FACTORS AFFECTING ON POVERTY OF HOUSEHOLDS IN KYAUKPADAUNG TOWNSHIP

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Abstract

This study is concerned with factors affecting poverty of households in Kyaukpadaung Township. The objectives of the study are to study the socio-economic situations of household and to analyze the effect of socio-demographic and economic factors on poverty of households in Kyaukpadaung Township. A two-stage random sampling is used to conduct the survey. The first stage was randomly selected four wards from twelve wards of Kyaukpadaung township and at the second stage once data had been collected 300 households were chosen at random from four wards by using simple random sampling method, descriptive analysis, principal component analysis (PCA) and binary logistic regression were applied to analyze primary data. In this township, income level of most of the households is below 400000 Kyats. In Binary logistic regression, the coefficients of age, number of students, loans, occupation and family size were found to be statistically significant. Therefore, the government should focus and support job opportunities to increase the income level and uplift the socio-economic life of households in Kyaukpadaung Township.

Keywords: Poverty, Wealth indix, Binary Logistic Regression

Introduction

Poverty is a condition of one who lacks financial resources and essentials for a certain standard of living. Poverty can have diverse economic, social and political causes and effects. It can be defined as insufficient resources to meet basic human needs which include access to shelter, clean water, education, food, health care and clothing. It can be multi-facetted, and it also can be decreased by increasing the income of the poor, or by reducing the expenses on goods and services. The poverty issue of a nation that has remained a big challenge since human civilization.

Wealth is the value of all natural, physical and financial assets owned by a household, reduced by liabilities. Wealth reflects intergenerational transitions as well as accumulation of income and savings. Asset ownership provides an explanation of the long-term financial status of a family, and however it has less impact on short-term economic changes in contrast with other wealth or poverty measures. The index (WI) estimates relative wealth and dissimilar to the poverty line, is not an absolute measure of poverty or wealth. The wealth of families based on the wealth index to rank from poorer to wealthier households can be estimated but this can't permit to make sense of who is extremely poor and wealthy. The wealth quintiles divide the entire

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population into five equally huge groups, based on their wealth rank. It permits researchers to distinguish the effect of wealth on poverty outcomes (Bottone et al., 2017).

The wealth index allows for the identification of poor, health care and particularly to the wealthy. It allows identifying how households' economic status affects health outcomes. It is a composite measure of the cumulative living standard of a household. It is calculated using data on a household's ownership of selected set of assets, such as televisions, bicycles, and cars, dwelling characteristics such as flooring material, type of drinking water source, and toilet and sanitation facilities. It considers characteristics that are related to wealth status, avoiding variables that do not represent an asset, or outcome variables. Each household asset is assigned a weight or factor score generated principal component analysis. The resulting asset scores are standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one.

Asset based wealth indices are widely used instruments for measuring the economic situation of households in developing countries. Component indicators used to construct wealth index include television, radio, telephone or refrigerator, and variables related to the dwelling, such as sanitation facilities, water supply, type of flooring, and number of people per sleeping room. Wealth index, estimated based on assets of the household, is a better reflector of living standard and poverty, compared to income and consumption.

Demographic variables such as age, dependency ratio, household size, and gender of household head can also exert significant effect on poverty at the household level. At the household level, household assets, education, health status, and income are strong determinants of household poverty. Demographic factors are essential to examine family poverty and these may likewise effect of the financial development of a nation. The nations having high fertility rates and low child mortality rate could cause a high youth dependency rate, which brings down the per-capita assets for contributions in human resources, infrastructure, and economic development. In these conditions, it is difficult for families to handle the issues emerging from poverty. Financial development and family hardship are affected by adult mortality rates. Because of extreme and lethal sickness, terrorism and armed conflicts, the working age populace the nation level by raising age dependency burdens and diminishing the potential for financial development (Buvinicet al., 2009).

Socio-economic conditions including economic shocks, food weakness, and environmental change compromise the benefits and may drive into poverty. It also involves education, income, overall financial security, occupation, living conditions, resources, and opportunities afforded to people within society. The lowest economic status is poverty, which is

heavily influenced by education and thus influences social and work status. A measure of the socio-economics status of families is a critical component in most economics and demographic analyses. This measure is useful tool in assessing poverty and disparity of a population. In addition, it can be utilized as a control variable in estimating the impact of other variables related to wealth (Filmer & Pritchett, 2001).

