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The Impact of Tourism on Economic Growth in the Western Balkan Countries: An Empirical Analysis

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ARTICLE INFO	ABSTRACT
	Purpose: The purpose of this research paper is to empirically analyse the effects of tourism on economic growth in Western Balkan countries (Albania, Bosnia and Herzegovina, Croatia, FYROM, Montenegro and Serbia). **Design/Methodology/Approach**: The empirical analysis consists of 17- year panel data of 6 countries over the period 1998 to 2014. Several models are analysed using the panel regression econometric techniques. The study investigates the random and fixed effects, as well as individual heterogeneity across those countries. Also, the Hausman Taylor IV estimator is used as the most appropriate model for this analysis. The real income per capita of the sample countries is modelled as dependent on the lagged income per capita, tourist arrivals, tourism receipts, FDI stock, exports and government expenditures. **Findings**: The estimation results in all types of models, and indicate that tourism has a positive and significant impact on economic growth in the Western Balkan countries. The Hausman Taylor IV model suggests that for every 1% increase of tourist arrivals, the output will increase approximately by 0.08%. **Research limitations/implications** Although the Hausman Taylor IV model performs well, the results should be interpreted with caution. The analysis has its limitations; firstly, the total number of observations is relatively small for a panel regression analysis; secondly, the problem of endogenity is not completely avoided. However, the study implies that these countries should enhance efforts for joint tourism sector policies to engender economic sustainability. **Originality/Value:** − To our best knowledge, this is the first attempt of estimating the effects of tourism on economic growth in the Western Balkan countries using the Hausman Taylor IV model

1. Introduction

Tourism is widely perceived to be an effective vehicle for development (Sharpley, R, 2010). For many countries, this sector is considered a powerful stimulator of national economies because it affects those economic sectors associated with it, and at the same time creates jobs, increases domestic demand, contributes positively to the balance of payments and allows a better reallocation of wealth. Recognizing this importance, it becomes relevant

to investigate the impact of tourism in Western Balkan countries.

Tourism combines several different elements due to the high interdependency of the activities needed to form the overall touristic product. A universally-accepted definition of tourism is that presented to the Conference on International Travel and Tourism in Rome in 1963 by the United Nations World Tourism Organization (UNWTO). It classifies tourism as 'the activities practised by individuals during their travels and stays in places

located outside their normal residency for a continued period not surpassing a year for motives of leisure, business and others' (Naudé and Saayman, 2004). At the same conference, a 'visitor' was defined as 'any person who visits a country or region different from their place of residence, for any motive as long as it is not to exercise a remunerated activity in the visited place' (Naudé and Saayman, 2004). Furthermore, visitors were classified as tourists when they stay in the visited place for at least 24 hours, and as excursionists when they stay for less than 24 hours. When people visit a specific destination region with the purpose of making use of the lodging, transport, food and recreation services, among others, they stimulate the economy of the receiving region and create a market: the 'tourism market'. The tourism market is defined as an atypical market because a product is not delivered, but the right to the use of goods or services available in a different location from the residency is awarded.

Tourism contributes to raising the investment rate in tourist destination regions through the construction of facilities and infrastructure needed for the production of tourism goods and services, which demand high levels of investment, both public and private. Despite the high levels of investment in infrastructure and equipment, tourism development is less demanding of capital than is the case for most industries, since tourism activity are characterized by the prevalence of small- and medium-sized enterprises (SMEs), which cover a great variety of products and services. Hence, the high level of investment in tourist infrastructure and superstructure are carried out by the state and should be considered as a means to stimulate employment, economic growth and the social promotion of small investors.

Tourism effects employment, inflation, the currency offer and the speed of currency circulation, on production, on the balance of payments, on investment in the creation of physical infrastructure, which makes tourism possible and, finally, on the state's budget, increasing public expenditure through public services, but also increasing the public income with the collection of direct and indirect taxes. Determinants of touristic attraction can be stimulated by tourism as it creates new sources of work with increases in both the size and number of lodging establishments, the opening of new restaurants and growth in transport. Tourism also creates jobs indirectly; related sectors supplying the productive sectors expand.

