Tourism and Millennium Development Agenda: cross-country evidence

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1. Introduction

One of the most striking outcomes of globalization has been increase of tourism arrivals from developed to low-income countries. According to UNWTO, in 2012 the number of tourism arrivals exceeded 1 billion and by 2030 developing countries will be the main destination for tourism inflows accounting for over 50% of tourism flows (WTO, 2013).

The past decade has seen an upsurge of interest from the governments and development organizations in a tourism-based approach to poverty alleviation (Hall, 2007). Naturally, tourism-led growth has important implication for society as it attracts impoverished into productive employment and generate public welfare. Then the argument goes - given that tourism spillovers often go to impoverished households and increase earnings, they could become a large-scale resource transfer tool, able to alleviate poverty levels.

Therefore, tourism has been considered as one of the most effective tools to accomplish the Millennium Development Goals (hereafter MDG). MDG served as a main commitment of world leaders to address global poverty by 2015 and were perceived as a principal reference point for aid and international cooperation. However, despite the existence of ample cross-country evidence on the impact of tourism on economic growth the links between tourism and inequality remain to be highly contested (Lanza & Pigliaru, 1995; Lee & Chang, 2008; Figini. & Vici, 2010). More research is hence needed to understand whether tourism-led growth is pro-poor or whether reduces the extent of inequality within the countries (Figini & Vici, 2010).

Economists have devoted significant efforts in trying to explore tourism-poverty nexus (see, for example de Kadt, 1979; Deloitte & Touche, 1999; Scheyvens, 2007 among others) but till this day there is no robust cross-country evidence.

In light of the above discussion, this study investigates the effects of tourism on eight of the MDG, concerned about poverty reduction for the years of 2000's. Extant economic literature was 'basically driven and oriented' on single country studies (Saayman et al, 2012; Sharpley & Ussi, 2012), while our results offer more thorough picture of the cross-country tourism-poverty nexus.

2. Methodology and Data

2.1. The model specification

The relationship between tourism and MDG is explored using OLS regression given the cross sectional nature of data. We follow standard literature by Norton (2002) and estimate traditional specification:

$$MDG_i = \beta_1 + \beta_2 * g_i + \beta_3 * WEALTH_i + \beta_4 * URBAN_i + \beta_5 * TOPEN_i + X\beta + \varepsilon_i \quad (1)$$

where g –average GDP per capita growth between 2000-2012 in country *i;* WEALH – GDP per capita at PPP in 2000 as a traditional measure of initial wealth of population; URBAN represents the average share (percentage) of urban population in total population between 2000-2011; TOPEN – tourism openness measured as the ratio of tourism expenditure and receipts to GDP; and X – a vector of geographical variables that according to the literature may be linked with pro-poor growth (Sachs, 1997).

2.2. Data description

We use two datasets to measure development outcomes. A critical debate is how to calculate human poverty. One of the advantageous and acute estimates of poverty is global Multidimensional Poverty Index (MPI). It is estimated for the 2010 Human Development Report (UNDP, 2010) and extends income-based poverty measures by incorporating the severe deprivations that people face with respect to measures of well-being. The MPI is constructed of 'ten indicators corresponding to same three dimensions as the Human Development Index: Education, Health and Standard of Living' (Alkire & Santos, 2010). To explore the link between tourism and poverty we estimate equation 1 for the sample of countries in the Global Multidimensional Poverty Index (2013) for which the poverty indicators are calculated and reported.

The second dataset is extensively used by World Bank Development Indicators. Undernourishment, access to safe water, gender equality proxy, telephone lines, crude death rates, infant and maternal mortality are based on average annual data spanning the 2000-2012 period. Due to the lack of continuous data income-based poverty measure and youth literacy rates are 2012 or latest.

Having two data sets is productive for robustness tests. Table 1 provides variable description and summary statistics.

3. Empirical results

Table 2 presents cross-country regressions of each of the MDG on tourism openness separately. All of the coefficients have conventional signs, even though not all are statistically significant. Focusing first on the control variables, the results are in line with previous studies: growth rates, urbanization and initial economic wealth are significant determinants of development and poverty. The regressions results suggest that controlling for traditional development variables, tourism openness are crucial for Millennium Development agenda, except for combating HIV/AIDS.

It should be noted that the results for column (1) income-based poverty to (3) undernourished children deserve particular attention. Empirical studies document that poverty and under nutrition hinder accumulation of human capital that is instrumental to economic growth and productivity (Svedberg, 2002). Comparing column (1) and (2) we find that the impact of tourism on multidimensional poverty is considerably less of that for the income-based poverty. Column (3) shows that the coefficient for tourism openness is negative and above of that for the economic growth. It appears evident from our results that tourism openness leads to a decline in the proportion of undernourished children. Given the log-log specification, this implies that 10% increase in tourism openness (ceteris paribus) reduces undernourishment by about 1.8 percent after controlling for initial income level and geographic conditions.

Columns (6) and (7) of Table 2 show that infant and maternal mortality is negatively related to tourism openness. Here one could think of medical tourism. Increasing globalization has negative impact on the prices (Samimi et al., 2012) and developing countries reap the benefits of medical tourism (Hansen, 2008).The impact of tourism openness on infant and maternal mortality can be justified by tourism explicit investment as for instance in health care infrastructure.

However, we do not find statistically significant evidence between tourism openness and HIV reduction (8). The R-squared reports that the equation (8) accounts for an unsatisfactory 6.5% of the variation.

