The determinant of household tourism expenditure in Central Java Province, Indonesia

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Abstract. The purpose of our paper want to determine the factors of household tourism expenditure in Central Java Province, Indonesia. This paper used ordinary least squares regression. The findings from this paper, (1) the significant factors that affecting household tourism expenditure are marital status, sex, household income per capita, education for head of household, education for member of household, number of household, urban rural, and industrial origin for head of household; (2) For variables which have positive relationship with household tourism expenditure, the variable of marital status has a biggest value from others; and (3) For variables which have negative relationship with household tourism expenditure, the variable of industrial origin for head household has a biggest value from others.

1. Introduction
The study of tourist expenditure is an important things in the formulation analysis of tourism marketing, strategies, and policies. We can start this study from who will spend more during their stay in a destination tourism. In addition, with same statement that how much they will spend more in a destination tourism. Even though, the literature about the determinants of tourist expenditure at an individual level have been little studied [1]. To support that the study of tourist expenditure become important because there was an impressive evolution of tourist market during last decades and it makes an increasing easiness in travelling, as well as, a rapid growth differentiated supply, it concur in satisfying even particular niches of tourism demand. In other sides, for country, tourism makes good economic impact and support a relevant key for economic growth [2].

In Indonesia, the government has made the government decree number 5 year 2011. It’s contain the National Tourism Development Master Plan 2020 – 2025. This decree placed the tourism sector as one element of the engine of economic growth. One of the way is to develop National Strategic Tourism Region. This region is not only special region that is expected to enhance economic, social, and culture
but also to take account natural and environmental sustainability. The main target was set by the ministry of tourism, the contribution of tourism sector will be increase until 8 percent of product domestic bruto (PDB). Based on Central Bureau of Statistics data, in 2015, the contribution of tourism sector that represented by accommodation, food, and drinking sector amounted to 3 percent. From labor absorption, this sector can created 10.36 percent of the total 114.8 million or equal to 11.89 million worker in tourism sector [3]. Based form same source, in Central Java Province, in 2015, the contribution of tourism sector that represented by accommodation, food, and drinking sector amounted to 3.11 percent. It’s increased if we compared in 2010, the contribution of this sector amounted to 3.01 percent. On average, it’s counted to 3.05 percent for 6 period from 2010 until 2015.

So, this study focused on customer of tourism, especially households. The purpose of this paper is to know the impact of demographic characteristic on the tourism expenditure. In other words, the traditional regression models are typically used to examine how a set of regressors explains variation in the tourism expenditure of households. The regressors are mainly of one type, there are socio-demographic variables or households demographic characteristics, with the latter tending to explain the variation in total tourism expenditure.

2. Methods

2.1. Data

The data in this study using a national social-economic data (Susenas), year 2008. Susenas data contains household data, individual data, and consumption modul data. Total households involved amount of 6714, it’s divided for 2670 households where lived in urban and for 4044 for households where lived in rural. The household tourism expenditure defined by expenditure that used for barbershop, beauty parlors, hair dressers, health clubs, etc; lodging away from home on trips, and housing for someone away at school; public transportation both local and long distance like busses and trains; jewelry and watches; cellular phone; book include school books, newspaper and magazines, toys, games, and hobbies; and cable TV, pets and veterinarias, sports, country clubs, movies, and concert.

2.2. Model and Method

The model in this paper built on the individual demand model. In this paper, individual represented by households. In demand theory, households are assumed to consume a bundle of consumption especially for tourism consumption. Besides this consumption, households consume others, but in this paper we focused on tourism. Then, every expenditure decision’s taken will provide utilities for the household. So that, the basic model can be written as follows:

\[ ET_{\text{Tourism}} = f(Y_t, W_t) \]  

Where, DTourism, is the expenditure for tourism, in this paper we proxy it with household tourism expenditure; Y_t is the household income per capita; and W is the socio-demographic characteristics of the household.

Following in particular the research on household studies, three typical sociodemographic variables are used in the present study, (1) age is the most commonly socio-demographic variable used in micro-level expenditure-modelling studies. (2) Income measured either as a numeric variable or as a set of dummies referring to income categories – is another frequent regressor in tourism expenditure models. The final regressor is gender. Although used in many expenditure-modelling studies, in most of the extant research this variable has had an insignificant effect on micro-level tourism expenditure when controlled for the effects of the more vital regressors mentioned above [4-7].

