INBOUND TOURISM: THE IMPACT OF FDI, ECONOMIC WELLBEING, AND RELIGIOUS SIMILARITY OF COUNTRIES ON THE INFLOW OF FOREIGN VISITORS

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Abstract

This study investigates the factors influencing international tourist inflow across 68 randomly selected countries using cross-sectional data for the year 2022. The analysis focuses on the effects of foreign direct investment (FDI) inflow, real GDP, and religious similarity on the number of international tourist arrivals. Two regression models are developed: Model 1 examines the bivariate relationship between tourist inflow and FDI, while Model 2 incorporates real GDP and a religion-based dummy variable as additional explanatory variables. Results from Model 1 reveal a statistically significant positive relationship, where a 1% increase in FDI corresponds to a 0.333% increase in tourist inflow. However, in Model 2, the coefficient for FDI becomes statistically insignificant due to multicollinearity with real GDP, which itself exhibits a significant positive effect on tourism. The religion variable, used as a proxy for cultural similarity, shows a negative but insignificant effect. The study concludes that while FDI is initially associated with greater tourist inflows, its effect is mediated by broader economic activity, as captured by real GDP. The findings emphasize the importance of economic conditions over isolated investment flows in driving international tourism.

Literature review

«Tourism comprises the activities of persons travelling to and staying in places outside of their usual environment for not more than one consecutive year for leisure business or other purposes» as stated by World Tourism Organization (WTO, 1991, cited in Camilleri, 2018). Tourism is regarded as an important sector of economy of a country that increase foreign exchange earnings, revenue generation and maintain trade balance.

Foreign Direct Investment (FDI) received by a country was chosen as the main independent variable to impact tourist inflow. According to World Bank definition, an investment that constitutes the acquisition of more than 10% of voting stock of a company operating in a different economy than that of the investor's is considered to be FDI. To attract FDI, a country should meet some standards, such as political and economic stability, connectivity with other countries and skilled human capital to name a few. Worth noting though, that FDI in turn stimulates the growth of economy by capital inflows, technology transfer, enhancing of human capital, and infrastructure improvement (Skabic and Zubin, 2009, cited in Ivanovic, 2010). An impact of FDI as the main independent variable on growth of inbound tourism was studied by Sharma, Johri and Chauhan (2012) that highlighted the importance of FDI for development of hospitality sector in India. The study examined time-series data for India, starting in late-90s the Indian government changed the regulations towards higher openness for FDI, that in response resulted in tourist inflows. Measures taken by Indian government include the following: fully automated route for FDI into all construction development projects inclusive hotels, resorts and recreation centers, both municipal and regional level infrastructure as well as airport infrastructure upgrades. Moreover, under this initiative a five-year tax holiday was given to hospitality sector companies establishing hotels and resorts at

designated locations that attracted hospitality giants like Hilton, InterContinental Hotels, Premier Travel Inn, Marriott International, Cabana Hotels to launch major ventures in India. Notably, in 2006-2007 India received 19 billion USD of FDI compared to 7.5 billion USD in 2005-2006 and experienced a boom in tourism. This way FDI received by a country increases tourist inflow by creation of good facilities, resorts and well-maintained cities.

The impact of Real GDP on tourism inflow is considerable, therefore it was chosen as a continuous control variable. In terms of tourism industry of a country a higher GDP reflects safety and stability, higher service quality, wider range of available tourist attractions compared to countries with low GDP. In the study of Massida and Mattana (2013) results of cointegration analysis ran to check relationship among tourist arrivals, Real GDP and trade provide evidence on long-term positive relationship of Real GDP and international arrivals. The results of their study suggest that international arrivals and Real GDP are complementary activities, this way they reinforce each other. In short run perspective, however, according to Granger causality tests Real GDP was found to precede tourism inflows. Also, the study revealed that there is a quick response of tourism to Real GDP disturbances. Positive Real GDP shocks create favorable conditions for local and foreign investors to invest in tourism industry of a country by building hotels, resorts and entertainment facilities. Moreover, in the study of Ghazalian (2023), economic growth is shown to attract FDI inflows through increasing investment opportunities and business confidence by enhanced infrastructure, institutions and availability of skilled labor. This study suggests that GDP has an indirect effect of on tourist inflow, mediated through its impact on FDI.

