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The Demographic Background of Employees' Wages of Aceh in 2017 (Case Study in Ex-Conflict Areas)

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Abstract- *Some area in Aceh are former military operation conflict that have occurred in Indonesia, After the conflict abated, there wa a significant gap in the wage receipts of employees' in Aceh. This research analyzed the factors that influence the wage earning of employees and the effect of factor on the wage in Aceh in 2017, particularly in the demographic background of former conflict areas in Aceh. This research used primary data from the 2017 National Labor Force Survey (Sakernas) conducted by the Central Statistics Agency (BPS). The object of research were employees who receive wages/salaries and benefits, the form of money and goods. The variables used in addition to wages are namely the level of education, age, sex, years of work, and demographics of the work area (urban/rural, ex-conflict/non-conflict). The purpose of this research was to determine the factors that influence wage levels and determine the effect of factor on wage levels in Aceh using Multiple Classification Analysis (MCA), inferential statistical techniques, logistic regression methods and the IBM SPSS program. Variables that had a significant influence with wages base on: the level of diploma education obtains wages 51,72% higher than high school, 19,75% wages of men are higher than women, for wages at productive age (20-60) 25,99% higher. Wages in urban areas were 66,14% higher than in rural areas, but for ex-conflict areas there was a decrease in wages of about 74,03% of the factors that influence the variable wage acceptance of employees.*

Keyword *: Demographic Background, Employees' Wages, Aceh, Ex-Conflict Area*

I. INTRODUCTION

The welfare of the population is currently a concern of all countries throughout the World, especially in the development of the country's development in the global era. A total of 189 countries in the world had a meeting in New York in 200 discussing the Millennium Development Goals (MDG's), which is in the form of the country's commitment to accelerate human development and poverty eradication throughout the world (UNDP, 2015). For the State of the Republic of Indonesia, the State's objectives contained in the Preamble to the 1945 Constitution include: protecting all Indonesians and all spilled Indonesian blood, promoting public welfare, educating the life of the nation, and participating in carrying out world order based on independence, lasting peace and social justice. Problems of community welfare must be realized after creating a sense of security for the community.

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The welfare of the population can be influenced by many factors, one of which is in terms of income or wages. John Maynard Keynes (1883-1946) a British economist stated in his "Keynesian" theory that if the level of income or wages was reduced, the level of income of people in a country would also fall. The decline in income of some members of the community will cause a decrease in people's purchasing power, which in turn will cause overall consumption to decrease. Income or wages obtained from work, people who do not work or unemployed do not have income. This will have an impact on ***purchasing*** power, consumption and low welfare.

According to data from the Central Statistics Agency (BPS), the results of the 2017 labor wage survey, nationally the highest average wage in DKI ***Province*** is around US$240 a month, while the lowest is in D.I. Yogyakarta with an ***average*** wage of US$95 a month. While the national average is in the range of US$150 a month. For the Province of Aceh, the average wage earned is US$148 a month. The highest wages are obtained by employees who work in the main types of jobs, leadership and management personnel for US$325 a month. The lowest wages are earned by employees who work in service workers for US$90 a month. Whereas in determining the 2017 Aceh UMP Aceh Governor Regulation No. 72 of 2016 states that the provincial minimum wage (UMP) for 2017 is US$180 a month.

The employees' in Aceh Province based on the August 2017 National Labor Force Survey (Sakernas) released by the Central Statistics Agency were 788,230 people, male employees' still dominating. Nearly two out of three employees in Aceh are male (62.96%), while the other 37.04 percent are female employees. On the other hand, formal employment is more widely available in ***rural*** areas than in urban areas. This can be seen from the statistics, namely in Aceh Province there were 56.91% of employees' working in rural areas while 347,506 employees lived in urban areas or 43.09% of the total number of workers employed.

Aceh Province itself is one of the former conflict areas of military operations against the separatist Freedom Aceh Movement (GAM) which occurred from 1990 and ended on August 15, 2005 after representatives of the Government of the Republic of Indonesia and representatives of the Freedom Aceh Movement (GAM) met in Sweden precisely in the city of Helsinki by signing a memorandum of understanding that is famous for the Helsinki MoU agreement. After the military operations area ended, Aceh Province reorganized regional development with the authority of regional autonomy over the management of the Regional Budget (APBD) granted by the Indonesian government. The welfare of the Acehnese people in some areas, especially in some conflict-affected areas, there are income and wage gaps that are not in accordance with the UMP set by the government, resulting in low welfare of the people in the Aceh region.

Based on the background ***above***, some of the problems that we want to analyze in this study. The following research questions ***developed***:

(1) What factors affect the level of employees' wages in Aceh?

(2) How much influence does each factor have on the level of wages received by employees' in Province Aceh?

The purpose of this research is to ***examine*** the causal factors that influence the level of wage acceptance, especially on the potential of human resources consisting of education, age, Years of Work, sex and place of residence to get receive of wages in the ***Aceh*** Province. This research is also examinate the wage gap received by employees' who are in areas ex-conflict in the Aceh region. The benefits expected from this research can be used

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as reference material for Indonesia and the other countries that have the same problems in the ex-conflict areas in increasing their wage and income in the countries.

II. Literature Review

2.1 Wages

The purpose of people working is so that people can live from their work. The person wants to work because of the feeling that by working then that person will get Wages / Income / compensation as a source of sustenance to support himself. Compensation is anything that is received by employees in return for their work. Compensation can be given in various forms such as: in the form of giving money, providing materials and facilities and in the form of providing career opportunities. Wages are direct financial rewards paid to workers based on working hours, the amount of goods produced and or the number of services provided. (Rothschild, W. Kurt. 2016).

