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Universidad del Zulia  
Facultad Experimental de Ciencias  
Departamento de Ciencias Humanas  
Maracaibo - Venezuela

# Why does the poor worker keep living poorly in Aceh, Indonesia?

**T. Zulham**

Faculty of Economic and Business, University of Syiah Kuala, Banda Aceh, Indonesia

[zulham@unsyiah.ac.id](mailto:zulham@unsyiah.ac.id)

**Chenny Saftarita**

Faculty of Economic and Business, University of Syiah Kuala, Banda Aceh, Indonesia

[chenny\\_saftarita1@unsyiah.ac.id](mailto:chenny_saftarita1@unsyiah.ac.id)

**Teuku Bahrán Basyiran**

<sup>2</sup>Department of Economics, University of Tuebingen, Tuebingen, Germany

[basyiran@uni-tuebingen.de](mailto:basyiran@uni-tuebingen.de)

**Tasdik Ilhamudin**

Central Bureau of Statistics (BPS), Subulussalam City, Indonesia,

[ilhamudin@bps.go.id](mailto:ilhamudin@bps.go.id)

**Jumadil Saputra**

<sup>4</sup>School of Social and Economic Development, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia

[jumadil.saputra@umr.edu.my](mailto:jumadil.saputra@umr.edu.my)

## Abstract

This study aims to analyse the determinants of income for poor workers concerning social demographic variables. Social demographic variables are the most likely determinants in affecting the income level of working poor in which variable age, marital status, employment, and the number of family members have strongly significant impacts. Of the goals of study is to estimation results which are highly relevant to the government's task to accelerate economic growth and to effectively implement family planning programs in encouraging the delay of marriage age and population control.

**Keywords:** Income, Poor Worker, Socio-Economics, Labor, Demography, Regional Economics

## Por qué el trabajador pobre mantiene el vivir pobremente en Aceh, Indonesia?

### Resumen

Este estudio tiene como objetivo analizar los determinantes del ingreso de los trabajadores pobres en relación con las variables demográficas sociales. Las variables demográficas sociales son los determinantes más probables para afectar el nivel de ingresos de los trabajadores pobres, en los cuales la edad variable, el estado civil, el empleo y el número de miembros de la familia tienen impactos muy significativos. Los objetivos del estudio son estimar los resultados que son altamente relevantes para la tarea del gobierno de acelerar el crecimiento económico e implementar programas de planificación familiar para alentar el retraso de la edad del matrimonio y el control de la población.

**Palabras clave:** ingresos, trabajador pobre, socioeconomía, trabajo

### 1. INTRODUCTION

In the United Nation (UN) program of the Sustainable Development Goals 2030, poverty alleviation is the first target to be succeeded. In line with the results from World Bank (2008), poverty is likely caused by the lack of income and assets which results in a stumbling block to fulfil the daily needs consisted of foods, clothes, property, health and education services. It might be happened to a worker earning below the income threshold for a minimum standard of living. The phenomenon of poor workers in the United States in 1970 affects reality in the global labour market. The gap between skilled and unskilled labours brings in the classification among workers in terms of their wealth. In that

period, 550 million workers are globally classified as poor workers who share about 20% of the global labour force (Gundongan et al., 2007). World Summit for Social Development in 1995 deduces that real poverty is caused by the internal problem of the poor such as income, education, culture, and human capital accumulation. In addition, it is also affected by several external factors such as: (1) Proximity to the core city or the insufficient access to primary education, health, and clean water; (2) Different opportunity among the people due to an unsupportive system; (3) Lack of good and clean bureaucracy; (4) Natural disaster; and (5) Inappropriate public policy for poverty alleviation (Gordon and Spicker, 1998).

The number of poor workers is rigorously related to the number of poor people. On the recent survey data from the Central Bureau of Statistics, Aceh is the sixth most significant share of poor people out of 33 provinces. The share is also above the national percentage that is 10.1%. In this article, poverty in Aceh province is a case study to be examined. The share of poor workers in Aceh is roughly 24% of total workers in 2017 (Figure 1). This share has been decreased by about 8% from a decade ago, following the downturn of the poverty level in Aceh. However, the index is increased concerning the number of workers. In 2007, poor workers in Aceh province were accounted for 179,698 out of 567,830 workers. The number rises to 325,157 workers in 2017.

To represent the poverty index, we utilise the monthly income of each categorised as a poor worker. The data which is proxied by the monthly expenditure for several bundles of goods and services is obtained from the output of national socio-economic survey by the Central Bureau of Statistics. The status of impoverished workers is decided by indicating

whether the income is below the poverty threshold assigned by the government which is increasing during the covered period (Figure 2). Many factors are responsible for the poverty in Aceh, Indonesia and one of them can be derived from a social-demographic perspective. We hypothesise that several social-demographic variables can determine the poverty in Aceh, which are gender, the area of residence, marital status, age, education, the number of household member, working sector, and business field.

