

The Nexus Between Human Development and Tourism: A Panel Estimation Approach

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Objectives | This study analyses how tourism affects human development (HD) in ten countries during a twenty-four-year period from 1996 to 2019 using a panel estimation approach. The Human Development Index (HDI) that represents health, knowledge and standard of living was adopted as a dependent variable. Apart from tourist arrivals, the study includes relevant variables such as jobs, government effectiveness and political stability.

Methodology | This study covers ten countries which were previously identified from a set of case studies. The unidirectional relationship of tourism to HD in ten countries was determined in this study. Dynamic panel model was applied, and the functional form of this model is written as follows:

$$hdi_{jt} = \ln ta_{jt} + job_{jt} + ge_{jt} + ps_{jt} + \gamma_t + \mu_{jt} \quad (1)$$

where, j indicates the countries, t indicates the period from 1996 – 2019, γ_t is year fixed effects, and μ_{jt} is error term. \ln is the natural logarithm form. The model was estimated using three different estimation techniques: random, fixed effect and Least-squares Dummy variables (LSDV) in STATA 16 software. Random, fixed effect and LSDV models are widely used techniques in estimating dynamic panel model that considers the characteristics of cross-section units in terms of years and entities (Ibragimov, Perles-Ribes & Ramón-Rodríguez, 2021) in this case, the coverage of ten countries for a twenty four-year period. Seven countries are classified as 'developing' – Bolivia, Cambodia, Ecuador, Kazakhstan, Morocco, Nepal and Tanzania, while three countries – Hungary, Slovenia and USA are designated as 'developed.' The following data were used in this study (see Table 1).

Table 1 | Data Specification (Human Development and Tourism)

Variable	Definition	Source
hdi_{jt}	Dependent variable: HDI in 10 countries (Bolivia, Cambodia, Ecuador, Hungary, Kazakhstan, Morocco, Nepal, Slovenia, Tanzania and USA) (j) in period (t) (1996-2019). HDI is	UNDP

	measured between the range 0 and 1 (Human Development Reports, 2021).	
$Inta_{jt}$	The number of international tourist arrivals to 10 countries during 1996 – 2019 as a proxy for tourism (UNWTO, 2021).	UNWTO/WB
job_{jt}	Jobs refer to employment (in services) of persons, of working age and engaged for profit or remuneration based on work-time-location arrangements (ILO, 2021).	ILO/WB
ge_{jt}	Government effectiveness refers to perceptions on the quality of public services and the civil service, level of independence from political pressures, the standards of policy formulation and implementation, and the government's credibility. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i. e. ranging from approximately -2.5 to 2.5 (Kaufmann, Kraay & Mastruzzi, 2010).	WGI/WB
ps_{jt}	Political Stability and Absence of Violence/Terrorism measures perceptions on the probability of political instability and/or politically - motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i. e. ranging from approximately -2.5 to 2.5 (Kaufmann, Kraay & Mastruzzi, 2010).	WGI/WB

Source: Flores & Costa (2022)

Sources compiled from: (WB) World Bank; (WGI) Worldwide Governance Indicators; (ILO) International Labour Organization; (UNDP) United Nations Development Programme; (UNWTO) United Nations World Tourism Organization.

Main Results and Contributions | Tourist arrivals ($Inta_{jt}$) are statistically significant at 10 percent level in LSDV model and this variable has a positive relationship with HDI (hdi_{jt}). This is also supported by the study of Biagi, Ladu & Royuela (2017) where tourism has a direct positive relationship to HDI in developing countries. Although tourist arrivals have little statistical significance, it still affect HD when the number increases. If the number of tourist arrivals increases by 1 unit, this leads to an increase in HD by 0.005 unit. More tourists mean more businesses and jobs that would propel the economy due to multiplier effects. Jobs (job_{jt}) are statistically significant at 1% level. If the employment in the service sector increases, this tends to increase HD by 0.003 unit. It shows that employment has only a minor impact to HD unless an increase in the number of jobs takes place (e. g. tour enterprises, hospitality establishments), the effect becomes higher since it improves the residents' standard of living. Government effectiveness (ge_{jt}) is negatively related and statistically insignificant to HD. Political stability (ps_{jt}) is statistically significant in all models and has a positive relationship to HD. Results suggest that political stability (ps_{jt}) is fundamental to any

country in determining economic growth, employment and specifically, HD (Cáceres, 2010). The absence of violence and terrorism leads to a peaceful and stable environment. Political stability (ps_{jt}) is paramount to achieve HD in comparison with other indicators: tourist arrivals, jobs and government effectiveness.

Limitations | Results cannot be generalized however, can serve as an interesting insight to HD studies. For a more in-depth approach, future studies can investigate the application of the model in a particular region using an additional set of variables that affects travel demand or tourists' preferences. Since HDI only represents health, knowledge and standard of living, putting a different set of variables would reflect a varied perspective towards HD and tourism.

Conclusions | Tourism slightly impacts HD in ten countries during a twenty-four-year period from 1996 to 2019 using a panel estimation approach. Tourism is an important sector but the majority of these countries are highly dependent on other industries. In the case of Cambodia, Morocco, Slovenia and Tanzania, tourism has contributed more than ten percent to their respective GDPs in 2019 (WTTC, 2021). Tourism creates jobs but not as a key factor in improving HD. Meanwhile, jobs have a positive relationship to HD and, if the number of jobs increases in the service sector, it leads to better HD. Among all indicators, political stability is considered the most significant in improving HD (Ahmad & Saleem, 2014; Sameti, Ranjbar & Mohseni, 2012) and it has been considered a top priority, regardless of the country's political system or government structure. People expect established political regulations and a peaceful environment where they can have a sense of security and peace of mind to live, travel or work. Even though tourism is not as significant compared to political stability, a country with a stable environment and free from violence and terrorism could attract tourism enterprises and activities that later impact HD, positively. Developing strategic plans and programmes by government bodies would encourage HD initiatives as well as socio-economic activities.

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