According to Becker (1993) in Human Capital theory says that the level of wages will depend on education, training, skills, and work ***experience***. In other word the level of income received is determined by human capital in him. Next Becker announced the level of income from labor based on the level of marginal productivity could be increased from the level of investment in human capital.

2.2 Education

According to Schiller (2003) states that the level of labor productivity is influenced by the level of education both directly and indirectly, a high level of education will open access to wider employment opportunities. This can be interpreted if someone has a higher education, it is likely to be more accepted by the labor market.

There are income differences between people who have different levels of education. This is because people who have different levels of education, have different characteristics and abilities that cause different incomes. At the time of education the income earned was lower than after education as a result of increased ability and productivity (Becker, 1993). It can be said that increasing the level of education will increase the ability and productivity that can increase the wage income of employees.

2.3 Gender

In Ismail and Jajri's (2012) research on "Gender Differences and Wage Discrimination in the Malaysian Labor Market", it was stated that women's participation rates in working were lower than men even though they had the same education. It is usually seen that female employees have lower skills and are more difficult to transfer than men.

One source of wage differentials is discrimination. Discrimination occurs when the market offers different opportunities to people who are generally the same, but only differ in race, ethnic group, gender, age, or other personal characteristics. The tendency of women employees to choose the type of work that is physically light, comfortable, pleasant, or harmless, far greater than male workers. This fact clearly determines the income difference between women and men (Mankiw, 2002). This shows that there is wage income for male and female employees.

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2.4 Age

Modigliani, Ando, and Brumberg in 1963 dug deeper to find out what factors influenced the disposable income. Apparently, disposable income is closely related to a person's age during his lifetime. This life cycle model divides life journey into three periods, namely:

1) The period has not been productive, lasting since humans were born, went to school, until the first time they worked. Usually aged zero to 20 years and at ***this*** time they have not generated income.

2) Productive period, takes place at the age of 20-60 years. In this period income initially increased rapidly and reached its peak at the age of 50 years, then declined and no longer earns income.

3) The period is no longer productive, takes place after the age above 60 years. At this age a person does not allow work to earn an income.

2.5 Years of Work

According to Anker and Hein (1986), workers will receive as much wages as the marginal products they produce. The longer the work time of individuals, the more marginal products they produce, so the wages paid will be higher. The company will pay higher wages to experienced workers compared to inexperienced workers. The reason is that experienced workers have been trained so that they have higher productivity compared to workers who have no experience. ***Berardi's*** research (2013) found that work experience as a classic determinant of wages is in line with expectations, namely to significantly increase wages. This shows that years of work and productivity affect the wage income of employees.

2.6 Demographic Background

Bhattacharjee and Roy (2012) in their study entitled "Asia Floor Wage and Global Industrial Collective Bargaining" compared the real wages received by workers in Asia with the lowest income workers in America. His research found that the real wages received ***by*** Asian workers were only around 20-25 percent of the lowest real worker wages in America.

Lewis (1953) developed a special economic model for labor mobility from rural areas to urban areas or from the traditional sector to the modern ***sector*** in urban areas. This model considers that rural development experiences congestion, causing a lot of unemployment and labor productivity is very low and even reaches minus. In urban areas a person has the opportunity to find work as a full-time employee, there are opportunities to work as temporary workers, and even if there are no jobs in both, there is still an opportunity to work alone as a retailer, hawker, craftsman, or do some business that is other. It’s shows that Demographic’s it’s affect the wage income of employees.

2.7 Theoretical and Empirical Literature

Hossain and Haque (2015) in their research "Analysis of Wage Determination Factors and Salary Differences in Bangladesh" to determine the factors that generate income in Bangladesh. His research found that education,

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age, sex and place of work had a ***significant*** effect on the difference in daily wages received by workers in Bangladesh. The four variables above also proved to affect the difference in annual wages received by workers

Bhattarai and Wisniewsky's (2002) study entitled "Determinants of Wages and Labor Supply in the UK" found that age, sex and length of ***schooling*** were the most significant factors affecting the level of wages received by workers in the UK. Meanwhile vocational qualification factors and English as a second language do not have a significant effect on wage levels.

A growing literature review found empirical evidence that the determination of workers' wages is inseparable from the area they live in, and also the origin from which they live (Hsieh, Hsiao, and Lee, 2013). They argue that the work area, as well as the origin of the workers with the determination of wages indicate a relationship. In their journal entitled The ***Impact*** of Health Status on Wages - Evidence From The Quantile Regression "discusses that there is a relationship between the domicile area of workers in China with wages. Their journal focuses on the influence of health factors on wages using sample data collected from the Study of Family Dynamics (PSFD) Panel. This journal also uses Heckman's two-stage model to examine and deal with the problem of sample selection bias that might occur in the estimation of regression wages, for a sample of workers and non-workers. Other results, estimations with Weight Least Squares Estimation (WLS) and The Quatile Regression (QR) show that wages are influenced by aspects of labor supply, such as years of education, work experience, gender, marital status, the realm of work in public or private sector, type of industry, work area, number of employees in the work area, etc.