The Western Balkan countries finally understood the importance of this economic sector for economic growth and established a regional network of tourism stakeholders that began to realize the value of collaboration and exchanging best practices.

2. Literature Survey

2.1 Theory and some stylized facts

In September, the 70th Session of the United Nations General Assembly adopted the Sustainable Development Goals (SDGs), a universal agenda for planet and people. Among the 17 SDGs and 169 associated targets, tourism is explicitly featured in Goals 8, 12 and 14 for its capacity to foster economic growth and decent work for all, promote sustainable consumption and production, and advance conservation and sustainable development of aquatic resources.

With more than one billion tourists travelling to an international destination every year, tourism has become a leading economic sector, contributing 10% of global GDP and 6% of the world's total exports, one in eleven jobs around the world (UNWTO, 2016). Representing more than just economic strength, these numbers reflect tourism´s vast potential and increasing capacity to address some of the world´s most pressing challenges, including socioeconomic growth, inclusive development and environmental preservation. The development of tourism is a priority for all countries. The tourism industry is a strategic asset for social and economic policies to trigger growth and development.

Tourism is today a major category of international trade in services. Spending on international tourism grew significantly in 2015, proving the sector's relevance in stimulating economic growth, boosting exports and creating jobs for an increasing number of economies worldwide. International tourist arrivals grew by 4.4% in 2015 to reach a total of 1,184 million in 2015, marking the sixth consecutive year of above-average growth with international arrivals increasing by 4% (UNWTO, 2016). International tourism represents 7% of total world exports and 30% of services exports. The share of tourism in overall exports of goods and services increased from 6% to 7% in 2015 as for the fourth consecutive year international tourism outgrew world merchandise trade, which grew 2.8% in 2015 according to recent data reported by the World Trade Organization. Europe (+5%) led growth in absolute and relative terms supported by a weaker euro vis-à-vis the US dollar and other main currencies. Arrivals reached 609 million, or 29 million more than in 2014. Central and Eastern Europe (+6%) rebounded from last year's decrease in arrivals. Northern Europe (+7%) and Southern Mediterranean Europe (+5%) also recorded sound results, while Western Europe (+3%) was below average (UNWTO, 2016).
As a worldwide export category, tourism ranks third after fuels and chemicals, and ahead of food and automotive products. In many developing countries, tourism ranks as the first export sector. Unusually strong exchange rate fluctuations in 2015 seriously influenced receipts for individual destinations and regions, expressed in US dollars. Taking exchange rate fluctuations and inflation into account, receipts in the Americas, Asia and the Pacific and the Middle East all grew by 4%, while in Europe they grew by 3% and in Africa by 2%.

In December 2015, the United Nations declared 2017 as the International Year of Sustainable Tourism for Development. This is a unique opportunity to better establish tourism as a global and national priority, a valuable component of all efforts to advance economic growth, cultural and environmental protection, mutual understanding and peace. It reflects the belief of UNWTO that greater recognition should be given to the tourism sector as fundamental to shepherding us all into a sustainable and prosperous future.

2.2 Previous empirical findings

Over the last decade, the concept of sustainable tourism development has become the focus of interesting attention amongst tourism theorist. Many of them have published articles and tourism development plans.
Tourism contributes to the national production by creating a supplementary demand through intermediary

consumption in different areas of activity (for example, consumption in the food and agriculture industry supplying restaurants) and by the demand for new investments (Vas M and Silva J, 2010).

The balance of payments is also affected by tourism because of the increase of international flows, where tourism exports are calculated through the entry of foreign currencies brought by foreign visitors and imports through the exit of residents who go abroad, as well as the importing of goods and services to supply tourist services in typical, non-typical, indirect and induced activities and payments abroad (Cruz, 2004). Brida and Risso (2009) found that tourism is an important source of economic growth.

According to Soukiazis and Proença (2008), tourism contributes to national economic growth and development, and improves the standard of living, thus promoting a process of regional convergence and stimulating domestic demand. Tourism can generate significant revenue in the public sector, especially when managers stimulate the dynamics of the business sector, when effective tax collection systems are in place and when the destination is administered in an enterprising manner, with the creation of services and activities that extend the touristic offerings and give rise to greater direct expenditure by tourists. Additionally, tourism development provides added value through increased investment, increased employment, an improvement in the balance of payments, a boosting of tourism sectors and have a positive impact on GDP.

