Income and Transport Cost: Multiple Responses to Tourists Arrivals in Zanzibar

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ABSTRACT

The tourism sector plays an important role in the Zanzibar economy and continues to be a leading sector and the main contributor to the national GDP but this sector is faced unprecedented challenges and an existential threat from the impact of the COVID-19 virus. In this regard, this study aimed to analyse the determinants of international tourism demand from the top ten tourist's origin countries to Zanzibar from 2005 to 2021 and to quantify their influence. In this study Gray's travel motivation theory, Crompton's motivations for pleasure vacation theory and Dann's theory of push and pull factors were used to analyse behaviour of tourists and choice of destination. The study adopted panel data analysis and used long, strong balanced secondary panel data extracted from various sources to estimate the impact of GDP per capita as proxy of income, exchange rates, tourism infrastructure, price of crude oil as proxy of transport cost, consumer price indices adjusted by exchange rates as proxy of relative price and dummy variables to capture effects of Covid-19 and economic recession of 2008 on number of tourist arrivals as proxy for tourism demand in Zanzibar. Regression results of fixed effect model suggested that; at the 0.05 significance level, a one unit increase in GDP per capita results into 1.999 units increase in number of tourist arrivals and one unit increase in transport cost would decrease tourist arrivals by 64.991 units. Coefficients value of dummy variable COVID-19 implies that, on average, the number of tourist arrivals decreased on the year of occurrence of COVID-19 pandemic by 9,539 units. The coefficients of other independent variables exchange rates, tourism infrastructure, relative price and economic recession of 2008 bear the right sign even though they were not statistically significant at 0.05 levels. This study recommends that, the government and other stakeholders to work on marketing Zanzibar tourism product to the high-income countries and to work on reducing transport cost from origin countries to Zanzibar.

Keywords: Fixed Effect Model, Income, Tourist Arrivals, Transport Cost, Zanzibar

I. INTRODUCTION

The gravity model indicates generally that there is a link between the desire for a vacation and personal income. Many researchers agreed on the fact that the tourism sector without any barrier leads to gross domestic product (GDP) growth and the creation of employment (Rasool et al., 2021; Kyara et al., 2021; Wamboye et al., 2020; World Travel & Tourism Council [WTTC], 2020; Manzoor et al., 2019; Fourie & Santana-Gallego, 2011). It is further argued that, to have a successful destination, the secret is to approach the right target market and to distinguish the tourism products and establish local partnerships between the public and private sector (Buhalis, 2000).

According to the United Nation Statistics Division [UNSD], (2010), tourism is defined as "the activity of a traveller taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited". Tourism demand can be defined as "the willingness and ability of consumers to buy different amounts of tourism product at different prices during any one period". International tourism demand can be measured in term of tourist arrivals to a destination country, number of nights spent by a tourist in a destination country and total expenditure of a tourist at a destination country (Song et al., 2019).

Gross domestic product is the most important explanatory variable in modelling tourism demand, it is used to measure the amount of money earned per person in a country. Income affects the ability to pay for the overseas travel (Naudé & Saayman, 2005) and play a vital part in destination choice. Despite recent development in air transport in Zanzibar especially construction of new passenger's terminal three building and establishment of chartered flights between Zanzibar and some of its source markets but still the cost of air transport is high which might decrease the possibility of tourists choosing Zanzibar as their destination. Transport cost between origin country and destination country has been found to negatively impact flow of tourists (Garin-Munoz and Montero-Martin, 2007; Archibald et al., 2008; Dudokh, 2008; Vítová et al., 2019).

1.1 Statement of the Problem

Tourism sector is highly integrated and complex in nature, hence it is important to understand behaviour and needs of tourists as well as its structure. Prior to the mid-1980, tourism in Zanzibar barely existed and arrivals of international visitors were in the interest of fellowship and there were few hotels that could offer accommodation of any quality for visitors (Sharpley & Ussi, 2014). Since early 1980s, tourist arrivals in Zanzibar have increased gradually, from roughly average of 26,000 tourists per year in the late 1980's to an average of 400,000 tourists per year in the late 2020's. Even number of hotels and guest houses has increased rapidly, example; in a year 2021, there were 683 hotels and guest houses available compared with 620 available in a year 2020 (Office of Chief Government Statistician [OCGS], 2022).