Poverty phenomenon is vulnerable to women workers that relatively have deeper poor level than male workers (ILO, 2015). It occurs because women workers tend to choose the “soft” jobs regarding the physical requirement, comfortability, pleasure, and safety which have relatively lower wage than male’s occupation (Ball and Mankiw, 2002; Federal Statistical Office, 2003). Having married could result in a decrease in working hours. People with low working hours could be more likely to be classified as poor workers (Bowles and Park, 2004; BPS, 2009; Kim, 1998). Poor workers are recognized as a worker from the poor household whose only one of the household members is working (Caritas, 1998; Strengmann, 2002) or a worker living in a low-income family (Cooke and Lawton, 2008).

Furthermore, a probability of becoming poor is positively correlated with family size, living and working in the rural area, as well as becoming a domestic worker and negatively correlated with householder’s education level, householder’s age, and the working status (Garza and Rodriguez, 2015). Similar to one of the findings, the poverty level in rural areas is generally higher than the one in the urban area (ILO, 2015).

Besides, there are some other determinants of poverty like age, poor health, inadequate education, and discrimination over nationality, ethnic, gender, and race (Benzeval and Judge, 2001; Geleicher and Stevans, 2005 and De Wind et al., 2018).

We can be examine the differences of welfare level of poor workers after ten years. Eventually, this research would be fruitful to measure government achievement in developing the economy of Aceh in the last decade. The remainder of this paper is structured as follows. Section 2 lays out the theoretical framework and data descriptive of the dependent variable and its determinants. Section 3 indicates the methodology to be used for quantitative analysis and the results are explained in Section 4. Section 5 concludes.

Poor workers are mainly derived from an impoverished population. On the recent survey data from the Central Bureau of Statistics, Aceh is the region with the sixth most significant share of poor people out of 33 provinces. The share is also above the national percentage (i.e., the poverty rate of Indonesia) that is 10.1%. In this article, poverty in Aceh province is a case study to be examined. In 2007, poor workers in Aceh province were accounted for 179,698 out of 567,830 workers (32%). The number of poor workers increases to 325,157 workers in a decade later. This data is depicted in Figure 1.

Nevertheless, the share of poor workers declines by about 8% during the last decade because there is an improvement in the number of samples. The declining pattern is by the downturn of the poverty level in Aceh. In a similar vein, the data from the survey from the Indonesian

Institute of Science (LIPI) records that poor Indonesian workers account for almost half of the total workers, 43.6%. It depicts the low level of worker's welfare in Indonesia.

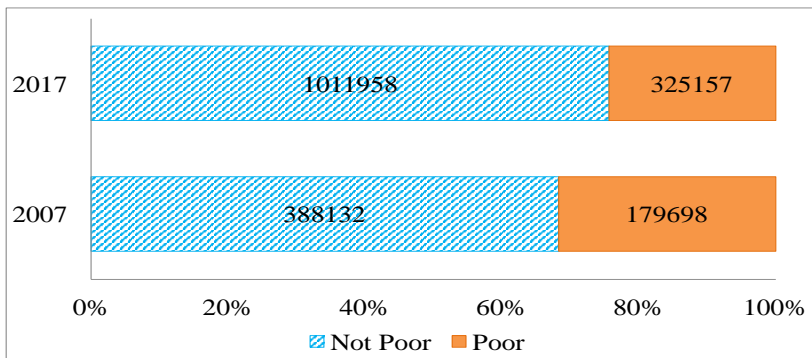


Figure 1: The Number of Poor and Not-Poor Workers in Aceh  
Source: Central Bureau of Statistics (BPS), Susenas, (2007) and (2017)

To be a dependent variable in the tests of independence, in the data set we create a dummy variable, called poor workers, indicating whether the worker is poor. The data of income originates in the output of national socio-economic survey (Susenas) by Central Bureau of Statistics. It is approximated by the monthly expenditure of the people in consuming several bundles of goods and services. The government has increased the poverty threshold during 2007–2017 (Figure 2), and it is doubled in a decade roughly 99.6% of growth rate. It is part of the poverty alleviation strategy. From this approach, we found that the poor workers in Aceh are recorded for about 6,768 workers, or 31.4% of total observations existed in 2007 (5,787 workers) and 2017 (981 workers). Similar to other economic researches, this paper exerts a trend by aiming the investigation

of the poverty change in a decade. Thus, this study covers data from the year 2007 to 2017.

