model Calibration of Tourist Travel to Las Vegas. *Journal of Leisure Research*, 5(4), 23–33. <https://doi.org/10.1080/00222216.1973.11970151>
- Melitz, J, and Toubal, F. (2014). Native language, spoken language, translation and trade. *Journal of International Economics*, 93(2), 351–363. <https://doi.org/10.1016/j.jinteco.2014.04.004>
- Mishra, S., S. Lundstrom, and R. Anand 2011. “Service Export Sophistication and Economic Growth.” *World Bank Policy Research Working Paper 5606*, Washington DC: The World Bank. <https://documents1.worldbank.org/curated/en/170221468339911476/pdf/WPS5606.pdf>.
- Morley, C., J. Rosselló, and M. Santana-Gallego. 2014. “Gravity Models for Tourism Demand: Theory and Use.” *Annals of Tourism Research* 48:1–10. <https://doi.org/10.1016/j.annals.2014.05.008>.
- Neumayer, E. 2010. Visa restrictions and bilateral travel *The Professional Geographer* 62(2): 1–11. <https://dx.doi.org/10.2139/ssrn.1144624>.
- OECD. 2022. “International Trade During the COVID-19 Pandemic: Big Shifts and Uncertainty.” In *OECD Policy Responses to Coronavirus (COVID-19)*. Paris: OECD Publishing. <https://doi.org/10.1787/d1131663-en>.
- Okafor, L. E., U. Khalid, and T. Then. 2018. “Common Unofficial Language, Development and International Tourism.” *Tourism Management* 67:127–38. <https://doi.org/10.1016/j.tourman.2018.01.008>.
- Pere, E., and E. Ninka. 2017 November. “International Trade in Western Balkans Countries: Analysis Based on the Gravity Model.” *The WIIW Balkan Observatory Working Papers* 126. <https://wiiw.ac.at/international-trade-in-western-balkan-countries-analysis-based-on-the-gravity-model-p-4632.html>.
- Provenzano, D. 2015. “A Dynamic Analysis of Tourism Determinants in Sicily.” *Tourism Economics* 21 (3): 441–54. <https://doi.org/10.5367/te.2015.0480>.
- Pyers, C. E. 1966. “Evaluation of Intervening Opportunities Trip Distribution Model.” *Highway Research Record* 114:71–98. <https://onlinepubs.trb.org/Onlinepubs/hrr/1966/114/114-005.pdf>.
- Quandt, R. E., and W. J. Baumol. 1969. “The Demand for Abstract Transport Modes: Some Hopes.” *Journal of Regional Science* 9:159–62. <https://doi.org/10.1111/j.1467-9787.1969.tb01451.x>.
- Ramsey, J. B. 1969. “Tests for Specification Errors in Classical Linear Least Squares Regression Analysis.” *Journal of the Royal Statistical Society: Series B (Methodological)* 31:350–71. <https://doi.org/10.1111/j.2517-6161.1969.tb00796.x>.
- Reserve Bank of Australia. 2019. Bulletin 03 (Reserve Bank of Australia). <https://www.rba.gov.au/publications/bulletin/2019/mar/pdf/bulletin-2019-03.pdf>

- Santana-Gallego, M., F. J. Ledesma-Rodríguez, J. V. Pérez-Rodríguez, and I. Cortés-Jiménez. 2010. "Does a Common Currency Promote Countries' Growth via Trade and Tourism?" *The World Economy* 33 (12): 1811–35. <https://doi.org/10.1111/j.1467-9701.2010.01305.x>.
- Santana-Gallego, M., F. J. Ledesma-Rodríguez, and Pérez-Rodríguez J. V. 2016. "International Trade and Tourism Flows: An Extension of the Gravity Model." *Economic Modelling* 52:1026–33. <https://doi.org/10.1016/j.econmod.2015.10.043>.
- Shimbov, B., M. Alguacil, and C. Suárez. 2019. "Export Structure Upgrading and Economic Growth in the Western Balkans Countries." *Emerging Markets Finance and Trade* 55 (10): 2185–210. <https://doi.org/10.1080/1540496X.2018.1563538>.
- Silva, J. S., and S. Tenreyro. 2006. "The Log of Gravity." *The Review of Economics and Statistics* 88:641–58. <https://doi.org/10.1162/rest.88.4.641>.
- Tham, S. Y., S. Khoon Goh, K. N. Wong, and A. Fadhli. 2018. "Bilateral Export Trade, Outward and Inward FDI: A Dynamic Gravity Model Approach Using Sectoral Data from Malaysia." *Emerging Markets Finance & Trade* 54:2718–35. <https://doi.org/10.1080/1540496X.2017.1402176>.
- Tinbergen, J. 1962. "Shaping the World Economy: Suggestions for an International Economic Policy." New York: The Twentieth Century Fund.
- Ulucak, R., A. G. Yücel, and İlkay S. Ç. 2020. "Dynamics of Tourism Demand in Turkey: Panel Data Analysis Using Gravity Model." *Tourism Economics* 26 (8): 1394–414. <https://doi.org/10.1177/1354816620901956>.
- Uvalić, M., and V. Cvijanović 2018. "Towards a Sustainable Economic Growth" *FES Paper*, March 2018, <http://library.fes.de/pdf-files/bueros/kroatien/14688.pdf>.
- Vietze, C. (2012). Cultural Effects on Inbound Tourism into the USA: A Gravity Approach. *Tourism Economics*, 18(1), 121–138. <https://doi.org/10.5367/te.2012.0100>
- World Trade Organization. 2015. *International Trade Statistics 2015*. Geneva: World Trade Organization. [https://www.wto.org/english/res\\_e/statis\\_e/its2015\\_e/its2015\\_e.pdf](https://www.wto.org/english/res_e/statis_e/its2015_e/its2015_e.pdf).
- Xu, L., S. Wang, L. Tang, and Y. Shao. 2019. "Modelling International Tourism Flows To China: A Panel Data Analysis with the Gravity Model." *Tourism Economics* 25 (7): 1047–69. <https://doi.org/10.1177/1354816618816167>.

