The Analysis Of Consumption Pattern Of Household The Oilpalm Farmers In Labuhanbatu Regency

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Abstract.

The aim of this research is to recognize the income variable, the economic activity, and the family size determination, also differences in the location of living against oil palm farmer consumption in Labuhanbatu Regency, Indonesia. The Method that used to analyze the data is Multiple Linear Regression model, specified in Least Square Dummy Variable (LSDV) method. The estimation result found thatall of independent variable positive significantly influenced the food consumption. Otherwise, the negative one significantly influenced the non-food consumption outcome.Theestimation result also found that the level of consumption for many kinds of urban food wasfewer than hinterland society food consumption about Rp.1.248.000. However, the urban consumption more excessively than coastal area society about Rp.1.323.000. While the level of consumption out come for many kinds of non-food urban consumption larger than non-food hinterland consumption about Rp.2.248.000. Also larger than non-food coastal societycon sumption about Rp.1.376.000. The variation of independent variable capability to explain he food consumption about 92,5% and non-food consumption out come about 87,4%. The specification model swere appropriated which them odel freeof multi collinearity and Hetero scedasticity classi cassumption collision.

Keywords: *Consumption, Income, Social-Economy, Palm Oil Farmers*

1. INTRODUCTION

The behavior of society consumption show society's behavior in long term to allocation of their income to do the consumption which include how much their income to allocated to consumption and the pattern of desire to consume. In an effort to allocatehis income for that consumption, In an effort to allocate their income for that consumption, consumers will be faced withthe process of making a decision on the product or service to be consumed to fulfill the life needs at once to achieve the satisfaction.

In this condition, actually the behavior of consumer has begun to work. so that behavior of buy consumer or called behavior of consumers, it is not small case because every member of the community is a consumer. Consumption patterns are strongly influenced by consumer consumption behavior in the long term. This consumer consumption behavior which will be the basis for finding patterns current consumption. The consumption pattern of this society will ultimately have an effecton macroeconomic conditions such as community income (Zulfan Hattas, 2011).

The pattern of consumption reflects the disaggregation of consumption by consumers. This consumer consumption behavior which will be the basis for finding patterns current consumption. The factors that influence consumption patterns are : The level of community income, consumer tastes, every people has different wishes, and it will affect consumption patterns. Consumerwill choose one type of item to be consumed compared to the other types of goods. The price of goods, if the price of an item has increased, then the consumption of these goods will decrease. Conversely, if the price of an item has decreased, then the consumption of these goods will increase. The relationship between consumption and the price of goods can be distinguished whether the goods are substitution (substitute goods are goods which can replace the function of other goods) or

complementary (complementary goods is goods that complete the function of other goods). (Zulfan Hattas,2011).

The household is the smallest unit in society, so it can be said that household income means community income. Approach consumption is one approach which is often used for analyze how much is the household income of the farmer. The income in the end it will affect the consumption pattern of each of these households. Households make decisions to allocates some of its budget to buy food and non-food needs.

II. METHODS

Data

The research location was taken deliberately, it is in Labuhanbatu Regency. Labuhanbatu Regency was chosen because it is one of the most extensive oil palm plantations in North Sumatra Province. The sample is a portion of the number and characteristics possessed by the population. The sample of this research is oil palm farmers who have land area under 10 hectares, the number of samples taken was 77 oil palm farmers in Labuhanbatu Region.

The population in this study are all community households that stay in rural with livelihood in oil palm plantation sub sector and residents who live in cities. Selection of sample households to become a respondent from an existing population is determined in *two stageclustersampling.* In the first stage at the district level it is applied 9 the sample districts are balanced are cluster coastal villages, urban and rural village clusters in Labuhanbatu Regency. In the second stage, each village is determined in 2 subdistricts. From each of these districts 9 and 10 sample households were determined with the division according to the population of oil palm plantation owners with an area under 10 hectares, and by considering the minimum and maximum limit samples from each village in it, so that all 77 household samples were obtained.

Model Specification

Estimated various types of consumption expenditure (K) on the research that will becarried out used the method OLS *(Ordinary Least Square)* with the multiple linear regression model adopted from the Kautsoyiannis model (1977), Domowitz and Elbadawi (1987), Nachrowi and Usman (2002), Lains (2006) is : $Y = a + b_1 x_1 + b_2 x_2 + \dots \dots b_a x_a + \mu$ (3.1)

By substituting food consumption expenditure(K_{MK}) and non-food consumption (K_{BMKN}) as a dependent variable and independent variable and the puppet variable (D) into the model,the research model is obtained as follows:

$$K_{MKN} = b_0 + b_1 PDPT + b_2 AKE + + b_3 ART + C_1 D_1 + C_2 D_2 + \mu \quad (3.2) \quad \text{.....(1)}$$

$$K_{BMKN} = b_0 + b_1 PDPT + b_2 AKE + b_3 ART + C_1 D_1 + C_2 D_2 + \mu \quad (3.3) \quad \text{.....(2)}$$