The identification of a country as Muslim or not was chosen as a dummy control variable. The visitors' culture of motherland can influence their choice while choosing the country to travel to. Culture does not only reflect social norms and values, traditions and customs, food and cuisine but also religion. According to Vietze (2012), cultural resemblance of the country of origin and destination has positive impact on tourism flows between the nations. In the study, Gravity equation was used to assess effects of culture and religion on tourist inflows to the USA and the results revealed that people from Christian countries preferred United States as a holiday destination much more compared to people from other countries. Therefore, religious similarity of home and destination countries is one of the factors that impact inbound tourism through influencing people's choice when choosing where to travel to.

In conclusion, the reviewed literature showcases the effects of FDI inflow, Real GDP and religious similarity on international tourist inflow to the country. The given paper aims to analyze the effect of above-mentioned variables on tourist inflow by applying regression analysis.

Methodology

To assess the factors influencing tourist inflow cross-section data for 68 countries was collected. Countries were chosen randomly from all continents to avoid selection bias. Because tourism was heavily effected by recent COVID-19 pandemic and associated lockdowns, 2022 was chosen as the base year to capture already recovered from pandemic figures. Data are collected from World Bank, OECD and United Nations databases. The key variables include FDI, Real GDP

and religious similarity as independent variables and Tourist Inflow as dependent variable. The main independent variable comprises the FDI inflow values faced by the countries in 2022. To control confounding effect, Real GDP and religion were added to the regression model to avoid spurious associations and biased estimates.

The relationship between the regressors and regressand were analyzed by plotting the values of FDI and Tourist Inflow, and Real GDP and Tourist Inflow against each other on Cartesian coordinate system. The *twoway* function in Stata was employed. The scatter plot revealed that the above mention variables more closely align with a logarithmic function, suggesting that logarithmic transformation might better capture the underlying relationships (see Appendix 1). Moreover, taking natural logarithm of tourist inflow, FDI and Real GDP reduces scale inconsistency and provide interpretation of changes in terms of percentages.

Considering above-mentioned factors, the following econometric model was developed:

$$\boldsymbol{lnTourist = \beta_0 + \beta_1 * lnFDI + \beta_2 * lnRealGDP + \beta_3 * NonMuslim + \varepsilon}$$

The model is developed to estimate the changes in tourist inflow that can be explained by the changes in FDI inflow, Real GDP and identification of the country as Muslim or non-Muslim.

Table 1. Definition of variables

Variable name	Definition
$lnTourist$	This is a dependent variable that indicates natural logarithm of the number of international tourist

	arrivals. Tourist Inflow to the host country in 2022 is represented in millions.
$lnFDI$	This is the main independent variable that represents natural logarithm of the amount of FDI inflow. FDI inflow to the host country in 2022 is represented in billion USD.
$lnRealGDP$	This is the continuous control variable that represents natural logarithm of the inflation adjusted GDP. Real GDP of the host countries as for 2022 is represented in billion USD.
$NonMuslim$	This is the dummy control variable, as religion is categorical data it was assessed using binary coding: Muslim = 0 (reference group) Non-Muslim = 1

On the table below (Table 2) descriptive statistics on collected data is provided. Firstly, as it can be seen from the table the minimum FDI inflow is -15.46 billion USD, this is the negative FDI inflow of Russian Federation. One of the factors that influence FDI received by the country is economic and political stability as it was mentioned in the literature review, thus this negative indicator of Russian FDI inflow can be explained by Russia-Ukraine conflict that caused economic instability in Russia reinforced by trade disruptions with western countries due to sanctions and counter-sanctions. Also, the majority of the randomly chosen countries are non-Muslim, the ratio is 0.78, thus 53 out of 68 countries are not Muslim. That suggests that the given sample is quite representative, considering overall world ratio of non-Muslim countries to be 0.76 (World Population Review, 2024). The identification of a country as Muslim or not was based on the portion of people professing a certain religion in the country be it

Islam, Catholicism, Christianity, Hinduism, Buddhism or other, the threshold for a country to be identified as Muslim was based on predominant religion to be Islam (>50%). And lastly the wide spread of Real GDP from 2.57 to 20952.7 billion USD indicates that all kind of countries were chosen based on development level. The highest Real GDP in 2022 refers to the United States, whereas the lowest to Belize.