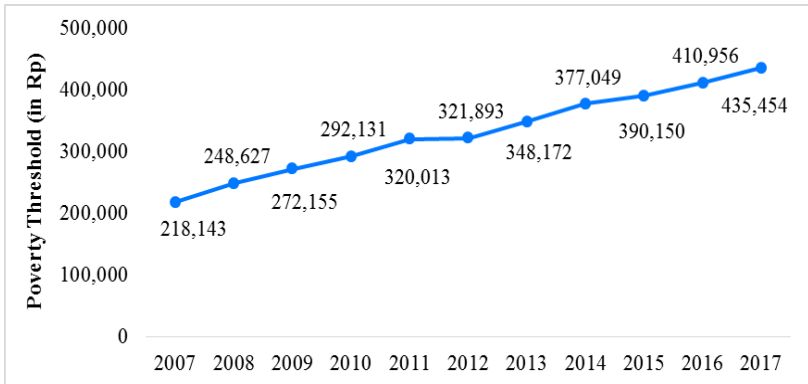


Figure 2. The Poverty Threshold of Monthly Income in Aceh during 2007–2017 (in IDR)

Source: Central Bureau of Statistics (2017)

Moreover, we can be examined that the monthly income mean of poor workers in both covered years is nearly identical to the median value (Table 1). It can be represented in Figure 3 illustrates the normal distribution of the income of poor workers. The balance of mean and median values denotes that the average income is equal to the income of the individual who spent more than 50% and less than 50% of all observations precisely. What is more striking and more important to be realised is that the mean is far below the poverty threshold. It confirms the poor classification of labours in our samples or respondents and reaffirms the choice of the region for a case study in poverty.



Table 1. The Distribution of Monthly Expenditure between Poor and Not-Poor Worker, 2007 Source: Central Bureau of Statistics (2017)

Testing	<b>Poor</b>		<b>Not-Poor</b>	
		Statistic		Statistic
Mean		181,898.06		388,650.06
Std. Error		582.19		1,830.51
95% CI - LB		180,756.75		385,062.04
Mean UB		183,039.37		392,238.08
Median		181,715.77		329,898.41
Variance		1,961,469,887.21		49,597,841,182.65
Std. Deviation		44,288.48		222,705.73
Minimum		56,040.82		155,438.10
Maximum		346,750.00		5,829,095.24
Range		290,709.18		5,673,657.14

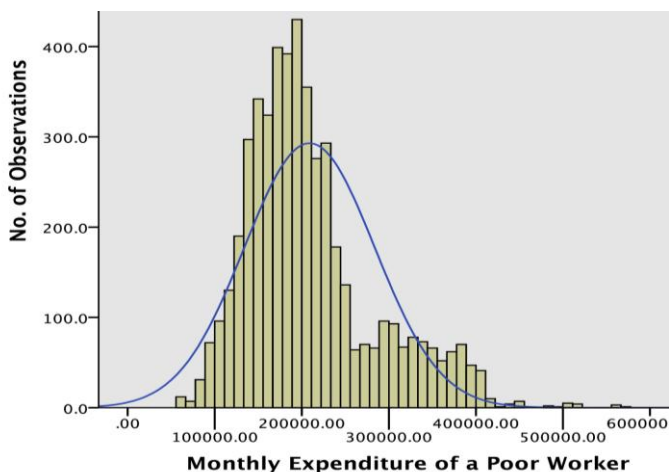


Figure 3. The Distribution of Monthly Expenditure of Poor Workers in the period of 2007 and 2017  
 Source: Central Bureau of Statistics (2017)

There are determining factors in poverty and poor workers. Previous studies mostly focus on the research of economy and macro analysis by controlling poverty with macroeconomic determinants. However, actually, micro variable and non-economic variables namely social demographic variables can also be essential to poverty and the poor workers themselves. All the independent variables in our data set are developed by applying the categorical environment.

In 2007, there are more male individuals (64.7%) than females (35.3%). Within each gender, women have a higher share of poor workers for roughly 28.9%, although the rate is not much higher than males with a share worth of 27.7%. As overall individuals, the data set shows the more male individuals as well as poor male workers. Thus, the impact of gender on poverty is expected to be positive. Although the gender difference is similar, the data in 2017 shows that poor-workers level is higher in males (5.2%) compared females (4.7%). Three-fourths of total samples have been married whereabouts 73-75% of them are poor workers in 2007 and 2017. The poverty is more vulnerable to the unmarried individuals as 31.3% classified as poor workers, compared to 27.1% poor workers from the married group. The same pattern occurred in 2017. From this data description, it seems that the data set violates the evidence deducing that having married worsens the poor status. The religion might be a plausible reason behind this figure, as most Acehnese people believe that having married will give them blessings to become more prosperous. Also, it could be caused by a local common perception where people may only want to get married when they are already financially prepared.

Middle school or lower, high school, and higher education are three education levels designated in this study. It is undeniable that the lower

the education, the more probability to become poor. The dataset also satisfies this widely-known statement. The individuals with an educational background at lower-than or equal to the middle school level have the most significant number and the highest share of poor workers. The respondents with this education level are accounted for 64.8% in 2007 and 53.7% in 2017. Age variable has perfectly normally distributed where most observations aged between 25–58 years old in which poor workers are the most severe.

