

DETERMINANTS OF TOURIST SPENDING IN TANZANIA

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Abstract: *A country's tourism revenue depends among other things on tourists' spending patterns having reached in the country. While numerous studies have been done globally on factors determining tourist spending, in Tanzania few of such studies have been carried out. This study aimed to establish determinants of tourist spending by comparing the relative impact of three types of factors, tourists' demographic characteristics, tourists' trip-related characteristics and destination attributes in influencing tourist spending. Such a comparison could have an implication on the choice of priority areas for promoting tourists' spending by the key stakeholders in Tanzania. Apart from examining determinants of tourist spending, this study re-examines the TTSS expenditure model which is used to estimate the annual amount of tourism revenues in Tanzania essentially because the model inputs were based on descriptive analysis. The study uses cross sectional data as surveyed by the Tanzanian Tourism Sector Survey (TTSS) in the years 2004 up to 2008. Using OLS the study has established that tourists' trip-related characteristics such as travel party number, purpose of visits and mode of travel arrangement (i.e. package or non-package tour) are more influential in tourist spending than the destination attributes as well as the demographic characteristics. It is therefore suggested that the government and other stakeholders should attune their promotion strategies basing on such factors. As regards the TTSS expenditure model, the study has found the model to be plausible in terms of the included inputs, but needs a few modifications especially on the assumption of constant daily spending by a tourist. Further to this the model could also be improved by including tourist age as one of its inputs.*

Key Words: *Trip-related characteristics, Demographic characteristic, Destination attributes, Econometric model, Tourist spending*

1. INTRODUCTION:

A country's tourism revenue is a product of not only the number of tourist arrivals but also of their per capita expenditure. Even though a country may receive as many tourists as possible it may end up receiving relatively less revenue than other countries unless it undertakes strategies which accommodate the determinants of tourist spending. Moreover owing to the need of protecting the environment, it is important to maximize tourist per capita expenditure and reduce/maintain the number of arrivals and/or length of a tourist stay at a destination. To achieve this objective one needs to establish the determinants of tourist spending.

In Tanzania, similar studies were done by TTSS in 2001, 2004, 2005 and 2006. However these were designed to estimate the country's tourism revenue and not to find the determinants of tourist per capita expenditure. TTSS (2001) used the WTO model to estimate the country's total revenue by grouping the tourists into three hierarchal segments thought to influence tourist per capita expenditure. These were tourist country of origin, purpose of visit, and travel arrangements. For each country tourists were grouped according to the purpose of visit (4) and within each purpose of visit tourists were grouped according to travel arrangements (2). In total there were 8 categories for each country. In each category tourist revenue was estimated as a product of the number of arrivals, average expenditure per person per day and average length of stay. The consideration of those variables by TTSS as key determinants of tourist expenditure was based mainly on the descriptive analysis.

This study seeks not only to verify the validity of the variables included by TTSS in the estimation of a country's revenue using conventional econometric methods, but also to assess the impact of some other variables not considered by TTSS in the expenditure model. This assessment could possibly lead to the betterment of the TTSS expenditure model. The TTSS expenditure model is basically the WTO model, which assumes that tourist daily spending is constant across the days of stay. This assumption was taken for granted by TTSS. Unfortunately this assumption is not valid in Tanzania. This study has found that tourist daily spending declines with length of stay, implying that the TTSS expenditure model overestimates the country's tourism revenue. This study has proposed an improvement in the model to accommodate variations in tourist daily expenditure.

This study has considered several variables as possible determinants of tourist per capita expenditure. It derives most of these variables from the surveys by TTSS of visitors to Tanzania in 2001, 2007 and 2008 as well as a few macro variables from other sources. Most of these variables can be divided into demographic, trip related

characteristics, and destination attributes. The study compared the three groups of variables by testing the hypothesis that destination attributes are more influential than the trip-related and demographic characteristics of the tourists.

Among the variables included in this study is the season of travel, which was made possible because the TTSS surveys were done during different periods in a year. The inclusion of the season of travel in the model made it possible to study the influence of destination attributes on tourist expenditure by using seasons as proxies for different destinations. The logic behind this was that different seasons have different tourist activities and different weather conditions, which would have an effect on tourists' destinations. This is especially so for Tanzania, which has long tourist seasons and many activities (e.g. game viewing, bird watching) which offer different sightings with the changing seasons (MNRT, 2002).

Details of a tourist observed in a past year could not be retrieved as no tourist was personally identified by TTSS, the reason being its desire to encourage them to reveal confidential information, particularly on expenditure (TTSS 2001). Even if they had been identified, there was no guarantee that they would have visited the country again, and if they had visited calling on them again would have been very difficult, because the TTSS surveys interviewed just some of the visitors and not every visitor who came to Tanzania. Not being able to identify the details of a previous visitor has been a common phenomena in most tourists surveys across the world and as a consequence the data used in a microanalysis of tourism demand across the world has been primarily cross-sectional (see for example Soest and Kooreman, 1987; Sampo and Perez, 2000; Jang et al., 2005; Wang et al., 2006; Litvin, 2007; and Tosun et al., 2007).

The conventional determinants of demand for a commodity include the price of the commodity and income of a consumer other things being equal. Equally well these factors should apply as determinants of tourist spending. However in this particular case, the only conventional factor which may apply is tourist income, since tourists visiting the same destination face the same prices. Other factors may include taste and preferences, perception, the environment, society, the situation, etc. In fact these other factors are arbitrary and may not be fully accounted for.

The Theory of Reasoned Action (TRA), which attempts to explain why a person pursues an action, can provide a theoretical basis for understanding these other factors. The theory was formally developed by Fishbein and Ajzen(1975). According to Fishbein and Ajzen (1975), TRA has three basic constructs: Behavioural intention (BI), Attitudes (A) and Subjective Norms (SN). TRA suggests that a person's behavioural intention depends on the person's attitude to the behaviour and subjective norms ($BI=A+SN$). Attitudes consist of beliefs about the consequences of performing the behaviour multiplied by his or her evaluation of these consequences. Subjective norms are seen as a combination of the perceived expectations of the relevant individual or groups along with intentions to meet these expectations. The two predictive constructs, attitudes and subjective norms, will be influenced by situational variables such as the behaviour observability and personal characteristics and preferences (Fishbein and Ajzen, 1975).

This theory can be applied to various fields including studies on consumer behaviors. When this theory is adopted in relation to consumer behavior, it translates into purchase intention theory in as much as a purchase is also an action (Barros and Correia, 2007; Belleau, 2007; Sheppard et al., 1988). Purchase intention is a function of the attitude towards the purchase, as well as social norms (Barros and Correia, 2007), where attitudes and social norms are as defined in the TRA.

In the context of TRA, the determinants of tourist expenditure at a destination, are to be thought about by conceptualizing the relationship between individual expectations/beliefs of a particular expenditure and his own evaluation of these outcomes, as well as what he expects of society, the environment or situation. For example, for a tourist to buy an item at a destination, apart from having the income he will have to perceive the importance or necessity of such an item. This perception will depend on his /her individual evaluation of the item, as well as the environment in which it is sold, such as its hygienic appearance, and quality (Tosun et al., 2007, Sangpikul 2008).

