



ANALYSIS OF YEARS THE EDUCATION IN THE CENTRAL JAVA PROVINCE

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Abstract

This study explores the expected years of schooling through the formal education level pursued by the people of Central Java province from 2018 to 2021. This study also suggests that other factors, such as income and social conditions, also affect Central Java Province's schooling length. Human resources are the core of life, so they must be considered to create superior resource capabilities. The method used in this research is quantitative with panel data regression analysis. The results showed that the average years of schooling variable had a positive and insignificant effect on the expected years of schooling, and the district minimum wage variable had a positive and significant effect on the expected years of schooling. From these results, it is concluded that the effect of the independent variable of average years of schooling and city minimum wage on the dependent variable of long school expectation with a study of 6 cities in Central Java through the results of the r-square calculation of 49.87%. The remaining 50.13% is influenced by independent variables outside of the average length of schooling and the city's minimum wage.

Keywords: Study, Minimum Wage, Schooling

INTRODUCTION

Efforts to improve human resources are through education. In education, an individual will be given knowledge, skills, and instillation of national character values integrated into a curriculum (Aini et al., 2018). At the same time, learning activities will always be needed because they will always be faced with new situations that demand self-adjustment and problem-solving later. These adjustments and problem-solving can only be obtained through learning activities. The expected years of schooling (HLS) and average years of schooling (RLS) represent the education dimension (kahar, 2018).

Education is an essential aspect of human development; it is a basic human need that needs to be owned to improve the quality of life (Zulyanto, 2016). Human resources are a nation's capital to improve human quality, where humans are production factors that are active in accumulating capital, building social, economic, and political organizations, and carrying out national development (Saraswati, 2014: 1).

Human resource development aims to build a dynamic generation in the mastery of science and technology. Education in human development can be seen through the average length of schooling. Higher education will have greater expectations in building humans than lower education; when job opportunities are limited for lower education, people will position themselves to obtain higher education (Asmawani, Pangidoan 2021) in line with (Sholeha, Faizin, 2023). Education is an integral part of seeing

how long the quality of individuals is in formal education.

The Central Bureau of Statistics (2022) suggests that there is a component of average years of schooling, defined as the number of years used by the population in formal education. The average length of schooling can determine a region's level and quality of community education. In contrast, the expected length of schooling is defined as the length of schooling (years) expected to be felt by children at a certain age.

In general, looking at the length of community education to see the expected number of years of schooling and the average length of schooling by looking at the education dimension through the Mansuia Development Index, where starting in 2014 it was 68.78%, in 2015 it was 69.49%, in 2016 it was 68.98%, in 2017 it was 70.52%, in 2018 it was 71.12% and continued to increase, this then underlies the author to analyze only based on 6 cities which in terms of area size tend to be smaller with high population density and dense development as well as industrial and economic centers. The 6 cities are Tegal City, Pekalongan City, Semarang City, Surakarta City, Salatiga City, and Magelang City.

LITERATURE REVIEW

Several studies have been conducted regarding the importance of school expectancy to determine the condition of the development of the education system at various levels, which is addressed in the form of the length of education each child is expected to achieve. Expected years of schooling are calculated for the population aged 7 years and above (Manurug & Hutabarat, 2021). In simple terms, Expected Years of Schooling can be defined as the school enrollment rate according to a single age. Expected Years of Schooling is an indicator that describes the length of schooling (in years) expected to be experienced by children at a certain age in the future (Kahar, 2018).

The average length of schooling shows the level of education that has been or is being occupied by a person. The higher the average number of years of schooling, the longer or higher the level of education he has completed as the number of years used by the population in undergoing formal education (BPS 2021). The average length of schooling is the average number of years completed by the population at all formal education levels; the calculation is carried out at the age of 25 years and above.

According to Naban (2017), minimum wages can increase employment opportunities; the view of this efficiency wage theory is also different from the previous minimum wage theory, which considers wages as a production cost. In addition, it is a policy instrument the government uses to realize income distribution. Wages are the basis of income for workers to properly fulfill their personal and family needs. The right to wages has been regulated from the beginning in the employment agreement by the work owner to the worker, according to the constitutional wage system has been regulated and protected in Article 27 paragraph (2) of the 1945 Constitution of the Republic of Indonesia which provides that each citizen has the right to work and a decent livelihood for humanity (Putra, and rudy 2021).

METHOD

This research uses quantitative methods with a form of analysis using numbers, starting from data collection, interpretation of data, and appearance of the results obtained (Sandu, 2015). This study uses secondary data obtained from www.bps.go.id / Central Java Statistics Agency from 2018 to 2021; then the analysis is carried out using panel data regression analysis, which combines cross-section data and time series data, where the same cross-section unit is measured at different times. In other words, panel data is data of the same variation but observed over some time. The variables used in this study include the dependent variable (Y) Expected Years of Schooling, the independent variable (X1) Average Years of Schooling, and the independent variable (X2) MSE (Regency / City Minimum Wage). The data processing to determine the effect of independent variables on the dependent uses an analytical tool in the form of Stata-17 to get results that can be interpreted quantitatively.