Table 2. Descriptive statistics

Variable	Obs	Mean	St dev	Min	Max
Tourism Inflow (in millions)	68	12.84	18.08	0.14	93.2
FDI (in billions)	68	19.15	34.97	-15.46	189.13
Real GDP (in billions)	68	1044.84	3199.05	2.57	20952.7
Predominant religion	68	0.78	0.42	0	1

Results

As discussed in methodology, the paper is focused on development of a regression model for assessing the effects of FDI inflow, Real GDP and Non-Muslim dummy variable on the number of international tourist arrivals. The two following empirical models were constructed. The results of the regression conducted to estimate the association between tourist inflow and FDI received by the country are represented by Model 1, whereas Model 2 captures the effects of Real GDP and religion as well. The analysis aims to evaluate the significance of FDI inflow, Real GDP and religion for increasing international tourist arrivals in the country.

Model 1:

$$lnTourist = 1.177 + 0.333 * lnFDI + \boldsymbol{\varepsilon}$$

Consistent with the recent studies, FDI inflow has positive association with tourist inflow, that is a 1% increase in FDI inflow results in 0.333% increase in the number of international tourist arrivals. This result was found to be statistically significant at $\alpha = 0.01$.

Model 2:

$$lnTourist = -0.566 + 0.045 * lnFDI + 0.468 * lnRealGDP - 0.325 * NotMuslim + \boldsymbol{\varepsilon}$$

In the second model, as control independent variables were added, the coefficient

of *lnFDI* changed considerably compared to Model 1. The insignificance of $\boldsymbol{\beta_1}$ in Model 2 can be due to high multicollinearity between these two variables. To check this assumption, correlation analysis and Auxiliary regression were used (see Appendix 2). The correlation analysis detected high correlation of 0.747 between *lnFDI* and *lnRealGDP*. Moreover, Auxiliary regression gave a high R-squared equal to 0.56 that suggests collinearity between the variables. FDI inflow is often correlated with overall economic activity that in turn is captured by Real GDP. This can be seen from Model 2 where other explanatory variables were added, thus the effect of FDI inflow on tourist arrivals considerably decreased due to the redistribution of explanatory power. The findings are consistent with the

study of Ghazalian (2023) mentioned in the literature review, and once again highlight that FDI inflow is effected by GDP. In Model 1 FDI inflow captures both direct and indirect effect through correlation with omitted variables, whereas Model 2 shows relatively pure effect of FDI inflow on the number of international tourist arrivals. The coefficient of *lnFDI* in Model 2 was not found to be significant, however, Real GDP proved its high significance at $\alpha = 0.01$. Thus, a 1% increase in Real GDP increases tourist inflow by 0.468% while *lnFDI* and *NonMuslim* variables are kept constant.

To capture the effect of cultural similarity, predominant religion was added to the model. The countries were allocated into two groups: Muslim-majority – reference group, and Non-Muslim-majority. Interestingly, the coefficient of *NonMuslim* suggested that in non-Muslim countries tourist inflow is lower than that of Muslim countries. However, this variable did not prove its significance. Partially, insignificance of $\boldsymbol{\beta_3}$ can be due to oversimplification of cultural similarity, since other factors such as language or political ties can have larger effect. Also, there might occur a heterogeneity issue as non-Muslim group is too diverse.