The study of tourist purchase behaviour has led to various theories on the tourist decision process. Barros and Correia (2007) applied the theory of the tourist decision process as given by Mathieson and Wall (1984), as the basis for discerning the hypothetical determinants of tourist length of stay. The theory is described to be consisting of four determinants of the tourist decision process: tourist profiles, trip features, travel awareness and destination characteristics.

Past studies such as Sampol and Perez (2000), TTSS (2001), Suh and Gartner (2004), Jang et al. (2005), Litvin (2007), as well as Dwyer and Forsyth (2008) have shown the existence of a significant relationship between tourists' spending patterns against their social demographic characteristics, trip-related characteristics as well as the destination attributes. For example Sampol and Perez (2000), establishes higher profession, and higher ages to be positively associated with a tourist spending whereas TTSS (2001) accounts for nationality, travel arrangement and purposes of visits as highly responsible factors for a tourist spending. Similar result on the influence of nationality on tourists' spending was later established by Dwyer and Forsyth (2008). Suh and Gartner (2004) account on distance of travel and Jang et al. (2005) points on season of travel as well as travel activity having a significant effect on tourist spending.

Wang et al. (2006) accounts for travel distance, length of stay, and number of adults in the travel group as having positive effect on tourists' expenditure. The positive influence of distance on expenditure appears to be contrary to what was found by Suh and Gartner (2004), who found that tourists from nearby tend to prefer shopping more than intangible goods. Litvin (2007) asserts that first time visitors do normally have higher expenditure on tourists' attractions activities whereas their expenditure is the same in most non-attraction-related activities, such as shopping.

One may summarize the variables determining tourist per capita expenditure at a destination as being age, gender, income, profession/education level, nationality, length of stay, travel arrangements, purpose of visit/travel activity, travel party size, number of adults, number of children, frequency of visits/familiarity with the destination, and destination attributes, such culture, season of travel and satisfaction. Among these, age, income, higher profession level, length of stay, travel party size, number of adults and number of children, tour package, business visits, satisfaction and cultural link are expected to have a positive influence on total per capita expenditure. Destination familiarity may have a negative influence on expenditure, while distance, gender and season of travel could be indeterminate. All these variables can accordingly be grouped into socio-demographic and trip-related characteristics, and destination attributes

2. METHODOLOGY :

2.1 The economic model

The study adopts the model by Nordstrom (2002) which was also used by Naude and Sayaaman (2005) to study tourism demand in Africa. This model assumes a ¹strong separable utility function where a tourist follows a two-stage utility maximization procedure. In the first stage, the consumer decides how much expenditure to allocate between various consumptions, one of them being tourism in Africa. The second stage consists of allocation of tourism expenditure to particular African countries (destinations).

Naude and Sayaaman (2005) argues that following (Nordstrom, 2002), a two level tourist utility function can be written as,

$$U(q) = F[U^1(q_1), \Lambda, U^n(q_n)], \quad (1)$$

Where

$U^j(q_j)$ = the sub-utility function, which consists of African tourism consumed in the j^{th} country (out of m -number of African destinations to choose from)

Naude and Sayaaman (2005), assuming a Cobb-Douglas utility function for m different goods (African countries) and the fact that past tourism affects the current consumption specifies the sub-utility function as

$$U_i(q_t / q_{t-1}) = \prod_{j=1}^m (q_{ijt} - k_{ijt})^{\delta_j}, \quad \sum_{j=1}^m \delta_j = 1, \quad (2)$$

where

$$k_{ijt} = y_{ijt} + \gamma_j q_{ijt-1} \quad (3)$$

y_{ijt} = positive and represents the minimum consumption requirement in period t ,

$\gamma_j q_{ijt-1}$ = consumption based on past consumption.

The subtraction of k_{ijt} from q_{ijt} provides the quantity demanded as a function of price factors (i.e. tourism price as well as a tourist income).

The particular African country tourism demand function is obtained by maximizing the sub-utility function given in 2 subject to budget constraints

$$\sum_j p_{jt} q_{jt} = e_t, \quad (4)$$

where

p_{jt} = the price of tourism in the j^{th} African country.

e_t = is the tourist income

¹A utility function is strongly separable if the MRS between two goods belonging to two different groups is independent of the quantity of goods which do not belong to any of those two groups. Unlike the weak separability case strong separability demands that each group of goods be separable from the other group of goods. Any of these two conditions makes it possible to consider utility maximization by a tourist of tourism goods alone without having information on prices and quantities of non-tourism goods. All that is needed is the budget of tourism goods. In view of this, the study does not maintain the strong separability assumption, because the weak separability condition is sufficient.

The resulting individual demand function after maximization can be written as

$$q_{ijt} = y_{ijt} + \gamma_j q_{ijt-1} + O_{ijt} + \sum p_{jt} y_j + \frac{\delta_j}{p_{jt}} (e_t - \sum p_{jt} \gamma_j q_{ijt-1}) + \varepsilon_{jt} \quad (5)^2$$

Equation (5) tells us that tourism demand is a function of past consumption q_{ijt-1} , destination prices p_{jt} , tourist income e_t and other factors O_{ijt} . Using (5) one can specifically write the tourism demand equation of Tanzania in time t by origin i as follows:

$$q_{it} = x_{ijt} \beta + c_i + \varepsilon_{it}, \quad (6)$$

where

q_{it} = demand for international tourism by origin i for Tanzanian destination.

x_{it} = a vector of explanatory variables with cross-section and/or time variation

c_i = qualitative factors in origin i , intended to capture unobserved individual specific factors.

The response variable in this study is expenditure per person belonging to different years of observation and different countries of origin. As said before, no past details are available for an individual tourist and therefore no past consumption by a tourist could enter into the model. More generally panel data estimation cannot be used with an individual tourist as the subject. In other words, if we ignore a tourist's country of origin as well as his/her year of visit and pool the data together we can rewrite equation (6) in a more detailed way while taking into consideration the variables discussed in sections 1 as follows:

$$y_i = \beta_0 + \beta_1 Age_i + \beta_2 Females_i + \beta_3 Income_i + \beta_4 Er + \beta_5 El + \beta_6 Childno + \beta_7 Childpresence + \beta_8 Lstay + \beta_9 Tarra + \beta_{10} VistOth + \beta_{11} VistFRD + \beta_{12} VistLSR + \beta_{13} VistBSN + \beta_{14} Adultno + \beta_{15} Tpartyno + \beta_{16} Frvist + \beta_{17} Fadest + \beta_{18} Dist + \beta_{19} Nosites + \beta_{20} Peak + \beta_{21} Price + Africa + Asia + Europe + MEast + NAmerica + SAmerica + year1 + year2 + year3 + \varepsilon \quad (7)$$

Where

y_i = expenditure per day by an i^{th} person

Age= Age of a tourist measured in years .Its coefficient β_1 is expected to be positive.

Females=number of females in the travel party. Its coefficient β_1 is indeterminate.

According to Wang et al. (2006), there is no reason for gender to affect tourism expenditure since much of the travel is a group activities especially for families. However men and women may differ in preferences and motivation to travel, which may have varied effects on spending pattern

Income =tourist's income level. In this study per capita GDP of a tourist's country of origin was used as a proxy for income, because tourists were not asked about their incomes during the surveys. They would have been very reluctant to state their actual incomes. Its coefficient β_3 is expected to be positive.