III. Research Methods

3.1 Development of Hipotesis

Considering the findings of previous studies, this research formulates the research concept as illustrated in Picture 1 below:

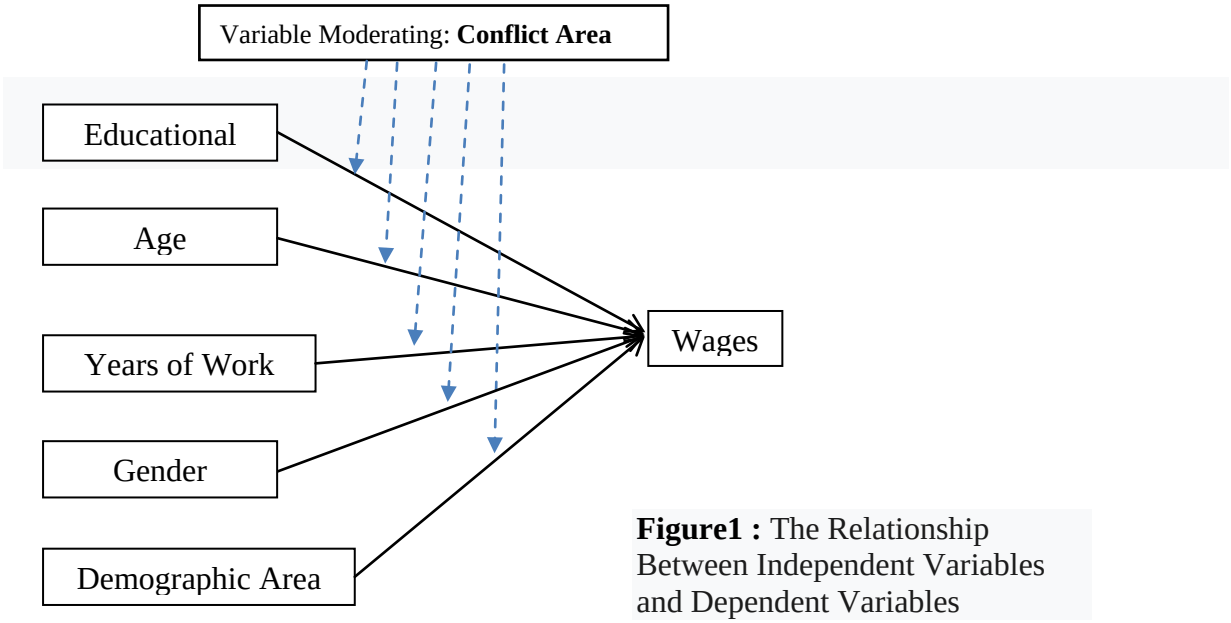

Figure1 : The Relationship Between Independent Variables and Dependent Variables

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The picture above shows that the determination of employees' wages is inseparable from variations in the demographic characteristics of individual workers, which include Education, Age, Years of Work, Gender, and Demograhphic Area. Besides connecting/there is a dependency between the 5 (five) main characteristics of the independent variable, this study offers ***originality***, namely 1 (one) proposed moderating variable that questions whether workers live in districts that enter conflict areas or not.

So, this study has the ultimate goal of ***knowing*** how much influence the characteristics of the population of workers in Aceh in terms of education, age, years of work, sex and place of residence on their wages. The results of the analysis will be controlled by whether workers live in districts / cities that are included in conflict areas or ex-conflict areas GAM-RI.

3.2 Participants and Data Collection

This study covers the area of Aceh ***Province*** which consists of 23 districts / cities, with a population of 2016 as many as 5,096,248 consisting of 1,028,937 households and workforce in Aceh Province as many as 2,257,943.

Individual and household variable targets were obtained from selected household samples from the National Labor Force Survey (Sakernas) in August 2017 conducted by the Central Statistics Agency totaling 784 household census blocks consisting of 7,840 households. Such a sample is considered to be able to represent the estimation up to the level of the City District with the records of diplomatic corps households, households that live in special census blocks and special households that are in ordinary census blocks are not selected in the sample. Data processing is performed using the IBM SPSS program.

3.3 Model and Method Analysis

In this study two analytical methods are used namely descriptive analysis and inferential analysis:

a. Descriptive Analysis

Descriptive analysis was performed using a cross tabulation model. This model is a simple analysis method, but has a power that is strong enough to explain the relationship between variables. Descriptive analysis will be used primarily to study the comparison of wage and resource characteristics using a variety of related variables namely education, age, Years of Work, gender and place of residence.

b. Inferential Analysis

Inferential analysis is used to study the relationship between Wage dependent variables to the independent variables, namely Education, Age, Years of Work, Gender and Residence.

1) ***Independence*** Analysis

To determine the dependence between the two variables, an independence test is performed. The test statistic used is Pearson Chi-Square. Dependency test with Likelihood Ratio is also used because in a large number of samples, the value will be the same as Pearson Chi-Square.

The ***hypotheses*** tested are:

H0: there is no dependency between wages and independent variables (education, age, Years of Work, sex and place of residence).

H1: there is a dependency between wages and independent variables (education, age, Years of Work, gender and place ***of*** residence).

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With a 95 ***percent*** confidence level (α = 5%), then H0 is accepted if the Asymp value. Sig. (2-sided), greater than 0.05 ***and*** H0 is rejected if the Asymp value. Sig. (2-sided) is smaller than 0.05. Other statistical tests that are used to determine the magnitude of the relationship between two variables symmetrically or without determining one as the dependent variable and the other as an independent variable will also be carried out with the Phi test statistics, Cramer's V and Contingency Coefficient. The null hypothesis (H0) used is that there is no relationship between the two variables, and the alternative hypothesis is that there is a relationship between the two variables. The analysis phase aims to examine the relationship of each independent variable (X) to the dependent variable (Y). Further ***dependency*** test results can be used as consideration for selecting variables to be included in the MCA (Multiple Classification Analysis) model.

2) ***Multiple*** Classification Analysis (MCA)

To analyze the determinants that influence wages with independent variables used Multiple Classification Analysis (MCA) analysis tools or Multiple Classification Analysis. Andrews et. Al (1973) states that MCA is a method of analysis in which the independent variable is categorized with a numerical dependent variable. In addition, MCA can also explain the linear and non-linear relationship between the independent variable and the dependent variable. MCA requires that the analyzed data must be individual data. This analysis model was introduced by Yates in ***1934***, then developed by Anderson Bancroft in 1952.