This paper uses multiple regression techniques where β parameter estimated by the least squares method, the ways that can be done by minimizing the sum of squared errors [8-10]. Then, the regression model as follows:
Some variables description involved in this paper are shown in Table 1.

| Dependent Variable | Description |
|--------------------|-------------|
| tourismexp         | household tourism expenditure per month (in Rupiah) |

| Independent Variable | Description |
|----------------------|-------------|
| marstat              | marital status; 1 = if head of household is married and 0 = others |
| age                  | age for head of household |
| age^2                | age for head of household in squared |
| sex                  | = 1 if head of household is male and 0 = if head of household is female |
| educ                 | school attained for head of household |
| educ_hhmember        | school attained for member of household in average |
| hhicn_capita         | household income per capita |
| numofhh              | number of household member |
| numchild_15          | number of children below 15 year |
| urbanrural           | 1 = if head of household where lived in urban and 0 = others |
| houasset             | 1 = if head of household have a house and 0 = others |
| hh_tourism           | 1 = if head of household worked in tourism sector and 0 = others |
| hh_agr               | 1 = if head of household worked in agricultural sector and 0 = others |
| hh_ind               | 1 = if head of household worked in industry sector and 0 = others |
| hh_serv              | 1 = if head of household worked in service sector and 0 = others |

3. Result and discussion
Based on Table 2, the proportion of male respondents (87.34%) is higher than female respondents (12.66%). The majority of respondents marital status with married status represent 85.69%. It’s higher than other status, represent 14.31%. Age groups were also relatively distributed, except for people age 25 or lower. Majority respondents have attended junior high school, eventhough many respondents have attended colleges or university graduates. Respondents that have attended junior high school or less, represent 81.03% of respondents, whereas only 1.15% of the respondents had diploma degree and only 2.85% of the respondents had undergraduate degree or higher. Based from respondent origin, majority respondents lived in rural with 60.23% and in urban only 39.77%. Majority of households have a housing asset, represent 87.83%.
Table 2. Demographic Profile of Households

| Characteristics | Freq. | Percentage | Characteristics | Freq. | Percentage |
|-----------------|-------|------------|-----------------|-------|------------|
| Sex             |       |            | Respondent Origin |   |            |
| Male            | 5864  | 87.34      | Rural           | 4044 | 60.23      |
| Female          | 850   | 12.66      | Urban           | 2670 | 39.77      |
| Age             |       |            | Education       |       |            |
| 16 – 25         | 154   | 2.29       | Junior High School or Less | 4851 | 81.03      |
| 26 – 35         | 1109  | 16.52      | Senior High School | 1005 | 14.97      |
| 36 – 45         | 1965  | 29.27      | Diploma         | 77   | 1.15       |
| 46 – 55         | 1945  | 28.97      | Under Graduate or Higher | 191  | 2.85       |
| > 55            | 1541  | 22.95      | Housing Asset   |       |            |
| Marital Status  |       |            | Owned           | 5897 | 87.83      |
| Others          | 961   | 14.31      | Others          | 817  | 12.17      |
| Married         | 5753  | 85.69      |                 |       |            |

Based on Table 3, we can be known that for households in which the male respondent is 43763 rupiah smaller than for households which respondent is female. Then, age has a non-linear (inverted) relationship with tourism expenditure. From this findings, we can say that the age between 16 and 36 years the association is positive with tourism expenditure or there was an increasing for tourism expenditure; but from 36 years above the association is negative with tourism expenditure or there was a decreasing for tourism expenditure [4]. In addition, the ‘direction’ of its effect is equivocal, since there are numerous examples of both negative and positive age effects on total trip expenditure. Also, whereas no systematic relationship has been found between age and total trip expenditure in some studies, others have reported inverted U-relationships [4,5]. Further explanation, the age between 16 and 36 years can be classified as young and middle age people, they consider tourism activities to be a part of their lifestyle and that extra holidays spending has to be saved for during the rest of the year. Other study found that a tendency among young people to prefer tourism expenditure although the chosen destination half of these holidaymakers restrict their spending.