Er =Exchange rate between Tanzania and the tourist country of origin expressed in terms of units of Tanzanian shillings per unit of a foreign currency. This variable, as GDP is meant to assess the impact of income on tourist spending. Its coefficients β_4 is expected to be positive

El=1 if a tourist is from an English speaking country and 0 if otherwise. Its coefficient

β_5 is indeterminate .The ability to communicate fluently in English may lead to the ability to bargain, thereby reducing the amount they spend, particularly tourist on non-package tours. On the other hand, the ability to communicate easily may lead to more interaction with the locals at the destination and /or to engage in more tourist activities. This engagement may lead to more spending (Jang et al. 2005).

Childno = number of children in the travel group. According to Wang et al. (2006), past literature has found that the number of children negatively affect food expenditure. On the other hand the number of children may mean a greater requirement for rooms and other facilities which may lead to more spending. Wang et al. (2006) concludes that there is no evidence from past studies of the definite sign of the number of children. Therefore its coefficient β_6 is indeterminate.

Child presence =1 if there is at least one child in the travel party and 0 otherwise. The

² Equation (5) is obtained by maximizing (2) subject to budget constraints (4) using the Lagrange multiplier formulation. Note that the prices of related commodities are inherently implied in (5) when one expands “ $\sum p_{jt} \gamma_j q_{ijt}$ ”.

inclusion of this variable is justified by the fact that while the intensity as captured by the number of children may not be significant, the mere presence or absence of a child may matter. Therefore its coefficient β_7 expected to have the same sign as children number.

Lstay= tourist length of stay in Tanzania measured in days. Its coefficient β_8 is

indeterminate. The longer a person stays at a destination the more familiar he becomes with the environment and probably may spend less per day which might also be contributed to by the dwindling budget. On the other hand the longer he stays might imply his increased satisfaction with the destination and hence spend more per day. Nevertheless, the coefficients β_8 should certainly be positive when an individual's total expenditure is considered rather than expenditure per day.

Tarra= 1 if a tourist is on package tour and 0 if a tourist is on non- package tour. Its

coefficient β_9 is expected to be positive. This expectation is built on the intuition that tourists on package tours are wealthier than those on non-package tours (TTSS, 2001).

VistOth= 1 if a tourist is visiting for other purposes, which excludes friends, leisure and business. Its coefficient β_{10} is indeterminate. The literature is not explicit on this variable.

VistFRD = 1 if a tourist is visiting friends and relatives, 0 otherwise. Its coefficient β_{11} is indeterminate.

VistLSR= 1 if a tourist is visiting for leisure and recreation, 0 otherwise. Its coefficient β_{12} is indeterminate.

VistBSN=1 if a tourist is visiting for business purpose. Its coefficient β_{13} is expected to be positive.

Adultno= Number of adults in the travel group. Its coefficient β_{14} is indeterminate. It may be negative if the advantages of a group is utilized by sharing some of the bought goods and facilities, such as rooms and vehicles

Trpartyno=1 if there are at least 2 members in the travel party, 0 if otherwise. Its coefficient β_{15} is expected to have the same sign as that of the number of adults if the advantages of group spending works. Wang et al. (2006) found that the coefficient for travel party number positively influence per capita expenditure. Its coefficient would certainly be positive if the total expenditure is considered rather than expenditure per person per day.

Frvist = 1 if a tourist has visited at least one African country before Tanzania, 0 if otherwise. Its coefficient β_{16} is expected to be positive. A frequent visitor in this context is likely to be an explorer or a businessman, for these are the kind of people who travel frequently. Therefore he is likely to be a visitor on holiday and /or business, who is presumed by the literature to spend a lot more (Sampol and Perez 2000; TTSS, 2001).

Fadests = 1 if a tourist has visited Tanzania at least once before the current visit and 0 if otherwise. Its coefficient β_{17} is indeterminate. Although Dwyer and Forsyth (2008) found that repeat visitors spend less on paid for attractions than new ones, this cannot lead to the conclusion that repeat visitors spend less daily. Moreover Dwyer and Forsyth (2008) also found that there is no significant difference between repeat and the new visitors as regards non-paid for attractions. On the other hand, those familiar with the destination could be visitors on a business trip, who are likely to spend more per persona as posited by the literature(TTSS,2001 Sampol and Perez ,2000).

Dist = the shortest air distance between Tanzania and the tourist country of origin measured in miles. Its coefficient β_{18} is indeterminate. According to Wang et al.(2006) tourists coming from far away tend to do a lot more shopping than those from nearby, leading to the positivity of β_{18} . But this positivity will depend on the magnitude of other factors. Distant tourists especially those on non package tour may also be worried by the cost of travel and freight charges and hence reduce their expenditure on tangible goods. Sometimes distant tourists are interested in culture than tangible goods (Suh and Mcavoy, 2004), implying that such a tourist may end up spending less than the ones from nearby.

Nosites=1 if a tourist had visited more than one site and 0 if otherwise. Its coefficients

β_{19} is indeterminate, depending on whether the number of sites visited implies a relatively longer length of stay. If a tourist takes a few days to visit several sites then the coefficient will be positive, otherwise the sign of the coefficient will be influenced by other daily experiences of the tourist. On the other hand, its coefficient is certainly positive if total expenditure is considered rather than expenditure per day.

Peak=1 if a tourist traveled during the peak season (July- September) and 0 otherwise.

Its coefficient β_{20} is expected to be positive.

Price= the relative cot of living between Tanzanian and the tourist’s country of origin measured as $price = \frac{CPI_{TZ}^t}{CPI_o^t} * ER_{jt}$ where CPI_{TZ}^t , is the consumer price index in Tanzanian and CPI_o^t is the consumer price index in a tourist’s country of origin. Its coefficient β_{21} expected to be negative.

Africa, Asia, Europe, MEast, NAmerica, SAmerica, represents regions’ dummies for Africa, Asia, Europe, Middle East, North America and South America.

year1, year2 and year3 are dummies for the year 2001, year 2007 and year 2008.

The summary of this discussion is given in Table 1 next.

Table 1: Aprior direction of the relationship between daily tourist spending and the explanatory variables.

Variable	acronym	Direction
Age of the respondent	age	+
Number of females in the travel party	Females	indeterminate
Income of the travel party	income	+
Tanzania nominal exchange rate against that of the tourist’s country	ER	+
Tourist familiarity with the English language	EL	indeterminate
Number of children in the travel party	Childno	indeterminate
Presence of a child in the travel party	Childprese	indeterminate
Tourist length of stay(days) in Tanzania	Lstay	indeterminate
Travel arrangements by a tourist(Package)	Tarra	+
A tourist on Other purposes of visits	VistOth	indeterminate
A tourist visiting Friends and Relatives	VistFRD	indeterminate
A tourist coming for Leisure and Recreation	VistLSR	indeterminate
A tourist on Business Visit	VistBSN	+
Number of adults in the travel party	Adultno	indeterminate
Travel party size(number of people in the travel group)	Trpartyno	indeterminate
Tourist frequency of travelling (not to Tanzania only)	Frivist	+
Tourist familiarity with Tanzania(frequency of visiting Tanzania)	Fadests	indeterminate
Distance between Tanzania(DSM) and the tourist country’s capital	Dist	indeterminate
Number of sites visited by a tourist during his stay in Tanzania	Nosites	indeterminate
The peak season of travel by a tourist	Season	indeterminate
Consumer prices in Tanzania relative to that of the tourist’s country	price	-

2.2 Variables and their Sources

The study used survey data from TTSS. Although there were six years of survey by the TTSS (2001, 2004, 2005, 2006, 2007, 2008), the study mainly used data for the years 2001, 2007 and 2008, which had similar and relatively more explanatory variables than the rest of the years. These three years made a total of 30,782 observations. But only 25,880 observations out of 30,782 observations were used, the rest being excluded due to missing and/or unacceptable values.

