#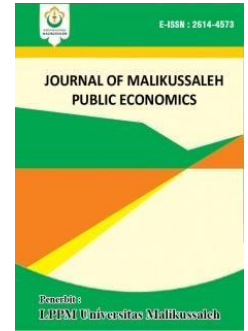 EFFECT OF FAMILY INCOME, EDUCATION LEVEL AND FIRST MARRIED AGE ON FERTILITY IN LHOKSEUMAWE CITY (Case Study in Mns. Mesjid Muara Dua District, Lhokseumawe City, Indonesia)

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A R T I C L E   I N F O R M A T I O N   **A B S T R A C T**

The purpose of this study is to see the effect of family income, education level and first marriage age on fertility in Meunasah. Muara Dua District, Lhokseumawe City, Indonesia. The data used in the study are primary data collected from 95 respondents. The data analysis used in this study is a multiple linear regression model. The results show that family income positively influence fertility, while the education level and first marriage age negatvely affected fertility in the village of Meunasah. Masjid village Muara Dua District, Lhokseumawe city, Indonesia.

1. INTRODUCTION

For developing countries like Indonesia, efforts to provide employment carried out for activities to population growth. According to (Rusli, 2012), population growth can be calculated by the amount of birth, death and migration. Estimates for the future period of Indonesia's population will continue to increase due to the high rate birth.

Fertility is a term from demography that can be interpreted as the result of a real reproduction of a woman. Can be effected by many factors. It can be demographic and non-demographic factors. Demographic factors include age, first marriage, length of marriage, parity and the proportion of marriages. While non-demographic factors include the economic conditions of the population, education level, status of women's improvement, urbanization and industrialization (Rusli, 2012).

Table 1
Number of Births in Muara Dua District

Year	Number of Birth (Person)
2012	313
2013	278
2014	467
2015	586
Total	**1.644**

Source: Badan Pusat Statistik (BPS) (2017)

The table above shows the birth rate in Muara Dua Subdistrict, Lhokseumawe City, Indonesia, reaching 1,644 people over a period of 4 years. Birth rates occur fluctuatively where there is an increase in births and a decrease in births. Decreased births occurred in 2013 but there was a relatively high increase in 2014 and 2015.

One of the problems of population in Indonesia is the high population but uneven distribution. The situation is also followed by other more specific problems, namely the fertility

rate and a fairly high mortality rate. this is considered bad and unfavorable in terms of economic development. This is confirmed by the condition that the quality of the population is still very low so that the community is more placed as a burden than development capital (Munir, 1999) in (Ismail, 2016).

The purpose of this study is to examine the effect of family income, education levels and first marriage age on fertility in Meunasah Mesjid Village, Muara Dua District, Lhokseumawe City, Indonesia.

2. LITERATURE REVIEW
Definition of Family Income

Family Income is all receipts of both money and goods obtained from other parties as well as industrial products which are valued on the basis of the amount of money prevailing at that time. Family income is a source of one's income for the process of fulfilling daily needs and has an important role in the process of survival and livelihood of a person both directly and indirectly (Suroto, 2000). Family income can be concluded that the income received by the family to fulfill their daily needs is a process of survival. Relationship of Family Income has a positive relationship with fertility.

Definition of Education Level

In general, education is a variety of efforts carried out and planned to influence other people, individuals, groups or communities so that they will do what is expected and desired by education actors (Notoatmodjo, 2003). The relationship between education levels has a negative relationship with fertility.
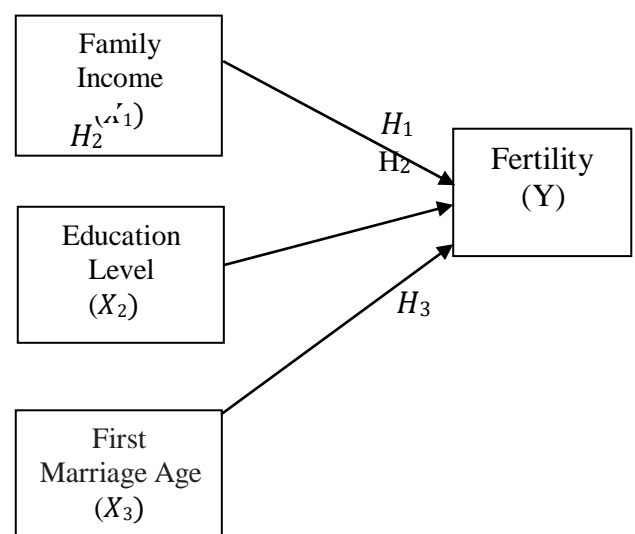
Definition of First Marriage Age

The age of the first marriage is the age when someone starts or marries (first marriage). Women who marry at a young age have a greater time at risk of becoming pregnant and cause birth rates to be higher in Davis (Sinaga & Purwaka, 2017). The first marriage relationship has a negative relationship with fertility.