Despite the availability of studies which provide in-depth information's on impacts of tourism on Zanzibar economy and surrounding societies (World Bank [WB], 2022; Hafidh & Rashid, 2021; United Nation International Children's Emergency Fund [UNICEF], 2018; Sharpley & Ussi, 2014), the study is set to provides more insight on the performance of both economic variables, such as income and exchange rates; and non-economic variables, such as global health crisis; which contributed to tourist arrivals.

1.2 Research Objective

The specific objective of this study is to analyse determinants for the tourist arrivals in Zanzibar for the period 2005 to 2021.

II. LITERATURE REVIEW

2.1 Theoretical Review

Demand for tourism product is much influenced by tourist's income, tourism prices in destination and tourism price in substitute destinations (Wu et al., 2017). Tourist's income is expected to influence tourism demand in positive way; tourism price in destination country is expected to influence tourism demand negatively while tourism price in substitute destinations is expected to influence tourism demand in a mixed way.

2.1.1 Gray's Travel Motivation Theory

Gray (1970) in answering the big question of 'why do people travel?' suggested only two motives; one, wonderlust, which can be described as the desire to go from a known to an unknown place; and two, sunlust, which is to go to a place which can provide the traveller with specific amenities that does not exist in his or her usual place of residence. He added that, motives which determine their travel choices are pleasure, recreation, new experiences, shopping and cultural interest. This theory is relevant in understanding psychology, behaviour and personality of tourists.

2.1.2 Crompton's Motivations for Pleasure Vacation Theory

Crompton (1979) identified nine motives for selection of a destination. Socio-psychological (push motives) factors which include escape from a perceived mundane environment, exploration and evaluation of self, relaxation, prestige, regression, enhancement of kinship relationships, and facilitation of social interaction. Other two factors (pull motives) are novelty and education. He concluded that, tourism industry must pay greater attention to socio-psychological motives in developing product and promotion strategies. The first seven explains desire for travel and the rest explain the actual destination choice.

2.1.3 Dann Theory of Push and Pull Factors

Dann (1981) identified seven fundamentals of tourist's motivations to travel as "a response to what is lacking yet desired, destination pull in response to motivational push, motivation as fantasy, motivation as classified purpose, motivational typologies, motivation and tourist experience, motivation as auto-definition and meaning". These two fundamentals motivate tourists to travel and be attracted to the desired destination, and they try to answer the big question of what are motives for people travel in term of individual and cultural conditioning.

2.2 Empirical Review

Wamboye et al. (2020) applied panel data model to investigate the relevant determinants of international tourism demand for Tanzania's top fifteen tourist sources countries during the 2000- 2016 period and found that income of tourists and infrastructure development in Tanzania are two main determinants of international tourism demand for Tanzania. They also found that increase in transportation cost and inflation has negatives effects on tourism demand. Naudé and Saayman (2005) applied panel data model to identify the determinants of tourism arrivals in forty-three African countries, taking into consideration tourist's country of origin. Results of their study strongly

suggest that "political stability, tourism infrastructure, marketing and information, and the level of development of destination country are key determinants of travel to Africa".

Kusni et al. (2013) investigated the significance influence of both economic and non-economic factors in determining tourism demand for Malaysia by tourists from the Organization for Economic Cooperation and Development (OECD) countries using panel data model. Findings of their study showed that demand of Malaysia tourism product is sensitive to price changes as variable relative price was found to be statistically significant. Permatasari and Esquivias (2020) employed a dynamic panel dataset of fifteen years from 2000 to 2014 to estimate the impact of selected variables on the total expenditure of travellers as a proxy for international tourism demand in Indonesia. Their study found that per capita income of tourists, relative prices and accommodation capacity have a positive impact on tourism expenditure while distance between origin country and Indonesia has negative impact on tourism expenditure.

Considering the changing structure of consumer preferences, Habibi and Abbasinejad (2011) estimated dynamic panel data model to identify and estimate factors for tourism demand in Malaysia from European countries using annual panel data span from 1998 to 2007 and found that income, accommodation capacity and political stability had positive effects on tourism demand in Malaysia. Mavrommati et al.,(2021) used panel data fixed effect model to investigate the determinants of international tourism demand for Greece from twenty-eight European and Non-European countries for the period from 1996 to 2015 and found out that cost of living for tourists in Greece, population and marketing expenses to promote tourism industry are statistically significant at level in explaining tourism demand for Greece.