The model equation (7) contains 19 variables which are described next. The following variables were obtained directly from the TTSS surveys: age, number of females in the travel party (Females), travel party number (Tpartyno), length of stay by a tourist (Lstay), travel arrangements i.e. package or non package tour (Tarra), tourists visiting friends and relatives (VistFRD), tourists visiting for Leisure and Recreation (VistLSR), tourists visiting for Business purposes (VistBSN) and number of sites visited by a tourist in Tanzania (Nosites).

The following variables were derived from the TTSS survey:

(1) (Expenditure per person per day). The survey data reported only total party expenditure. In order to obtain expenditure per person per night, the total party expenditure was divided by the size of the group and by the number of days the party stayed. There were two types of expenditure, depending on whether a tourist was on a package tour or a non package tour. For tourists on a non-package tour no adjustment was made in the data, but the data was adjusted for tourists on package tour, whose bills are paid by travel agents in their home countries. According to TTSS (2001), the actual expenditure accruing to Tanzania can be found by deducting 10% of the package cost as the amount paid to the agents. The same was done in this study. According to TTSS (2001), after deducting the 10% commission, the international travel fare, was also deducted for tourists whose packages include that.

Another consideration was to set the minimum expenditure and the maximum expenditure as proposed by TTSS (2001). According to TTSS (2001), meaningful expenditure was regarded as not being less than 10 dollars per person per night, whereas the maximum expenditure per tourist was set at USD1000. The same was adopted by this

study. This was important for two reasons. First is the need to compare the findings from this study with those of TTSS. Second is to minimize extreme values in the data.

Consideration was also made of the categories of expenditures. These were expenditure on food, accommodation, transport and shopping. In order to remove unacceptable values, a minimum of 2 US dollars per person per night was set for each category of the expenditure, which was reported for both tourist on package and non-package tours. As regards the former, what was reported on the categories of expenditure represented merely some extra money spent at a destination; but did not include the entire expenditure as a lot of money had already been spent before arrival. Therefore analysis of the categories of expenditure was done exclusively for tourists on non-package tours.

(2) Frequent visitor (Frvist). A frequent visitor was taken to be a person who had visited at least one other African country before visiting Tanzania. There was a question asking tourists to compare the cost of visiting Tanzania against that of neighbouring destinations such as South Africa and Kenya. A tourist responding to this question was regarded as a frequent visitor. This information was used because there was no question asking a tourist directly whether he/she is a frequent visitor.

(3) Familiarity with the destination (Fadest). A tourist who was not on his first visit to Tanzania was regarded as being familiar with the country. Unfortunately this variable does not capture the intensity of familiarity.

The following variables were taken from other sources:

- (1) Income was proxied by a tourist country’s GDP. The figures were obtained from the IMF (2009).
- (2) Exchange rate (Er) was taken from the Italian Bank, a source also used by the Economist website.
- (3) English language proficiency (El). A tourist coming from a country where the official language is English was regarded as an English speaking person. The country’s official language was obtained from the internet (www.yahoo.com) by searching the country’s profile.
- (4) Distance travelled (Dist). This is the shortest ground distance between Tanzania and a tourist’s country of origin, measured from Dar es Salaam to the country’s capital. The variable was sourced from the internet using the online distance calculator.
- (5) Relative cost of living between a tourist country of origin and Tanzania (Price). Figures in the Consumer Price Indexes were obtained from the IMF (2009).

3. RESULTS AND DISCUSSION:

3.1 Summary Statistics of the Variables used in the Model

Table 2 gives the summary statistics of the variables used in the analysis.

Table 2: Summary statistics of the variables used in the analysis of tourist spending

Variable	Mean	Std. Dev.	Min	Max	CV
Pcapita(USD)	191.68	206.92	9.5	1017.978	107.95
Age(years)	36.44	10.94	18	55	30
Females	0.89	0.90	0	21	101.12
Incomes(Mil.USD)	29123.30	15379.39	54.62	113044	52.81
Er(TSHS)	965.49	603.92	0.03	3229.158	62.55
El	0.54	0.50	0	1	92.59
Childno	0.14	0.58	0	13	414.29
Childprese~e	0.07	0.25	0	1	357.14
Lstay	12.69	13.60	1	360	107.17
Tarra	0.53	0.50	0	1	94.34
VistOth	0.05	0.22	0	1	440
VistFRD	0.08	0.27	0	1	337.5
VistLSR	0.77	0.42	0	1	54.54
VistBSN	0.10	0.30	0	1	300
Adultno	1.75	1.28	1	31	73.14
Tpartyno	0.56	0.50	0	1	89.29
Frvists	0.53	0.50	0	1	94.34
Fadest	0.37	0.48	0	1	129.73
Dist(Miles)	5287.09	2389.07	419	9527	45.19
Nosites	0.65	0.48	0	1	73.85

Peak	0.74	0.44	0	1	59.46
Price	0.05	0.58	3.24E-05	26.00667	1160
Africa	0.09	0.29	0	1	322.22
Asia	0.08	0.27	0	1	337.5
MEast	0.01	0.09	0	1	900
SAmerica	0.01	0.09	0	1	900
year 1	0.62	0.49	0	1	79.03
year 2	0.10	0.30	0	1	300
year 3	0.28	0.45	0	1	160.71

Table 2 indicates that most of the variables have a reasonable variation except for age. The coefficient of variation for age is 30 which is less than 50% and the least among all the variables. It is also worth to note that tourist per capita expenditure is not normally distributed (skewness=1.7). This suggests that logarithmic transformation is needed before regression

3.2 OLS Regression Results of the Log of Daily Tourist per Capita Expenditure:

Table 3 provides OLS estimates for equation 6. Besides estimates of the determinants of tourist per capita expenditure, the table also provides regression results for the determinants of party expenditure per day and total party expenditure which are included for comparison purposes. For ease of presentation, the table shows the standard errors for the main model only. But still the level of significance is provided for each regressor in all the models. Table 3 indicates that all three models are highly significant, with $P > F = 0.000$, and with almost all covariates being significant. This more robust estimate may be attributed by the large number of observations (25, 880) used in the model. The coefficient of determination is not very big, but consistent with most studies on tourist expenditure such as studies by Wang et al. (2006) as well as Sample and Perez (2000). According to a review by Wang and Davidson (2010) of 27 micro studies on tourism demand in the period after 2000, most studies reported an R^2 or an Adjusted R^2 of not more than 20%. In some other studies such as Jan et al 2004 an even lower R^2 of 0.1 was reported. This seemingly low R^2 across several studies may not imply model inadequacy rather could be supporting an argument by Gujarat (2003) who asserts that it is not surprising in a cross-section data with many observations like these for one to have a small R^2 due to the inherent variability of the observed data. On the other hand, the multicollinearity test indicated that all the variables are free from multicollinearity as their VIFs were all small (< 10). The histogram test of normality as well as the quartile normal plot also showed that the residuals behaved fairly normally (see the appendix). The plot of residuals against the predicted dependent values suggested that the zero mean assumption, linearity and homoscedasticity assumptions as demanded in OLS were reasonably adhered in the model (see the appendix).