Where:

K_{MKN} = expenditure on consumption of various types of food (measured in rupiah).
PDPT = Household income (measured in rupiah).
AKE = Economic activity of the head of the family (measured in units of work hours).
ART = Number of household members (measured in one person).
D_1 = dummy variable for location of residence in a coastal village; coded 1 for observations 1-60, while other areas are coded 0.
D_2 = dummi variable for the location of residence in rural villages; coded 1 for observation 61-120, while other areas were coded 0.
b_0 = Intercept (constant).
$b_1 – b_3$= Regression parameters.
μ = disturbance error

III. RESULT AND DISCUSSION

Table 1. Total Population and Number of Families, Livelihoods and Population Density of Labuhanbatu Regency Sub-District

DESCRIPTION	SUB - DISTRICT								
	North Rantau	South Rantau	Bilah Hulu	Bilah Barat	Pangkatan	Bilah Hilir	Panai Hulu	Panai Hilir	Panai Tengah
1. Total of Population									
Men	48906	39453	31952	20355	17179	26853	19882	19176	20739
Women	49336	38752	31663	19687	16793	25695	19260	18400	19837
Number of KK	18682	18497	15106	8116	8104	12351	8074	77776	7711
3. Livelihoods									
• Farmer	6,19	64,45	75,7	84,78	82,71	59,23	42,17	74,29	81
• Industry	12,18	3,12	6,71	15,09	6,71	1,77	16,96	0,41	1,15
• PNS/POLRI/TN	11,68	02,47	0,35	9,89	0,35	1,82	13,20	1	15,36
• Others	60,55	29,96	17,33	35,67	17,33	37,46	27,66	24,3	16,21
• Population densi per km^2	873	1215	217	193	96	119	147	111	84

The social economic conditions of the Labuhanbatu people areused as a sample of this research include; age of the head of the household, Gender, marital status, occupation (primary and secondary), income, even to the condition of the house used as a residence. A description of the socio-economic conditions of the poor that were sampled this research will be discussed per character. So it is hoped that a comprehensive picture of the life of the oil palm farmers in the Regency of Pelabuhanbatu will be obtained.

As the formulation of multiple linear regression models by entering *the Least Square Dummy Variable (LSDV)* with the dependent variable consumption of various types of food. Estimation results for the model are found:

Table 2. Results of Estimated Food Consumption Models

VARIABLE	***COEFFICIENT***	***STANDARD ERROR***	***T- COUNT***	***SIGNIFICANT***
Konstanta	*-31390,396*	*1267,460*	*-6,424*	*0,156*
PDPT	*0,624*	*0,025*	*17,845*	*0,014*
AKE	*125,121*	*89,284*	*2,782*	*0,045*
ART	*6214,256*	*3124,346*	*3,078*	*0,014*
D1	*7891,854*	*7345,870*	*1,519*	*0,021*
D2	*32156,336*	*8924,992*	*3,836*	*0,013*

Dependent Variable : K_{MKN}

Based on the above model, found a constant value of 31390,396 means that assuming there are no other variables (zero), the magnitude of consumption of various types of foodstuffs in urban communities is smaller than the consumption of food from rural communities Rp.1,248,000. However, it is greater than the food consumption of coastal communities by Rp.1,323,800. Food consumption rural communities is Rp.2,546,340. This indicates that the consumption of food

ingredients in urban communities is smaller than those living in rural areas, but it is still bigger than the coastal community of Labuhanbatu Regency.

The coefficient of income variable (PDPT) is 0.624 which means that an increase in income of Rp. 1,000 will increase consumption expenditure for foodstuffs by Rp. 624. The coefficient of economic activity variable (AKE) is 125,121 which means that an increase of 1 hour of work time in one month will cause an increase in food consumption expenditure of Rp.125,121. Likewise, household members (ART) were found to be a coefficient of 6214,256 which means that with an increase in 1 family member, it would increase food consumption expenses by Rp.6214,256 which would cause an increase in family expenses.

