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An Analysis of Labor Participation in Tourism Sector (Case Study : Central Java Province)

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ABSTRACT

This study aims to determine the individual labor participation in tourism sector. The method used logit model. This study found that (1) determinant of labor participation in tourism sector was marital status, duration of school, average length of school of household members, and urban rural have significant factors about individual labor participation in tourism sector. (2) marital status, duration of school, and urban rural have negative relation to the probability of individuals working in the tourism sector. (3) average length of school of household members has negative relation to the probability of individuals working in the tourism sector. Policy recommendations, (1) The local governments need to develop better tourism school; (2) The local governments need to educate people whose live in rural about the importance of tourism and future prospects.

Key Word: labor participation; tourism sector; central java province

INTRODUCTION

Each individual will face the choice to enter the labor market or not. However, not all individuals can enter the labor market. Thus, the study of labor participation becomes an interesting phenomenon in both the developed and developing countries. Urgency of this study is the determinants of labor participation in outside the agricultural sector (known as off-farm activities), especially in the tourism sector. According to Reardon (1997) and Mulyo (2006), individuals who work outside the agricultural sector such as tourism, they are not getting enough revenue if they only works in the agricultural sector. This study aims to determine the determinant of labor force participation of individuals working in the tourism sector in Central Java Province.

METHODS

Data

The study used Susenas Data (National Socioeconomic Survey) both Kor and Modul. This study uses data form Susenas 2008. Susenas data consists of information about education, health, employment, housing data, households consumption, and socio-economic profile. Variables used in this study, such as sex, age, age squared, marital status, duration of school, head of household status, household income per kapita, housing asset, average length of school of household members, number of household members, status of working mothers, numchild15, and urban rural.

Models, Variables, and Estimation Techniques

This study uses logit approach where this method is used to analyze the probability of an event happening when the dependent variable in the model has more than one option. In general, logit model is expressed as :

$$P_i = E(Y_i = 1|X_i) = \frac{1}{1+e^{-(\beta_1+\beta_2 Xi)}} \quad \text{.....} \quad (1)$$

The above equation can also be written as follows:

$$P_i = \frac{1}{1+e^{-Z_i}} = \frac{e^Z}{1+e^Z} \quad \text{.....} \quad (2)$$

Where $Z_i = \beta_1 + \beta_2 X_i$.

If Pi is the possibility of the occurrence of an event, then it is unlikely occurrence of an event (1 - Pi) is:

$$1 - P_i = \frac{1}{1+e^{Z_i}} \quad \text{.....} \quad (3)$$

So,

$$\frac{\text{Pi}}{1-\text{Pi}} = \frac{1+e^{Z_i}}{1+e^{-Z_i}} = e^{Z_i} \text{ .....} \quad (4)$$

Pi / (1 - pi) is called the odds (risk) of an event, ie the ratio of the likelihood of an event against the unlikely occurrence of an event.

If we take the natural log equation (4), we obtain the following results:

$$\text{Li} = \ln\left(\frac{\text{P}_i}{1-\text{P}_i}\right) = \text{Z}_i = \beta_1 + \beta_2 \text{X}_i \text{ .....} \quad (5)$$

L is the log of the odds that are linear in X and linear in the parameters. L called logit, so that equation (5) is called the logit model. From equation (5), the model of this study are as follows:

$$Y^* = \beta 0 + \beta 1 sex_i + \beta 2 age_i + \beta 3 age\text{^}2_i + \beta 4 maritalstatus_i + \beta 5 schooling_i + \beta 6 headofhouseholdstatus_i + \beta 7 householdincomeperkapita_i + \beta 8 theaverageschoolofhouseholdmembers_i + \beta 9 numberofhouseholdmembers_i + \beta 10 statusofworkingmothers_i + \beta 11 numchild15_i + \beta 12 urbanrural_i + \beta 13 housingassets_i + u_i \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (6)$$

Description of variables in **Tabel 1**.

RESULT AND EXPLANATION

Based on **Table 2 and Table 3**, we will present the output of Central Java province.