Table 3: OLS regression on the log of daily tourist per capita expenditure

variables	Expenditure per capita per day		Travel Party daily expenditure	Total party expenditure
	Coef	Std. Err.	Coef	Coef
Age	0.15***	0.009	0.15***	0.09***
Females	-0.196*	0.0109	-0.026**	-0.002
GDP	1.4E-06**	8.23E-07	1.32E-06	3.3E-06***
Er	0.00038***	2.01E-05	0.00038***	0.00038***
EL	-0.16***	0.0202	-0.17***	-0.15***
Childno	-0.076***	0.0122	0.18***	0.15***
Istay	NA ³	NA	NA	0.019***
Tarra	0.35***	0.014	0.35***	0.19***
VistFRD	-0.15***	0.0362	-0.15***	-0.08**
VistLSR	0.08***	0.0300	0.07***	0.03
VistBSN	0.53***	0.035	0.53***	0.19***
Adultno	-0.065***	0.0078	0.13***	0.11***
Ttpartyno	-0.17***	0.0159	0.37***	0.37***
Frvists	0.0707**	0.0136	0.07**	-0.09***

³ Length of stay is an endogenous regressor for both tourists' per capita daily expenditure and tourist party daily expenditures because it was used to derive the two variables (see -sections 2.2). To capture its effect on the two variables it was instrumented and found to have a negative influence on the two variables - not shown on the Table.

Fadest	0.028***	0.0141	0.03***	0.05***
Dist	0.00005***	4.01E-06	0.00005***	3.4E-05***
Nosites	-0.036***	0.0138	-0.037***	0.23***
peak	-0.17***	0.0150	-0.18***	-0.10***
Africa	0.51***	0.0508	0.51***	0.26***
Asia	0.24***	0.0285	0.24***	0.10***
MEast	0.23***	0.0682	0.22***	0.075
SAmerica	0.43***	0.0782	0.44***	0.399***
year2	0.73***	0.0293	0.72***	0.75***
year3	0.59***	0.0238	0.59***	0.49***
_cons	3.47***	0.0512	3.306***	5.55***
Adjusted R ²	0.24		0.25	0.27
F	353.89		369.65	399.16
P>F	0.0000		0.0000	0.000
n	25,880		25,880	25,880

N: B*significant at 10%, ** significant at 5%, ***significant at 1%

Results from Table 3 indicates that destination attributes, as given by the coefficient of peak season, are not the most influential attributes as regards tourist per capita spending, but rather the trip-related characteristics are most influential than the other two categories of explanatory variables (demographic attributes and destination attributes). This leads one to reject the hypothesis that destination attributes matter more than the demographics and trip-related attributes. The joint test of hypothesis on the three groups of variables reaffirmed this conclusion. The implication here is that as long as a tourist has reached a destination he must spend. It is rather the interaction of his personal attributes and the destination attributes that decides his expenditure pattern. Given the fact that all the visitors are at the same destination, what matters more is the variation in their demographic and trip-related characteristics. These findings can be reaffirmed by several other studies. For example Anderson (2011), asserts that holiday experience at a destination, visitor's attributes as well as travelling attributes are most important determinants of all-inclusive tourists' expenditure in Balearic Islands. In the context of this study all these variables are trip-related characteristics.

However, the rejection of the null hypothesis does not imply the unimportance of the destination attributes in influencing a tourist expenditure, as it was observed that the magnitude of its coefficient (-0.17) is not the least among them all. The negative coefficient for peak season implies that as the season gets progressively near the peak there is likely to be less daily spending by a visitor, which appears to be counter-intuitive. This is certainly an indication that the destination stakeholders do not appear to be aggressive. It is more likely that, owing to the high influx of tourists during the peak season, the destination service providers are unable to meet their needs both in terms of quality and quantity which may lead to lower per capita spending. The other reason could be that during the peak prices for tourism goods and service becomes very high making an individual tourist spend less compared with other seasons.

Tourist travel purpose as measured by the dummy on the business visitors had a positive and the highest coefficient (0.53) among all the trip-related characteristics. The positive influence of business visitors was also observed on the travel party daily expenditure (0.53) and on total party expenditure (0.19). Similar results had previously been established by Suh and Gartner (2004), who concluded that irrespective of a tourist's country of origin, business travellers spend significantly more than pleasure visitors to Korea. The significance of the purpose of visit reaffirms the use of this variable in the TTSS expenditure model. Analysis of the TTSS survey data indicates that Africa has a higher percentage of business visitors than any other continent (40%), followed by Asia (12%), South America (11%), North America, the Middle East (7%) and finally Europe (6%). This highlights the growing importance of non-traditional markets for Tanzanian tourism. Whereas business visitors had a positive influence on spending, visitors to friends and relatives (VISTFRD) as well as visitors on leisure and recreation (VISTLSR) had a negative influence.

The next most influential trip-related characteristic is the travel arrangements (0.35) as operationalized in terms of package or non-package tours. The variable had already been asserted by TTSS (2001) as one of the most significant determinants of tourist spending, and used in their expenditure model. This finding therefore reconfirms its plausibility. According to TTSS (2001, 2004, 2005, 2006), tourists on package tours spend more than those on non-package tours as they are associated with high incomes. Nevertheless this finding is contrary to a number of studies done globally and to those done in Tanzania. For example Anderson (2011) did a study in Zanzibar and found that tourists on package tour spend relatively less than those on non-package tour. This discrepancy could be attributed by the difference in methods of data collection and/or conception of tourist expenditures. Further research into this area is

needed. Therefore, according to both TTSS (2001, 2004, 2005, and 2006) and to this study, encouragement of the package tour industry appears to be one possible policy implication.

Another influential trip-related characteristic is the travel party number, which had a significant and negative coefficient (-0.17). Its coefficient was positive for travel party daily expenditure as well as total party expenditure. This result implies that the negative effect of travel party number on tourist per capita spending has nothing to do with his daily experience but rather with his being on his own. The chances are that when people spend in groups they save a lot more money than when an individual is on his own. For example, a room which could accommodate a single tourist may accommodate more than one person for the same cost. Similar inferences can be drawn when one considers other types of expenditures on things such as food and transport. For example, a tour vehicle hired by one tourist would cost virtually the same if it were to be hired by ten tourists. Economies of scale appear to play a role here. This finding has two policy implications, either, promotion of tourist arrivals should concentrate on countries which have smaller travel parties or propose ways of limiting the advantages of large parties which lower per capita tourist expenditure. For example, hotel owners could limit the number of occupants in a room, or tour operators could limit the number of tourists in a tour vehicle. The second suggestion has to do more with the private stakeholders such as tour operators, hotel owners, and others while the former has to do directly with the government through its marketing organs, such as TTB. However, the idea of not attracting tourists from countries with large travel parties jeopardizes the country's overall revenue, because travel party number positively influences total party revenue. Moreover, if the latter suggestion can work there would no longer be any need to not attract tourists from regions with huge travel parties. Therefore the second suggestion appears to be more plausible than the former.