III. METHODOLOGY

3.1 Model Specification and Data

Panel data model has been applied in studying relationship among various variables, Proenca and Soukiazis (2005) as cited in Permatasari and Esquivias (2020) explained that a combination of time series and cross-sectional data enables higher degrees of freedom in the estimation process, enabling dynamic specification, reducing multicollinearity effects, and providing more data information. Verbeek (2004) explained that the availability of repeated observations on the same elements allows specification and estimation of realistic and more complicated model than pure cross-section or time series models. In this study, the demand for tourism was measured in terms of the number of tourist arrivals. This study adopts regression model presented by Greene (2008).

The model is as follows:

$$Y_{it} = X'_{it}\beta + Z'_i\alpha + \varepsilon_{it} \quad \text{..... (i)}$$

Where;

X'_{it} are group of k regressors, β and α are parameters to be estimated, Z'_i contain a constant term and the observed panel data set;

$\{(y_{it}, x_{it})$: $1 \leq i \leq , 1 \leq t \leq T\}$

Now, the panel data model for this study took the following form;

$$TA_{it} = \alpha + \beta_1 GDPpci_{it} + \beta_2 ERTshs_{it} + \beta_3 TI_t + \beta_4 TransCost_t + \beta_5 RelativePrice_t + \beta_6 Cov19_t + \beta_7 GGR_t + u_{it} \quad \text{..... (ii)}$$

Where; TA_{it} = Number of tourist arrivals from origin country i to Zanzibar at time t; $GDPpci_{it}$ = Gross domestic product per capita of country i at time t; $ERTshs_{it}$ = Annual average exchange rates between origin country i and Tanzania at time t; TI_t = Tourism infrastructure in Zanzibar at time t; $TransCost_t$ = Price of crude oil at world market at time t proxy for transport cost; $RelativePrice_{it}$ = Relative price at time t adjusted by exchange rates between origin country i and Tanzania; $Cov19_t$ = COVID-19 cases at time t, taking value 1 in a year 2020 and value 0 otherwise; GGR_t = Global great recession at time t, taking value 1 in a year 2009 and value 0 otherwise; u_{it} = Error term, which are normally distributed with mean 0 and variance σ_u^2.

Various literature (Mavrommati et al.,2021; Permatasari and Esquivias, 2020; Wamboye et al.,2020; Kusni et al., 2013; Naudé and Saayman, 2005) emphasize the use of panel data in modelling tourism demand because of its capacity to examine individual specific effects and/or time effects in order to deal with heterogeneity that may or may not be observed (Park, 2011). That is, by panel data we may control for unobserved individual-specific or time-specific heterogeneity (Biørn, 2016).

This study used longitudinal strong balance panel data collected for the period of seventeen years from 2005 to 2021. Since the focus of this study was long-term relationships between tourist arrivals and its influencing factors longitudinal annual data was used. Data used in this study were number of international tourists arrived in Zanzibar from a year 2005 to a year 2021 from ten countries, namely; Italy, United States of America, the United Kingdom,

France, Germany, Australia, Kenya, South Africa, Netherlands and Belgium which were obtained from Zanzibar's Office of Chief Government Statistician's *year statistics abstract.*

3.2 Data Collection

Data of gross domestic product per capita of named ten origin countries from the year 2005 to 2021 were obtained from World Bank data portal (World Bank [WB], 2023). Data of exchange rates which are the average annual market rates of local currency against currencies of sampled tourist arrivals origin countries were obtained from United Nation Conference on Trade and Development. Data of tourism infrastructures which were measured in terms of number of guest houses, lodges and hotels were obtained from office of Zanzibar Commission for Tourism. Data of transport cost which was measured in term of price of crude oil at world market was obtained from organization of the petroleum exporting countries (OPEC) official website. Data of consumer price indices of origin countries were extracted from United Nation Conference on Trade and Development and Zanzibar consumer price indices data were obtained from office of chief government statistician (OCGS) of Zanzibar.

3.3 Unit of Measurements

Data measurements used in this study were deduced from theoretical and empirical findings and are summarized in

Table 1

Units of Measurements of Selected Variables

Name of variable	Description	Unit of measurement
Tourist arrivals	Number of tourist arrivals from origin country to Zanzibar	Number of tourists
GDP per capita	Gross domestic product per capita of countries of origin	Constant (2015) international dollars (PPP)
Exchange rates	Exchange rates between Tanzania and tourist original country	Tanzanian shillings
Tourism infrastructure	Number of hotels and guest houses in Zanzibar	Number of hotels and guest houses
Transport cost	Transport cost between original country and Zanzibar	Price of crude oil (in USD) at world market
Relative Price	Consumer price of Zanzibar divided by that of origin countries adjusted by exchanges rates.	CPI points adjusted by exchange rates
COVID-19	Dummy variable	Taking value 1 in a year 2020 and value 0 otherwise
Global great recession	Dummy variable	Taking value 1 in a year 2009 and value 0 otherwise

IV. FINDINGS & DISCUSSION

4.1 Descriptive Statistics

Summary statistics of tourist arrivals in Zanzibar shows that, a total of 4,457,375 tourists arrived in the time span of this study and 2,653,157 (59.52%) of them came from the top ten nations sampled and used for this study. This is presented in Table 2.

