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An econometric analysis of internal travel patterns in Ghana and the implications for domestic tourism

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This paper examines the general travel patterns of Ghanaians and, based on these, explores the implications for domestic tourism. Employing discrete choice models, data from the Ghana Statistical Service (specifically, the fifth round of the Ghana Living Standard Survey) are used for the analysis. In addition to providing a quantitative analysis of the determinants of travel propensity, which had not previously been examined for Ghana, the authors test two hypotheses. First, they assert a three-way (positive–negative–positive) relationship between age and travel propensity. Second, they argue that the mother's education is more likely to influence the decision to travel than the father's education. The travel patterns of Ghanaians were found to bear the inherent hallmarks of domestic tourism. The authors also observe that, although the degree of travel is low, the frequency of repeat visits is high. Social imperatives dominated the motives for travel, while key socio-demographic variables (especially the respondent's age) were found to influence travel propensities significantly.

Keywords: travel propensity; domestic tourism; age; social imperative; Ghana

Curiosity, survival and socio-economic imperatives have, since the dawn of humanity, been the key reasons underlying decisions to travel. The only difference has been the various manifestations of these imperatives from era to

era. In modern times, for example, travelling for survival tends to be the motivation of refugees while for the people of the Neolithic era the search for food and shelter was an essential component of survival.

Akyeampong's (1996) seminal work on Ghanaians' reasons for tourist-related trips highlights three major motivations (that he calls 'imperatives'): peer, cultural and social imperatives. With the advent of globalization the distribution of travellers has become wider and more specialized. Understanding the incidence, purpose and patterns of travel provides policy makers with valuable information in their bid to manage not only the movement between and within spaces but also, more importantly, the impacts of such interactions on both the origin and the destination.

Tourism bears a close affinity to travelling. In fact, travel is fundamental to tourism in that it is a major determinant of who can be defined as a tourist or not. To become a tourist an individual must move outside his or her normal place of residence for a period exceeding 24 hours (Gee *et al*, 1997). Certainly this condition cannot be satisfied without travelling. Consequently, to be a tourist the individual must necessarily be a traveller. Travel propensity as reflected by data on internal travel patterns, is, therefore, a useful indicator of tourism consumption (Carr, 2002; Ray, 2008). Once people have shown a propensity to move (albeit for non-tourism related purposes) an estimation of their tourism consumption likelihoods becomes plausible. In developing countries, the distinction between motivations for travel is blurred owing largely to the fact that most travel is not pleasure/leisure oriented (Akyeampong, 1996; Boakye and Mintah, 2008). However, in instances where there is no clear data on domestic tourism, known travel data can serve as a useful indicator of the propensity for consumption of domestic tourism.

Domestic tourism is expected to be more dominant in the future (Song, 2010). As Hung *et al*, (2011) argue, the trend and determinants of domestic travel consumption are often overlooked in the world of global economy. This is particularly true of Ghana, a country which for the past decade has witnessed increasing contributions to gross domestic product (GDP) from tourism. Though the fifth round of the Ghana Living Standard Survey provides rich data on travel patterns, there has been no attempt to use this as a basis for modelling demand for domestic tourism. The central focus of this paper is, therefore, to examine the general travel patterns of Ghanaians and, based on these, explore the implications for domestic tourism. As countries seek to improve their domestic tourism, knowledge of such patterns can help policy makers and service providers in market segmentation, planning, and product development.

Literature review

Though perennially ignored (in terms of investment and academic attention), domestic tourism has been proven to be the more influential dimension of tourism movement. One of the often held myths about tourism flows is its dominance by inbound visitors. In reality, however, domestic tourists outnumber their inbound counterpart by a ratio of at least 5:1 (Bigano *et al*, 2006). In 2005, for example, the number of domestic tourists within China alone exceeded that of all international inbound tourists (World Travel and

Tourism Council, 2006). However, in spite of such overwhelming dominance, domestic tourism has not received the commensurate attention in the literature. To Richter (1989) domestic tourism is a poor and undervalued cousin to international tourism. Yap (2010) found that research on domestic tourism is three times lower than research on its international counterpart. One reason for this 'neglect' has to do with tourists' perceptions of domestic tourism being a 'less prestigious' good. There appears to be an inverse relationship between economic growth (and, by extension personal well being) and patronage of domestic tourism. In the view of Yap (2010), the growth of income per capita in a country can encourage more local residents to travel overseas, causing a decline in domestic tourism. Empirical evidence of this has been seen in China (Huimin and Dake, 2004) and Australia (Athanasopoulos and Hyndman, 2008). Salt (2006) found that tourists perceived an overseas holiday to be more prestigious and exotic than a domestic one. To that extent domestic tourism has been described as either an inferior good (Kang and Tan, 2004) or a normal good (Salt, 2006).