Non-food consumption expenditure model

As the formulation of multiple linear regression models by entering Least Square Dummy Variable (LSDV) with the dependent variable expenditure for non-food. Estimation results for the model are found:

Table 2. Estimated Results of Non-Food Expenditure Models

VARIABLE	*COEFFICIENT*	*STANDARD ERROR*	*T-COUNT*	*SIGNIFICANT*
Konstanta	*31390,396*	*1267,460*	*6,424*	*0,156*
PDPT	*-0,523*	*0,025*	*10,845*	*0,001*
AKE	*-125,121*	*89,284*	*-2,782*	*0,045*
ART	*-6214,256*	*3124,346*	*-3,078*	*0,014*
D1	*-7891,854*	*7345,870*	*-1,519*	*0,021*
D2	*-32156,336* *31390,396*	*8924,992* *1267,460*	*-3,836* *6,424*	*0,013* *0,156*

Based on the above model, found a constant value of 31390,396 means that assuming other variables do not exist (zero), the amount of consumption expenditure for various types of non-food for urban communities is greater than non-food consumption for rural communities Rp.2,248,000. And also greater than non-food consumption of coastal communities amounting to Rp.1,376,250. Thus, when income, economic activity, and no family members (zero), non-food consumption rural communities decreased by Rp.621256. Likewise, the consumption of non-food for the people living on the coast, while other variables are constant, the amount of non-food expenditure for coastal communities decreases by Rp.789854. This indicates that the expenditure of non-food consumption of urban communities is greater than that of people living in coastal areas and inland in the Regency of labuhanbatu. The coefficient of income variable (PDPT) of -0.523 means that an increase in income of Rp. 1,000 will increase consumption expenditure for non-food expenditure types by Rp.523. The variable coefficient of economic activity (AKE) is -125,121 which means that increasing 1 hour of work time in 1 month will actually reduce non-food consumption expenditure by Rp.115,121. Likewise, household members (ART) were found to be a coefficient of -6214,256 which means that with an increase in 1 family member, it would reduce non-food consumption expenditure by Rp. 6214.256.

Verification of hypothesis

Before carrying out the hypothesis as formulated in the previous chapter, the model suitability test will first be conducted (Goodness of Fit) or R2 test. As the estimation results (appendix 4) found the correlation coefficient (R) and the coefficient of determination (R2) as shown in table 3 below.

Table 3 Goodness of Fit Test of Food Consumption Model and Non-Food Consumption ModeL

VALUE	*FOOD CONSUMPTION MODEL*	*NON-FOOD CONSUMPTION MODEL*
R	*0,822[a]*	*0,786[a]*
R^2	*0,835*	*0,724*
$_R2Adj$	*0,813*	*0,768*

A Predictors:(Constant),D2,ART,AKE,D1,PDPT

Based on the result of estimation that show from the table above, it can be seen that the R-Square value of the food consumption model as the dependent variable is 0.822, which means that the variable ability of income (PDPT), economic activities (AKE), and household members (ART) and dummy variables in explaining the amount of food consumption of oil palm farmers in Labuhanbatu Regency by 82.2 percent, the remaining 17.7 percent is explained by other variables not included in the model.

Likewise, the second model, which includes non-food consumption expenditure variables as the dependent variable. R-Square value was found at 0.786, which means that the variation in the ability of income variables (PDPT), economic activity (AKE), and household members (ART) and dummy variables, in explaining the amount of non-food consumption consumption of oil palm farmers in Labuhanbatu Regency by 78.6, percent the remaining 21.4 percent is explained by other variables not included in the model.

As formulated in the previous chapter, that partial test (individual) is done by comparing the t-count value with the t-table value. It is also seen based on the significance value (sig.) In the estimation results (appendix 4 and 5) \

At the number of samples (n) = 77, the independent variable (k) = 5. Koutsoyiannis (1981) explains that the magnitude of k is an independent variable including constants. Thus k = 6, found Degree of Freedom (DF) = 77 - 6 = 71. At DF = 71 found a t-table in the two-tailed test; α = 0.01 of 1.66660, at α = 0.05 of 2.38002 and at α = 0, 10 of 1.29359.

Partial Test of Food Consumption Model

As the estimation results of the t-count value shown in the table above that the income variable (PDPT) found t -count of 10.845> 2.33822 means that the income variable has a significant effect on the consumption of oil palm farmers in Labuhanbatu Regency at α = 0.01. This is reinforced by the value of sig. = 0,000 which is below the tolerance limit of 0.01.

Economic activity variable (AKE) found t-count of 2.782> 2.33822 means that the economic activity variable has a positive and significant effect on the food consumption of oil palm farmers in Labuhanbatu Regency at α = 0.05. This is reinforced by the value of sig. = 0.014 which is below the tolerance limit of 0.05.

The household member variable (ART) found t-count of 3.078> 2.33822 means that the household member variable has a positive and significant effect on the food consumption of oil palm farmers in Labuhanbatu Regency at α = 0.01. This is reinforced by the value of sig. = 0.045 which is below the tolerance limit of 0.05.

The t-count value of the coastal community dummy variable of 1,519 <1,293 means that the food consumption of palm oil farmers living on the coast is not significantly different from oil palm farmers living in urban areas of Labuhanbatu Regency.