Nevertheless, the share of poverty within each age group is relatively high from individuals aged lower than 25 years old. Working in agriculture as a farmer is one of many examples from the nonformal occupation which is the sector with a higher share of poor workers in the dataset. Hence, the business field variable built in this study is whether the respondent runs a business or earns a salary in the agricultural sector. Data analysis from Susenas in 2005–2007 about workers' poverty level found that agriculture is the most remarkable business sector for the poor, followed by other sectors and industrial category.

## **2. BACKGROUND**

### *2.1. The Social-Demographic Determinants of the Poverty*

There are determining factors in poverty and poor workers. Previous studies mostly focus on the research of economy and macro analysis by controlling poverty with macroeconomic determinants. However, actually, micro variable and non-economic variables namely

social demographic variables can also be essential to poverty and the poor workers themselves. All the independent variables in our data set are developed by applying the categorical environment.

## *2.2. Gender*

Poverty phenomenon is vulnerable to women workers that relatively have deeper poor level than male workers (ILO, 2015). It occurs because women workers tend to choose the "soft" jobs regarding the physical requirement, comfortability, pleasure, and safety which then result in the difference of income level between men and women (Ball and Mankiw, 2002). Correspondingly, Federal Statistical Office in 2003 also reported that women earning a lower wage in almost any kind of jobs shows the tendency that women workers are relatively more inferior to the men. As a consequence of this evidence, the gender variable is expected to affect poverty negatively if females are more than males.

Stressing the evidence above, research from Gleicher and Stevans (2005) discovered that there are significant factors to the possibility of becoming poor apart from education factor which is discrimination of citizenship, ethnicity, gender, and race. In the case of ethnicity and race, the factors should less interact with other factors such as education, work, or industry. Meanwhile, those factors have significant effects on citizenship and gender.

### *2.3. Marital Status and its Working-Hours Dilemma*

### *2.4. The Number of Household Member*

The household membership in our dataset categorises the group of household consisted of up to four people and the group of more than four household members. However, for the empirical analysis, we use categorical data of how many members in the household. Both examined years have a similar pattern of the share of household size. People living in a family consisted of 3–6 members dominate the data set and simultaneously become the interval with the highest percentage of poor workers. If we look at the rate within each household size, poverty is prone to people from the family with more than six members.

In previous studies, poor workers can be recognised as a worker from a poor household whose only one of the family members is working (Caritas, 1998; Strengmann, 2002). Also, a worker living in a poverty-stricken household can also be defined as a poor worker (Cooke and Lawton, 2008). Garza and Rodriguez (2015) studied determinant and correlating factors with poverty in Mexico. The data in this research was obtained from the National Survey of Household's Income and Expenditure in 1996. Using the logistic regression model, they found that one of the positively-correlated variables with a probability of becoming poor is the size of a family.

Moreover, an empirical study executed by Losa and Soldini (2011) about the poor worker in seven areas in Switzerland aims to analyze the determinant factors of the poor workers. It detected essential characters

from the group of the population with high risk to poverty with logistic regression and classification tree. It demonstrated that though there is a social, political and economic difference that comes from different culture and other institutional and political policy, and different level of poor workers, the main factors for working poverty are equal in those seven areas in Swiss. Those factors are the size of family, total working hours, education level and nationality. In logistic regression, all variables are highly significant.

### *2.5. Education*

In addition to the research output from Garza and Rodriguez (2015) and Losa and Soldini (2011), a study in Spain by García-Espejo and Ibáñez (2006) found that workers in the lower level of education tend to be poor than the workers with a higher education background. On the other continent, it is proven in Indonesia in which impoverished workers with elementary education dominates especially in agriculture (Malaysianto, 2003). Middle school or lower, high school, and higher education are three education levels designated in this study. It is undeniable that the lower the education, the more probability to become poor. The dataset also satisfies this widely-known statement.

### *2.6. Age*

The lower the age, the higher the probability to be considered in a poor-workers group. A study in Europe shows that workers in the younger

generation start a career in a low paid job, so they tend to be poor (Eurofound, 2010).

### *2.7. Employment and the Field of Business*

Working field recruitment in economic sector contributes to the significance of poor worker. According to BPS (2009), working sectors are one of the factors of working yet impoverished the citizen. By strengthening the statement, a previous study concludes that working status has a negative relationship with plausibility to become poor (Garza and Rodriguez, 2015). Working in agriculture as a farmer is one of many examples from the nonformal occupation which is the sector with a higher share of poor workers in the dataset.