Its 'underdog' status notwithstanding, domestic tourism appears to be economically valuable to many destinations. The literature is unanimous in its verdict on the significance – especially economic – of domestic tourism. The main proposition is predicated on the assumption that domestic tourists are more likely to consume locally produced goods and services, and in the process will generate multiplier effects (Archer, 1978; Athanasopoulos and Hyndman, 2008; Scheyven, 2007; Song, 2010; Hung *et al*, 2011). Such a proposition is problematic because it is premised on an inherent (but fundamentally flawed) *a priori* assumption that domestic tourists are more accepting of local standards. However, domestic tourists may not necessarily/automatically consume locally produced goods and services. There may be, for example, 'institutionalized' domestic tourists who could probably be 'psychocentrics' and would prefer to consume international standard goods. Alternatively, there could also be 'non-institutionalized' inbound tourists who exhibit characteristics of Plog's (1973) 'allocentrics' and wish to stay off the beaten path, thereby preferring to consume locally provided services such as food, beverages, accommodation and transportation.

Thus the acceptance and patronage of local goods and services, is not necessarily the sole preserve of domestic tourists. In as much as the definition of domestic tourism as proposed by the UNTWO implies a movement within a geographical space, the term could include all (locals and non-locals alike) who patronize tourism in a country without crossing its borders. The point is made clearer by Yilekpe's (2005) findings that showed that few Ghanaian adults are aware of tourist attractions even in their own localities thereby creating a situation where domestic tourism becomes the preserve of only rich expatriates who are more likely to demand non-locally produced goods thereby constraining the expected redistribution of tourism-related income. Furthermore, Boakye and Mintah (2008) also found that Ghanaian-based foreigners were the most frequent patrons of local attractions. It is therefore imperative to indicate that domestic tourism *per se* is not automatically synonymous with acceptance of locally produced goods and services.

Nevertheless, domestic tourism has been proven to be valuable in its ability to smooth demand for a destination (Sindinga, 1996; Uttam, 2003) and reduce

the vulnerability of a destination created by shocks such as disasters and international geo-politics (Bigano *et al*, 2006, Hamilton and Tol, 2007). It has also been variously argued (for example, Sindinga, 1996; Wen, 1997; Ghimire, 2001) that, compared with inbound tourism, domestic tourism is more beneficial to developing economies. In that regard, Sindinga (1996) outlines six reasons why domestic tourism should be promoted in Kenya (and, by extension, in other African countries). These are: (i) the level of economic development; (ii) the narrow base of the country's foreign market; (iii) the vulnerability of international tourism due to bad press; (iv) the growing competition for overseas tourists with neighbouring countries; (v) its potential to be a substitute for inbound tourism undertaken by Ghanaians; (vi) and the existence of ingredients such as a common language, currency etc, which tend to make domestic tourism easier.

As with international/inbound tourism, the demand for domestic tourism is measured using the number of trips. The literature has suggested a few socio-economic factors that influence demand for domestic tourism and these are discussed in turn. Income, is perhaps, the single most mentioned (Lim, 1997; Ryan, 2003; Kang and Tan, 2004; Hung *et al*, 2011) determinant of the patronage of domestic tourism. This is quite understandable because availability of leisure time and income are (perhaps) the two most important prerequisites for consumption of tourism. Indeed all the factors dovetail into one or two of these major conditions. It is also salutary to note that socio-demographic characteristics dominate the literature on the factors that shape consumption of domestic tourism.

It has been generally assumed (Borg *et al*, 1990; Reece, 2001) that differences in age lead to varied consumption patterns. Kang and Tan (2004) suggest that this may be so in Malaysia because of the differing appeal that various attractions have for the age groups. Hung *et al* (2011) found that older and well educated household heads with higher income levels are willing to spend more on domestic travel. So, the age argument supports both possible consumption patterns. On the one hand, younger people may not necessarily have the resources, while older persons may also not have the time. It has also consequently been argued (Davidoff and Davidoff, 1994) that as one gets older the propensity for travel increases once more, as in the case of 'empty nesters' who have the time, income and little responsibility.

The number of children in a household has also been proven to have an effect on the decision to travel (Agarwal and Yochum, 1999). Ordinarily, the greater the number in children in a household the lesser the availability of disposable income to pursue leisure travels. Gender (Au and Law, 2000) and level of education (Lee and Kim, 1999) have both been identified as variables that influence or have a bearing on domestic travel propensities. Gender is plausible especially in developing societies where males may be less restricted by domestic chores and may have greater free time and, hence, a greater propensity for travel. In the same vein, a higher level of formal education is believed to expose people to the net benefits of consuming tourism. This study included the educational background of parents upon the assumption that parents with higher education in addition to having greater propensities may also instil a habit of tourism in their children. One of the two main hypotheses of this study is that mother's education is likely to have a much more positive effect on children's consumption

of tourism than the father's education. The intuition underscoring this hypothesis is based on the child's health literature (Gaiha and Kulkarni 2008), which suggests that mothers with higher education are more inclined to engage in activities that promote the health and for that matter the general welfare of children. Other non-socio-demographic factors affecting the level of tourism at a destination are climate and the physical environment (Goh and Law, 2002; Hamilton and Tol, 2007; Bigano *et al*, 2006), and city of residence (Song, 2010).