From **Table 2**. Pseudo R^2 value, we can interpret that the 4.4 per cent variation of the dependent variable can be explained by the independent variable. LR value of 57.00 and prob. of 0.00 indicates that all independent variables significant in explaining the dependent variable. Determinant of individual's labor participation in tourism sector is marital status, education, average school of household members, and urban rural.

The next interpretation using odds ratios. This approach is used to determine the likelihood of an event at each independent variable. If the independent variable in the form of categorical, there is a likelihood of a successful event (y = 1) at x = 1 for eβ times than x = 0. If the independent variable has a continuous scale and value of the odds ratio greater than or equal to one, then the possibility of a successful event becomes larger. Each increment C unit at the independent variables will result in the possibility of success of the event for exp. (C. βj) times greater.

Tabel 1. Description Variables

Variable	Description
Dependent Variable	
probtourism	individual who working in tourism sector or not; 1 = if working in tourism sector and 0 = if not working in tourism sector
Independent Variable	
sex	Sex
age	Age
age^2	age squared
marital status	1 = married and 0 = single or divorced
duration of school	attained the highest school
head of household status	the status of the individual as head of household; 1 = head of the household and 0 = not head of household
household income per kapita	total household income divided by the number of household members
housing asset	ownership of housing asset; 1 = individual has a home and 0 = individual does not have a home
average length of school of household members	the highest number of of school length attainment of each individual in the household divided by the number of household members
number of household members	number of household members
status of working mothers	the status of working mothers in the household; 1 = working and 0 = not working
numchild15	the number of children in the household under the age of 15 years
urbanrural	location of residence whether in rural or urban; 1 = urban and 0 = rural

Table 2. Logistic Regression Output

Dependent Variable : Probtourism			
Variable	Central Java		
	Coef.	Std. Err.	Sign.
Sex	0.171	0.262	
Age	0.034	0.056	
age^2	-0.001	0.001	
marital status	-0.775	0.300	***
duration of school	-0.132	0.043	***
head of household status	0.340	0.387	
household income per kapita	0.000	0.000	
average length of school of household members	0.095	0.057	*
number of household members	-0.009	0.074	
status of working mother	0.715	0.468	
numchild15	0.060	0.125	
urban rural	-0.844	0.204	***
housing asset	-0.341	0.238	
Constant	-2.301	1.139	**
Number of obs	6802		
LR chi2(13)	57.000		
Prob > chi2	0.000		
Pseudo R2	0.044		

Table 3. Odd Ratio Output

Dependent Variable : Probtourism			
Variable	Central Java		
	Odd. Ratio	Std. Err.	Sign.
Sex	1.186	0.311	
Age	1.035	0.058	
age^2	0.999	0.001	
marital status	0.461	0.138	***
duration of school	0.877	0.038	***
head of household status	1.405	0.544	
household income per kapita	1.000	0.000	
average length of school of household members	1.100	0.062	*
number of household members	0.991	0.074	
status of working mother	2.045	0.956	
numchild15	1.062	0.133	
urban rural	0.430	0.088	***
housing asset	0.711	0.170	
Number of obs	6802		
LR chi2(13)	57.000		
Prob > chi2	0.000		
Pseudo R2	0.0435		

For Central Java Province. Interpretations for each variable as follows. Marital status, the probability of an individual with married status to work in the tourism sector by 0.461 times smaller than individuals who are not married. Education, each additional year of school, the probability of an individual to work in the tourism sector by 0.877 times smaller than individuals who do not attend school. The average length of school of household members, the higher of the average length of school of household members then the probability of individuals to work in the tourism sector 1.1 times greater. Urban rural, the probability of individuals who live in urban to work in the tourism sector amounted to 0.43 times smaller than probability of individuals who live in rural.

CONCLUSION

Based on results and explanation above, we can conclude that (1) determinant of labor participation in tourism sector was marital status, duration of school, average length of school of household members, and urban rural have significant factors about individual labor participation in tourism sector. (2) marital status, duration of school, and urban rural have negative relation to the probability of individuals working in the tourism sector. (3) average length of school of household members has negative relation to the probability of individuals working in the tourism sector.

Policy recommendations, (1) The local governments need to develop better tourism school; (2) The local governments need to educate people whose live in rural about the importance of tourism and future prospects.

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