Table 3. The estimated models

Variables	Model 1	Model 2
$lnFDI$	0.333**	0.045
	(0.067)	(0.092)
$lnRealGDP$		0.468**
		(0.113)
$NonMuslim$		-0.325
		(0.355)

constant	1.177**	-0.566
	(0.191)	(0.551)
R squared	0.283	0.442
F statistics	24.43**	15.84**
N	64	64

standard errors are provided in parenthesis

** - p<0,01, * - p<0,05, + - p<0,10

Overall, the constructed models explain 28.3% and 44.2% of variation in tourist inflow, respectively. The increase in R-squared from Model 1 to Model 2 is explained when Real GDP and Non-Muslim dummy variables were added to the model alongside FDI inflow. This implies that the number of international tourist arrivals is influenced not only by FDI received by the country but also economic and cultural factors. Turning to F statistics, for both models F statistics being relatively high indicates that overall the models are significant. In the second model F statistics is lower because when adding control independent variables overall explanatory power of the model is increased, but that comes at the expense of decreased F statistics due to increase in degree of freedom of residual sum of squares.

Conclusions

This paper finds that FDI inflow is positively associated with international tourist arrivals when examined in isolation. However, once real GDP and religion are introduced as control variables, the effect of FDI becomes statistically insignificant due to high multicollinearity, indicating that FDI's influence may be indirect and largely explained by general economic development. Real GDP, on

the other hand, demonstrates a strong and significant positive impact on tourist inflow, highlighting the role of macroeconomic strength in attracting tourism. The religious similarity variable, though conceptually relevant, did not show a statistically significant effect, likely due to measurement limitations and heterogeneity within the non-Muslim group. Overall, the study suggests that economic conditions play a more decisive role than standalone investment or simplified cultural indicators in explaining differences in international tourist inflow across countries. Future research should explore additional cultural and institutional factors and address heterogeneity within country groups to refine the understanding of tourism dynamics.

Limitations

The robustness of findings is affected by several challenges encountered during the research. In this section, these limitations of the study and further improvements are discussed.

1. The overall biasness of the model. The overall model is biased as it only considers positive FDI inflows. To make the model better fit for Ordinary Least Squares (OLS) method, the variables were adjusted to follow a linear relation (see Appendix 1). The transformation of Tourist Inflow, FDI inflow and Real GDP into *lnTourist, lnFDI* and *lnRealGDP* resulted in the loss of observations where FDI inflow is negative, for example the observations for Russian Federation were not further analyzed.

2. The complementary effect between variables: As noted in the study by Massida and Mattana (2013), international tourist arrivals and Real GDP are interdependent and exhibit a complementary relationship, meaning they reinforce

each other. This mutual reinforcement can result in a multiplier effect, amplifying changes in one variable through its impact on the other. However, this interdependence could potentially introduce estimation bias in econometric models if not properly accounted for, such as through simultaneous equation modeling or instrumental variable techniques.

3. As the results section showed, Real GDP affects tourist arrivals, both directly and indirectly through FDI inflow. Therefore, due to high collinearity between FDI inflow and Real GDP, the coefficient of *lnFDI* and its significance dropped sharply from Model 1 to Model 2.

4. To study the impact of FDI inflow, Real GDP and religion similarity on international tourist arrivals, cross-section data was studied. However, to further improve the study panel or time-series data should be collected to analyze changes over the years for particular countries as independent variables change. This approach would give clearer understanding of the impact of the independent variables on tourist inflow, making finding more applicable.

5. Religion was chosen to measure cultural aspects, however, allocation of religion into two groups Muslim and Non-Muslim is too loose, and it fails to capture the whole diversity of cultural differences as can be seen from insignificant coefficient. Further research should categorize religion into more categories, and by doing so avoid over generalization.