Methods of study

Analytical framework and model specification

This section discusses the sources and structure of the dataset, and the statistical and econometric tools used for the analysis. The econometric analysis is preceded with univariate and bivariate analysis. The aim of these analyses is to observe the outcomes of the raw data prior to imposing econometric assumptions on the estimation of the determinants of travel decisions. Basic descriptive and chi-square (χ^2) statistics are employed in the first part of the analysis. To address the motives for travel and explore differences in the cross tabulations of the correlates of travel decisions, the χ^2 statistic – which is non-parametric and therefore less stringent in imposing assumptions on the data – is used. Thus, the χ^2 test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in a two-way table. This study uses the χ^2 test to determine the independence of the bivariate relationships for both within and across categories.

In view of the paper's central objective – examining travel propensities – we employ discrete choice models in the analysis. Consumption of domestic tourism was measured using responses to the question 'Have you ever travelled outside your environment'? Specifically, the logit and tobit maximum likelihood estimation techniques are used in estimating the nature and degree of association between the socio-demographic, economic and cultural characteristics of respondents and their decision to travel. The nature of the response variable – that is, either an individual embarks on a trip or not (dichotomous) or number of times that one travels – yields a count outcome. This renders other estimation techniques that favour continuous outcomes such as least squares estimations less reliable (Maddala, 1983). The decision to use both logit and tobit estimation is to examine consistency of signs and magnitude of the coefficients across two econometric analytical tools.

The logit model is used in the case where the dependent variable is dichotomous; that is, it takes the values 0 and 1. Logit regression analysis is a multivariate technique that allows for estimating probability that an event occurs or not, conditioned on a set of independent variables. In the context of this paper, the dependent variable takes on one if the respondent has ever travelled beyond their usual place of residence and zero otherwise. Underlying the maximum likelihood estimation, in this case logit, is the examination of latent factors that informed the decision to travel or otherwise. This examination of the latent factors is based on observed socio-demographic, economic and cultural factors.

Specification of the logit model is as follows:

$$\pi_i = E(Y = 1/X) = \frac{e^{z_i}}{1 + e^{z_i}}, \quad (1)$$

where $Z_i = X_i\beta + \varepsilon_i$ is known as Cumulative (logistic) Distribution Function (CDF). Here Z_i ranges between $\pm\infty$; π_i ranges between 0 and 1; π is non-linearly related to $Z(X_i)$; X_i are the independent variables; β is a vector of parameters; and ε_i is the disturbance term. Here the probability of participating in a 'travel' is given by:

$$\pi_i = \frac{1}{1 + e^{-z_i}}. \quad (2)$$

One of the major criticisms of binary choice estimation (logit) is that it lumps responses into only two outcomes. Hence, with data on the number of travels, tobit estimation in contrast to binary choice estimation yields more detailed exploration. Also, since the data is left censored (significant number of the respondents have not embarked on a travel) it yields more reliable coefficients than least square regression (Maddala, 1983).

The tobit model takes the following functional form:

$$y^* = x_i'\beta + \varepsilon_i, \quad (3)$$

where

$$y = y^* \text{ if } y_i^* > 0 \text{ or } y_i < 0 \text{ if } y_i^* \leq 0.$$

The variable y_i is the observed individual i participating in a travel outside the usual place of environment; x_i are the independent variables; β is a vector of parameters; and ε_i is the error term distributed as independent normal with zero mean and constant variance.

The explanatory variables in the regression models (logit and tobit) are male dummy, age in years, age squared, age cubed, log of household expenditure, educational attainment, urban dummy, married dummy, types of religion, place of birth, and father's educational attainment and mother's educational attainment. Choice of these variables was based on the literature, as per above, intuition and selectivity models (correlation matrix).

The linearized form of the above equations can be specified as:

$$PPT = \beta_0 + \beta_1 GD + \beta_2 AY + \beta_3 AY^2 + \beta_4 AY^4 + \beta_5 EXP + \beta_6 YOS +$$

$$\beta_7 LOC + \beta_8 MS + \beta_9 TR + \beta_{10} PB + \beta_{11} FEA + \beta_{12} MEA + \varepsilon_i, \quad (4)$$

where PPT is a probability that an individual ever participated in a travel outside his/her usual environment (yes = 1 and 0 = otherwise); GD is gender, a dummy variable indicating the gender of the respondent (1 = male and

Table 1. Travel propensities.