### *2.8. Area of Residence*

Geographically, the poverty level in rural areas is generally higher than the one in the urban areas (ILO, 2015). Public policy is presumably profitable to urban development and encourages gap in income level and economic opportunity between the rural and the urban areas. It also prompts massive migration to obtain works with higher pay (Todaro, 2003). Therefore, we develop this categorical variable whether the individuals live in an urban or rural area. It is not the extraordinary evidence that rural area is more related to poverty and dominated our observations.

### **3. METHODS**

The data used in this research is cross-sectional or primary data of workers in Aceh province of Indonesia. It is gathered by the Central Bureau of Statistics (BPS) through National Socio-Economic Survey (Susenas) in 2007 and 2017. Susenas is a household-based survey collecting data from the residents for obtaining information about demography, education, health, family planning, housing, and other related topics. The data is provided for the use at the national level and each province for regional comparative purposes. The samples for poor workers in this study are worth 5,787 and 981 workers in 2007 and 2017, respectively.

As explained in the previous section, the income of poor workers is employed as a variable dependent on the empirical analysis. Several variable independents consisted of gender, the area of residence, marital status, age, education level, business field, working sector, the number of household members, and the armed-conflict area are controlling it. Test of independence is used to analyse whether there is a significant relationship between the variables used in this study. The results of this test statistic can be obtained from the output of the Pearson chi-square and likelihood ratio. The higher the significance value, the closer the relationship between the variables. Also, the analysis also applies the test statistic Phi, Cramer's V, and Contingency Coefficient to see the symmetric relationship and strong association between two variables. Then, the results from those different tests can be compared.



Since the data of dependent variable is interval scale and explanatory variables are based on the categorical environment which the data gained from the survey, it is best suited for this study to utilise the inferential analysis with Multiple Classification Analysis (MCA) approach (Lolle, 2008). This linear regression model is used to know the main effect of every independent variable on the dependent variable (Andrews et al., 1973; Lolle, 2008). Additionally, this model examines the interrelationship between independent variables. The shares of the effects from independent variables are represented by the difference of average income, estimated coefficient from each regressor (the  $\beta$ 's), and coefficient of determination ( $R^2$ ) as the goodness of fit. Similarly, a test for the difference of income mean uses analysis of variance (ANOVA) and also applies the tests on the main effect in the MCA model.

## **4. RESULT AND DISCUSSION**

### *4.1. Result*

The output of Pearson Chi-Square and Likelihood Ratio show that there is a significant dependence between variables in both years 2007 and 2017 (see Table 2). In 2007 (column 3–5), age, marital status, business field, and household number are four independent variables which are strongly significant and represent a close relationship with the dependent variable (i.e., poor workers). On the other hand, for the estimation results of 2017 data (column 6–8), the strongly significant variables are age and marital status having the closest relationship to affect poor workers. These two parts of findings conclude that the most prominent sources to

influence the income of poor workers during the last decade are age and marital status of the workers themselves. Concurrently, numerous household members and business field in agriculture were also another two remarkable sources of poverty roughly a decade ago).

Table 2: The Independence Testing of Poor Workers in the Year of 2007 and 2017

The Relationship between Variables	Test Statistic	2007 a			2017		
		Value	df	Sig.	Value	df	Sig.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender * Poor Workers	Chi Square	42824	1	0.000	22719	1	0.000
	Likelihood Ratio	43232	1	0.000	22946	1	0.000
Region * Poor Workers	Chi Square	77124	1	0.000	38	1	0.000
	Likelihood Ratio	94618	1	0.000	38	1	0.000
Marital Status * Poor Workers	Chi Square	152936	1	0.000	100872	1	0.000
	Likelihood Ratio	155062	1	0.000	102342	1	0.000
Age * Poor Workers	Chi Square	210507	1	0.000	131840	1	0.000
	Likelihood Ratio	217815	1	0.000	136984	1	0.000
Education * Poor Workers	Chi Square	17642	1	0.000	5505	1	0.000
	Likelihood Ratio	22697	1	0.000	5351	1	0.000
Business Field * Poor Workers	Chi-Square	107703	1	0.000	No computed statistics due to constant "poor workers."		
	Likelihood Ratio	110730	1	0.000			
Working Status * Poor Workers	Chi-Square	43236	1	0.000	No computed statistics due to constant "poor workers."		
	Likelihood Ratio	45547	1	0.000			
Household Member * Poor Workers	Chi Square	109890	1	0.000	2620	1	0.000
	Likelihood Ratio	112437	1	0.000	2560	1	0.000

That variable age is the main channel to have an impact on poor worker status follows the standard rule of thumb that workers aged below and above the productive age is more likely ended up as poor workers. It is because those groups of people are working less and then earn less than

productive aged people. The same implication applies to married workers who are more likely to be affected by the reduction of working hours and income. Hence, marital status increases the feasibility to be a poor worker (Prasnowo & Hidayat, 2019).