Tourism openness has a positive impact on access to safe water (9) and telephone lines per 100 people (10). Our results suggest that tourism activities promote inclusive growth and provide access to basic needs.

4. Conclusion

In this study we examined whether tourism can address the MDG agenda. In the past decade tourism became driver of the economic growth (WEF, 2011; Tang & Tan, 2013) attracting considerable attention from policymakers and the academia. Existing literature is mainly focused on both single and cross-country studies, and the impact of tourism on MDG predominantly remains an open issue. To that end, we investigated a number of cross-country estimations. Our study employed proxy for tourism openness, namely tourism expenditure and receipts as a share of GDP. The results show that while other things remain equal, but there is direct meaningful link between tourism openness and development indicators. There is, however considerable variations between the types of Millennium Development Goals. Results reveal that tourism openness has the largest effect on poverty and statistically insignificant impact on incidence of HIV.

We believe our findings have valuable implications for the poverty alleviation approaches and can contribute to the extant empirical literature on pro-poor tourism.

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Table 1
Variable description

Concept	Variable	Source	Mean	St. dev.	Min	Max
Millennium Development Goals						
Eradicate extreme poverty and hunger	Poverty gap at $1.25 a day (PPP) (%)	World Bank	0.305	2.311	-4.605	3.767
	Multidimensional Poverty Index (MPI)	Alkire et al. (2013)	-2.76	1.703	-6.907	-0.443
	Prevalence of undernourishment (% of population)	World Bank	2.348	0.800	1.609	4.278
Achieve universal primary education	Literacy rate, youth total (% of people ages 15-24)	World Bank	4.471	0.215	3.447	4.605
Promote gender equality and empower women	CPIA gender equality rating (1=low to 6=high)	World Bank	1.206	0.197	0.693	1.596
Reduce child mortality	Mortality rate, infant (per 1,000 live births)	World Bank	3.003	1.064	0.859	4.876
Improve maternal health	Maternal mortality ratio (per 100,000 live births)	World Bank	4.319	1.578	1.299	7.003
Combat HIV/AIDS, malaria and other diseases	Prevalence of HIV, total (% of population ages 15-49)	World Bank	-0.130	1.506	-2.302	3.244
Ensure environmental sustainability	Improved water source (% of population with access)	World Bank	4.423	0.242	3.266	4.605
Develop a global partnership for development	Telephone lines (per 100 people)	World Bank	2.172	1.757	-6.562	4.636
Independent variables						
Economic growth	Average GDP per capita growth (2000-2011)	Authors' calculation	2.284	2.216	-5.487	10.600
Urbanization	Average proportion of the population that is urban (2000-2011)	World Bank	56.063	24.366	9.538	100
Initial economic wealth of population	GDP per capita in 2000 at PPP, international $	World Bank	10828.97	12980.7	274.996	69241
Tourism openness	Log of tourism expenditure and receipts as a share of GDP	Authors' calculations	1.862	0.893	-0.459	4.393
Landlocked	Dummy variable for landlocked countries		0.182	0.387	0	1
Geographic region	% tropical climate	Nunn and Puga (2012)	42.924	46.319	0	100

Table 2

World data: tourism openness and Millennium Development Goals

Estimations	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Dependent variables									
Independent variables	Poverty (income)	Poverty (MPI)	Hunger	Literacy	Gender Equality	Child Mortality	Maternal Mortality	Prevalence of HIV	Access to safe water	Telephone lines per 100
Economic growth	-0.192**	-0.269***	-0.033	0.025***	0.042***	-0.050*	-0.094***	-0.112	0.005	0.087*
	(0.076)	(0.059)	(0.026)	(0.008)	(0.009)	(0.028)	(0.035)	(0.075)	(0.009)	(0.047)
Initial wealth of population	-0.000***	-0.000***	-0.000***	0.000**	0.000	-0.000***	-0.000***	0.000	0.000	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Urbanization	-0.016	-0.034***	-0.014***	0.003***	0.001	-0.012***	-0.017***	-0.015*	0.004***	0.024***
	(0.012)	(0.007)	(0.003)	(0.001)	(0.001)	(0.003)	(0.005)	(0.009)	(0.001)	(0.006)
Tourism openness	-0.487**	-0.310**	-0.182***	0.041*	0.071***	-0.229***	-0.287***	0.038	0.077***	0.418***
	(0.196)	(0.143)	(0.057)	(0.024)	(0.026)	(0.056)	(0.090)	(0.195)	(0.017)	(0.117)
Landlocked	0.395	0.390	0.375***	-0.073	0.056	0.413***	0.562**	0.596	-0.051	-0.676***
	(0.406)	(0.304)	(0.129)	(0.050)	(0.056)	(0.130)	(0.235)	(0.505)	(0.037)	(0.216)
Tropics	0.019**	0.008***	0.005***	-0.000	0.000	0.005***	0.011***	0.006	-0.001**	-0.009***
	(0.004)	(0.003)	(0.001)	(0.000)	(0.001)	(0.001)	(0.002)	(0.005)	(0.000)	(0.002)
N	79	90	151	129	70	163	158	90	161	165
adj. R^2	0.631	0.596	0.574	0.293	0.341	0.690	0.681	0.065	0.465	0.602

Standard errors in parentheses, *p<0.1, **p<0.05, ***p<0.01

Constant term included but not reported here