The authors (Cerovic et al. 2015) in their paper indicate that tourism makes a modest direct contribution to the overall economic growth in the examined countries, regardless of the continuous increase in the number of foreign tourist arrivals. The level of tourism contribution to the overall economic growth varies and it is primarily related to diversity and quality of supply (the highest contribution is recorded in Montenegro, while lowest contribution is observed in FYROM).

Alba Kruja (2012), in her work concluded that for a developing country like Albania, tourism is an important sector that may generate foreign exchange earnings and employment. The sector is still in its infancy and highly intensive investments are needed.

The major challenge for Western Balkans countries is to overcome differences and find a way to collaborate to benefit from the opportunity presented by natural and cultural assets. The tourism industries in those countries needed to expand their thinking and connect with partners in neighbouring countries to joining their offerings in a regional sustainable tourism portfolio. In addition, they needed to begin positioning themselves as one singular destination that invites travellers for exploration and adventure.

3. Methodology and data

In order to examine the impact of tourism on economic growth of the Western Balkan countries, a general standard model is used in the following form:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_i + \varepsilon_{it}, \qquad (1)$$

where Y represents the real output for country i and time t, X is a vector of control variables that include, in our case, the lagged GDP per capita, tourist arrivals, tourism receipts, FDI stock, exports and government expenditures. Whereas Z_i is an unobserved variable that varies from one country to the next but does not change over time. We want to estimate β_1, the effect on Y of X holding constant the unobserved country characteristics Z. Because Z_i varies from one country to the next, but is constant over time, the real output regression model can be interpreted as having n intercepts, one for each country, and ε_{it} is the stochastic term.

To estimate the above panel regression model, four alternative methods are used. First, the Pooled Least Squares (OLS) model, which fundamentally depends on minimizing the sum of squared residuals, is based on the assumption that both intercept and coefficient are constant over time and cross section, and statistical noise captures disturbances over time and cross section. Second, the Fixed Effects model (FEM), also referred to as the "Least-Squares Dummy Variable (LSDV) model", estimates the intercept as coefficient of dummy variables. This model allows the intercept to vary for each cross-section and thus account for the individual effect. Third, the Random Effects model (REM) treats the intercepts as random variables rather than fixed constants. The intercepts are assumed to be independent from the error term and also mutually independent. This study also uses Hausman test to decide between a Fixed Effect model and Random Effect model. The null hypothesis underlying this test is that the FEM and REM estimators do not differ substantially. If the null hypothesis is rejected, REM is not appropriate and it is may be better to use FEM, in which case statistical inferences will be conditional on the ε_{it} in the sample. Specifically, if it is assumed that ε_{it} and the *X's* (explanatory variables) are uncorrelated, REM may be appropriate, whereas if ε_{it} and the *X's* are correlated, FEM may be appropriate (Gujarati, 2003).

Explicitly, let $\alpha_i = \beta_0 + \beta_2 Z_i$, then equation (1) becomes:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + \varepsilon_{it} \qquad (2)$$

This equation represents the fixed effects regression model by which we estimate the fixed effects on real output, where α_i (i=1....n) is the unknown intercept for each country.

While the random effects model has the form:

$$Y_{it} = X_{it}\beta + \alpha_i + u_{it} + \varepsilon_{it}, \qquad (3)$$

where u_{it} is the between-entity (country) error; ε_{it} is the within-entity (country) error.