Definition of Fertility

Fertility is a part of a component that will affect changes in the number and quantity of population in a country. Fertility problems can be studied by considering fertility behaviors such as the behavior of an individual in general. This is related to internal factors of the person concerned and external factors including the environment and culture. Fertility can be calculated from the number of children born alive and is the result of real reproduction of a person or group of people (Saleh, 2006).

Conceptual Framework

3. RESEARCH METHODS

The objects in this study are family income, education level and age of first marriage and fertility. The location of this research will beconducted by Meunasah Masjid Village, Muara Dua District, Lhokseumawe City, Indonesia.

Population

The population of the study are women who had given birth to Meunasah Masjid, Muara Dua District, Lhokseumawe City, Indonesia, totaling 2,048 people.

Sample

In determining the number of samples calculated based on Slovin formula as follows:

$$n = \frac{N}{1 + N(d^2)}$$

$$n = \frac{2048}{1 + 2048\,(0{,}1)^2}$$

$$n = \frac{2048}{21{,}48}$$
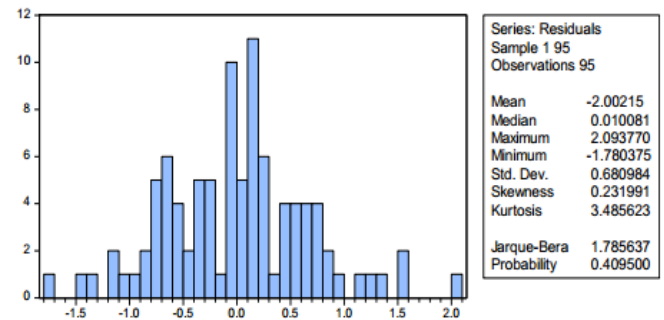
$$n = 95{,}34 \longrightarrow 95 \text{ Responden}$$

Data Analysis Method

The data analysis method used in this study is Multiple Linear Regression model as follows:

$$Y = \beta_0 + \beta_1 LnPK + \beta_2 TP + \beta_3 UNP + ei$$

4. RESEARCH RESULTS

Normality Test Result

Series: Residuals
Sample 1 95
Observations 95

Mean	-2.00215
Median	0.010081
Maximum	2.093770
Minimum	-1.780375
Std. Dev.	0.680984
Skewness	0.231991
Kurtosis	3.485623
Jarque-Bera	1.785637
Probability	0.409500

Source: Research Results, 2017 (data processed)

Value of X^2 table with df (3) = 7.81. When compared with the value of J-B in the above table of 1.79 < 7.81, it can be concluded that the regression model, the interrupting variable or the residual in the model is normally distributed. This can also be seen from the probability (P-value) of 0.41 > 0.05.

Heteroskedastisitas Test Result

Heteroskedasticity Test: White

F-statistic	1.234488	Prob. F(3,91)	0.3018
Obs*R-squared	3.715061	Prob. Chi-Square(3)	0.2939
Scaled explained SS	4.236495	Prob. Chi-Square(3)	0.2370

Source: Research Results, 2017 (data processed)

The model data used in this study is free from heteroscedasticity, from the results seen from $obs*R\text{-}Squared < X_2$ tables at df (3) = 7.81, so that 3.72 < 7.81. This can also be seen from the probability value (P-value) of 0.2939 > 0.05.

Multikolinieritas Test Result

	PK	TP	UNP
PK	1	0.20079097	–0.07510618
TP	0.20079097	1	0.356756414
UNP	–0.07510618	0.356756414	1

Source: Research Results, 2017 (data processed)

The correlation matrix value between independent variables does not exceed 0.8, it can be said in this study that there is no multicollinearity in these three independent variables.