Probably the only concern about limiting the number of arrivals from tourists travelling with huge travel parties would be that of environmental pollution. In order to avoid environmental pollution while at the same time allowing huge travel parties we may set an arbitrary threshold for a reasonable size of travel party as well as the expenditure per region and work out priority markets. This is a common approach in marketing studies. This approach was also used by Dwyer and Forsyth (2008) when studying the measure for tourism yield and visitor markets to be targeted by Australia. Although their concern was not about the environment, the same idea could work. Kazuzuru (2014) also clarified this idea.

Finally it is worth noting that the effect of travel party size is similar to that of adult numbers as suggested earlier. The coefficient for the number of adults is significant ($p=0.000$) and negative (-0.065). Given that majority of the travellers are adults (the TTSS surveys for 2001, 2007 & 2008 indicates that 94% of tourists were adults⁴), then most of what has been recommended as regards travel party sizes applies equally to this variable

The next most influential trip-related characteristic is the English language (-0.16), which shows that there is less spending in the presence of an English-speaking tourist than otherwise. This situation is consistently observed for total party expenditure as well as total party expenditure per day. No clear inference that can be made from this result, but possibly an English-speaking tourist can easily familiarize himself/herself with the environment and hence opt for cheaper spending options.

Another influential trip-related characteristic is number of children (-0.08). When the presence/absence of children was used instead of number of children its influence was much bigger (-0.16). The presence of a child in a travel party significantly reduces a tourist per capita expenditure, which is similar to what was found by Agarwal and Yochum (1999). However its coefficient is positive on travel party daily expenditure as well as on total party expenditure, implying that presence of a child affects the individual tourist directly and not the travel party. The only plausible explanation is that the child's presence limits tourist activities and hence reduces daily expenditure irrespective of his/her length of stay.

The effect of Length of stay on a tourist daily expenditure and travel party daily expenditure was not shown in Table 3 because length of stay is an endogenous variable for the two of them. However when it was instrumented length of stay had a significant and negative influence on tourist per capita spending as well as on a party daily expenditure but positive and significant influence on total party expenditure (Table 3), which suggests that its negative influence has more to do with the daily experiences of tourists. It is not unusual for the spending of tourists/consumers to be unequal across the days. Given the fixed budget tourists are on, they are likely to spend more in the early days and reduce their daily expenditure as money runs out.

The significance of length of stay on tourist daily expenditure gives credit to the TTSS (2001) expenditure model, which also included length of stay as one of the key determinants. However, the negative influence of length of stay on tourist daily expenditure does not support the WTO/TTSS model. The model assumes that an individual's daily expenditure is constant across the days of stay. On the contrary, the results show that a tourist's daily expenditure declines with his length of stay (see Table 3 and the appendix). Therefore it is erroneous to simply use a constant value of daily spending across all the days. In other words, revenue estimates produced by TTSS are likely to be over-optimistic, similarly in an area or country where length of stay positively influences tourist daily expenditure

⁴ Author's calculations based on the statistics from TTSS (2001, 2007, 2008)

the WTO/TTSS model may under-estimate the total revenue. The author proposes an improvement in the WTO/TTSS model as follows:

Given that daily spending varies from day to day, one may consider the following modification:

$$TR_m = A * \sum_{i=1}^T E_i \tag{8}$$

Where

A is the total number of arrivals

TR_m is the modified Tourism Revenue estimates

E_i is the average expenditure by tourists who stays for (i) days.

T is the average length of stay by a tourist in Tanzania.

The new model requires the computation of average tourist expenditure for different days of stay so as to take care of the variation in daily spending. Alternately, if a constant growth rate of daily spending is assumed, the model (8) can be written as

$$TR_m = AE_1 \left[1 + \sum_{i=2}^{T-1} (1+r)^{T-i} \right] \tag{9}$$

Where E_j is the average tourist expenditure in day 1 and r =constant growth rate of daily expenditure, which is the coefficient of length of stay in the OLS estimate of equation 7.If revenue estimates are to be computed on an annual basis then for each year a separate OLS estimate of r is needed.

On the other hand, the positive influence of length of stay on total party expenditure should be expected (Table 3), as previous studies, such as Agarwal and Yochum (1999), found this to be the case. Its positive influence justifies the importance of a tourist staying longer for the country to earn as much revenue as possible. In general, tourists staying longer yields more revenue but might be detrimental to the country’s environment as well as reducing a tourist’s per capita spending. Similarly, although their short stay could enhance environment and push their per capita spending, it definitely has a negative effect on the country’s total revenue (kazuzuru, 2014).

Other trip-related characteristics included were familiarity with the destination, frequent visiting and distance, all of them exhibited a significant and positive influence. The positive influence of a familiar visitor and a frequent visitor points more to the earlier suggestion that these types of visitors could be explorers or business visitors/consultants, who are generally wealthier and therefore the positive coefficients on these variables would not be accidental. Even if they were not explorers/business visitors, their frequent visits imply their satisfaction with the destination or region, which should positively influence their spending. As regards distance, the result reaffirms what was pointed out by Wang et al. (2006) that visitors from a distance tend to spend more than those from the nearby. For Tanzania these visitors could also represent rich tourists, as most rich countries are further away from Tanzania than the poor ones.

Apart from the trip related characteristic the study also investigated the demographic attributes of age, gender, GDP, exchange rate and language. Of these, only gender coefficient was slightly significant. The reason for the slight significance of the gender coefficient could have to do more with the argument by Wang et al. (2006), that there is no reason for gender to affect tourism expenditure since much of the travel expenditure is a group activity.

What can be deduced from the positive influence of age is that older tourists have a higher income accrued through either long-term saving or through holding lucrative positions. Some previous studies, such as Sampo and Perez (2000) and Jang et al. (2004) also found that age has a positive influence on tourist spending, although Wang et al. (2006) found that age has a negative influence. However, according to Wang et al. (2006), the finding on the negative influence of age on expenditure could be accidental and warrants further investigation. The significance of age as regards tourist per capita spending could be utilized by the TTSS to improve the expenditure model owing to the fact that tourists can also be stratified across age groups.

The positive influence of GDP and exchange rates is to be expected as they indicate a tourist’s country credit worthiness. It is unfortunate that the study could not capture the income of individual tourists. Most studies have found income to be the most significant determinant of tourist spending at a destination (Wang et al. 2006). This finding led Wang et al. (2006) to conclude that demographic attributes are much more significant than other factors. In this particular study the demographic attributes are not the most influential, but rather the region dummies are more influential than other factors.

The last variable in the model is the number of sites visited, which has a significant and negative effect on tourist daily spending. This result is consistent with the influence of the length of stay on tourist spending. This is so because the more the sites a tourist visits the longer he/she stays in a country leading to a negative influence on tourist per capita spending.

It would also be important to see how different categories of expenditure respond to the suggested determinants. Four categories of expenditures were identified by TTSS, namely, expenditure on accommodation, food,

transport and shopping. Analysis of the first two categories is useful for hotel/restaurant owners, while analysis of the third category is useful for tour operators. Analysis of the last category is useful for the general public and retailers in general. The idea is to see whether there are sector-specific considerations apart from the general findings presented in Table 3. The results on the determinants of tourist per capita expenditure across the four categories of expenditure are given in Table 4, along with the general results of Table 3. For an ease of presentation standard errors are omitted. The interest lies in comparing the coefficients of the estimates across expenditure categories, although the level of significance is still provided for every regressor.