RESULTS AND DISCUSSION

The descriptive statistics below provide simple information about the research variables consisting of the independent variables X_1 (Average Years of Schooling), X_2 (minimum wage), and the dependent variable Y (Expected Years of Schooling). Descriptive statistics can be seen in the table below:

Table 1 Descriptive Statistics Table

Variable	Obs	Mean	Std. Dev.	Min	Max
X1 Average years of schooling	24	9.90875	.9278835	8.3	10.9
X2 Minimum Wage	24	1990035	318705.4	1580000	2810025
Y Expected Years of Schooling	24	14.22167	1.071868	12.79	15.53

Sumber: Data diolah 2023

The table above explains the value of the variables in this study. The description of the three variables, with a sample size of 24, is as follows: (1). In the variable Average length of schooling in Central Java Province in 2018-2021, after testing, it shows an average value of 9.90875 with a standard deviation of .9278835, because the average value is higher when compared to the standard deviation, it indicates that the results are good and the data distribution shows typical results. The maximum or highest value of the average schooling length is 10.9%, and the lowest is 8.3%. (2). After testing, the Central Java provincial minimum wage variable for 2018-2021 shows an average value of 1990035 with a standard deviation of 318705.4. The results are promising because the average value is higher when compared to the standard deviation, with the data distribution showing the expected results. The minimum value of the most negligible wage is around 1,580,000, and the maximum is 2,810,025. (3). the variable Expected Years of Schooling in Central Java province in 2018-2021 shows an average value of 14.22167% with a standard deviation of 1.071868%. Because the average value is higher when compared to the standard deviation, the expected years of schooling are good, with the distribution of the data showing expected results. The minimum or lowest value of the expected length of schooling is

as follows.

Classical Assumptions

Multicollinearity Test with Variance Inflation Factors value. According to (Ghozali, 2016), the VIF value < 10 , it is stated that there is no multicollinearity because the results given are :

Table 2. Classical Assumptions

Mean VIF	1.11
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Sumber: Data diolah 2023

Based on the table above, all independent variables do not have multicollinearity with a VIF value of less than 10. These results show no high correlation or similarity between the independent variables, so they are free from multicollinearity problems.

The heteroscedasticity test tests the difference in each variable from the residuals of one observation to another (Juliandi et al., 2016). So this test is to see how much inequality an observation is as the Heteroscedasticity test below:

Table 3. Heteroscedasticity test

Chi2(1)	0.01
Prob > chi2	0.9028

Sumber: Data diolah 2023

The table above explains that the chi-square 0.9028 is greater than the alpha value of 0.05 because the value obtained is higher than the alpha value of the independent variable. There is no heteroscedasticity problem.

Best Model Test

This study uses the best model assumption test to be able to choose or determine the best model and use it in carrying out research between the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) for the calculation results of the three models are as follows:

Table 4. Best Model Test

Variable	Common Effect	Fixed Effect	Random Effect
C	3.394727	13.88896	9.800414
X1	.9129485	-.1011458	.3844314
X2	8.95e-07	6.71e-07	3.08e-07
	<i>Effects Spesicifaction</i>		
R-Squared	0.8267	0.4987	0.3972
F-Statistic	50.10	7.96	16.35

Sumber: Data diolah 2023

Different values were obtained from the test results with the Common Effect Model, Fixed Effect Model, and Random Effect Model. The R-squared value in the Common Effect Model test is

0.8267. The R-squared value in the Fixed Effect Model test is 0.4987. The R-squared value in the Random Effect Model test is 0.3972.

Chow Test

The Chow test was conducted to select the best model between the Common Effect Model (CEM) or Fixed Effect Model (FEM), which was then used in this study. The results of the Chow Test that have been carried out can be seen in the table below.

Table 5. Chow Test

Probability
0.0040

Sumber: Data diolah 2023

Then, the hypothesis in this Chow test is:

H_0 : The best model is the Common Effect Model

H_1 : The best model is the Fixed Effect Model

Based on the table above, it can be seen that the probability value is 0.0040. These results are smaller than the alpha value of 0.05. From these results, it can be concluded that H_0 is rejected and H_1 is accepted. The best choice in the Chow test is to use the Fixed Effect Model (FEM) method and then proceed with the Hausman Test.