Characteristics	Outcome	Frequencies	Percentage	Total
Ever visited any place outside usual environment?	Yes	8,455	29.35	28,809
	No	20,354	70.65	
Number of visits	One	2,878	34.04	8,455
	Between two and five	3,897	46.09	
	More than six	1,680	19.87	

Source: Authors' computation based on data from the 2005/2006 Ghana Living Standard Survey.

0 = female); *AY* is the age of individuals (in years); AY^2 is the age of individuals squared (in years); AY^3 is the age of individuals cubed (also in years); *EXP* is household expenditure. *YOS* is educational attainment (though this is an ordinal variable, we treat it as continuous given that we do not observe any non-linear effect); *LOC* is a dummy indicating the location of the individuals (1 = urban and 0 = rural); *MS* is also a dummy indicating the marital status of the individuals (1 = married and 0 = otherwise); *TR* is a categorical variable that depicts the type of religion to which a respondent belongs, with no religion as the base; *PB* is a categorical variable indicating the place of birth of the individuals either in any of the ten administrative regions in Ghana or outside Ghana, with the Western administrative region as the base; *FEA* is the father's educational attainment; *MEA* is mother's educational attainment and ε_i is the disturbance term.

Data source

The Ghana Living Standard Survey (GLSS) data provide information on different aspects of household economic and social activities. Data collection is at three levels – individual, household, and community. Individual data covers demographic characteristics of all household members as well as data on education and tourism for relevant age groups. Household data covers income, expenditure, housing, assets and businesses. Community level information covers public services such as education, health communication, transportation, region and religion. The data employed for this study is obtained from the Ghana Living Standard Survey fifth round (GLSS V). The survey covered about 37,000 individuals from 8,687 households in all the 10 administrative regions of the country. The data on tourism and other socio-economic and cultural related issues such as age, religion, region of birth, education, gender, household expenditure and poverty status of individuals and households were extracted from the GLSS V. In all a total of 28,809 observations was obtained and used for the analysis.

Results and discussion

Table 1 represents the travel propensities of the respondents. These were computed based on the responses to the direct question: 'Have you ever visited

Table 2. Correlates of travel within Ghana.

Correlates	Categories	Percentage of people in the category who have travelled at least once	Percentage of people across the category who have travelled at least once	Observations of people in the category who have travelled at least once	Chi-square
Age	Under 16	12.44	7.18	3,240	1,700
	Between 16 and 24	25.86	21.68	4,703	(0.00)
	Between 25 and 34	47.05	25.46	3,035	
	Between 35 and 44	51.83	20.70	2,240	
	Between 45 and 60	52.70	20.32	2,163	
	Over 60	47.98	4.65	544	
Religion	No religion	38.55	5.22	760	229.58
	Catholic	34.45	16.62	2,705	(0.00)
	Anglican	36.73	1.28	196	
	Presbyterian	41.44	11.05	1,496	
	Methodist	36.45	8.81	1,356	
	Pentecostal	38.48	23.98	3,504	
	Spiritualist	40.15	3.89	543	
	Other Christian	37.12	18.76	2,834	
	Moslem	24.28	9.07	2,096	
	Traditional	17.01	1.32	435	
Place of birth	Western	30.74	8.17	1,490	655.17
	Central	41.21	11.66	1,587	(0.00)
	Greater Accra	22.20	6.49	1,640	
	Volta	40.44	12.82	1,778	
	Eastern	45.43	17.20	2,124	
	Ashanti	44.42	25.78	3,255	
	Brong Ahafo	30.84	7.65	1,391	
	Northern	19.88	3.44	971	
	Upper East	18.66	2.64	793	
	Upper West	23.19	3.08	746	
	Abroad	40.00	1.07	150	
Education	None	26.42	0.25	53	471.58
	Primary	24.73	24.39	5,531	(0.00)
	Secondary	39.62	65.19	9,228	
	Above secondary	51.21	10.16	1,113	
Poverty status	Extremely poor	19.42	7.77	2,245	332.15
	Poor	29.60	7.40	1,402	(0.00)
	Non-poor	38.75	84.83	12,278	
Gender	Female	34.63	46.26	46.26	2.19
	Male	35.75	53.74	8,431	(0.14)
Settlement	Rural	37.05	55.18	8,361	24.88
	Urban	33.24	44.82	7,564	(0.00)

Table 2 continued.