Table 4: OLS regression results of the log of a daily tourist per capita expenditure: Comparison of the categories of expenditures

Variable	overall	Accommodation	Food	Transport	Shopping
Age	0.12***	.34***	.18***	.22***	.15***
Females	-0.007	-.06***	-.07***	-.038	-.05**
GDP	1.6E-06**	1.6e-06	2.3e-06*	-4.4e-06**	-6.9e-06***
Er	0.00037***	1.5e-04***	6.7e05**	8.0e-05	-1.4e-05
EL	-0.15***	-.014	.01	-.07	.04
Childno	-0.087***	.03	-5.e-05	-.001	.09***
Tarra	0.26***	NA ⁵	NA	NA	NA
VistFRD	-0.24***	-.19***	-.04	-.12	.1
VistLSR	-0.08***	.21	.23***	.19**	.15***
VistBSN	0.36***	.69***	.47***	.26**	.27***
Adultno	-0.075***	-.09***	-.03*	-.11***	.09***
Ttpartyno	-0.191***	-.14***	-.22***	-.02	-.25***
Frvists	0.031**	.15***	.10***	-.06*	.11***
Fadest	0.043***	.08***	.06***	.07*	.035
Dist	0.00004***	8.7e-06	-1.3e-05*	3.4e-05***	2.4e-05**
Nosites	0.053***	-.22***	-.14***	.16***	-.12
peak	-0.15***	-.08***	-.09***	-.12***	-.027
Africa	0.41***	.31**	.19**	-.008	.27***
Asia	0.21***	.24***	.20***	-.02	-.036
MEast	0.18***	-.007	-.16	-.28*	-.07
SAmerica	0.42***	.30*	.34**	.12	.18
_cons	3.97***	2.5***	1.97***	2.4***	1.6
Adjusted R ²	0.28	0.21	0.17	0.05	0.11
F	416.59	97.54	73.10	14.10	33.89
P>F	0.0000	0.000	0.000	0.000	0.000
n	25,880	7998	7998	5981	5547

NB: *significant at 10%, **significant at 5%, ***significant at 1%

The regression results show that, with the exception of the dummies, the trip-related characteristics are the most influential factors in all the categories of expenditure, leading again to the rejection of the null hypothesis that destination attributes are more influential than demographic and trip-related characteristics. The influence of destination attributes, as measured by peak season, has remained negative in relation to all categories of expenditure.

As regards accommodation expenditure, only number of sites behaved differently, contrary to the general results. It was significant but with a negative influence. Its negative influence could reflect the fact that, the more sites a tourist visit the more time he spends in camps and parks, leading to less expenditure on high quality hotels.

Regarding food expenditure, both distance and number of sites visited came to have a negative influence, contrary to the general result. For distance, no obvious deduction can be made, as there is no reason to believe that travellers from a distance do not like food, because food is a basic necessity. Regarding the negative influence of the number of sites visited, it points to the same idea in relation to accommodation that the more time a tourist spends at sites, the less he spends on expensive hotels.

Concerning transport, frequent visitors had a negative and significant influence, contrary to the general results while visitors coming for leisure and recreation had a positive and significant influence, which is also contrary to the general results. Apparently nothing can be inferred from the negative influence of frequent visitors. One could argue that frequent visitors spend less time at a destination and hence spend less on transport. But this should have equally

⁵ The analysis of categories of expenditure involved tourists on non package tour only because the data on categories of expenditure by tourists on package tour were not exhaustive (see section 2.2, Paragraph 5).

affected other categories of expenditure. As regards the positive influence of leisure and recreation, the inference is these types of visitors could be visiting relatively more sites than other categories of tourists, hence spending more on transportation⁶.

With regard to shopping, number of children had a significant ($p=0.000$) and positive influence (0.16), contrary to the general results. The idea is that although number of children may constraint overall expenditure owing to the lack of time to spend (Wang et al.2006) on shopping, tourists accompanied by children do a lot of shopping. Another variable which behaved differently from the general results was number of adults which had a positive influence on the expenditure on shopping. Wang et al. (2006) obtained a similar result on the influence of the number of adults on shopping expenditure.

4. CONCLUSION:

The study has addressed the determinants of tourist per capita expenditure in comparison with travel party total expenditure and travel party daily expenditure. Three groups of variables were of major interest, destination attributes, demographic characteristics and trip-related characteristics. In each case, the trip-related characteristics turned out to be the most influential determinant of tourist per capita expenditure.

A number of findings have been obtained with regards promotion and environmental protection. In order to achieve both maximum revenue and a high degree of environmental protection through key trip-related characteristics such, as travel party size and length of stay, some markets have to be avoided. Priority should shift from the traditional markets of Europe to the less popular markets of Asia, South America and Africa which would cause relatively less environmental pollution and bring in a higher degree of revenue.

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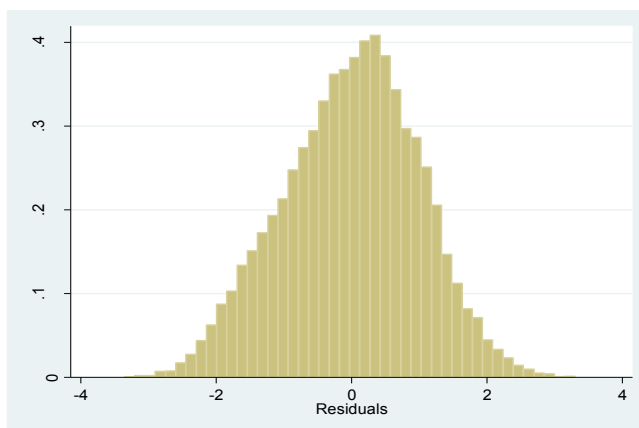
REFERENCES:

1. Agarwal, V.B and Yochum, G.R (1999), "Tourist Spending and Race of Vistors", *Journal of Travel Research*, 38 , 173-176
2. Anderson, W. (2011). "Enclave Tourism and its Socio-Economic Impact in emerging Destinations" *Anatolia-An International Journal of Tourism and Hospitality Research*, 22(3), 361-377
3. Anderson, W. (2011). "Leakages in the Tourism Systems: Case of Zanzibar"*Tourism Development Journal*, 9(1): 3-13
4. Barros, C and Correia, A (2007), "Survival Analysis in Tourism Demand: The length of stay in Latin American destinations", *working paper series No.2007/03 from the Department of Economics of the School of Economics and Management (ISEG),technical University of Lisbon.*
5. Belleau, B (2007), "Theory of Reasoned Action: purchase Intention of Young Consumers", *Clothing and textiles Research Journal*, 25 (3), 244-257
6. Dwyer , L and Forsyth, P (2008), " Economic measure of tourism yield: What markets to Target? ", *International Journal of Tourism Research*, 10(2),155-168
7. Fishebein, M and Ajzen, I (1975), *Belief, Attitude, Intention and Behavior: An introduction to theory and Research* . Reading, MA: Addison-Wesley
8. Gujarat, D.N (2003), "*Basic Econometrics: fourth edition*" McGraw-Hill Companies, inc
9. International monetary Fund (IMF) (2009), "Word Economic Outlook", IMF
10. Jang,S., Bai, B., Hong, G ., Bai, B and O'Leary, J (2004), " Understanding travel expenditure patterns: A study of Japanese pleasure travelers to the United States by income level", *Tourism management*, 25(3), 331-341
11. Jang, S., Cai, L.A., Morrison, A.M and O' Leary, J.T (2005), "The effects of travel Activities and Seasons on Expenditure" *International Journal of tourism Research* 7(6), 335-346.
12. Kazuzuru, B (2014), "Marketing Tanzanian Tourism for High Yield Impact and Sustainability" *International Journal of Business, Humanities and Technology* 4 (5)
13. Litvin, S (2007), "Marketing visitor attractions: A segmentation Study" *International Journal of Tourism Research* , 9 (1), 9-19.
14. MNRT (2002), "*Tourism in Tanzania: Investment for Growth and Diversification*", Washington Multilateral Investment Guarantee Agency/World Bank Group.
15. Naude, W and Saayman, A (2005), "The determinants of tourist arrivals in Africa: A panel data regression Analysis", *Tourism Economics* , 11(3), 365-391.