Finally, the Hausman Taylor IV estimator can be considered to be an estimator in between the fixed and random effects approach. The crucial difference between the random effects model and the fixed effects model is based on assumptions about the correlation between the individual-specific effects and the set of regressors. However, these assumptions do not consider that if the individual effects are related to the regressors, estimation of time-invariant explanatory variables is not possible. To

overcome this, Hausman and Taylor (1981) introduced a model where some of the explanatory variables are related to the α_i , while others are not. In particular, they consider a model of the form:

$$y_{it} = X_{it}\beta + Z_i y + \mu_{it} + v_{it},$$
(4)

where the Z_i are time invariant covariates. In this formulation, all individual effects that are denoted as Z_i are observed. Unobservable individual effects are contained in the random term μ_i. Hausman and Taylor suggested to split X and Z into two sets of variables: $X = [X_1; X_2]$ and $Z = [Z_1; Z_2]$, X_1 is $n \times k_1$; X_2 is $n \times k_2$; Z is $n \times g_1$; Z_2 is $n \times g_2$ and $n = NT$. The model then is:

$$y_{it} = X_{1it}\beta_1 + X_{2it}\beta_2 + Z_{1i}y_1 + Z_{2i}y_2 + \mu_i + v_{it}$$
(5)

The distinguishing feature of this model is found in the assumptions on the correlation between the individual-specific effect, μ_i , and the set of time varying and time invariant regressors.

The data

This study is an empirical study using secondary data. The annual data from 1998 to 2014 of six Western Balkan countries, namely Albania, Bosnia and Herzegovina, Croatia, FYROM, Serbia and Montenegro, were collected from World Development Indicator (WDI) provided by the World Bank. Data for tourist arrivals and tourism receipts were obtained from the World Tourism Organization (UNWTO). All data are transformed into logarithmic values in order to measure the relative impact and elasticity of tourism on economic growth in Western Balkan countries. A descriptive statistics of the data used in the empirical analysis is provided in (Table 1) below:

Table1. Summary statistics

Variable	Mean	Std. Dev.	Min	Max	Observations
GDPC	4419.496	2588.286	1743.098	11515.96	102
FDI	9.78e+08	1.11e+09	4.12e+07	5.81e+09	96
EXP	32.92835	8.483087	9.85324	49.37222	96
TOURISTS	1984660	3053193	9900	1.16e+07	96
RECEIPTS	1.91e+09	2.91+09	3.00e+07	1.16e+10	96
GOVEX	3.58e+09	3.56e+09	2.16e+08	1.30e+10	96

Source: Authors' calculations

4. Empirical findings

In this section estimates of econometric models, i.e. "pooled OLS," "Fixed Effects", "Random Effects", and the results of Hausman Taylor IV model are presented. GDP per capita was taken as a dependent variable representative variable of economic growth, while we consider GDP per capita with a time lag (lag GDPC) as independent variables in addition to the variable of tourist arrivals (Tourists) and tourism receipts (Receipts) in order to control the convergence of 'steady-state' predicted by neoclassical

growth models (see Solow 1956; Mankiw et al. 1992). We also experiment with other control variables such as foreign direct investment stock (FDI), exports (EXP) and government expenditures (GOVEX). Summarized results are shown in Table 2 below.

Table 2. Regression results

	OLS	Fixed Effects	Random Effects	Hausman Taylor IV
Variables	ln_gdpc	ln_gdpc	ln_gdpc	ln_gdpc
ln_gdpc L1.	0.91860 (0.02584)***	0.31453 (0.06953)***	0.91860 (0.02584)***	0.34516 (0.06816)***
ln_tourists	0.02061 (0.01071)**	0.08346 (0.01635)***	0.02061** (0.01072)	0.08151 (0.01619)***
ln_receipts	0.00309 (0.00793)	0.02669 (0.00993)***	0.00309 (0.00793)	0.02717 (0.00984)***
ln_fdigdp	0.004712 (0.00509)	0.01451 (0.00391)***	0.004712 (0.00509)	0.01418 (0.00392)***

ln_exp	0.00819 (0.02118)	0.04321 (0.02099)*	0.00819 (0.02118)	0.04029 (0.02511)*
ln_govexp	0.00697 (0.00634)	0.11039 (0.02099)***	0.00697 (0.00634)	0.10021 (0.02191)***
ID_country	-	-	-	0.02997 (0.03313)
Constant	0.303020 (0.09246)	1.4755 (0.17901)	0 .303020 (0.09246)	1.36518 (0.21106)
Observations	89	89	89	89
R-squared	0.796	0.7443	-	-
F	29.25	75.75	-	-
Chi2	-	-	77.51	260.69
Model	OLS	FE	RE	-
Comand	Regress	xtreg	Xtreg	Xthtaylor
Number of countries	6	6	6	6