Myanmar has an expected population of 51.4 million, containing of various ethnic groups speaking over 100 languages and dialects. It is ranked 150 out of 187 nations on the Human Development Index. Economic development has averaged 5 percent in recent years with a per capita income of USD $ 702. Poverty levels are estimated at 26 percent of the population. Poverty is twice as high in rural areas where 70 percent of the population lives.In Kyaukpadaung Township, the majority of the people in the Township live in rural areas with only (16.3%) living in urban areas. Labour force participation rate for the population aged 15-64 in Kyaukpadaung Township is 70.7 per cent. In Kyaukpadaung Township, 48.3 per cent of the employed persons aged 15-64 are skilled agricultural, forestry and fishery workers and is the highest proportion, followed by 14.6 per cent in elementary occupations. The majority of the households in Kyaukpadaung Township are living in bamboo houses (41.3%) followed by households in wooden house (39.4%). About 53.1 per cent of urban households live in bamboo houses and 43.4 per cent of rural households live in wooden houses. About 16.1 per cent of the households in the township have no toilet facilities. In the rural areas of Kyaukpadaung Township, 18.7 per cent of the households have no toilet facilities. About 36.2 per cent of the households use water from tube well, borehole and 18.5 per cent use water from pool/pond/lake. About 30.0 per cent of the households use water from unimproved sources. In rural areas, 32.4 per cent of the households use water from unimproved sources for drinking water. In Kyaukpadaung Township, households mainly use wood-related fuels for cooking with 86.0 per cent using firewood and 2.2 per cent using charcoal. About 11.6 per cent of households use electricity for cooking. About 95.7 per cent of households in rural areas use firewood and 0.5 per cent use charcoal. In Kyaukpadaung Township, 40.3 per cent of the households have motorcycle/moped as a means of transport. Analysis by urban/rural residence, the majority of the households mainly use motorcycle/moped as a means of transport in urban areas and cart (bullock) as a means of transport in rural areas. According to the above reasons, this study aims to analyze the effect of demographic and socioeconomic factors on poverty of households in Kyaukpadaung Township.

Literature Review

Ahmad (2015) studied economic wealth index: A tool to study the economic health of districts of selected states in India. The objectives are to create the economic wealth index using PCA, to classify Economic Wealth Index values into categories, to rank the districts of the selected States and to compare the Economic Wealth Index values of the districts of Maharashtra with Human Development Index. PCA is used to construct the Economic Wealth Index based on quality data, condition of houses and presence of various basic facilities like drinking water, electricity and toilet given by Census (2001). The results point out that correlation between composite economic wealth index and mean number of births is significant only in the pooled data, the State of Maharashtra and Jharkhand.

Chasekwa, et al., (2018) studied measuring wealth in rural communities: lessons from the sanitation, hygiene, infant nutrition efficacy (SHINE) trial by using principal component analysis. This paper developed and validated a household wealth index using baseline data for the sanitation, hygiene, infant nutrition efficacy trial conducted in rural Zimbabwe between 2012 and 2017. This study found that a "standard" approach (PCA) using a rich, but still relatively parsimonious set of variables is strongly associated with a wide range of indicators of wealth and is both internally and externally valid. In addition to providing evidence of the validity of the index, the paper provides a template for others constructing such indices, including a method for placing smaller regional samples into the broader context of a country when national survey data are available.

Dekker (2006) explored estimating wealth effects without expenditure data: evidence from rural Ethiopia by using both factor analysis and PCA. This study found that households with a higher economic status experience significantly fewer weeks of food insecurity compared to households with a lower economic status. Moreover, the results suggest the relation between household economic status and food security is measured at least as precisely when an assets based wealth index are compared to a wealth proxy defined as per capita consumption.

Mohanty (2009) explored alternative wealth index and health estimates in India at International Institute for Population Sciences by using PCA to construct a wealth index or to measure socio-economic status has been well established and validated. This study found that rural and urban areas should be debated and also theoretical and statistical significance in the construction of a wealth index should be examined. The results of study suggest the construction of a separate wealth index for rural and urban areas. Although the value if consumer durables varies considerably across countries it is useful to try and derive information about the quality

and market prices of consumer durables in constructing a more context-specific and robust wealth index.

