CHAPTER IV

RESEARCH REVIEW AND DISCUSSION

A. Research Review

In This study the wage in manufacturing sector is a dependent variable that will be influenced by some independent variables. These variables are used to measure the wage by people in Indonesia (individual data from IFLS-5 households). The discussion will be presented through descriptive analysis between the dependent and independent variable. The dependent in this study is wage in manufacturing sector, while the independent variable is education, experience, age, health status and area of living. This study used a sample from respondents in the IFLS-5 data who worked, had wages and provide complete information about the variables needed. IFLS-5 data respondents who have qualified for this study are 1175. Bellow is a table of descriptive statistical analysis.

Table 4. 1
Descriptive Statistic

Variable	Mean	Minimum	Maximum	Std.dev	Observation
Wage	2201346	2500	32.000.000	2063121	1175
Educ	10.03234	0	18	3.272514	1175
Experience	3.125957	0	12.83333	3.222064	1175
Age	32.7617	15	72	9.406823	1175
Health Status	.8391489	0	1	.36755	1175
Area of Living	.7770213	0	1	.4164214	1175

Source: Data Processed

From the table descriptive statistic above can be explainded as follows :

1. Wage

The wage in manufacturing sector in 1175 samples which has the average Rp 2.201.300,00 with the minimum wage of Rp 2.500 and the maximum wage Rp 32.000.000. The amount of inequality wage can be seen from the standard deviation value of Rp 2.063.100,00.

Table 4. 2
Frequency of wage in manufacturing sector

Wage	Frequency	Percent
< Rp 500.000	91	7.74
Rp 500.000 - Rp 1.500.000	334	28.43
Rp 1.500.000 - Rp 2.500.000	362	30.81
Rp 2.500.000 - Rp 3.500.000	235	20
Rp 3.500.000 - 4.500.000	72	6.13
> Rp 4.500.000	81	6.89
Total	1175	100.00

Source: Data Processed

Table 4.2 tells about the wage frequencies which less than Rp 500.000 has percentage 7.74 percent. The smaller frequency is the workers who earn wage Rp 3.500.000 – Rp 4.500.000 as much as 72 people or 6.13 percent. The higher frequency is the workers who earn wage Rp 1.500.000 – Rp 2.500.000 as much as 362 people or 30.81 percent. Workers who earn wage more than Rp 4.500.000 as much as 81 people or 6.89 percent.

2. Education

In this study, the level of education divided into no school, elementary school, junior high school, senior high school and diploma or university. A percentage level of education in manufacturing sector can show in table 4.3

Table 4. 3
Educational Attainment

Level of education	Frequency	Percent
No School	9	0.77
Elementary School	238	20.26
Junior High School	256	21.79
Senior High School	585	49.79
Diploma	41	3.49
University	46	3.91
Total	1175	100.00

Source: Data Processed

Table 4.3 describes the level of education earned by individuals in IFLS-5 household's data. from 1175 total observation overall has completed senior high school which has 585 people or 49.79 percent, the smaller percentage that has no school only 9 people or 0.77 percent, 238 people or 20.26 percent has completed elementary school, 256 people or 21.79 percent has completed junior high school and then 41 people or 3.49 percent has completed diploma while 46 people or 3.91 percent has graduated from university.

From table above show most of workers in manufacturing sector has completed senior high school, while the minority has completed diploma and university. Many of employment has lower education indicate that the level of education in manufacturing sector is quite lower.

3. Experience

Based on table 4.1 Experience with the total observation 1175 has the average 3.125957, the minimum value is 0, the maximum is 12.83333

and the standard deviation is 3.222064. Table 4.4 bellow describe the frequency of experience in manufacturing sector.

Table 4. 4
Experience Data

Experience	Frequency	Percent
> 3 years	714	60.77
< 3 years	461	39.23
Total	1175	100.00

Source: Data Processed

Based on table 4.4 from 1175 observation overall has experience more than 3 years with the frequency 714 people or 60.77 percent and less than 3 years has frequency 461 people or 39.23 percent. In a fact most of workers has experience more than 3 years.