While the t-count value of dummy variables in rural communities is 3,836> 2,38002, it means that the consumption of food of oil palm farmers living in the interior is significantly different from the people living in urban areas in Labuhanbatu Regency.

Partial Test of Non-Food Consumption Expenditure Model

As the estimation results of the t-count value shown in the table above that the income variable (PDPT) found t-count of 10.804> 2.3382 means that the income variable also significantly influences

the consumption expenditure of non-food palm oil farmers in Labuhanbatu Regency at α = 0, 05. This is reinforced by the value of sig. = 0.001 which is below the tolerance limit of 0.01.

The economic activity variable (AKE) found t-count of -2.782> - 2.3382 means that the economic activity variable has a negative and significant effect on the consumption expenditure of non-food consumption of oil palm farmers in Labuhanbatu Regency at α = 0.05. This is reinforced by the value of sig. = 0.045 which is below the tolerance limit of 0.05.

The household member variable (ART) found t-count of -3.078> -2.338002 means that the household member variable has a negative and significant effect on the consumption expenditure of non-food palm oil farmers in Labuhanbatu Regency at α = 0.05. This is reinforced by the value of sig. = 0.014 which is below the tolerance limit of 0.05.

The t-count value of the dummy variable of coastal communities as r-1,519 <- 1,293 means that the consumption expenditure of non-food palm oil farmers living on the coast is not significant different from the people living in urban areas in Labuhanbatu Regency.

While the t-value of the dummy variable rural communities is - 3,839> - 2,38002, it means that the consumption expenditure of non-food oil palm farmers living in the rural is significantly different from the people living in the urban areas of Labuhanbatu Regency.

Simultaneous Test

Simultaneous test is carried out to test the significance of the independent variables simultaneous in influencing the dependent variable. As mentioned in the table above before simultaneous testing is done by testing F (Fisher Test). Fisher in his writing "test of equality between sets of coefficients in two linear regressions: an expository note" in Koutsoyiannis (1981), suggested that in models that use two or more independent variables, the F test. Testing is done by comparing the value of F-table with F-count. For the Degree of Freedom in the F test is v1 = (k-1) = (6-1 = 5), and v2 = (n-k) = (77-6 = 71), F-table is found; at α = 0.05 of 2.23.

Based on the estimation results in the food consumption model, the F-calculated value was 33.332> 2.23, which means that income variables (PDPT), economic activities (AKE), household members (ART), and dummy variables simultaneously have a very significant effect on palm oil farmers' food consumption Labuhanbatu Regency . This is reinforced by the value of sig. of 0,000 which is below the fault tolerance limit 0,01. This result is consistent with Suparta (2003) Estimation results found that income variables, family dependents, basic education, higher education and employment variables significantly affected to the expenditure of food types of the poor communities.

Likewise with testing on model two (non-food consumption expenditure as the dependent variable) found an F-count of 12.546> 2.23 which means that the income variable (PDPT), economic activity (AKE), household members (ART), and simultaneous dummy variables significantly influence the consumption of non-food consumption expenditures of oil palm farmers in Labuhanbatu Regency. This is also reinforced by the value of sig. of 0,000 which is below the fault tolerance limit of 0.01 (1%).

IV. CONCLUSION

Based on the results of the research described in the previous chapter, several conclusions can be drawn, as follows:

The specification of the model used in this study is good enough, this has been proven by freeing the model from violations of classical assumptions. After testing the explanatory variables that are used do not correlate strongly with each other, other than that the data is also homoscedastic. The feasibility of the model specifications is also evidenced by the R Square values of the two models which are quite high.

From the LSDV model, it can be concluded that the uniqueness of this model in explaining the differences in the consumption of oil palm farmers living in urban areas and those living in the coastal and rural areas of Labuhanbatu Regency. From this model it can be concluded that the consumption

expenditure of urban communities is far better than the consumption expenditure of people living in coastal and inland areas. From aspect of the regression coefficient, household head income remains the main variable influencing consumption expenditure food and non-food for oil palm farmers in Labuhanbatu Regency.

The regression results found that in the food consumption model all explanatory variables have positive and significant effects, while in the consumption expenditure model not all explanatory variables have a negative effect. Thus it can be concluded that with increasing food consumption, oil palm farmers in Labuhanbatu are forced to reduce and delay spending on non-food consumption. The increase in consumption is closely related to the level of income, other variables that also increase the amount of consumption are economic activity and the number of house members, and the area of residence.

Statistically, income variables, head of household economic activity, number of household members, and the area of residence of the family significantly influence the consumption of oil palm farmers, both from partial testing and simultaneous testing. When compared with partial testing, the effect of these variables is simultaneously higher. So the conclusion of the statistical inferential test accepts the alternative hypothesis and rejects the null hypothesis.

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