The MCA table can be seen as a method for further describing ANOVA results, especially if interactions between factors are not significant. This method will be very useful to see how an individual trait (attribute variable) such as education, age, Years of Work, gender, or place of residence, affects a factor under study and therefore must be controlled. With MCA, it can be seen whether the influence of these attribute variables is disturbing or encouraging. In this ***case*** the MCA outlines the effect of each category of the variable on the grand mean of the factor under study. It is required here that the factors studied are measured in intervals while the predictor variables are measured in categories.

One important use of MCA is to look at the effect of one predictor on other predictors and control variables on each predictor. By looking at changes in the magnitude of ai, bj, ck, and so on before being released from other predictors, after being released from other predictors, and after being controlled by attribute variables, the pure influence of each predictor and the influence of attribute variables will be known.

Some of the advantages of MCAs include:

a) MCA has the ability to show the effect of each independent variable before and after being controlled by other independent variables and ***covariates*** (attribute variables).

b) The effect of each independent variable in the MCA equation can be expressed in terms of the overall average value of the dependent variable after controlling for other variables. Therefore the adjusted mean score or adjusted average number can be calculated and will be easier to interpret than the beta value or coefficient produced through regression analysis with dummy variables. In a regression analysis with a dummy variable, when compiling a regression equation, one of the categories (the referent category with a value of 0) must be excluded from the analysis. ***Thus***, the categories omitted from the regression analysis will not obtain a bet, even though the other beta coefficients are expressed as deviations from the omitted categories. Instead, the MCA

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coefficient is calculated for all categories of the independent variable, which is in the form of a nominal scale variable and is expressed as a deviation from the average number.

c) MCA is free from restrictions on the use of size scales for its independent variables, meaning that the independent variables can ***be*** the weakest (nominal) size scale.

MCA is a further ***analysis*** of the ANOVA table, so the model used is an additive linear model Mathematically, the MCA Model can be shown by the following equation:

$$Y_{ijklm} = \bar{y} + DIK_i + UM_j + MK_k + JK_l + TT_m + e_{ijklm}$$

Information :

Yijklm = Wages in the i-th ***category*** of DIK variable (Education), j-th category of UM variable (Age), k-th category of MK variable (Years of Work), the l-th category of JK variable (Gender), m-category TT variable (Residence)

$\bar{y}$ = average overall income of workers (Grand Mean)

DIKi = effect of the i-th category of the DIK variable (Education)

UMj = effect of the j-th category of the AGE variable (Age)

MKk = effect of the k-th category of the MASKER variable (Years of Work)

JKl = effect of the l-th ***category*** of the JK variable (Gender)

TTm = effect of the m-th category of the TT variable (Residence)

eijklm = error for individuals who correspond to Yijklm

The coefficients aiˆ, bjˆ, ckˆ, dlˆ, and emˆ are the estimated values of the model parameters of the DIK, UM, MK, JK, and TT variables that can be searched by the least squares method through the normal equation:

$$a_i = DIK_i - \bar{Y} - \frac{1}{W_i}\sum_j W_j b_j - \frac{1}{W_i}\sum_k W_k c_k - \frac{1}{W_i}\sum_l W_l d_l - \frac{1}{W_i}\sum_m W_m e_m$$

$$b_j = UM_j - \bar{Y} - \frac{1}{W_j}\sum_i W_i a_i - \frac{1}{W_j}\sum_k W_k c_k - \frac{1}{W_j}\sum_l W_l d_l - \frac{1}{W_j}\sum_m W_m e_m$$

$$c_k = MK_k - \bar{Y} - \frac{1}{W_k}\sum_i W_i a_i - \frac{1}{W_k}\sum_j W_j b_j - \frac{1}{W_k}\sum_l W_l d_l - \frac{1}{W_k}\sum_m W_m e_m$$

$$d_l = JK_l - \bar{Y} - \frac{1}{W_l}\sum_i W_i a_i - \frac{1}{W_l}\sum_j W_j b_j - \frac{1}{W_l}\sum_k W_k c_k - \frac{1}{W_l}\sum_m W_m e_m$$

$$e_m = TT - \bar{Y} - \frac{1}{W_m}\sum_i W_i a_i - \frac{1}{W_m}\sum_j W_j b_j - \frac{1}{W_m}\sum_k W_k c_k - \frac{1}{W_m}\sum_m W_m e_m - \frac{1}{W_m}\sum_n W_n f_n$$

Where:

DIK_i = The average value of Y for the case in the i-th category of the independent variable DIK

$$DIK_i = \frac{\sum_i \sum_j \sum_k \sum_l \sum_m Y_{ijklm}}{W_i}$$

or Wages obtained in the i category in the Education variable.

Wi = the number of individuals / ***observations*** of the i-category in the Education variable

The same thing applies to the UM, MK, JK, and TT variables

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3) Assumption of Linear Additives

Referring to the theory of Andrews, et al (1972), before using the MCA method further, there is an assumption that must be fulfilled first, namely simple linear additivity, meaning that each independent variable that affects the dependent variable does not interact with each other. In other words there are no independent variables that are substitutes or ***parts*** of other independent variables. To test the assumption of the presence / absence of interaction between pairs of independent variables, the testing procedure with Anova is used. The real value of F (p-value) in the Anova table is compared with the α value or the significance level of 5 percent.

The hypothesis to be tested is as follows:

H0: there is no dependency between ***wages*** and independent variables (education, age, Years of Work, sex and place of residence).