Note: The values in parentheses represent standard errors of coefficients, and notations ***; **; * indicate statistical significance of the regression coefficients of 1%, 5%, 10%, respectively
Source: Authors' calculations

As a result of individual unobservable heterogeneity linear regression method, respectively pooled OLS estimates show bias and cannot be regarded as consistent, so therefore the results of this approach should be taken with caution. Consequently, we have estimated the FEM and REM models, where through the Hausman[1] test we determined that the FEM model is more preferred than REM. Moreover, given the endogeneity problems that appear especially in growth models, we further applied the method of Hausman-Taylor IV as a method that avoids these problems. After running it, we performed again a second Hausman test to compare the FEM models and Hausman Taylor IV, and came to the conclusion that the Hausman Taylor IV model is the best model and the empirical results of this model are more robust than the results of previous models.

From the regression results of all models we note that there is a positive relationship between economic growth and tourism. Namely, the regression results of the Hausman Taylor IV model reveal that there is a strong positive link between economic growth and tourism. Also, the relationship is positive and statistically significant with the other independent variables considered in the model. The intuition behind the positive coefficient of GDP per capita of countries included in the study, is that

all countries are transition countries and growth rates have been relatively high, mainly as a result of public property privatization and increased investment. It can also be assumed that the 'steady state' of these countries can be considered to be at a higher level than the average. Specifically, the coefficients of tourist arrivals, tourism receipts, FDI and government expenditures are statistically significant at 1% level of significance, while the ratio of exports at 10% level of significance. So, under other unchanged conditions, for every 1% increase in tourists, GDP per capita will increase by 0.0815%, and for every 1% increase of tourism receipts, GDP per capita will be increased by 0.0271%. FDI can also be considered as a determinant of growth of GDP, although researchers have achieved different results for different countries; in some countries there is a positive impact, while in others the link is unclear. In the case of the Western Balkan countries, according to these results the relationship is positive. Exports and government expenditures also have positive impact on economic growth.

The study of Cerovic et al. (2015) concludes that, although the number of tourist arrivals is growing in the Western Balkan countries (analysis consists of only three countries: Serbia, Montenegro and Macedonia), tourism makes a modest contribution to economic growth. Those

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[1] To decide between fixed or random effects we can run a Hausman test where the null hypothesis is that the preferred model is random effects vs. the alternative hypothesis the fixed effects (see Green, 2008, chapter 9). It tests whether the errors (u$_i$)

are correlated with the regressors, the null hypothesis suggests that they are not correlated.

authors use a different methodology than ours, which is mainly adopted by (Brida et al., 2008) with minor modifications. Despite this, our results suggest strong positive impact of tourism in the economic growth of the Western Balkan countries. The reason behind this is that

Balkan countries as far as tourist arrivals. As can be seen, fixed effects are higher in Croatia and Albania, while lower in Bosnia and Herzegovina, and FYROM.

Although the Hausman Taylor IV model performs well, the results should be interpreted with caution. The analysis has its limitations and shortcomings; first, the

our sample also included Croatia and Albania as two countries with highly developed tourism, especially Croatia. This can be seen in Figure 1 below, that shows fixed effects, i.e. individual heterogeneity of the Western