4. Age

Table 4.5 tells the variable age with 1175 observation with the average 32 years, the lowest age is 15 years and the highest is 72 years. Table 4.5 describe the frequency of age.

Table 4. 5
Age data

Age	**Frequency**	**Percent**
<= 25 Years Old	304	25.87
26 - 30 Years Old	448	38.13
36-50 Years Old	368	31.32
> 50 Years Old	55	4.68
Total	1175	100.00

Source: Data Processed

Based on table 4.5 from 1175 total observation most ages of people manufacturing sector attain the age of 26 – 30 years old as much as 448

people or 38.13 percent, the smallest number occupied age of > 50 years old as much as 55 people or 4.68 percent. This is indicated that the workers in manufacturing sector mostly young people compare to older workers, which means the high proportion young workers has good potential for human resource productivity in Indonesia.

5. Health Status

Table 4.1 describes the variable of health status with the total observation 1175 people with the average .8391489, the minimum is 0 which means unhealthy and the maximum is 1 which means healthy. Table 4.6 below will tell the frequency of health status.

Table 4. 6
Health Status Data

Health Status	Frequency	Percent
Unhealthy	189	16.09
Healthy	986	83.91
Total	1175	100.00

Source : Data Processed

Table 4.6 explains the frequency of people feel healthy and unhealthy in manufacturing sector. This study used 1175 total observations, the frequency of people who feel health is 986 people or 83.91 percent. Meanwhile, people who do not feel health is 189 or 16.09 which means mostly the workers is manufacturing sector is healthy.

6. Area of Living

Based on table 4.1 explain the variable area of living with total observation 1175 has average .7770213, with the minimum value is 0

which means rural area and the maximum is 1 which means urban area. Table 4.7 explains the frequency area of living.

Table 4. 7
Area of Living Data

Area of Living	Frequency	Percent
Rural	262	22.30
Urban	913	77.70
Total	1175	100.00

Source : Data Processed

7. Normality Test

Normality test aims to analyze whether the data that used in the regression is normally distributed or not. This study used Shapiro Wilk test in normality test.

Table 4. 8
Normality Test

Variable	Obs	W	V	Z	Prob>z
R	1175	0.91747	60.290	10.217	0.00000
Wage	1175	0.61610	280.450	14.049	0.00000
Education	1175	0.97505	18.228	7.236	0.00000
Experience	1175	0.84701	111.763	11.756	0.00000
Age	1175	0.97324	19.551	74.111	0.00000
health status	1175	0.99375	4.562	3.783	0.00008
area of living	1175	0.99675	2.375	2.156	0.01554

Source: Data Processed

The table shows that all of variable is normal or not distributed. Gujarati (2009) said if the normality test is dominant, not normal, then the assumption that can be used is the Central Limit Theorem assumption. The central limit theorem is a condition where the amount of observation is enough (n>30), then the normality assumption can be ignored.

8. Heteroscedasticity Test

The test of heteroscedasticity on this research data by Breusch-Pagan test Cook and Weisberg (1983) shows the data does not have heteroscedasticity.

Table 4. 9
Heteroscedasticity

chi2 (5)	80.09
Prob > chi2	0.0000

9. Multicolinearity Test

The test of multicolinearity on this research aims to determine the existence linear relationship between independent variable in the regression model. Multicolinearity test in this study can be seen from the value of *Tolarance or Variance Inflation Factor* (VIF).

Table 4. 10
Multicolinearity

Variable	VIF	1/VIF
Education	1.14	0.873810
Age	1.11	0.903849
AreaofLiving	1.03	0.975129
Experience	1.02	0.979783
Healthstatus	1.01	0.986290
Mean VIF	1.06	

The table shows the VIF < 10, it means the regression is free from the problem of multicollinearity. Gujarati (2007) provided some indicators that can be used to see the presence of Multicollinearity on a regression equation and one of the indicator is the value of *the variance inflation factor* (VIF).