Table 2

Number of Tourists Arrived in Zanzibar from 2005 to 2021

Year	Top ten nations	Other nations	Total tourists	Tourists data bar
2005	99,292	26,151	125,443	
2006	108,783	28,328	137,111	
2007	113,605	29,678	143,283	
2008	98,919	29,521	128,440	
2009	104,398	30,521	134,919	
2010	103,970	28,866	132,836	
2011	131,681	43,386	175,067	
2012	122,675	46,548	169,223	
2013	132,840	48,461	181,301	
2014	187,233	124,658	311,891	
2015	180,452	113,791	294,243	
2016	214,672	161,570	376,242	
2017	241,295	192,179	433,474	
2018	270,631	250,178	520,809	
2019	298,395	239,869	538,264	
2020	109,131	151,513	260,644	
2021	135,185	259,000	394,185	
Total	2,653,157	1,804,218	4,457,375	N/A
% Share	59.52%	40.48%	100.00%	N/A

Country level statistics over the study period are presented in Table 3; Italy was a leading country with over 772,053 tourists arrived in Zanzibar from 2005 to 2021. This is almost two times more than the number of tourists from second placed Germany and third placed United Kingdom with 332,751 and 312,356 tourists respectively.

Table 3

Top Ten Tourist's Original Countries

S/No	Country	Total arrivals	S/No	Country	Total arrivals
1	Italy	772,053	6	South Africa	239,715
2	Germany	334,751	7	Netherland	129,581
3	UK	312,356	8	Kenya	124,914
4	USA	294,825	9	Belgium	93,928
5	France	266,262	10	Australia	84,772

4.1.1 Summary Statistics

Summary statistics of selected variables shows that; an average of 15,606 tourists arrived in Zanzibar between 2005 and 2021 from top ten countries. Median of number of tourist arrivals was 10,412 which is less than the mean and it implies that the distribution was right- skewed.

Table 4

Summary Statistics of Selected Variables

Variable	Observations	Mean	Std. Dev.	Median	Min	Max
Number of Tourist Arrivals	170	15,606.81	14,397.13	10,412	1407	61369
GDP per capita	170	35,731.01	17,688.66	40,221	1221.859	61855.52
Exchange Rates (Tshs)	170	1,662.162	909.049	1,841.55	14.942	3160.32
Tourism Infrastructure	160	28.125	33.713	29.5	-47	99
Transport Cost	170	71.816	22.430	69.1	40.76	109.45
Relative Price	170	0.007	0.037	0.0004	0.0002	0.476

4.2 Unit Roots Test

It was paramount to check the presence of unit root using Im-Pesaran-Shin panel unit root test with the null hypothesis that all panels contain a unit root, this hypothesis was rejected for all variables except for tourism infrastructure but the first difference of this variable was stationary.

Table 5

Im-Pesaran-Shin Unit Roots Test Results

Variable	t-bar statistics including time trend
Number of tourist arrivals	-2.145**
GDP per capita	-2.7148***
Exchange rates	-2.876***
Tourism infrastructure I(1)	-5.1908***
Transport cost	-2.3094***
Relative price	-1.40E+02***

*NOTE: *** p < 0.01, ** p < 0.05, * p < 0.1*

4.3 Covariance-Correlation Matrix

In correlation analysis of panel data, there are some of variables which were highly correlated; instance the exchange rates was positive and highly correlated with GDP per capita with coefficient of 0.729 while the correlation between relative price and GDP per capita is negative with coefficient of -0.3042. The principal diagonal of the covariance matrix shows the covariance between the same variable, such as the covariance of transport cost was 504.96.