Correlates	Categories	Percentage of people in the category who have travelled at least once	Percentage of people across the category who have travelled at least once	Observations of people in the category who have travelled at least once	Chi-square
Ecological zones	Accra (GAMA)	23.20	9.84	2,379	591.35
	Urban coastal	37.12	8.22	1,242	(0.00)
	Urban forest	40.47	21.84	3,027	
	Urban savannah	30.13	4.92	916	
	Rural coastal	35.80	9.75	1,528	
	Rural forest	45.91	35.23	4,304	
	Rural savannah	22.62	10.20	2,529	

Source: Authors' computation based on data from the 2005/2006 Ghana Living Standard Survey.

any place outside your normal environment other than your original place of work?' Though the incidence of travel was quite low (about one-third), the rate of repeat journeys was high. As will be noted from Table 1, there was a high percentage (68%) of respondents who had travelled more than once. This points to the existence of a population segment (albeit in the minority) that travels frequently. As will be recalled, travel is an important prerequisite for tourism.

Table 2 indicates correlates of travel propensities for within and across categories. The preference for both within and across categories for each individual correlate is informed by the depth of information acquired by comparing the dual patterns (within and across). Each category for the respective correlates (age, religion, region of birth, education, poverty status, gender, settlement and ecological zones) contained sufficient number of observations to enable comparison with travel outcomes. All the correlates with the exception of gender were found to be statistically significant at 1%.

In comparing the proportion of travellers across different age groups, the age group 25–34 years contributed to about a quarter of respondents who had ever travelled. However, we observed that this proportion was lower compared with those within the same category that had never travelled. The only age category that had more travellers than those who had never travelled was the age category 45–60.

As regards level of education, a comparison of the propensities across the various categories showed that the group with secondary education had the highest proportion of travellers. Interestingly enough, those with higher education (above secondary) contributed the smallest proportion to the travelling group (10%). In the context of region of birth, respondents born in the Ashanti region constituted the majority of those who had ever travelled. The national administrative and political capital, Greater Accra Region, had one of the lowest proportions of those who had ever travelled. This is understandable because it is not only the national capital but the economic nerve centre and would naturally attract more inflows than generate outflows. Last, but not least, Pentecostals (the predominant religious order in Ghana) and rural dwellers were

Table 3. Reason for travel by residence.

Nature of travel	Residence	Customary	Imperatives Social	Business	Other	Total	Chi-square
Same-day visitors	Urban	28.78	51.63	14.02	5.56	100	53.33
		(388)	(696)	(189)	(75)	(1,348)	(0.00)
	Rural	36.73	40.68	13.22	9.37	100	
		(792)	(877)	(285)	(202)	(2,156)	
Total		33.68	44.89	13.53	7.91	100	
		(1,180)	(1,573)	(474)	(277)	(3,504)	
Visitors with at least one overnight	Urban	29.31	54.94	11.76	4.00	100	21.28
		(718)	(1,346)	(288)	(98)	(2,450)	(0.00)
	Rural	28.02	53.51	11.74	6.73)	100	
		(1,103)	(2,106)	(462)	(265)	(3,936)	
Total		28.52	54.06	11.74	5.68	100	
		(1,821)	(3,452)	(750)	(363)	(6,386)	

Note: Figures in parentheses are the numbers of observations.
Source: Authors' computation based on data from the 2005/2006 Ghana Living Standard Survey.

the leading categories for religion and residence respectively. From Table 3 it is observed that travelling to fulfil social imperatives was found to be the most frequently mentioned motive: slightly more than half (51.63%) of the respondents travelled to either visit a family or friend, or to attend a funeral. This emphasises the strong social and cultural ties that exist in Ghanaian society. Travelling on account of a customary event is the second most popular reason followed by business and other imperatives. It's worth noting that more than half of the travellers spent a least one night at their destination.

Econometric results

The result in Table 4 indicates the determinants of travel propensities in Ghana. Column 1 presents the logit regression results obtained from the variables considered in the model except parent's educational attainment. Column 3 also presents the results from the logit regression, which includes the parent's educational attainment. The percentage changes in odds ratio per unit increase in the independent variables are also presented in columns 2 and 4. Finally, tobit regression results are in the last column 3 of Table 4. It is observed from Table 4 that, with the exception of the constrained model, males are more likely to embark on a travel than their female counterparts. This is essentially due to the fact that females are sometimes inhibited by social and cultural factors such as child bearing and societal constructions of a woman's responsibilities. In the fourth column of Table 4, we observe that being a male increases the odds of embarking on a travel by 18.69%.

We observe two turning points for the relationship between age and the likelihood of travel. Across all three estimations, a unit increase in age is associated with a higher likelihood of travelling outside one's environment. The odds of travelling increase by about 34.81 and 42.36% (columns 2 and 4,

Table 4. Determinants of travel propensities in Ghana. Dependent variable: participation in 'travel outside usual environment'.