B. Linear Regression Analysis

The analysis of linear regression in this study aims to analyze the influnce independent variable are education level (X1), experience (X2), age (X3), health status (X4) and area of living (X5) to dependent variable which is wage (Y). Furthermore, in this study using stata as a tool of anaysis for linear regression. As a result show table bellow:

Table 4. 11
Linear regresion

Variable	Coefficient	Robust Std. Error	Prob
C	1.259.989	.1548869	0.000
Education	.1132031	.0081739	0.000
Experience	.0248869	.0066843	0.000
Age	.0091346	.0026535	0.001
Health Status	.0145506	.0623789	0.816
Area of Living	.2262575	.0650141	0.001
R^2	0.2081		
N	1175		
F-hitung	52.56		

Source: Data Processed by Stata

Based on the table above is the result of processing data that use linear regression using data IFLS-5 with the total observation 1175. As the results show that not all variable is significant with the probability value is < 0,005. Therefore, the wage in manufacturing sector is influenced by educational attainment, experience, age and area of living, while health status has probability > 0,05 which means the variable health status does not give impact to the wage.

C. Discussion

The purpose of this study is to identify and observe the relationship between education attainment and wage in Indonesian manufacturing sector. In particular, the long-term target of this study is to provide a direct relationship between years of education of people and their earnings. Bellow is the result of analysis:

1. The impact education on wages

The impact educational attainment on wages based on analysis result show the variable education has a positive and significant correlation with wage with the level of probability 0.000 or on the level of significant at 1%. Therefore, and additional year of schooling in 1 year will increase earnings as much 0,1132031%.

On the variable education, it has been proven that the education variable has an impact on wage. This study is also in line with research conducted by Kedir (2008) found that education has a positive relationship with wage in Ethiopia. Beside that, Pereira and Martin (2001) also said extra year of education can increase wages by using mincerian wage equation in Portugal. Bounjur at al., (2003) also proved that extra year of educatio increased wages. Anshenfelter and Rouse (1998) also said that variable education increase in wages. Duplo (2000) also proved that there was a significant increase in educational attainment, as well as increase in wage per year of education.

2. The impact experience on wages

As a presented in the result, show the variable experience has a positive and significant correlation with wage with the level of probability 0.000 or on the level of significant at 1%. Those results explain employee who has work experience more than 1 year will increase earnings by 0,0248869%.

However, looking at previous studies, on the variable experience, it has been proven that the experience variable has an impact on wage. The relationship between experience and wage is fully explored and well established. The experience variable generates the same result as studies conducted by Newell and Socha (2007) found the relationship between the experience on wage determination in Poland, using ordinary least squares of Mincerian equations. Brown (1983) also found variable experience has correlation on wages.

3. The impact age on wages

The impact age on wages based on analysis result show the variable age has a positive and significant correlation on wage with the level of probability 0.001. Therefore, an employee who is older than 1 year will earn wages as much as 0,0248869%.

On the variable age, it has been proven that the age variable has an impact on wage. The results of this study are in line with the results of previous studies conducted by Moullet (2001) that variable age has a positive impact on wages. Ardi (2014) also said that variable age

significantly effect on wage.

4. The impact health status on wages

   The impact health status on wages based on analysis result shows the variable health status has no statiscally impact on wages. Level of probability 00.816 or on the level of insignificant.

   On the variable health status, it has been proven that the health status variable has no statiscally impact on wage. Furthermore, Matthew et al, (2010) analyze the impact health status on wages by using mincerian model regssion has small negative effect on wages. Cai's (2007) conducted a research to find relationship between health status and wages, he found that reverse causality was not statiscally significant.

5. The impact area of living on wages

   The impact area of living on wages based on analysis result shows the variable age has a positive and significant correlation on wage with the level of probability 0.001. Therefore, the workers who live in urban area earn higher wage than rural area. Assuming that workers who live in urban area is easier to access mobility.

   On the variable area of living, it has been proven that the area of living variable has an impact on wage. This study also in line with research conducted by Novita (2016) that variable area of living or domicle has positive impact on wages. Nafisah (2017) also found that variable area of living has positive impact on wages.