H1: there is a dependency between wages and independent variables (education, age, Years of Work, gender and place of residence).

Ho will be rejected if the significance value F is less than 5 percent, otherwise Ho will be accepted if the significance value is more than 5 percent.

Systematically testing the interactions conducted, detailed in three stages, namely:

(1) Test the value ***of*** F : If the significance value is F <5 percent, it means that there are interactions between the variables tested (testing continues in the second stage). If the significance value is F ≥ 5%, it means that there is no interaction between the variables tested (assumption testing is sufficient until this stage)

(2) Calculate ***the*** ratio of the main effect

$$Rasio = \frac{SS_{\text{int}\,eraksiantarpasangan\,\text{var}\,iabelbebas}\,(AB)}{SST_{total}}$$

If the result of the ratio is> 10 percent, it means that there is an interaction between the tested variables that cannot be ignored, and the testing is continued at the third stage. Instead the results of the ratio ≤ 10 percent, then the interaction between the tested variables can be ignored and the assumption testing stops.

(3) Calculate ***the*** ratio to total

$$Rasio = \frac{SS_{\text{int}\,eraksiantarpasangan\,\text{var}\,iabelbebas}\,(AB)}{SST_{total}}$$

If the ratio is> 1 percent, it means that there is an interaction between the variables tested, and analysis using MCA cannot be done. If the ratio ≤ 1 percent, it means that the interaction between the variables tested may be ignored ***or*** it can be said that the interaction is completely absent and the assumptions of the additive model can be fulfilled.

If there is a significant interaction between the tested variables, one of the independent variables that has the lowest main effect is excluded from the analysis. And so on so that we get Anova which no longer contains significant interactions (Andrews, 1973).

Using SPSS assistance, an output which displays two major sections, namely the Anova Table and the MCA Table. The assumption testing procedure that has been explained before, can see the significance value F in the

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resulting Anova Table output. If the assumptions have been met, then the analysis can be continued in the MCA Table.

3) Eta, Beta and R2 coefficients

In the MCA Table, all ***effects*** are expressed as deviations from the final mean. In the table also produced Eta and Beta values which are correlation coefficients. Eta (η) is the value of the closeness of the relationship of an independent variable with the dependent variable before other independent variables are taken into account, while Beta (β) is the eta value after being freed from the influence of other predictors and attribute variables (control variables). Furthermore the closeness of the relationship of each independent variable is also called partial correlation.

Calculations for eta and beta are as follows:

(a) Eta Coefficient (η)

$$\eta_i = \sqrt{JKG_i/JKT}$$

Where :

ηi = partial correlation of i-i independent variable

JKGi = number of squares between i-th variable categories

$$JKG_i = \sum_i \sum_j n_{ij} \left(\sum_i \sum_j \bar{Y}_{ij} - \bar{Y} \right)^2$$

JKT = total number of squares

Y¯_ij = average of the jth category of the i-th variable

Y¯ = total average (Grand Mean)

n = many cases of j-th category of i-th variable

(b) Beta coefficient (β)

$$\beta_i = \sqrt{JKS_i/JKT}$$

Where:

βi = partial correlation adjusted i i variable

JKSi = number of adjusted squares between i-th variable variables

The amount of variation of the dependent variable that can be explained by the independent variable can be known from the coefficient of determination R2. Like the eta and beta coefficients, R2 can be calculated before adjusting. Calculation of the proportion of variation of the dependent variable that can be explained by the independent variable still includes elements of the independent variable which is still influenced by other independent variables. While R2 adjusted in the calculation has included elements of the independent variable that is not influenced by other factors.

IV. Result

4.1 Overview of Employees in Aceh

Employment data collected by the Central Statistics Agency through several surveys and censuses include Population Census (SP), Inter-census Population Survey (SUPAS), National Socio-Economic Survey

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(SUSENAS) and National Labor Force Survey (SAKERNAS). The National Labor Force Survey (SAKERNAS) is an important and strategic source of employment data in Indonesia, the National Labor Force data is widely used by various groups, both at home and abroad. Sakernas is specifically designed to collect data that illustrates the general state of employment ***between*** periods of enumeration.

Taken from the SAKERNAS enumeration manual issued by BPS that the labor theory approach used in SAKERNAS since 1984 uses ***the*** Standard Labor Force Concept set out in the 13th 1982 International Conference of Labor Statistics (ICLS). In 2013, the International Labor Organization (ILO) held the 19th ICLS which resulted in the development of several concepts of the definition of employment variables, as well as adjusting the concept of productive activities (which in the 19th ICLS is called work) with production limits that refer to the National Account System (SNA) 2008.

Starting in 2016, the Sakernas questionnaire has adopted 2 labor standard concepts from the 13th ICLS and the 19th ICLS even though the ***19th*** ICLS concept has not been fully accommodated. And in Sakernas 2017 improvements were made to the application of the 19th ICLS concept including the flow of questions and the addition of several questions in the questionnaire.

The magnitude of the August 2017 Sakernas sample throughout Indonesia is 20,000 census blocks, which consists of 5,000 Sakernas sample census blocks for February 2017 and 15,000 census blocks are additional Sakernas samples. The addition of a sample of 15,000 census blocks is intended to obtain data estimates up to the district / city level. Diplomatic corps households, households that live in special census blocks and specific households that are in the usual census block are not selected in the sample. Whereas for August Sakernas samples in Aceh Province amounted to 784 census blocks or as many as 7,840 households scattered in Regencies / Cities with 600 employees consisting of 408 enumerators (PCL) and 192 Supervisors (PML), with details as the following Table 1. From each selected household information is collected about the general condition of each household member that includes the name, relationship to the head of the household, sex, month and year of birth and age. Household members aged 5 years and over are asked school participation, education, housing 5 years ago, disability, activities a week ago, additional questions related to the new concept of employment, activities to find work / prepare for a new business, main and additional work, working hours throughout the work, as well as work experience. Whereas for household members aged 10 years and over, information about marital status was also asked.