Explanatory variables	(1) Logit[c]	(2) % change in odds for unit increase in X	(3) Logit[d]	(4) % change in odds for unit increase in X	(5) Tobit
Male dummy	0.017	1.681	0.171	18.692	1.048
	[0.40]		[3.40]**		[4.64]**
Age in years	0.299	34.811	0.353	42.358	1.465
	[12.69]**		[11.32]**		[9.34]**
Age in years squared	–0.006	–0.557	–0.007	–0.688	–0.028
	[–9.55]**		[–9.02]**		[–7.83]**
Age in years cubed	0.000	0.003	0.000	0.00	0.000
	[7.30]**		[7.30]**		[6.62]**
Log of household expenditure	0.111	11.765	0.191	21.014	1.129
	[2.05]*		[3.12]**		[4.09]**
Educational levels	0.047	4.856	0.044	4.505	0.177
	[4.56]**		[3.58]**		[3.23]**
Urban dummy	–0.497	–39.161	–0.646	–47.569	–2.084
	[–4.48]**		[–5.23]**		[–3.41]**
Married dummy	0.120	12.699	–0.050	–4.878	–0.455
	[1.78]+		[–0.65]		[–1.37]
Catholic[a]	0.101	10.651	0.192	21.145	0.986
	[0.77]		[1.27]		[1.86]+
Anglican	0.028	2.818	–0.079	–7.636	–0.686
	[0.13]		[–0.31]		[–0.72]
Presbyterian	0.085	8.836	0.068	7.030	0.414
	[0.64]		[0.42]		[0.70]
Methodist	–0.057	–5.517	0.026	2.670	0.739
	[–0.41]		[0.16]		[1.13]
Pentecostal	0.108	11.445	0.287	33.218	1.317
	[0.92]		[1.91]+		[2.35]*
Spiritualist	0.161	17.498	0.198	21.935	0.710
	[0.81]		[0.82]		[0.69]
Other Christian	0.049	5.061	0.081	8.476	0.910
	[0.40]		[0.53]		[1.60]
Moslem	–0.159	–14.663	–0.177	–16.253	–0.695
	[–0.94]		[–0.97]		[–1.01]
Traditional	–0.810	–55.493	–0.567	–43.290	–2.328
	[–4.06]**		[–2.31]*		[–2.47]*
Central Region[b]	0.460	58.362	0.408	50.339	2.203
	[2.50]*		[1.93]+		[2.48]*
Greater Accra Region	–0.368	–30.812	–0.514	–40.196	–1.836
	[–1.96]+		[–2.33]*		[–1.85]+
Volta Region	0.437	54.853	0.273	31.379	2.064
	[1.95]+		[1.17]		[2.02]*
Eastern Region	0.664	94.259	0.604	82.882	3.742
	[3.85]**		[2.93]**		[4.07]**
Ashanti Region	0.781	118.261	0.697	100.839	3.151
	[4.52]**		[3.58]**		[4.13]**

Table 4 continued.

Explanatory variables	(1) Logit[c]	(2) % change in odds for unit increase in X	(3) Logit[d]	(4) % change in odds for unit increase in X	(5) Tobit
Brong Ahafo Region	0.146	15.722	0.154	16.619	1.492
	[0.74]		[0.71]		[1.42]
Northern Region	–0.281	–24.518	–0.179	–16.379	–0.453
	[–1.27]		[–0.71]		[–0.47]
Upper West Region	–0.165	–15.221	–0.047	–4.555	0.057
	[–0.75]		[–0.18]		[0.06]
Upper East Region	0.032	3.259	0.111	11.685	1.031
	[0.13]		[0.39]		[0.94]
Abroad	0.688	99.059	0.518	67.948	2.897
	[2.10]*		[1.39]		[2.03]*
Father's educational attainment	–	–	0.030	3.011	0.006
	–		[1.71]+		[0.08]
Mother's educational attainment	–	–	0.038	3.890	0.396
	–		[1.36]		[1.92]+
Constant	–7.081	–	–9.001	–	–45.888
	[–7.21]**		[–7.84]**		[–7.68]**
N	15,925		8,455		8,452
McF Pseudo R^2	0.088		0.089		–
BIC	– 836.026	–	– 833.087	–	–
Goodness of fit	69.94%		63.90%		
Wald Chi-square	566.10	–	570.26	–	–
	(0.0)		(0.0)		
F-statistic	–	–	–	–	12.315
Hosmer-Lemeshow test	11.61	–	10.31	–	–
	(0.17)		(0.24)		

Notes: *t*-statistics are in square brackets. $^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$. [a]Base group is no religion; [b]western region is the reference group; [c]the difference between models (1) and (2) is the inclusion of the parents' education in model (2). [d]Sample size falls by almost 50% given that most respondents do not know the educational attainment of their parents.

Table 4, respectively) for given a unit increase in age. The negative coefficient (maximum age) on the square of age suggests that there is a non-linear relationship between age and travel propensity. The cubed of age has a positive coefficient (minimum) and is significant, also suggesting that as one grows older the propensity to travel increases. This corroborates the bivariate relationship observed (see Appendix 1). Respondents in the urban areas were less likely to embark on a travel beyond their environment. The odds of travelling decreases by 47.57% (column 4) for urban dwellers compared with rural counterparts.