Table 6

Covariance-Correlation Matrix Table for the Period 2005-2021

	Number of tourist arrivals	GDP per capita	Exchange rates	Tourism infrastructure	Transport Cost	Relative Price
Number of tourist arrivals	2.10E+08					
	1					
GDP per capita	3.50E+06	3.20E+08				
	0.0153	1				
Exchange rates	4.30E+06	1.20E+07	837426			
	0.333	0.729	1			
Tourism infrastructure	78235.7	18535.2	3085.57	1136.59		
	0.162	0.031	0.1	1		
Transport cost	-41103	-8782.58	-2072.81	47.213	504.96	
	-0.096	-0.014	-0.061	0.062	1	
Relative price	-26.997	-117.117	-5.763	-0.003	0.005	0.000086
	-0.114	-0.321	-0.304	-0.008	-0.0703	1

4.4 Panel Data Models Regression Results

The main objective of panel data modelling is to examine fixed effects and/ or random effects. Results of statistical tests; F-test and the Breusch and Pagan Lagrangian multiplier test of panel data model (ii) above shows that both fixed and random effects were statistically significant although results of Hausman specification test recommended that fixed effect model was the preferred model. Post estimation tests of heteroskedasticity and serial correlation provided in-depth consideration on which model was the best for this panel data. Verbeek (2004) explained that presence of heteroskedasticity and serial correlation implies that error terms in the model are no longer independently and identically distributed. Results presented in Table 7 conclude the presence of heteroskedasticity and serial correlation in the estimated fixed effect model.

Table 7
Fixed Effect Model Post Estimation Test Results

Heteroskedasticity test	Chi-square (10) = 2468.22
	Probability > chi-square = 0.000
Serial correlation test	F (1, 9) = 89.486
	Probability > F = 0.000

4.5 Fixed Effect Model with Driscoll and Kraay Standard Errors

The Driscoll and Kraay standard errors are used to calculate robust standard errors in regression models and are calculated by estimating a long-run variance-covariance matrix of the errors, which allows for the presence of autocorrelation and heteroskedasticity. Presences of serial correlation and heteroskedasticity call for the fixed effects regression model with Driscoll and Kraay's standard errors (Mehmood & Mustafa, 2014). According to Anser et al., (2020), Driscoll and Kraay's standard errors are applicable in the presence of heteroskedasticity and serial correlation.

The coefficient of an independent variable gross domestic product per capita bear positive sign and was statistically significant at 95% level which suggest that gross domestic product per capita was one of the main determinants of tourist arrivals in Zanzibar. In term of size of effect; a one unit increase in gross domestic product per capita; number of tourist arrivals was expected to increase by 1.999 units. This result is consistent with findings from Habibi & Abbasinejad, 2011; Permatasari & Esquivias, 2020; Wamboye et al., 2020 which all included gross domestic product per capita as independent variable.

Exchange rate between the origin country currency and Tanzania's currency in favour of origin country automatically decrease cost of living in Zanzibar. The coefficient value of exchange rate suggests that; one unit increase in exchange rate in favour of origin country would increase tourist arrivals by 5.601 units and this result is supported by previous findings of Archibald et al., (2008).

Table 8
Regression Estimated Results

	FE Estimation	FE Estimation with Driscoll and Kraay SE
Variable	Coefficients (SE)	Coefficient (SE)
GDP per capita	1.999** (0.501)	1.999** (0.329)
Exchange rates (Tshs)	5.601** (2.679)	5.601 (4.105)
Tourism infrastructure	17.236 (20.198)	17.236 (21.367)
Transport cost	-64.991** (31.424)	-64.991** (24.627)
Relative price	-74066.13 (502096.5)	-74066.13 (150177.1)
COVID-19	-9539.658** (2719.637)	-9539.658** (2078.668)
Global great recession	-1893.856 (2823.572)	-1893.856 (1164.728)
Diagnostic statistics		
	R Squared = 0.403	R Squared = 0.403
	F(7,143) = 13.81	Wald $\chi2(7) = 8.01$
	p-val> F = 0.000	p-val>$\chi2 = 0.004$

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

Accommodation capacity as measured in term of number hotels and guest houses has a strong impact on attracting number of tourist arrivals. Regression results indicated positive sign as expected though not statistically significant. This result is supported by tourism statistical release of the office of chief government statistician which shows that bed occupancy average rate is 78.1 percent as of July 2022; meaning that hotel facilities in Zanzibar are satisfactory in term of quantity and number of available rooms even in peak season. Findings of similar findings from Habibi & Abbasinejad, 2011; Permatasari & Esquivias, 2020 and Naudé & Saayman, 2005 revealed a positive sign as expected.