From the analysis of test statistics Phi, Cramer's V, and Contingency Coefficient, the outputs result in the rejection of null-hypothesis which implies the existence of the relationship between variables. The estimation results are represented in Table 3 in column (3)–(6) informing their levels of significance. From those results, all variables share some parts of a relationship with the income of poor workers. This finding presents the evidence of a high impact of social and demographic variables on the income of poor workers in Aceh for the last decade. Alike the previous tests, age and marital status still have the most robust significance in determining the independent variable. Thus, this result is more exciting and grounded, because all variables have been hypothesised to possess a more-or-less equal impact on poor workers.

Table 3: The Independence Testing (Symmetric Relationship) on Poor Workers in the Year of 2007 and 2017

The Symmetric Relationship between Variables	Test Statistic	2007		2017	
		Value	Appro x. Sig.	Value	Appro x. Sig.
(1)	(2)	(3)	(4)	(5)	(6)
Gender * Poor Workers	Phi	0.100 8	0.000	0.237 6	0.000
	Cramer's V	0.100 8	0.000	0.237 6	0.000
	Contingency coeff.	0.100 3	0.000	0.231 1	0.000
Region * Poor Workers	Phi	- 2	0.000	- 7	0.000

	Cramer's V	0.135 2	0.000	0.009 7	0.000
	Contingency coeff.	0.134	0.000	0.009 7	0.000
Marital Status * Poor	Phi	- 5	0.000	- 6	0.000
Workers	Cramer's V	0.190 5	0.000	0.500 6	0.000
	Contingency coeff.	0.187 1	0.000	0.447 6	0.000
Age * Poor Workers	Phi	0.223 4	0.000	0.572 3	0.000
	Cramer's V	0.223 4	0.000	0.572 3	0.000
	Contingency coeff.	0.218 1	0.000	0.496 7	0.000
Education * Poor Workers	Phi	0.070 6	0.000	0.129 7	0.000
	Cramer's V	0.070 6	0.000	0.129 7	0.000
	Contingency coeff.	0.070 5	0.000	0.128 6	0.000
Business Field * Poor Workers	Phi	0.249 2	0.000	No computed statistics due to constant "poor workers."	
	Cramer's V	0.249 2	0.000		
	Contingency coeff.	0.241 8	0.000		
Working Status * Poor	Phi	- 9	0.000	No computed statistics due to constant "poor workers."	
Workers	Cramer's V	0.157 9	0.000		
	Contingency coeff.	0.156	0.000		
Household Member * Poor	Phi	- 7	0.000	0.080 7	0.000
Workers	Cramer's V	0.251 7	0.000	0.080 7	0.000
	Contingency coeff.	0.244 1	0.000	0.080 4	0.000

Analysis of Variance (ANOVA) outputs in Table 4 shows that the social-demographic variables are simultaneously correlated with the income of poor workers. Some variables suchlike age and household size have a relationship with poverty in both years, 2007 and 2017. Also, poverty has another link with education and working sector in 2007 and area of residence in 2017, while the remaining determinants do not have partial effects on the income.

Table 4. Testing of Analysis of Variance (ANOVA) in the Year of 2007 and 2017

Demographic	2007				2017			
	Sum of Squares	df	Mean Square	F	Sum of Squares	df	Mean Square	F
(Combind)	4.98E+11	22	2.26E+10	13.76***	1.80E+11	18	9.97E+09	2.99***
Gender	1.21E+09	1	1.21E+09	0.74	4.43E+09	1	4.43E+09	1.33
Residence Area	5.00E+08	1	5.00E+08	0.30	2.33E+10	1	2.33E+10	6.97***
Marital Status	2.25E+08	1	2.25E+08	0.14	6.32E+08	1	6.32E+08	0.19
Age	9.03E+09	2	4.52E+09	2.75*	1.67E+10	2	8.36E+09	2.50*
Education	1.74E+10	2	8.69E+09	5.29***	1.53E+10	2	7.64E+09	2.29
Household Members	4.43E+11	14	3.16E+10	19.25***	1.02E+11	10	1.02E+10	3.05***
Working Sector	1.10E+10	1	1.10E+10	6.71***	2.01E+08	1	2.01E+08	0.06
Model	4.98E+11	22	2.26E+10	13.76***	1.80E+11	18	9.97E+09	2.99
Residual	5.90E+12	3589	1.64E+09		1.91E+12	573	3.34E+09	
Total	6.40E+12	3611	1.77E+09		2.09E+12	591	3.54E+09	

Note: \*\*\* sig. At the level 1%, \*\* sig. At the level 5%, \* sig. at the level of 10%

The results from the inferential analysis model, Multiple Classification Analysis, show similar findings (see Table 5, Table 6 and Table 7). All independent variables have a parallel role in influencing the dependent variable with highly statistically significant at 1% critical value. Similarly, the combined independent variables can simultaneously affect the number of poor workers at the same significance level of 1%. It signs the subsistence of the variation in the income mean of poor workers concerning all observed regressors. Nonetheless, the result from the goodness of fit deduces that only about 9% of effects on the poverty level originated from social-demographic determinants. It already makes sense and is reasonable because as widely-known, there are many other sources of the poverty such as macroeconomic variables, monetary and fiscal condition, environmental and natural resources, conflicts, infrastructure, and so forth.