total number of observations is relatively small for a panel regression analysis; second, the problem of endogenity is not completely avoided. A dynamic panel regression analysis may be a comprehensive analysis by incorporating instrumental variables into the model.
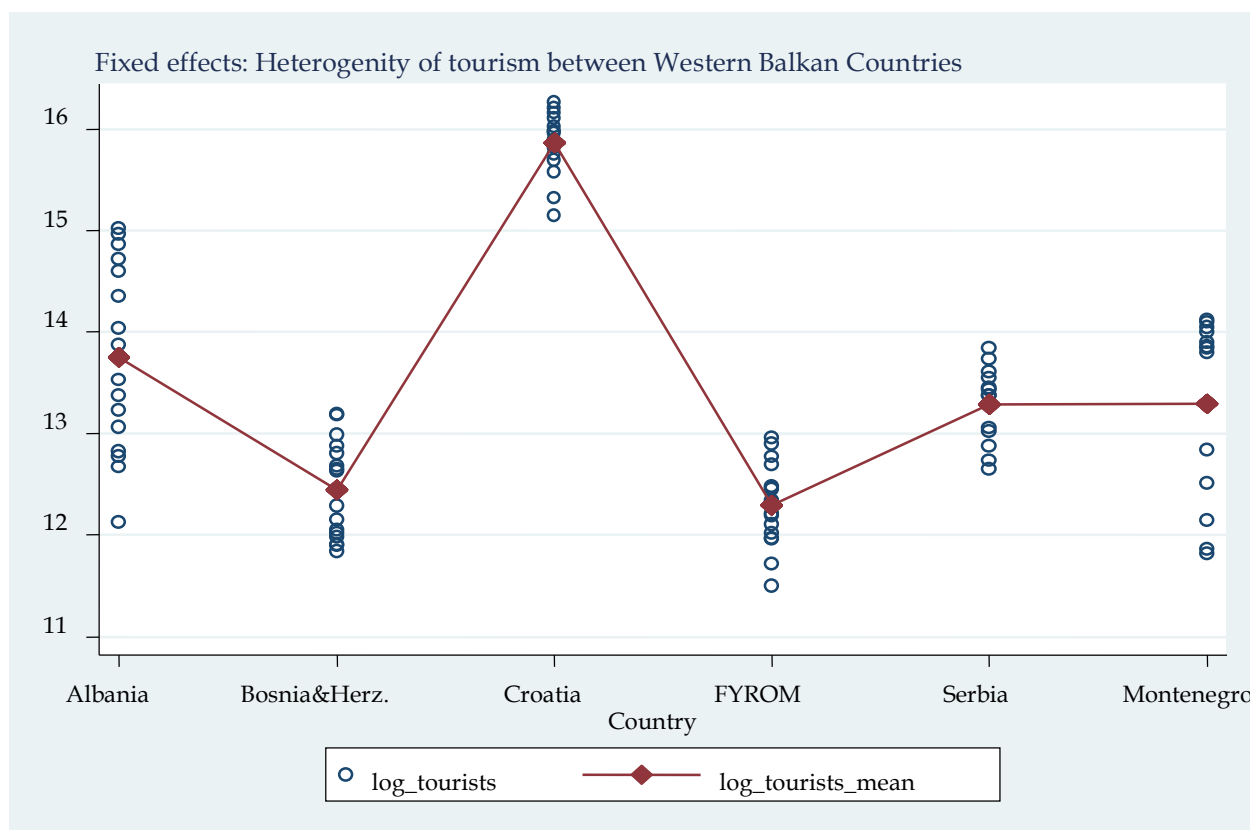

Figure 1. Heterogenity of tourism arrivals between Western Balkan Countries
Source: Authors' calculations

5. Conclusion

The main purpose of this study was to empirically analyse the impact of tourism on the economic growth of the Western Balkan countries (Albania, Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro). To accomplish this goal, we performed a series of regression models based on panel data (from 1998-2014), such as pooled OLS model, fixed effects model, random effects model and the Hausman Taylor IV model. The results of all models show a positive and statistically-significant relationship between tourism and economic growth in the sample countries. Based on the results of Hausman test, the Hausman Taylor IV model was found to be most appropriate model for this analysis, holding other factors unchanged. It suggests that for every 1% increase in tourists, GDP per capita increase approximately by 0.08% over time.

Although the Hausman Taylor IV model performs well, the results should be taken with caution. The analysis has its limitations and shortcomings; first, the

total number of observations is relatively small for a panel regression analysis; second, the problem of endogenity is not completely avoided. A dynamic panel regression analysis may be considered a comprehensive analysis by incorporating instrumental variables into the model

However, the study has important implications for economic policymakers of Western Balkan countries. The regional cooperation of these countries should be a priority, as well as the development of long term strategies for sustainable tourism to ensure further positive effects in economic development.

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