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Appendix

Appendix 1

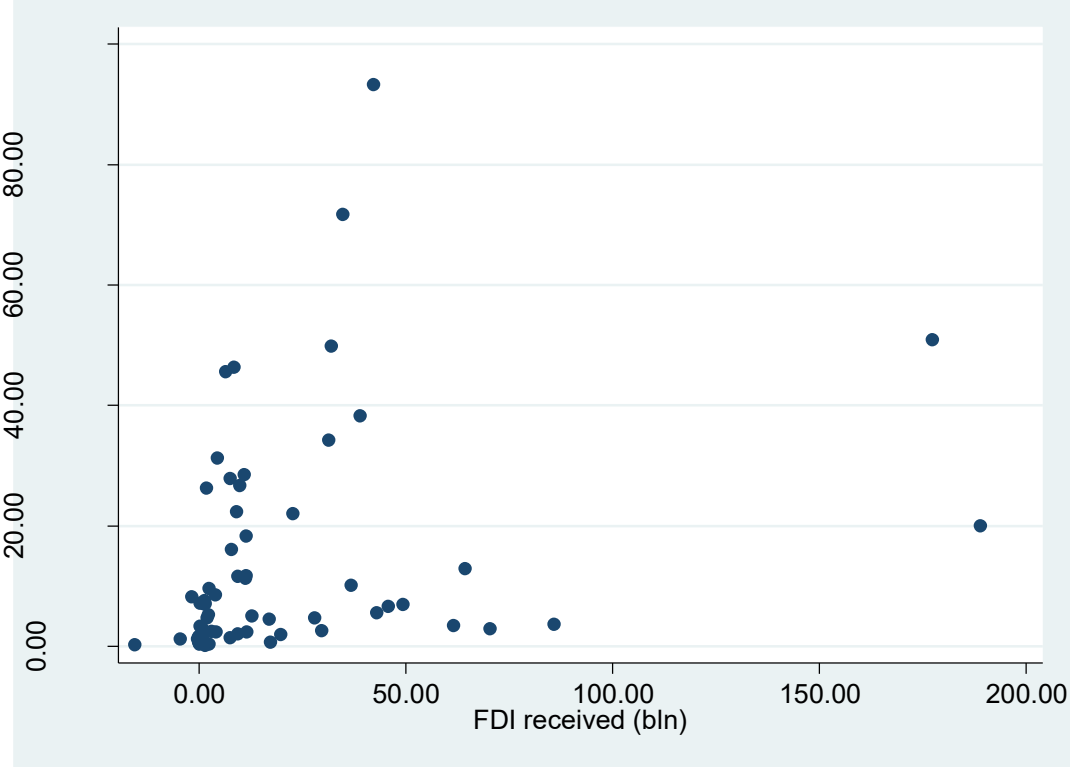
Graph 1: twoway (scatter Tourist FDI)

Graph 2: twoway (scatter lnTourism lnFDI)(lfit lnTourism lnFDI)

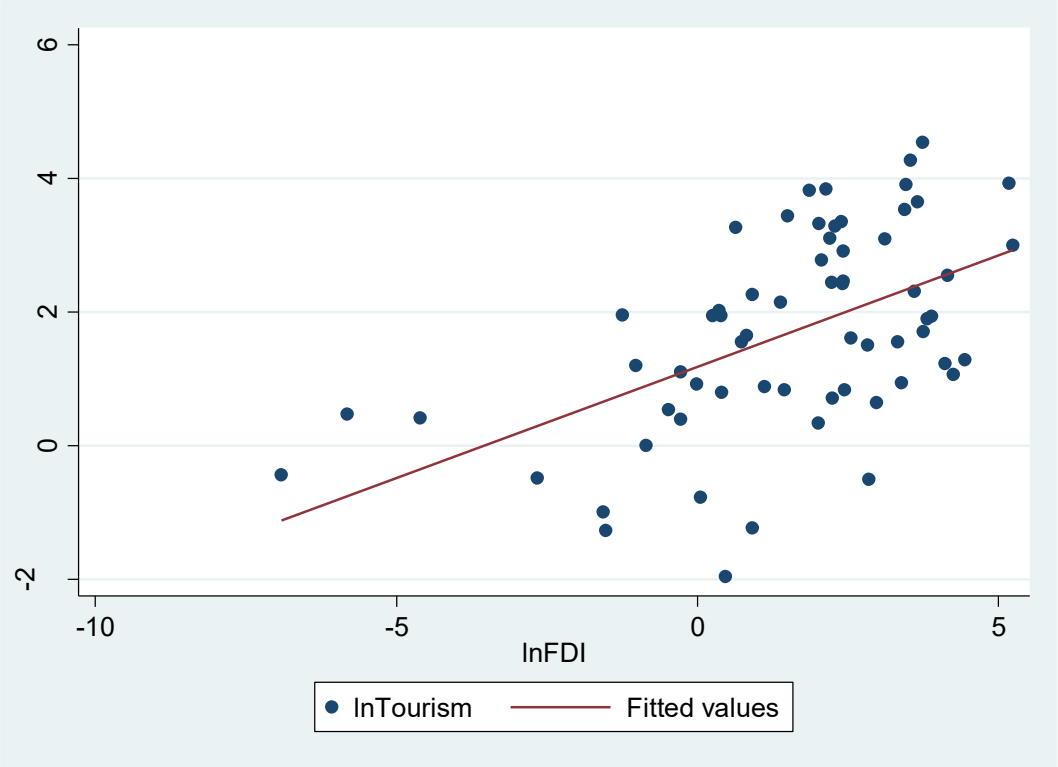
Graph 3: twoway (scatter Tourist RealGDP)