For marriage status variable, we found that households with married is 41127 rupiah higher than else. Its considered to be a determinant factor tourist expenditure behavior. In frame of tourism activities, both partners (husband and wife) are complementary and non substitutional [1,2]. As expected from economic theory that high income households spend more money on their tourism expenditure than lower income households. Because income is a household budget restriction which determines their tourism spending allocation and is taken in order to maximize their utility [1,2,4]. Consistent with the theoretical expectation from economic theory, the general finding in most cases is that high-income groups spend more money on their trips than low-income groups, ceteris paribus [4,5,7]. The education variable that represented by years of schooling, it found that for households in which the high education is 5163 rupiah higher than else. The positive relationship indicate the fact for people with higher educational level usually find higher paid occupations, so its allow them for higher holiday budget for tourism activities [1]. Variable of housing asset is positive relationship with tourism expenditure. It indicates that the households own a house are considered to have fulfilled their basic needs, so the households can allocate other budget for tourism expenditure.
Table 3. Estimation Results

| Independent Variable | Model 1 | Model 2 |
|----------------------|---------|---------|
|                      | Coef.   | Std. Err. | Sign. | Coef.   | Std. Err. | Sign. |
| sex                  | -43763.11 | 21404.73 | **    | -44730.00 | 21525.39 | **    |
| age                  | 787.47   | 2502.82  |       | 700.97   | 2497.33   |       |
| age^2                | -10.97   | 28.31    |       | -10.18   | 28.24     |       |
| marstat              | 41127.43 | 18617.76 | **    | 41509.40 | 18693.24 | **    |
| educ                 | 5163.06  | 2271.08  | **    | 5089.72  | 2269.87   | **    |
| hhicn_capita         | 0.086    | 0.04     | **    | 0.086    | 0.04      | **    |
| educ_hhmember        | 8764.60  | 3502.91  | ***   | 8810.09  | 3513.25   | ***   |
| numofhh              | 16410.95 | 5482.47  | ***   | 16400.62 | 5485.70   | ***   |
| numchild_15          | -5796.51 | 3830.06  |       | -5737.12 | 3840.09   |       |
| urbanrural           | 20215.94 | 8692.83  | **    | 20273.32 | 8703.42   | **    |
| houasset             | 16232.72 | 12032.97 |       | 16066.74 | 12006.87  |       |
| hh_tourism           | -147305.10 | 64250.02 |       | -128261.40 | 64578.72 |       |
| hh_agr               | -131318.50 | 64815.69 | **    | -128261.40 | 64578.72 |       |
| hh_ind               | -142408.90 | 66664.25 | **    | -139353.70 | 66396.99 | **    |
| hh_serv              | -130735.60 | 62640.49 | **    | -126924.50 | 62425.96 | **    |

Number of obs | 3308 | 3308
F – Stat      | 76.440 | 73.520
Prob > F      | 0.000 | 0.000
R-squared     | 0.133 | 0.133

* = sign. Alpha 10%
** = sign. Alpha 5%
*** = sign. Alpha 1%

Based on Table 3, this study has the limitations because it’s not include ‘Destination’ as a independent variable. In other words, ‘attributes of destination’ – has not been utilized much as a regressor in expenditure-modelling studies especially tourism expenditure model. Other opinion noted that this variable was used in less than 12% of the studies they surveyed, and then mostly as a set of dummies representing different attributes of the destinations in question [5].

In the present study, the variable destination has a novel and very precise meaning, namely whether or not the trip in question is foreign or domestic. There are at least two reasons justifying this hypothesis: higher lodging costs and higher transportation costs. Travel abroad will typically involve more use of hotels (and related commercial lodging) and less use of cheaper alternatives, such as tourists’ own cabins and the accommodation of friends or relatives. Furthermore, foreign travel – and long-distance traveling more generally – will more frequently involve going by air, whereas the bulk of domestic travel is by car [4,5].

4. Conclusion
The findings of this paper that (1) the significant factors that affecting household tourism expenditure are marital status, sex, household income per capita, education for head of household, education for member of household, number of household, urbanrural, and industrial origin for head of household; (2) For variables which have positive relationship with household tourism expenditure, the variable of marital status has a biggest value from others; and (3) For variables which have negative relationship with household tourism expenditure, the variable of industrial origin for head household has a biggest value from others. Suggestions paper, based on this finding some socio-demographic variables (such as sex, marital status, education, income) continue to play important roles as determinants of variance.
in tourism expenditure. Thus, local governments should know the knowledge an alternative perspective to the segmentation market in order to characteristics the profile of tourist and they can find their spending pattern; its useful to formulate the tourism marketing and policies. In addition, the trip-characteristics (such as purpose of trip, length of stay, advance booking) must have given an attention because some studies also demonstrate that the destination variable has moderating effects on tourism expenditure.

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