Table 1: List of samples, Number of Officers and Number of Households Sakernas, and Ex-Conflict Areas, Non-Conflict Area (Source : BPS, SAKERNAS 2017)

Regency / City	**NAME OF REGENCY / CITY**	**SAK Annual**				**Regional Household**	**Areas Ex-Conflict / Non-Conflict**
		SAMPLE BS	**The Officer**				
			PCL	**PML**	**TOTAL**		

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1	2	3	4	5	6	7	8
1	Simeulue	28	15	7	22	280	Non Conflict
2	Aceh Singkil	24	12	5	17	240	Non Conflict
3	Aceh Selatan	36	19	9	28	360	Ex-Conflict
4	Aceh Tenggara	36	19	9	28	360	Non Conflict
5	Aceh Timur	40	20	9	29	400	Ex-Conflict
6	Aceh Tengah	36	19	9	28	360	Non Conflict
7	Aceh Barat	36	19	9	28	360	Ex-Conflict
8	Aceh Besar	40	20	9	29	400	Ex-Conflict
9	Pidie	44	23	11	34	440	Ex-Conflict
10	Bireuen	40	20	9	29	400	Ex-Conflict
11	Aceh Utara	52	27	13	40	520	Ex-Conflict
12	Aceh Barat Daya	28	15	7	22	280	Ex-Conflict
13	Gayo Lues	28	15	7	22	280	Non Conflict
14	Aceh Tamiang	36	19	9	28	360	Ex-Conflict
15	Nagan Raya	32	16	8	24	320	Ex-Conflict
16	Aceh Jaya	28	15	7	22	280	Ex-Conflict
17	Bener Meriah	32	16	8	24	320	Non Conflict
18	Pidie Jaya	32	16	8	24	320	Ex-Conflict
19	Banda Aceh	36	19	9	28	360	Ex-Conflict
20	Sabang	20	11	5	16	200	Non Conflict
21	Langsa	36	19	9	28	360	Ex-Conflict
22	Lhokseumawe	36	19	9	28	360	Ex-Conflict
23	Subulussalam	28	15	7	22	280	Non Conflict
	Amount	784	408	192	600	7.840	

The Province of Aceh has a grim historical experience, experiencing a uncomfortable situation in people's lives, namely conflict. Although initially only a few regions were always experiencing a hot situation, but by the year 2000 almost all regions experienced quite complicated conflicts. As many as 74,03% of workers are in conflict areas and only a quarter are doing their jobs more comfortably.

Table 2. Overview of Average Wage Workers used as research samples

		Wage	
		Mean	Count
Demographic	Non-Conflict	114	1.020
	Ex-Conflict	105	2.908
Residence	Urban	125,5	1.330
	Rural	101,5	2.598
Gender	Man	121	2.695

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	Women	83,5	1.233
Education	Middle School	98	2.618
	High School	123,5	1.142
	Diploma and above	188	168
Age	20 and below	71,5	137
	20 – 60	112,5	3.443
	61 and above	95,5	348
Years of Work	< 5 th	98,5	1.691
	5-9,99 th	120,5	811
	> 10 th	116	1.426
	Total	107	3.928

Table 3. General Overview of Wages by Worker Characteristics 2017

Characteristics		Wages					N Percent
		Areas Non-Conflict		Areas Ex-Conflict		Average Value ($)	
		Average ($)	N Percent	Average ($)	N Percent		
Demographic	Urban	135	23,46	116	76,54	125,5	33,86
	Rural	105	27,25	98	72,75	101,5	66,14
Gender	Man	124	25,97	118	74,03	121	68,61
	Women	91	25,95	76	74,05	83,5	31,39
Education	Middle School	100	24,64	96	75,36	98	66,65
	High School	128	30,21	119	69,79	123,5	29,07
	Diploma & Above	238	17,86	138	82,14	188	4,28
Age	20 & below	75	30,66	68	69,34	71,5	3,49
	20 – 60	117	25,99	108	74,01	112,5	87,65
	61 & above	102	23,85	89	76,15	95,5	8,86
Years of Work	< 5 th	101	27,14	96	72,86	98,5	43,05
	5-9,99 th	129	27,87	112	72,13	120,5	20,65
	> 10 th	122	23,49	110	76,51	116	36,30
	Total Average	114	25,97	105	74,03	109,5	100,00

The first tangible evidence is the difference in the wages of workers in conflict areas which are US$20 lower than the wages of their colleagues in safe areas. A total of 3928 workers became the object of research, with a variety of different characteristics. These differences can have different effects on the wages of each worker.

1) ***Demographic***

When seen from table 3, the majority (66.14 percent) of workers live in rural areas and around one third are in urban areas. ***The*** wages of workers in urban areas are relatively greater than in rural areas, the difference

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between the two reaches more than Rp. 280 thousand. Furthermore, there is a fact that both in conflict areas and in non-conflict areas the wages of urban workers are higher than those in rural areas.

2) ***Gender***

For sex, man sex still dominates workers in Aceh, man employees are 68.61% while for women 31.39%. Meanwhile, when viewed from wage ***re***ceipts, wages received by male employees differed by 19.75% which was US$119 for wages received by man workers and US$80 for wages of female employees.