In the case of region of birth, people born in the Central, Eastern and Ashanti regions were more likely to travel outside their environment compared with residents born in the Western region. In contrast, people born in Greater Accra region were less likely to travel relative to those born in the Western region. In the context of religion groups, Pentecostals were more likely to travel outside

their environment compared with people who did not identify themselves. In contrast to the effect of father's education, mother's education shows a positive relationship with travel propensity. Assuming a monotonic relationship between the levels of educational attainment, we observe that an upward movement to the next level increases the propensity of travel by 4.86% (Column 2, Table 4).

The robustness of our regression results are verified using mundane post estimation techniques. Just a couple of these tests (Wald and goodness of fit) are mentioned in this paper for the sake of brevity. The test of the null hypothesis that all the coefficients are zero with the exception of the constant term (Wald test and *F*-statistic) is rejected. This instils some degree of confidence in our estimated coefficients. In terms of the goodness of fit test, the model generally succeeds to produce accurately 70% and 64% for models 1 and 2, respectively. Also, the Hosmer–Lemeshow test, which investigates the difference between expected and observed number of responses, suggests a rejection of the null hypothesis and supports the claim that our model fits reasonably well.

Discussion

From the findings it can be safely proposed that the internal travel motives and patterns of Ghanaians bear a striking semblance with what might be described as domestic tourism. Three basic ingredients necessary for domestic tourism (namely, the incidence and frequency of movement, the existence of tourism-related purposes for travelling and the degree to which travellers stay overnight) have been found to be present in the data analysed.

Starting with the incidence and frequency of movement, it is noted that tourism-oriented travel requires movement outside one's normal place of residence (Gee *et al*, 1997). Though the proportion of respondents (30%) who had ever travelled outside their normal place of residence can be considered low, it is worth noting that multiple trips are made, thereby generating a considerable amount of movement. This is supported by the finding that almost two-thirds of that number had travelled on more than one occasion. A high occurrence of repeat travel is important for domestic tourism because it is indicative of the presence of a habit of travelling – a necessary condition for the sustainability of tourism. Hence the findings point to the fulfilment of one major condition for that the primary condition for becoming a tourist has been met.

The presence of tourism-related motives for travelling is also an important indicator of the potential for domestic tourism. It was observed from the findings that social imperative related motives are the dominant purpose of travel. One distinguishing feature about tourism-oriented travel is that it should be for non-remunerative purposes (Gee *et al*, 1997). As noted from the findings, the motives under the social imperative (attending funerals, visiting family, etc) qualify to be classified as 'touristic' in tandem with the UNWTO's 'visiting friends and relations' category under tourists' purpose of travel.

Perhaps the strongest indicator yet of domestic tourism is the finding (Table 3) that majority (54%) of these travellers stay overnight at their destination. In this finding, the third critical requirement for travel to become tourism is

met, because, to become a tourist, an individual must necessarily spend more than 24 hours at his or her destination.

The findings also reveal information about the importance of some major socio-demographic variables in determining demand for domestic tourism. As gathered from Table 4, age, region of birth, gender, religion, mother's educational background were all found to be relevant in shaping the travel patterns and, by extension, understanding the potential domestic tourism market segments. The non-linear relationship between age and travel propensity can be explained by the individual's position on the life cycle. The age-cubed as represented in the undulating graph (Appendix 2) is consistent with the Davidoff and Davidoff's (1994) proposition that propensity to travel is high in the early stages of an individual's life, dips in mid-life when there are responsibilities (especially children) that tend to reduce the discretionary income available for travel, and finally increases again when all such responsibilities are no longer imperative. The finding in this study that the 45–60 age group is the only group in which the number of travellers outnumbers the number of non-travellers supports this observation.

Cultural and social restrictions may be the primary reasons for which the travel propensities for females are relatively suppressed. Clearly in a society where females are expected to be more concerned with managing the home, their relative inability to travel, let alone for tourism purposes, is plausible. The relatively higher tendency of Pentecostals to travel may be due to the holding of their annual conventions across different parts of the country. It is normally the case that these conventions are organized for specific clusters and believers in these areas would have to travel to attend their regional meetings. This also represents a market opportunity for tour operators, destinations and event organizers. The findings also point to the existence of travel barriers that, by extension, will automatically also inhibit participation in domestic tourism. As has been noted, females, non-Pentecostals, the relatively young, and those with relatively lower educational backgrounds have lower propensities to travel.

However, the two elements lacking are the patronage of attractions and use of commercial accommodation. Given the high rates charged, it is most unlikely that travellers will use local commercial hospitality facilities at their destination. Similarly, given the temporal and financial constraints of the travellers, patronage of local attractions may not feature prominently on the itinerary. It has already been noted in earlier studies (Yilekpe, 2005; Boakye and Mintah, 2008) that there is low awareness among Ghanaian adults about tourist attractions.