Sanjay K. Mohanty (2009) presented alternative wealth indices and health estimates in india. The aim of this paper is to understand whether the estimates of reproductive and child health services of wealth groups in India significantly differ when two alternative wealth indices are used. The estimates of reproductive and child health services are compared with respect to wealth groups of two different wealth indices: (i) a single wealth index for the population at national level and (ii) two separate wealth indices for rural and urban areas. Multivariate techniques such as principal component analysis (PCA), factor analysis, as well as linear regression approaches and aggregation techniques are used in weighting indicators. The result points out for small and large-scale surveys lacking income or expenditure data and using wealth index, the inclusion of variables sensitive to rural and urban areas should be debated and their theoretical and statistical significance in the construction of a wealth index should be examined. The results of this study suggest the construction of a separate wealth index for rural and urban areas Rutstein and Staveteig (2014) presented making the demographic and health surveys wealth index comparable. This paper aims to present inequality measures for a set of demographic and health indicators, to determines the contribution of relative and absolute measures of poverty to progress in the indicators and to describes a newly developed methodology for calculating wealth indexes comparable across country and time. There are several techniques to calculate the Comparative Wealth Index (CWI): comparison with a baseline, use poverty levels and other common items that are in each demographic and health surveys as anchoring points. The result shows that CWI produces in terms of ranking of countries and regions that generally comport with per capita income measures and may help to sort out the effects due to health programs focused on the poor versus the effects due to changes in economic status of the population.

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Data and Methods

Data

To obtain the required data, a survey was conducted in Kyaukpadaung Township using two stage random sampling method. The first stage was randomly selected four wards from twelve wards of Kyaukpadaung Township and the second stage was randomly collected 300 households from four wards by using simple random sampling method. The primary data were collected by face-to-face interview using structural questionnaires. Descriptive analysis, principle component analysis and binary logistic regression model were used in this study.

Principal Component Analysis (PCA)

Principal Component Analysis is a statistical procedure concerned with elucidating the covariance structure of a set of variables. It is a method that projects a dataset to a new coordinate system by determining the eigenvectors and eigen values of a matrix. It involves a calculation of a covariance matrix of a dataset to minimize the redundancy and maximize the variance.

Although p components are required to reproduce the total system variability, often much of this variability can be accounted for by a small number k of the principal components. If so, there is as much information in the k components as there is in the original p variables. The k principal components can then replace the initial p variables, is reduced to a data set consisting of n measurement on k principal components.

An analysis of principal components often reveals relationships that were not previously suspected and thereby allows interpretations that would not ordinarily results. Algebraically, principal components are particular linear combinations of the p random variables X1, X2, …, Xp. Geometrically, this linear combination represents the selection of a new coordinate system obtained by rotating the original system with X1, X2, …, Xp. as the coordinate axes. The new axes represent the directions with maximum variability and provide a simpler and more parsimonious description of the covariance structure. Principal components depend solely on the covariance matrix Σ (or the correlation matrix P) of X_1, X_2,…,X p. .Their development does not require a multivariate normal assumption. On the other hand, principal components derived for multivariate normal populations have useful interpretations in terms of the constant density ellipsoids.

Let the random vector X'[X_1, X_2, …, X_p] have the covariance matrix Σ with eigenvalues $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda$ p ≥ 0.

Consider the linear combinations

$$Y_1 = a_1'X = a_{11}X_1 + a_{12}X_2 + \cdots + a_{1p}X_p$$

$$Y_2 = a_2'X = a_{21}X_1 + a_{22}X_2 + \cdots + a_{2p}X_p$$

$$Y_p = a_p'X = a_{p1}X_1 + a_{p2}X_2 + \cdots + a_{pp}X_p \tag{3.1}$$

Then, it obtain

$$\text{Var(Yi)} = a_i'\Sigma a_i \qquad \qquad i = 1,2,\dots, p \tag{3.2}$$

$$\text{Cov } (Y_i , Y_k) = a_i'\Sigma a_k \qquad \qquad i, k = 1,2,\dots, p \tag{3.3}$$

The principal components are those uncorrelated linear combinations $Y_1, Y_2,\dots,$ Yp whose variances in (3.1) are as large as possible.