3) ***Education***

Urban communities tend to be more educated than rural communities, because among other things in urban education facilities are better. So employees with higher education will be paid better wages. For workers with junior high school education and below, the difference between wages in urban and rural areas is only around US$9. However, in the equivalent high school education, wage differences in urban and rural areas are increasingly visible, which is US$ 17,5. Even for workers educated above high school the wage differentials between the two regions reached US$70 more.

Nearly two-thirds of workers in rural areas have the highest number of junior high school graduates/equivalent, one quarter have high school graduates, and the rest are diplomas/graduates. While workers in urban areas have around 56% of junior high school graduates and 7 percent of graduates from diploma/tertiary institutions. Differences in urban development and differences will lead to differences in application in the field of technology so that it will cause differences in productivity levels and income differences.

4) Age

As many as 87.65% of workers are in the age group of 20-60 years. The rest are workers under 20 years at 3.49% and 8.86% for workers over 60 years. Whereas the highest wages received by workers are received by groups of workers aged 20 - 60 years in the amount of US$110 while if the area is separated into conflict and non-conflict areas, the wage ***differentials*** obtained by workers in conflict areas are lower by US$8 compared to US$8 non conflict area.

5) Years of Work or Years of Work

Another ***interesting*** fact is that urban workers with more than 10 years of work experience than rural workers with the same time period. This situation also increasingly assures us that experience. long work has an effect on labor productivity so that they will get a bigger wage. On the other hand, workers with minimal experience are mostly found in rural areas. Any job in rural areas is often the last choice of beginner job seekers, even with minimal wages.

4.2 Interrational Test Variable

To determine whether or not there is a dependency between the dependent income variable and each dependent variable the dependency test is used. Pearson Chi-Square test statistics and Likelihood Ratio indicate that there is a significant dependency between income and each independent variable, as shown in the Table 4.

Relationship test results using Phi test statistics, Cramer's V, and Contingency Coefficient between two variables symmetrically are ***rejecting*** H0, meaning that there is a relationship between income with each

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independent variable. The strength of the relationship between the two variables can be seen in Table 5 column (3) and for the significance found in column (4).

In accordance with ***the*** significance of the dependency test Table 4 and Table 5, the strongest successive relationship is between ***wages*** with sex, wages with Education, and wages with age. Meanwhile, the weakest relationship is between wages and three places compared to wage relationships with other variables, but it is still significant.

Table 4. Test the Dependence of Several Variables on Wages

The Relationship Between Variable	Statistic Test	Value	Df	Asymp. Sig (2-sided)
Wages * Demographic	Pearson Chi Square	336.587[a]	287	.023
	Likelihood Ratio	412.128	287	.000
Wages * Gender	Pearson Chi Square	704.366[a]	287	.000
	Likelihood Ratio	777.101	287	.000
Wages * Education	Pearson Chi Square	683.825[a]	574	.001
	Likelihood Ratio	595.727	574	.257
Wages * Age	Pearson Chi Square	654.439[a]	574	.011
	Likelihood Ratio	458.430	574	1.000
Wages * Years of Work	Pearson Chi Square	622.417[a]	574	.079
	Likelihood Ratio	696.909	574	.000

Source: BPS, SAKERNAS 2017 (processed)

Table 5. Test the Relationship of Several Variables to Wages

Hubungan antara Variabel	Uji Statistik	Value	Approx. Sig.
(1)	(2)	(3)	(4)
Wages * Demographic	Phi	**.293**	**.023**
	Cramer's V	**.293**	**. 023**
	Contingency Coefficient	**.281**	**. 023**
Wages * Gender	Phi	**.423**	**.000**
	Cramer's V	**.423**	**.000**
	Contingency Coefficient	**.390**	**.000**
Wages * Education	Phi	**.417**	**.001**
	Cramer's V	**.295**	**.001**
	Contingency Coefficient	**.385**	**.001**
Wages * Age	Phi	**.408**	**.011**
	Cramer's V	**.289**	**.011**
	Contingency Coefficient	**.378**	**.011**
Wages * Years of Work	Phi	**.398**	**.079**

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	Cramer's V	**.281**	**.079**
	Contingency Coefficient	**.370**	**.079**

Source: BPS, SAKERNAS 2017 (Processed)

The results of the two tests above will strengthen further inference analysis using MCAs. Therefore all independent variables (place of ***residence***, gender, education, age, and years of work) can be included in the MCA model.

4.2 Multicollinearity Between Variable

The inferencing analysis used is Multiple Classification Analysis (MCA). MCA is used to determine the main effect (main effect) of each independent variable on the dependent variable both before and after the influence of other variables released in the analysis.The magnitude of the influence of the independent variable can be shown in the difference in average income and also to the magnitude of the correlation of each independent variable (partial / beta correlation) and the coefficient of determination (R2)

Main effect or the main influence is the direct influence of the independent variable on the dependent variable. Just like testing the average difference using the Anova Table, so also applies to testing the main effect of each independent variable of the MCA model.

Table. 6. Main Effect of Variable Free on Wages in Conflict Areas Variable

Variabel			**Hierarchical Method**				
			Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Wages	Main Effects	(Combined)	**880418383728403,500**	**7**	**125774054818343,360**	**197,014**	**,000**
		Education	**69574449161752,920**	**2**	**34787224580876,460**	**54,491**	**,000**
		Ages	**301872455263867,060**	**2**	**150936227631933,530**	**236,428**	**,000**
		Dermographic	**1122684246697,875**	**1**	**1122684246697,875**	**1,759**	**,185**
		Gender	**507281358088172,100**	**1**	**507281358088172,100**	**794,612**	**,000**
		Years of Work	**14541254960680.250**	**1**	**14546227631921,760**	**228,980**	**,000**

Source: BPS, SAKERNAS 2017 (Processed)

Based on Table 6 in the 5 percent confidence level, all independent variables are significant except for the residence variable, it can be concluded that there are differences in average Wages in conflict areas between categories both in the Education, Age, and Gender variables. As for the residence variable, there is not too much

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difference between those living in ***urban*** and rural areas. In addition, testing the significance of the model that contains all independent variables is also carried out with the following hypothesis:

H0: the effect of the independent variable simultaneously is meaningless in the model

H1: the effect of ***simultaneous*** independent variables is meaningful in the model

The Anova results above show that the p-value combined testing is significant, so it was decided to reject H0 and it can be concluded that the effect of the independent variables simultaneously is meaningful in the model. This can be understood because testing the main effect (main influence) of each independent variable gives a real influence on Wages.