Graph 4: twoway (scatter lnTourism lnRealGDP)(lfit lnTourism lnRealGDP)

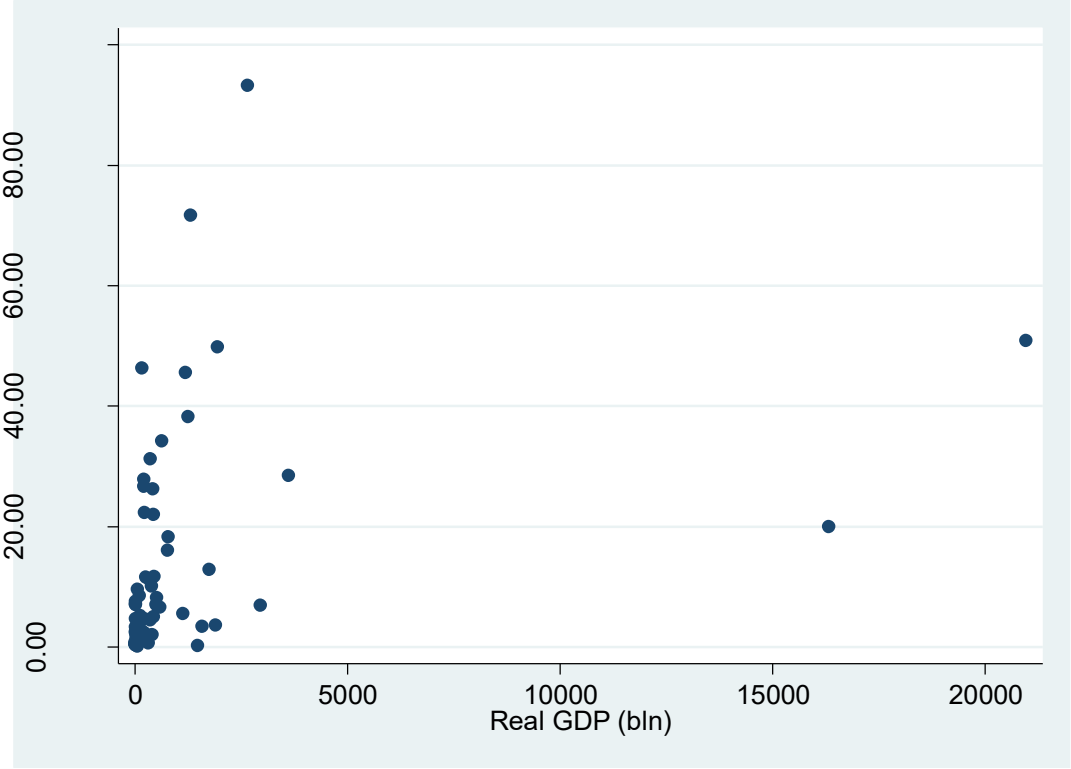
Graph 1



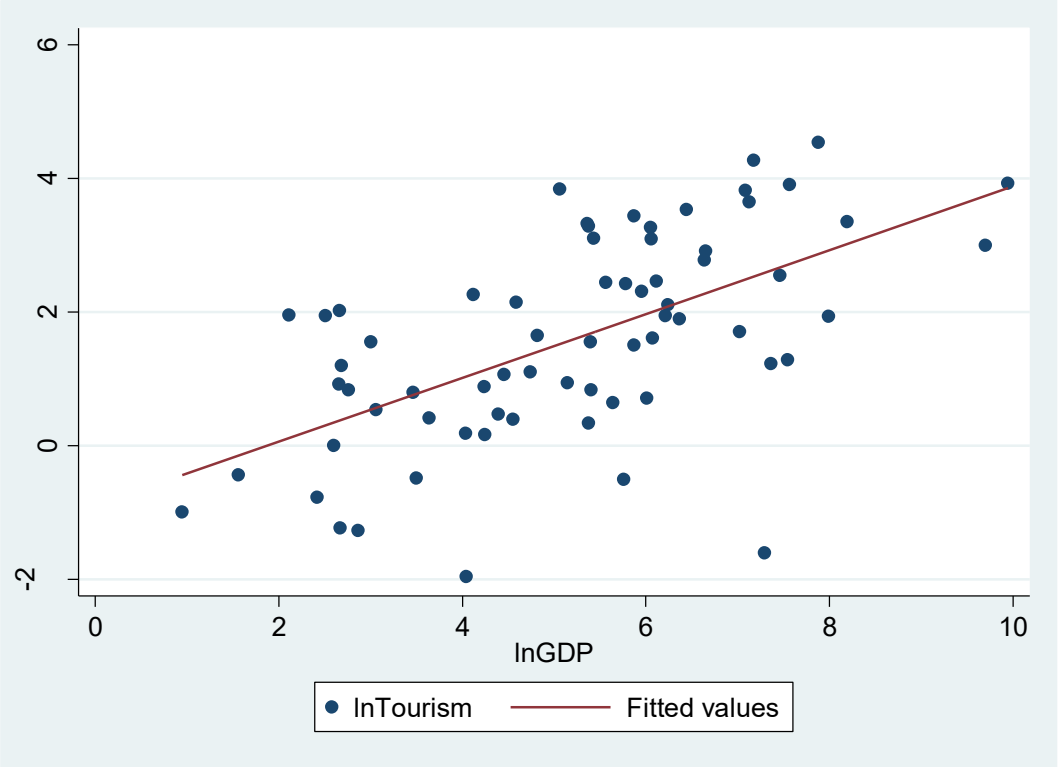
Graph 2



Graph 3



Graph 4



Appendix 2

Correlation Coefficien

Run a correlation analysis to see the strength of the linear relationship between the two variables. High correlation suggests potential multicollinearity.

correl lnFDI lnRealGDP

(obs=64)

	lnFDI	lnGDP
lnFDI	1.0000	
lnGDP	0.7465	1.0000

Auxiliary Regression

Run an auxiliary regression by regressing one of the two variables on the other. If the R-squared from this regression is very high, it indicates multicollinearity.

reg lnFDI lnRealGDP

Source	SS	df	MS	Number of obs	=	64
				F(1, 62)	=	78.04
Model	203.149685	1	203.149685	Prob > F	=	0.0000
Residual	161.392247	62	2.60310076	R-squared	=	0.5573
				Adj R-squared	=	0.5501
Total	364.541932	63	5.78637987	Root MSE	=	1.6134

lnFDI	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDP	.9200151	.1041436	8.83	0.000	.7118351	1.128195
_cons	-3.268575	.5778584	-5.66	0.000	-4.423697	-2.113452