The first principal component is the linear combination with maximum variance. That is, it maximizes Var (Yi) = $a_i'\Sigma a_i$. It is clear that Var (Yi) = $a_i'\Sigma a_i$ can be increased by multiplying any a_1 by some constant. To eliminate this indeterminacy, it is convenient to restrict attention to coefficient vector of unit length. It can define

First principal component = linear combination a_1'X that maximizes

$$\text{Var (a}_1'\text{X) subject to a}_1'\text{a}_1 = 1$$

Second principal component = linear combination a_2' X that maximizes

$$\text{Var (a}_2'\text{ X) subject to a}_2'\text{ a}_2 = 1 \text{ and}$$

$$\text{Cov (a}_1'\text{X, a}_2'\text{ X) } = 0$$

At the ith step, i th principal component = linear combination a_i'X that maximizes

$$\text{Var (ai'X) subject to a}_i'\text{ a}_i = 1 \text{ and}$$

$$\text{Cov (a}_i'\text{X, a}_k'\text{ X) } = 0 \text{ for k} < \text{i}$$

The Model of Binary Logistic Regression

The dependent variable in logistic regression is usually binary that is the dependent variable can take the value 1 with a probability of success P, or the value 1 with a probability of failure 1-P. This type of variable is called a binary variable. Binary logistic regression modeling can be used in many situations to answer research questions and to predict the odds of being a case based on the values of the independent variables (predictors). This regression models is the relationship between a set of predictors and a binary response variable. A binary response has only two possible values, such as win and loses. Use a binary regression model to understand how changes in the predictor values are associated with changes in the probability of an event occurring.

The model can be written as:

$$\text{Logit } (p) = \ln \left(\frac{p}{1-p} \right) = \beta_0 + \beta_1 X_1 + \cdots + \beta_k X_k + \varepsilon \qquad (3.4)$$

Results

Demographic and Socio-economic characteristics of households in Kyaukpadaung township, properties of households, economic conditions of households and effects of factors on expenditures of households, wealth index of households and summary result for the binary logistic regression model of households in Kyaukpadaung township are included in this section.

Demographic and Socio-economic Characteristics of Households

in Kyaukpadaung Township

Demographic and socio-economic characteristics of households in Kyaukpadaung Township are shown in Appendix Table (1). There are 131 male's household heads and 169 females household heads in 300 respondents which is 43.7 percent and 56.3 percent respectively. The numbers of female are more than the number of male due to divorce, spouse death, disability of husband, and increased life expectancy among women, migration, or being abandoned by husband. In this study, the eldest head is 62 years and over. The youngest head is 20 years old. Most of the household heads are between 20 and 40 years and there are 156 persons which is 52.0 percent. It was found that the most of household heads are engaged contributed in labor force. Least of household heads are 62 and over which is 9.3 percent.

Nearly 61 percent of household heads are random workers, 15.3 percent of household heads are dependent and 9.7 percent of household head's occupations are private owner and employee. There are 8.7 percent and 5.7 percent respectively of household head's occupation that are livestock worker and government employee. There are 161 households that have one to three family members and that percentage is 53.7 percent. One-hundred and twenty-nine households have four to six family members and that percentage is 43.0 percent. There are ten households that have seven and above family members and the percentage is 3.3 percent respectively. It can be seen that 184 households do not have a student which is 61.3 percent. Nine households have three and above students which is 3.1 percent. And 107 households have only one to two students which are 35.6 percent.

Properties of Households in Kyaukpadaung Township

Property could be defined as any item over which a business or a person has legal privileges. Property could be a tangible item, such as a car, furniture, industrial equipment, etc. or could be an intangible item stocks, patents, etc. The percentage distribution of the transportation facilities, entertainment facilities, loan condition, home ownership and housing type are described in Appendix Table (2). According to that table, most of the households have motorcycles and the percentage is 69.0 percent. Least of the households are horse carriage which is 1.3 percent. The owners of Mini Oway and Tricycle are 2.3 percent respectively. Sixty-nine percent of households have TV and 31.0 percent of households have radio. In the ownership of home appliances of the households, 98.3 percent of households have telephone, 70.3 percent of households have rice cooker, 37 percent of households have refrigerator and 3.3 percent of households have gas stove. The result shows that almost all of the households have own houses, 297, and the other 3 households are renter. Most of the houses are wooden and bamboo houses

and it is 33.3 percent respectively. The number of brick houses has been 26.7 percent and the other 6.7 percent are RC houses.

Economic Conditions of Households in Kyaukpadaung Township

Economic condition of Households in Kyaukpadaung township is shown in Appendix Table (3) with loan conditions of households, monthly income of household and monthly expenditure according to the survey data of this township.