Transportation cost was expected to have negative influences on tourist decision on choosing the travel destination as tourist tend to maximize satisfaction at lower cost. Since most of top original countries for Zanzibar tourism products are from North America and Europe, the results of this variable bear the right sign. The regression results of the coefficient associated with transport cost showed that, a one unit increase in price of crude oil in the world market would decrease tourist arrivals by 64.991 units. In order to decrease the negative effects of transport cost on tourism, Ulucak et al., (2020) suggest that policymakers and marketing officers should aim to attract more tourists from neighbouring countries.

As expected, the coefficient sign of relative price was negative though not statistically significant at level which show that it was inversely proportional with number of tourist arrivals. The negative sign of relative price means that the higher the cost of living in Zanzibar relative to the original country, the lower the demand of Zanzibar tourism products. The result is consistent with finding of Dudokh, 2008; Mavrommati et al., 2021 and Permatasari & Esquivias, 2020.

World Health Organization [WHO], 2020 declared COVID-19 outbreak as a global health emergency of international concern on 30 January 2020. The pandemic had highly impacted tourism industry especially airlines and hotel business all over the world (Foo et al., 2021). Total number of confirmed covid-19 cases in Tanzania was 43,078 and number of deaths was 846 (World Health Organization [WHO], 2023) as of 17/08/2023.(World Bank [WB] 2022) quoted that "In Zanzibar, the impact of the COVID-19 crisis on tourist arrivals and subsequent drop in jobs and business activity is likely to have mostly affected informal enterprises, women, and low-skilled workers". Generally; COVID-19 resulted into decline in real GDP growth of Tanzania from 6.9 percent in 2019 to 4.8 percent in 2020 which caused by "regional trade disruptions and contraction in tourism and related sectors" (Henseler et al., 2022). Coefficients sign of individual-invariant dummy variable covid-19 to capture time-specific effect of COVID-19 pandemic were negative as expected and they were statistically significant at 95% level which implies negative correlation between covid-19 and tourists' arrivals.

The coefficients of COVID-19 represent the average change in the number of tourist arrivals associated with occurrence of COVID-19, while holding constant all other determinants. Coefficients value of dummy variable COVID-19 where 1 represented a year with COVID-19 and 0 represented a year with no COVID-19 implies that, on average, the number of tourist arrivals decreased on the year of occurrence of OVID-19 pandemic by 9,539 tourists. Descriptive statistics suggested a significant decline in tourist arrivals in a year 2020 by 51.58 per cent, this could be the effect of a high degree of concentration of tourist arrivals from its top ten markets and these countries were among those most affected by COVID-19 pandemic. Finding of this study is consistency with findings of Kusni et al., (2013) and findings of Jaipuria et al., (2021) who observed decrease of tourists arrived in India by 67.66 per cent in the first three months of 2020.

Results also indicated that global great recession had negative relationship on tourist arrivals; however, it is not statistically significant at level. This result of dummy variable global great recession of 2009 suggests slightly decline in tourist arrivals by 1.54 per cent in 2010, a year after the 2009 global great recession.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

Factors for tourist arrivals to Zanzibar may be hard to determine for both government and other tourism sector stakeholders. This study examined how income, transport cost, hotel capacity, tourism price and exchange rates affect tourists arriving in Zanzibar. Using panel data and a fixed effect model, the results shows that income of tourist and transport cost are key determinants of tourists arriving in Zanzibar. Also, dummy variables included in this study to capture effects of COVID-19 and global great recession, and the results show a negative relationship between number of tourist arrivals and occurrence of COVID-19 pandemic and this can vividly be seen on number of tourists arrived in Zanzibar in a year 2020 and 2021.

5.2 Recommendations

It is thus recommended the revolutionary Government of Zanzibar and other tourism sector stakeholders to work together in making Zanzibar tourism sector more competitive by marketing its tourism products to high income countries. Transport cost was found to have negative impact on tourists arriving in Zanzibar, so the Zanzibar commission for tourism should work toward convincing airlines companies to introduced chattered flights between top tourist's origin countries to Zanzibar so as to reduce transport cost and flight time which will encourage tourists aged 65 and above to visit Zanzibar. Regarding the cost of transportation, it is further suggested that the Zanzibar commission for tourism to advertise its tourism product to neighbouring countries which most of them they don't have luxurious of enjoying beach tourism.

5.3 Declaration

The authors declare that they have no known contending financial benefits or personal associations that could have resulted to influence the work reported in this study.

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