From the policy perspective, these findings present a wealth of information. First, the findings point to the existence of distinct market segments for which different promotional campaigns can be targeted. For example family packages may be more appropriate for middle aged persons whose lower propensities are most likely to be due to the presence of children and other responsibilities. Travel behaviour like any other habit should be nurtured and people must be encouraged to travel for reasons other than the imperatives.

In response to the identification of the existence of people who have lower propensities to travel, there can be deliberate attempts to engender travelling and (by extension) domestic tourism. For example, special entry fees can be charged for these groups at attraction sites. It would also be helpful if it

becomes mandatory for excursions to local attraction sites to be part of the basic school curriculum.

Anchoring the policy recommendation is the fact that the potential for transforming these travellers into domestic tourists is strong and with the right policies and promotional plans in place, a viable tourist trade can emerge with its attendant benefits for the country. Transforming travellers into tourists is a less daunting task than making people leave their normal place of residence. Government and the private sector can therefore capitalize on this existent foundation to start a viable domestic tourism sector. Through aggressive and sustained promotional campaigns as well as encouraging tourism suppliers to offer special prices, Government can encourage travellers to visit at least one tourist attraction as part of their almost-default trips for social purposes. With time it is expected that a travel culture may emerge thereby creating a viable domestic tourism trade.

Conclusion

In conclusion, the analyses suggests the presents of a opulation that travels for quasi-tourism related purposes. This is indicative of the existence of a virtually untapped domestic tourism market. However, for the people that embarked on domestic travel, social imperatives were the primary driver. The key policy message in this context is to promote domestic travel through networks such as social clubs and religious organizations. The study also finds that through an individual's life cycle the propensity to travel experiences two turning points hence policy should target different age brackets with varying messages based on demands that come with life transitions. This study has provided a platform for further studies that examine determinants of different motives for travel. Such future studies should undertake deeper investigations (include a qualitative component) into the influence of other socio-economic and cultural variables and analyse the individual's cost and benefits of embarking on domestic tourism.

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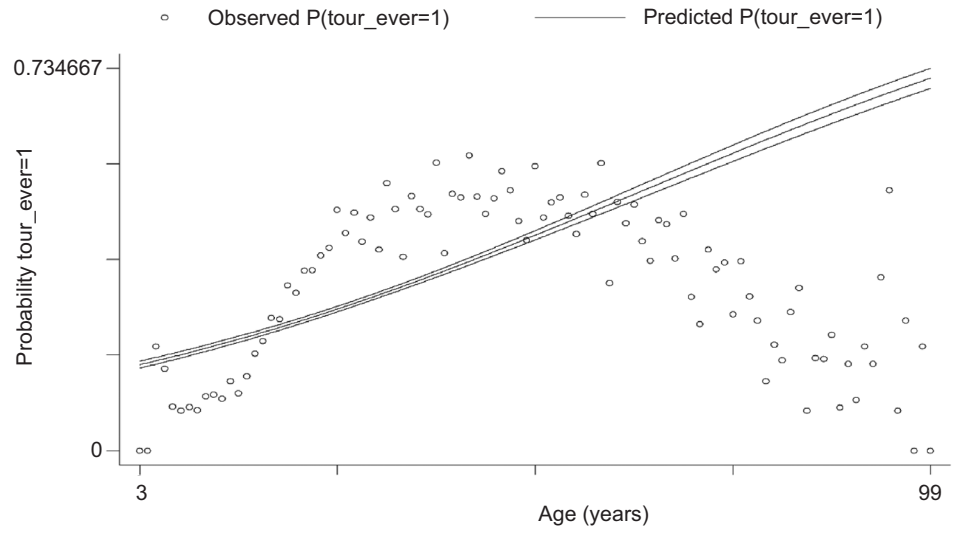
Appendix 1

Summary statistics of variables used for the multivariate analysis.

Variable	Mean	SD	Min	Max
Ever participated in a tour	0.352214	0.477675	0	1
Male dummy	0.529419	0.499149	0	1
Age in years	28.74926	14.7301	12	99
Age in years squared	1,043.482	1,089.625	144	9,801
Log of household expenditure	16.79	0.699	13.106	19.880
Educational attainment	2.598367	2.617655	1	15
Urban dummy	0.474977	0.499389	0	1
Married dummy	0.320314	0.466612	0	1
Religion	4.666122	2.595958	0	9
Region of birth	5.061099	2.514684	1	11
Father's educational attainment	2.451519	2.100406	1	10
Mother's educational attainment	1.613339	1.250971	1	10

Note: The number of observations for all variables was 15,925, with the exception of father's educational attainment (10,633) and mother's educational attainment (9,551)

Appendix 2



Relationship between age and predicted probability of travel.