Definition of loan can be described as a property, money, or other material goods that is given to another party in exchange for future repayment of the loan value plus interest and other finance charges. In finance, a loan is the transfer of money by one party to another with an agreement to pay it back. The recipient, or borrower, incurs a debt and is usually required to pay interest for the use of the money. The household who has loan on 76 households and it is 25.3 percent. Remaining 224 households do not have loan and it is 74.7 percent. The monthly income of 185 households is under 400000 Kyats. Only 11 households are between 700000 Kyats and 1000000 Kyats and 6 households are above 1000000 Kyats. The monthly expenditure of 279 households is below150000 Kyats. The monthly expenditure of 18 households is between 150000 and 300000 Kyats and 3 households is between 300000 and 450000 Kyats. Almost 21.3 percent households of are poorest and 19.7 percent of households are rich. The others poorer and middle are 20.0 percent respectively.

Binary logistic Regression Model of Households in Kyaukpadaung Township

Factors affecting on poverty of households are analyzed by using binary logistic regression model. The binary logistic regression model of socio-economic status can be described as follows.

$$\text{Logit}(p) = \ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \cdots + \beta_k X_k + \varepsilon \qquad (4.1)$$

Poverty of households in Kyaukpadaung township usage is dependent variable and it was given 1 if the poor of the household and 0 if non-poor condition of household.

Y= Dependent variables

In this study,   Y = 1, if household is poor

Y = 0, if household is non-poor

Age, number of students, loans, occupation, number of family members are used as independent variables. These variables are categorized as followed:

X_1= Age

X_2= Number of students

X_3 = Loans

X_4 = Occupation = 1 if household heads occupation is agriculture

= 0 if household heads occupation is other

X_5 = Number of family members

The summary result for the binary logistic regression model of households in Kyaukpadaung township is showed in Appendix Tables (4) and (5).

The statistic for the -2 log likelihood is 145.383. The computed values for Cox and Snell's R^2 and Nagelkerke's R^2 are 0.121 and 0.265, respectively. These values suggest that around 12.1% and 26.5% of the poverty can be explained by the linear combination of the risk factors.To assess the model fit, the Hosmer and Lemeshow test is employed evaluating the correspondence between actual and predicted values of the dependent variable. The computed Hosmer and Lemeshow test statistic produces a χ^2 value of 7.897, with an associated p-value of 0.648. This suggests that the test does not achieve statistical significance. Consequently, it can be inferred that the model demonstrates a favorable fit.

The coefficient of age has negative relation with poverty and statistically significant at 10% level. If there is more increasing in the age of household heads as 1 year, the poorer and poorest level of households is more decreasing in 0.004. The coefficient of number of student has negative relation with poverty and statistically significant at 10% level. If there is more increasing the number of students as 1 person, the poorer and poorest level of households is more decreasing in 0.047. The coefficient of loans has negative relation with poverty and statistically significant at 1% level. If there is more increasing in the borrowing as 1 MMK, the poorer and poorest level of households is more decreasing in 0.408 MMK. The coefficient of agriculture has positive relation with poverty and statistically significant at 10% level. The odds ratio of agriculture is 1.887. This means that the odds of a household heads which is agriculture are 1.887 times more likely to be poverty as compared to household heads occupation is other. The coefficient of family size has negative relation with poverty and statistically significant at 10% level. If there is more increasing the number of family size as 1 person, the poorer and poorest level of households is more decreasing in 0.192.

Conclusion and Discussion

The study aims to study the socio and economic situations of households and to analyze the effect of socio-demographic and economic factors on poverty of households in Kyaukpadaung township. This study was limited to all the 300 households of four wards in total twelve wards of Kyaukpadaung township. Principle component analysis (PCA) and binary

logistic regression were used in this study. According to the descriptive analysis, it can be found that there are more females than males due to divorce, spouse death, disability of husband, and increased life expectancy among women, migration, or being abandoned by husband.

The number of persons in working age group was larger than that of dependents in this township. One can also say that the volume of labour force was high in this township.The most households in Kyaukpadaung township owns wood and bamboo house and live by their own houses. Most of the households used motorcycle. Thus, the socio-economic positions of households in Kyaukpadaung township have fairly good condition.

The household income level in the study area, it was found that monthly households' income is below 400000 Kyats. Thus, the economic condition of the sample households in the study area is fairly good. It was found that 62.0 percent of the sample households in the study area.