## Appendix

**Table A1.** Correlation matrix.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) EXP <sub>ijt</sub>	1												
(2) GDP <sub>ijt</sub>	0.029*	1											
(3) GDP <sub>ijt</sub>	0.294*	0.001	1										
(4) POP <sub>ijt</sub>	0.019	0.987*	0	1									
(5) POP <sub>ijt</sub>	0.170*	0.000	0.567*	0	1								
(6) DIST <sub>ijt</sub>	-0.190*	-0.007	0.015	-0.011	0.008	1							
(7) RP <sub>ijt</sub>	-0.091*	-0.003	-0.093*	-0.015	-0.015	-0.019	1						
(8) PS <sub>ijt</sub>	0.112*	0.036*	-0.002	0.030*	-0.000	0.000	-0.001	1					
(9) LANG <sub>ijt</sub>	0.185*	0.050*	-0.024*	0.045*	-0.027*	-0.162*	-0.037*	-0.017	1				
(10) HIST <sub>ijt</sub>	0.147*	0.011	-0.030*	0.007	-0.037*	-0.213*	-0.058*	-0.061*	0.630*	1			
(11) CURR <sub>ijt</sub>	0.075*	-0.115*	0.009	-0.146*	-0.02	-0.146*	-0.066*	0.067*	-0.007	0.040*	1		
(12) UNESCO <sub>ijt</sub>	0.101*	0.667*	0.001	0.591*	0.001	0.007	0.022	0.399*	0.030*	-0.012	0.038*	1	
(13) CEFTA <sub>ijt</sub>	0.135*	-0.003	-0.036*	-0.002	-0.039*	-0.226*	-0.045*	-0.001	0.545*	0.521*	-0.023	-0.023	1

\* denotes statistical significance at 5% level.

**Table A2.** The list of partner economies.

Afghanistan	Colombia	Haiti	Moldova	Sierra Leone
Albania	Comoros	Honduras	Mongolia	Singapore
Algeria	Congo	Hong Kong, China	Montenegro	Sint Maarten
Angola	Costa Rica	Hungary	Montserrat	Slovak Republic
Anguilla	Côte d'Ivoire	Iceland	Morocco	Slovenia
Antigua and Barbuda	Croatia	India	Mozambique	Solomon Islands
Argentina	Cuba	Indonesia	Myanmar	Somalia
Armenia	Curacao	Iran	Namibia	South Africa
Aruba	Cyprus	Iraq	Nepal	Spain
Australia	Czech Republic	Ireland	Netherlands	Sri Lanka
Austria	Democratic People's Republic of Korea	Israel	New Caledonia	Sudan
Azerbaijan	Democratic Republic of the Congo	Italy	New Zealand	Suriname
Bahamas	Denmark	Jamaica	Nicaragua	Sweden
Bahrain	Djibouti	Japan	Niger	Switzerland
Bangladesh	Dominica	Jordan	Nigeria	Syrian Arab Republic
Barbados	Dominican Republic	Kazakhstan	North Macedonia	Tajikistan
Belarus	Ecuador	Kenya	Norway	Tanzania
Belgium	Egypt	Kiribati	Oman	Thailand
Belize	El Salvador	Korea	Pakistan	Timor-Leste
Benin	Equatorial Guinea	Kosovo*	Palestinian Authority or West Bank and Gaza Strip	Togo
Bermuda	Eritrea	Kuwait	Panama	Tonga
Bhutan	Estonia	Kyrgyzstan	Papua New Guinea	Trinidad and Tobago
Bolivia	Eswatini	Lao People's Democratic Republic	Paraguay	Tunisia
Bosnia and Herzegovina	Ethiopia	Latvia	Peru	Turkey
Botswana	Faeroe Islands	Lebanon	Philippines	Turkmenistan
Brazil	Fiji	Lesotho	Poland	Turks and Caicos Islands
Brunei Darussalam	Finland	Liberia	Portugal	Tuvalu
Bulgaria	France	Libya	Qatar	Uganda
Burkina Faso	French Polynesia	Lithuania	Romania	Ukraine
Burundi	Gabon	Luxembourg	Russia	United Arab Emirates
Cabo Verde	Gambia	Madagascar	Rwanda	United Kingdom
Cambodia	Georgia	Malawi	Saint Kitts and Nevis	United States
Cameroon	Germany	Malaysia	Saint Lucia	Uruguay
Canada	Ghana	Maldives	Saint Vincent and the Grenadines	Uzbekistan
Cayman Islands	Greece	Mali	Samoa	Vanuatu
Central African Republic	Grenada	Malta	Sao Tome and Principe	Venezuela
Chad	Guatemala	Mauritania	Saudi Arabia	Viet Nam
Chile	Guinea	Mauritius	Senegal	Yemen
China (People's Republic of)	Guinea-Bissau	Mexico	Seychelles	Zambia
Chinese Taipei	Guyana			Zimbabwe