Results of Multiple Linear Regression

In this study using multiple linear regression analysis that serves to determine whether there is influence between variables Family Income, Education Level and First Marriage Age on Fertility with regression equation:

$$FER=\beta_0+\beta_1 LnPK+\beta_2 TP+\beta_3 UNP+ei.$$

The results of regression analysis calculations are obtained as shown as follows:

Results of Multiple Linear Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-24.61953	3.078489	-7.997277	0.0000
LOG(PK)	2.413307	0.168629	14.31133	0.0000
LOG(TP)	-2.312202	0.430377	-5.372500	0.0000
LOG(UNP)	-1.273612	0.598148	-2.129259	0.0359
R-squared	0.716474	F-statistic		76.65261
Adjusted R-squared	0.707127	Prob(F-statistic)		0.000000
		Durbin-Watson stat		1.720917

Source: Research Results, 2017 (data processed)

Y = -24,619 + 2,413 PK - 2,312TP - 1,274 UNP

The constant value is -24.619 which means that if the variable Family Income, Education Level and First Marriage Age is considered constant, then the Fertility variable will also be constant at -24,619.

The regression coefficient value of family income of 2.413 shows a positive relationship. It means that the family income increases by 1 percent, it will increase the fertility by 2,413 person with the assumption that the variable education level and age of marriage are considered constant.

The education level value of -2.312 shows a negative relationship which means that if the education level variable increases by 1 percent it will reduce the fertility variable by 2.312 percent with the assumption that the variable family income and age of the first marriage are considered permanent.

The value of the first marriage age coefficient of -1,274 shows a negative relationship which means that if the first marriage age variable increases by 1 percent it will reduce the fertility variable by 1,274 percent assuming the family income variable and education level are considered constant.

Hypothesis Testing Result

The value of t_{count} of family income is 14.311 with a significant value of 0,000, while the value of t_{tabel} is 2.631, then family income significant partially has a positive effect on fertility in the village of Mns. Masjid Muara Dua District, Lhokseumawe City. Furthermore, the value of t_{count} of the education level is -5,373 with a significant value of 0,000, while the value of t_{tabel} is 2,631, while the education level has a negative effect on fertility in the village of Mns. Masjid Muara Dua District, Lhokseumawe. t_{count} from the age of the first marriage is -2.129 with a significant value of 0.0359, while the value of t_{tabel} is 1.986, then the first age of marriage affects fertility in the village of Mns. Masjid Muara Dua District Lhokseumawe City.

Value of $F_{count} > F_{table}$ that is 76,653> 4,00 and significant value is 0,000 <0,01, thus family income, education level and age of first

marriage together have a positive effect on fertility in the village of Mns. Masjid Muara Dua District, Lhokseumawe City.

The coefficient of determination R^2 is 0.7071 which means that there is a relationship between the independent variable and the dependent variable, the changes that occur in the dependent variable can be explained by the independent variable of 70.71 percent.

The correlation coefficient is $R = \sqrt{R^2} = \sqrt{0,7071} = 0.8409\ (84.09\%)$ which indicates that the relationship between family income, education level and first marriage age to fertility has a very strong relationship and positive because the correlation value of 0.8409 is close to positive one (+1)

5.   CONCLUSION AND SUGGESTIONS

Conclusion

1. Results found family income variables positively influence fertility. The presence of this influence shows that along with the increase in income, fertility will also increase.
2. Educational level variables negatively affect fertility, which means that the better the level of education of a person, then fertility will decline.
3. The first marriage age variable negatively affects this fertility.
4. The variables of family income, education level and first marriage age together have a positive effect on fertility, and the magnitude of the influence of family income, education level and first marriage age on fertility is 70.71%.

Suggestions

1. The results of the study show that all variables studied affect fertility, the high income of a person will have an effect on the number of children to be born. It is expected that the local government and the community will be able to suppress the birth rate so that life will be more prosperous.
2. Reintroduce 12 years of compulsory education, followed by a decrease in costs and subsidies for the poor. A longer education time is expected to delay marriage, especially for adolescents, so that it will reduce fertility rates.
3. It is expected that the Regional Government to socialize the importance of marriage age maturity and the provision of life skills to women who marry young.
4. Further research is needed, so that more varied and better findings can be obtained in explaining fertility with different research methods.

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