Table 5: The result of Multiple Classification Analysis (MCA) for 2007

Demography	Category	N	Predicted Mean		Deviation	
			Unadjusted	Adjusted Factors	Unadjusted	Adjusted Factors
Gender	Male	2285	179476.11	180082.57	-1056.58	-450.12
	Female	1327	182352.04	181307.77	1819.35	775.08
Area of Residence	Urban	86	179745.23	182955.04	-787.46	2422.35
	Rural	3526	180551.9	180473.61	19.21	-59.08
Marital Status	Single	912	178289.17	179868.07	-2243.52	-664.62
	Married/ Divorced	2700	181290.5	180757.18	757.81	224.49
Age (year)	< 25	781	180332.8	183187.42	-199.89	2654.73
	25-54	2428	179898.05	179226.5	-634.64	-1306.19
	≥ 55	403	184743.67	183257.45	4210.98	2724.76
Education	≤ Mid-School	3098	179862.87	179653.6	-669.82	-879.09

	High-School	498	184355.16	185566.85	3822.47	5034.16
	Higher-Education	16	191252.97	194058.86	10720.28	13526.17
Number of Household Member	1	5	219010.71	216994.91	38478.02	36462.22
	2	99	194519.82	193796.03	13987.13	13263.33
	3	306	197587.95	197252.64	17055.26	16719.95
	4	723	190138.07	190472.57	9605.38	9939.87
	5	857	183655.35	183934.07	3122.66	3401.38
	6	678	175343.17	175184.57	-5189.52	-5348.12
	7	475	171950.69	171701.05	-8582	-8831.64
	8	261	163811.65	163782.97	-16721.04	-16749.72
	9	129	165324.98	165024.81	-15207.71	-15507.88
	10	58	145336.65	145426.59	-35196.04	-35106.1
	11	10	170546.32	168970.35	-9986.37	-11562.34
	12	3	195907.41	193809.18	15374.72	13276.49
	13	2	204705.13	206036.6	24172.44	25503.91
	14	4	96217.69	93891.5	-84315	-86641.19
	16	2	124593.75	124308.59	-55938.94	-56224.1
	Working Sector	Formal	296	173344.69	174640.94	-7188
Informal		3316	181174.32	181058.61	641.63	525.92

Note: \*\*\* sig. At the level 1%, \*\* sig. At the level 5%, \* sig. at the level of 10%

Having tested the multiple classification analysis (MA) test for 2007, we also performed to second analysis, i.e. testing the MCA for 2017. It aims to investigate the differences between 2007 and 2017 following the monthly income of the worker.

Table 6: The result of Multiple Classification Analysis (MCA) for 2007

Demography	Category	N	Predicted Mean		Deviation		
			Unadjusted	Adjusted Factors	Unadjusted	Adjusted Factors	
Gender	Male	352	313773.63	313512.44	-2069.55	-2330.8	
	Female	240	318878.53	319261.61	3035.35	3418.43	
Area of Residence	Urban	60	338410.55	335746.61	22567.36	19903.4	
	Rural	532	313297.99	313598.44	-2545.19	-2244.8	
Marital status	Single	117	306134.99	312793.16	-9708.19	-3050	
	Married/ Divorced	475	318234.47	316594.45	2391.28	751.27	
Age (year)	< 25	86	302528.21	304093.4	-13314.97	-11750	
	25-54	392	316345.62	315152.3	502.44	-690.89	
	≥ 55	114	324160.14	327082.75	8316.96	11239.6	
Education	≤ Mid-School	440	313216.93	312658.11	-2626.26	-3185.1	
	High-School	137	323025.94	325060.53	7182.76	9217.34	
	Higher-Education	15	327277.5	325087.05	11434.31	9243.86	
Number of Household Members	1	13	317772.98	315616.03	1929.79	-227.16	
	2	38	302312.4	303736.34	-13530.79	-12107	
	3	47	329113.52	330561.4	13270.34	14718.2	
	4	118	317910.7	319260.56	2067.52	3417.38	
	5	135	318499.97	317088.05	2656.79	1244.87	
	6	116	315479.77	316184.07	-363.42	340.89	
	7	52	311812.61	309028.16	-4030.57	-6815	
	8	30	305956.72	309211.25	-9886.47	-6631.9	
	9	21	317835.61	321250.61	1992.43	5407.43	
	10	19	329849.61	320770.28	14006.43	4927.09	
	14	3	150216.84	151368.37	-165626.4	-164475	
	Working Sector	Formal	183	313379.31	316830.34	-2463.88	987.15
		Informal	409	316945.61	315401.5	1102.42	-441.68