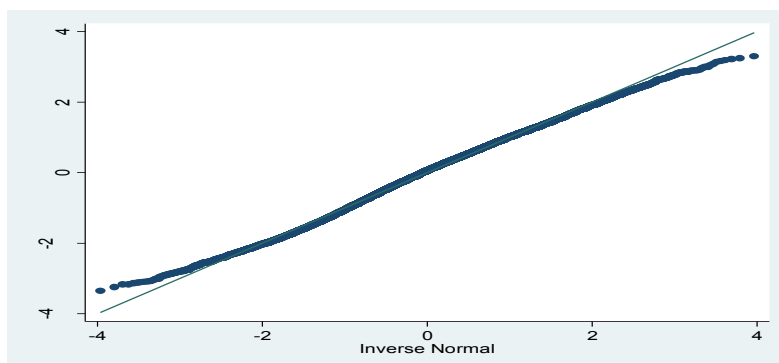
⁶ In the TTSS surveys for 2001, 2007 and 2008, more than 70% of visitors coming for leisure and recreation visited more than one site, compared with only 46% of visitors not coming for leisure and recreation. These figures are based on my own calculations using the TTSS survey statistics.

16. Nordström, J. (2002), “Dynamic and Stochastic Structures in Tourism Demand Modelling”, Umeå Economic Studies, No 596, Umeå University,
17. Nzuki, A (2006), “A consumer situational Analysis: “The influence of young children on the purchase of Travel to overseas destinations”, *Unpublished PhD Dissertation, Graduate School of Clemson University.*
18. Sampol, C.J and Perez, E.A (2000), “Tourist Expenditure determinants in cross-section data Model”, *Annals of Tourism Research*, 27(3), 1-9
19. Sangpikul, A (2008), “Travel Motivations of Japanese Senior Travellers to Thailand” *International Journal of Tourism Research*, 10(1), 81-94, published online 2 November 2007 at (www.interscience.wiley.com)
20. Sheppard B.H; Hartwick, J and Warshaw, P.R (1988), “The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research”, *The Journal of Consumer Research*, 15(3), 325-343
21. Soest, A and Kooreman (1987), “A micro-econometric Analysis of Vacation Behavior”, *Journal of Applied Econometric*, 2(3), 215-226
22. Suh, Y.K and Gartner, W.C (2004), “preferences and trip expenditures-a conjoint analysis of visitors to Seoul, Korea”, *Tourism management*, 25(1), 127-137
23. Tosun, C., Temizkan, P., Timothy, J and Fyall, A (2007), “Tourist Shopping experiences and Satisfaction”, *International Journal of Tourism Research*, 9(2), 87-102.
24. TTSS (2001), “The 2001 Tanzania Tourism Sector Survey”, *TTSS*
25. TTSS (2004), “The 2004 Tanzania Tourism Sector Survey”, *TTSS*
26. TTSS (2005), “The 2005 Tanzania Tourism Sector Survey”, *TTSS*
27. TTSS (2006), “The 2006 Tanzania Tourism Sector Survey”, *TTSS*
28. TTSS (2007), “The 2007 Tanzania Tourism Sector Survey”, *TTSS*
29. TTSS (2008), “The 2008 Tanzania Tourism Sector Survey”, *TTSS*
30. Wang, Y., Rompf, P., Severt, D and Peerapadit, N (2006) .“Examining and Identifying the Determinants of Travel Expenditure Patterns”, *International Journal of Tourism Research*. 8(5), 333-346.
31. Wang, Y and Davidson, M.C.G (2010), “A review of micro-analyses of tourist expenditure”, *Current Issues in Tourism*, 13(6), 507-524

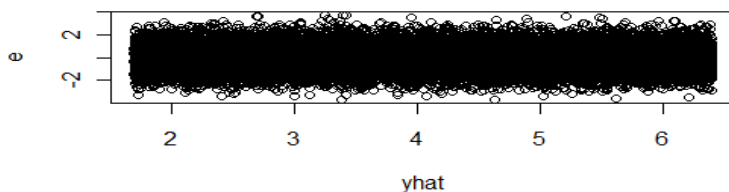
Appendix:



Histogram of the residuals from a log linear model of tourist per capita per day expenditure



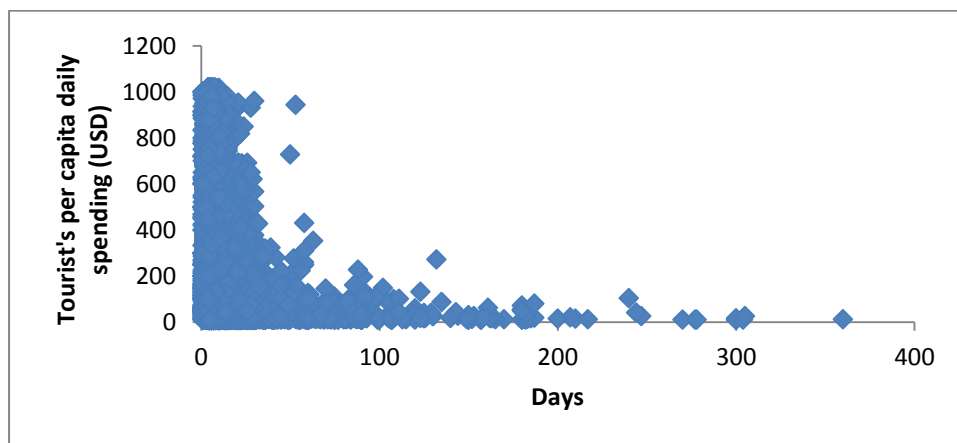
The quartile normal plot from a log linear model of tourist per capita per day expenditure



The plot of model residuals against the predicted values of the dependent variables.

A table of variance inflation factors

Variable	VIF	1/VIF
Africa	5.54	0.180549
GDP	4.12	0.242794
VistLSR	4.08	0.244937
ER	3.79	0.26373
Dist	3.69	0.271344
year3	2.95	0.338727
VistBSN	2.89	0.345627
El	2.62	0.381967
Adultno	2.57	0.389216
Females	2.48	0.403977
VistFRD	2.38	0.419532
year2	1.98	0.50395
Ttpartyno	1.61	0.621185
ASIA	1.5	0.664559
Tarra	1.36	0.733152
Childno	1.3	0.771862
Fadest	1.2	0.834426
Frvists	1.19	0.841048
SAmerica	1.17	0.851964
Peak	1.13	0.887351
Nosites	1.11	0.89822
Age	1.1	0.907737
MEast	1.06	0.941421
Mean VIF	2.3	



Tourist per capita daily spending against tourist length of stay