Because the MCA model requires that there are no interactions between the independent variables (linear additives), then before the analysis is conducted, it is seen whether there are interactions between the independent variables ***using*** the Anova Table. Two independent variables are said to have interactions if the p-value testing of the two independent variables is smaller than $\alpha = 0.05$. Based on the description above we can see the additive effect of the independent variables according to categories based on the adjusted deviation that is formed are as follows:

$$Y_{ijklm} = 109{,}5 + DIK_i + UM_j + MK_k + JK_l + TT_m$$

Information :

Yijklm = Wages in the i-th category of DIK variable (Education), j-th category of UM variable (Age), k-th category of MK variable (Years of Work), the l-th category of JK variable (Gender), m-category TT variable (Residence) it's mean that

109,5 = average overall income of workers (Grand Mean)

DIKi = effect of the i-th category of the DIK (Pendidikan) variable (Education)

UMj = effect of the j-th category of the UM (Umur) variable (Age)

MKk = effect of the k-th category of the MK (Masa Kerja) variable (Years of Work)

JKl = effect of the l-th category of the JK (Jenis Kelamin) variable (Gender)

TTm = effect of the m-th category of the TT (Tempat Tinggal) variable (Residence)

V. Discussion

The result of this ***Research*** is the combination of categories of influence of each independent variable will produce various combinations of average income earned by a worker in the conflict area. Based on this model, a worker who works in a conflict area will get the highest income if:

1. D1 education level and above;
2. Being in the age group of 20-60 years
3. Years of Work above 10 years
4. Male sex; and
5. Residing in urban areas

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With these characteristics, a worker who is in ex-conflict area will get the highest income of US$190,5. While the lowest income from workers in ex-conflict areas is US$25. The income is obtained under conditions where the characteristics of ***workers*** who are in conflict areas are:

1. Junior high school level and below;
2. Being in the age group below 20 years
3. Years of Work under 5 years
4. Female sex; and
5. Residing in the Rural area

Variables that have a significant influence with wages base on: the level of diploma education obtains wages 51,72% higher ***than*** high school, 19,75% wages of men are higher than women, for wages at productive age (20-60) 25,99% higher. Wages in urban areas are 66,14% higher than in rural areas, but for ex-conflict areas there is a decrease in wages of about 74,03% of the factors that influence the variable wage acceptance of employees.

VI. Conclution

6.1 Strengths and contributions of the study

Based on the results of the research and the discussion regarding the demographic factors that affect the wages of workers in Aceh in 2017 the following conclusions can be drawn:

1) There is a dependency between wages and independent variables (education, age, Years of Work, gender and place of residence) so that the H1 hypothesis is accepted.

2) Demographic factors that greatly affect the wages of employees in Aceh in 2017 are the age factors with the lowest eta and beta values of 0.0897 and 0.737.

3) The highest average wage for workers earned by Aceh in 2017 after entering the conflict variable, namely, workers who have education D1 and above with a wage of US$156.

4) Whereas workers aged 20 years and under have the lowest average wages of US$76.

Age or age influences income also stated by Ours & Stoeldraijer (2010) in their journal, concluded that productivity and wage costs will change with age, but they cannot refuse that age has the same effect on productivity and wage costs. Worker productivity will eventually fall at a higher age, but it is not yet clear where the turning point of the productivity profile will be, as long as there is a wage gap and productivity at a high age, the effect of this age will tend to be small.

In terms of education Wahyuni and Monika (2016) suggest that there is a finding that the effect of education on income ***increases*** with the increase in income distribution, in other words that the increase in income due to higher education in the top income distribution results in income inequality. The effect of education on different income is likely influenced by over education.

6.2 Limitations and future directions

This research has limitations on primary research data used in one province ex-conflict in Indonesia, for further research is expected to *further* expand the research area into one part of the country. Some suggestions that can be conveyed are as follows:

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1) For the Government, it must ensure that every company/employer pays workers 'wages above or equal to the Provincial Minimum Wag***e*** (UMP) so that workers' welfare can improve and open up businesses that can provide jobs to the people who unemployed in the form of full-time employment so they can earn income. For areas that are recovering from the former conflict, the government is expected to give more special attention in the process of restoring the development of community income.

2) For the Employers 'Organization, not only exploiting workers unfairly, but must treat workers as partners, and pay workers' wages ***in*** accordance with the Provincial Minimum Living Standard or Minimum Wage (UMP).

3) For the community/workers/labor unions, must improve education and work skills through job training so that skills and ***productivity*** increase so that workers can get higher wages that can increase Workers' welfare, in addition, workers should not be too demanding wages from employers / companies too high beyond the ability of employers/companies if ***wages*** are paid according to the Provincial Minimum Wage standard (UMP).

4) Wage Council whose members come from government representatives, employers, and labor union a can produce wage policies that benefit / are accepted by all parties both by workers and employers so that no party feels treated unfairly.

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