Also, after conducting a test of differentiation of worker monthly income in the year of 2007 and 2017, we also perform goodness of fit model and summary of the factor. It can be seen in the Table below:

Table 7: Factor Summary and Goodness of Fit Model

Demography	2007		2017	
	Eta	Beta (Adjusted Factors)	Eta	Beta (Adjusted Factors)
Gender	0.03	0.01	0.04	0.05
Area of Residence	0	0.01	0.13	0.11
Marital Status	0.03	0.01	0.08	0.03
Age	0.04	0.04	0.11	0.11
Education	0.04	0.05	0.08	0.09
Number of Household Member	0.27	0.27	0.23	0.22
Working Sector	0.05	0.04	0.03	0.01
R		0.28		0.29
R-Squared		0.08		0.09

#### 4.2. Discussion

Indonesia is a developing country, in the grouping of countries based on the level of welfare of the people, where one of the problems faced by developing countries including Indonesia is the problem of unemployment. Unemployment is a very complex problem because it influences and is influenced by many interacting factors following a pattern that is not always easy to understand. If unemployment is not

immediately addressed, it can cause social insecurity, and potentially lead to poverty. High population growth creates difficulties for the government to improve people's welfare (Fang et al., 2018 and Rzymowski & Surowiec 2018). The rapid development of the population and in large numbers can cause several new problems, and one of these problems is unemployment. Whereas population growth is increasing rapidly and the larger the number causes the unemployment problem to get worse.

The growth that occurred in the population and the number of the workforce turned out not to be balanced by the high absorption of existing labour. As a result of the lack of absorption of available labour will cause a relatively high unemployment rate (Barnichon & Mesters, 2018 and Naccarato et al., 2018). The existence of unemployment will cause people's purchasing power to decrease so that the demand for goods produced will decrease. Such a situation does not stimulate investors (entrepreneurs) to expand or establish new industries. Thus the level of investment decreases so that economic growth will not be spurred. In addition to high economic growth accompanied by an increase in per capita income, another indicator used to see the success of economic development in a country or region is how the state of open unemployment and poverty rates in the region. The relatively high unemployment rate shows that economic performance is not yet At the optimum limit, or it can be said that there are imbalances between the available resources and the size of the population. For achieving the balance, two things can be done, namely economic development faster or reducing the rate of population growth. Speeding up the pace of economic growth can be done by increasing investment.

In addition to encouraging investment, another important thing is to develop the industrial sector and services; because the industrial and service sectors are sectors that have a high level of productivity compared to the agricultural sector. However, it does not mean that the agricultural sector is abandoned. The industrial and agricultural sectors must be promoted together (Dorosh & Thurlow, 2018). For encouraging the progress of the industrial sector, natural resources must be available as raw materials and sufficient human resources. In order for sufficient quality human resources to be available, the education level of the population must always be improved, as well as their health. The quality of human resources and good levels of health are related to a large number of families in each household. A household with many children who are not too large will have a better chance of obtaining better levels of education and health services compared to families with larger numbers of children. Because with a certain amount of income, smaller members of the household will get a larger share than families with larger family members; so that the number of smaller families will be more likely to be able to access better education and health than larger families. The weakening of the international market due to the global economic crisis has affected the real sector of Indonesia, especially export-oriented industries which absorb labour, such as the garment, footwear, electronics, timber mining industry, crude palm oil and rubber. Today the national industrial sector is not only facing the problem of decreasing selling prices and demand, but also facing the problem of increasing raw material costs, especially imports due to the decline in the rupiah exchange rate, so there is no choice for national industries other than reducing production volumes — dismissal or laying off temporary employees.

## **5. CONCLUSION**

From 2007 to 2017, there is merely a slight change in the economic status and the fate of poor workers in Aceh. All social demographic variables in this study have direct impacts on the income of poor workers where age and marital status are the main determinants followed by a business field in the agricultural sector and the number of household members. Variable age is related to the workers aged below the fertile age (i.e., child labour) and above the productive age (i.e., elderly labour). The government must pay attention to this case through their policies, like the provision of free education for children below the productive age and the benefits or allowances for the elderly to overcome their daily needs. For the marital and household member status, the government should be more attentive to the family planning program such as the postponement for the age of married and the limitation for the number of children. Another required effort to be implemented is an effective and appropriate policy to provide new jobs and to increase job opportunities. The rests of the poverty sources from social-demographic concerns resulted in this study also could not be overlooked by the government and other social planners.

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