Uji Hausman

The Hausman test was carried out to choose the best model between the Fixed Effect Model (CEM) or the Random Effect Model (REM), which is more appropriate for this study. The results of the Hausman Test can be seen in the table below:

Table 6. Uji Hausman

Prob
0.0003

Sumber: Data diolah 2023

The hypothesis used in the Hausman test is :

H_0 : *Random Effect Model*

H_1 : *Fixed Effect Model*

Based on the table above, the lower probability value is 0.0003. This result is smaller than the alpha value of 0.05. From these results, it can be concluded that H_0 is rejected and H_1 is accepted. After doing the Hausman test and Chow test. Then, the best model to use is the Fixed Effect Model. The results of the Fixed Effect Model can be seen in the table below

Table 7. Fixed Effect Model

Fixed-effects (within) regression	Number of obs = 24
Grup variable	Number of groups = 6
R-sq	Obs per group:

Fixed-effects (within) regression				Number of obs = 24		
Within = 0.4987				min =	4	
Between = 0.0122				avg =	4.0	
Overall = 0.0183				max =	4	
				F (4,302)	= 7.96	
Corr(u_i, Xb) = -0.0567				Prob > F	= 0.0040	
Y	Coef.	Std. Err	T	P> t	[95% Conf. Interval]	
X1	-.1011458	.2370202	-0.43	0.675	-.6036062	.4013146
X2	. 6.71e-07	2.49e-07	2.69	0.016	1.42e-07	1.20e-06
_cons	13.88896	1.970339	7.05	0.000	9.71203	18.06589
Sigma_u				1.1366589		
Sigma_e				.10771925		
Rho				.99109891 (fraction of variance due to u_i)		
F test that all u_i=0: F(33, 302) = 75.72				Prob > F = 0.0000		

Sumber: Data diolah 2023

The results of the test produce an equation under the value of $\beta_0 = 13.88896$; this shows that if there is no influence from the independent variables of the average length of schooling and the city minimum wage, then the expectation of the length of schooling of all 6 cities in Central Java province in 2018-2021 is 13.88896; Value $\beta_1 = 0.1011458$. The constant value results show that if the independent variable average years of schooling increases by 1 percent, the expected years of schooling will increase by 0.1011458%. The increase in the average years of schooling indicates a higher expectation of pursuing an education level; Value $\beta_2 = 0.00000671$. Based on the results of the constant value, it shows that if the independent variable minimum wage increases by 1 rupiah, the expectation of years of schooling will increase by 0.00000671%. Increasing the value of the minimum wage can encourage the population to increase their expectations of years of schooling because of the ability of costs that also increase.

The results of the test show that the average years of schooling variable has a probability value of 0.675, which is greater than the alpha value of 0.05%; these results explain that in 6 cities in Central Java in 2018-2021, the average years of schooling has a positive but insignificant effect on the expected years of schooling. The sharp difference in the length of schooling in the community is still a problem that needs to be fully solved; if someone lives with a low average length of schooling, it indicates that his expectations are also low.

The results of the test show that the minimum wage has a probability value of 0.016, which is smaller than the alpha value of 0.05%, so it can be concluded that the minimum wage has a positive and significant effect on the expected value of years of schooling in 6 Central Java cities in 2018-2021. The increase in minimum wage encourages people to have a high expectation of years of schooling.

According to Gujarati and Porter (2017), the coefficient of determination is used to see the proportion of the independent variable to the dependent variable. The coefficient of determination is expressed as the square value of R-squared. The coefficient of determination ranges from 0 to 1 ($0 \leq R^2 \leq 1$). If the coefficient of determination = 0, then the variation of the dependent variable cannot be

explained at all by the independent variable. If the coefficient of determination = 1, then the dependent variable's variation can be explained by the dependent variable.

The coefficient of determination value shows the coefficient of determination expressed in the R-squared (R²) value of 0.4987; the results show that the effect of the independent variable on the average length of schooling and the city minimum wage on the dependent variable on the expected length of schooling with a study of 6 cities in Central Java is 49.87%. At the same time, the other 50.13% is influenced by independent variables outside of the average length of schooling and the city's minimum wage.

CONCLUSION

From the results of the research that has been conducted to examine the effect of the independent variables of average years of schooling (RTLS) and city minimum wage (UMK) on the dependent variable of school expectation in 6 cities in Central Java province in 2018-2021, the following conclusions are drawn: The best model to explain the effect of independent variables on the dependent variable is the Fixed Effect Model (FEM); The average length of schooling variable has a positive but insignificant effect on the expected length of schooling of 6 cities in Central Java province in 2018-2021; The city minimum wage variable has a positive and significant effect on the expected length of schooling of 6 cities in Central Java province in 2018-2021; The expected length of schooling influenced by the average length of schooling and minimum wage is 0.4987% while the rest is influenced by other variables that have not been explained in this study.

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