The result of Binary logistic regression model, it found that the relationship between wealth index and the independent variables. When the poverty level is considered as dependent variable, the poverty level can be found more than five categories such as poorest, poorer, middle, rich and richest. According to the binary logistic regression model, the coefficient of age, number of students and occupation are statistically significant at 10 percent level. The coefficient of loans and family size are statistically significant at 1 percent level. Age, number of students, loans and family size are negative sign. If there is more increasing age, number of students, borrowing loans and family size, the poorest situation of household is more decreasing. Therefore, having working age group, increasing number of student and family size, and borrowing more loans are effect to decrease the poorest situation on households.

Suggestion

To achieve all round good socio-economic position of households in Kyaukpadaung township, there should be special development schemes and implement the scheme efficiently for the overall benefits of Kyaukpadaung township. To resolve the poverty problem, the households in the four wards should reduce the gap between incomes and expenditures, whether by increasing incomes or reducing the cost of living, or by a proper mix of the two.

To increase income, the government should prepare new job opportunities (full times and part times) and should equal pay for men and women. The government also arrange short course for profession that support small own business by using loans. And this may help also to increase income. For development of socio-economic status, transportation should be better to facilitate.

If the more economic development in the region, poverty can be declined and urban and rural economic condition will develop.

Acknowledgements

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Appendix Table (1)

Demographic and Socio-economic Characteristics		No. of Respondents	Percent
Total Respondents		**300**	**100.00**
Gender	Male	131	43.7
	Female	169	56.3
Age	20-40	156	52.0
	41-61	116	38.7
	62 and over	28	9.3
Occupation	Agriculture and livestock	26	8.7
	Government employee	17	5.7
	Private owner & employee	29	9.7
	Random Worker	182	60.7
	Dependent	46	15.3
Family Size	1-3	161	53.7
	4-6	129	43.0
	7 and above	10	3.3
Number of Students	No students	184	61.3
	1-2	107	35.6
	3 and above	9	3.1

Source: Survey Data (2021)

Appendix Table (2)

Categories	Yes		No	
	Households	**Percent**	**Households**	**Percent**
Car	19	6.3	281	93.7
Motorcycle	207	69.0	92	30.7
Bicycle	57	19.0	243	81.0
Mini Oway	7	2.3	293	97.7
Tricycle	7	2.3	293	97.7
Tricar	18	6.0	282	94.0
Horse carriage	4	1.3	296	98.7
TV/ VCD	208	69.0	92	30.7
Radio	93	31.0	207	69.0
Sewing Machine	31	10.3	269	89.7
Refrigerator	111	37.0	189	63.0
Rice Cooker/ Iron	211	70.3	89	29.7
Mobile Phone	296	98.3	4	1.3
Gas Stove	10	3.3	290	96.7
Other	21	3.8	279	96.2

Properties of Households		No. of Respondents	Percent
Total Respondents		**300**	**100.00**
Home Ownership	Own	297	99
	Rent	3	1
Housing Type	RC	20	6.7
	Brick	80	26.7
	Wood	100	33.3
	Bamboo	100	33.3

Source: Survey Data (2021)

Appendix Table (3)

Economic Conditions of Households		No. of Respondents	Percent
Total Respondents		**300**	**100.00**
Loan Conditions of Households	Yes	76	25.3
	No	224	74.7
Income (Kyats)	Below 400000	185	62.0
	400000-700000	98	32.0
	700000-1000000	11	4.0
	Above 1000000	6	2.0
Expenditure (Kyats)	Below 150000	279	93.0
	150000- 300000	18	6.0
	300000- 450000	3	1.0
Wealth Index	Poorest	64	21.3
	Poorer	60	20.0
	Middle	60	20.0
	Rich	59	19.7
	Richest	57	19.0

Source: Survey Data (2021)

Appendix Table (4) Modeling Fitting Criteria

Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	
145.383[a]	0.121	0.265	
Hosmer and Lemeshow Test	Chi-square	df	sig
	7.897	6	0.648

Appendix Table (5) Summary Result for the Binary Logistic Regression Model of Households

	B	S.E	Wald	df	Sig	Exp(B)
Constant	0.679	0.500	1.844	1	0.065	0.507
Age	-0.004*	0.114	0.001	1	0.074	0.996
No. of Student	-0.047*	0.225	0.044	1	0.083	0.954
Loans	-0.408***	0.396	1.063	1	0.002	0.665
Occupation(1)	0.635*	0.470	1.823	1	0.077	1.887
Family size	-0.192***	0.128	2.273	1	0.032	0.825

Source: Survey data (2021)

Note: *** significant at 1 percent level, ** significant at 5 percent level, * significant at 10 percent level.