

The Influence of Gross Regional Domestic Product on Mean Years of Schooling

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Abstract—In General, this research aims to know the effect between the Gross Regional Domestic Product (GDRP) on Mean Years of Schooling (MYS) in West Java. The method used in this research is descriptive method with a quantitative approach, then researchers also use panel data regression models to process data. Data collection techniques used are documentation studies to statistical institutions, namely the Central Statistics Agency of West Java. Data used in this research is secondary data in the form of statistical data of Gross Regional Domestic Product (GRDP) as an independent variable and Mean Years of Schooling (MYS) as a dependent variable of districts/cities in West Java Province in 2012 until 2016. Based on the results of the study uses panel data regression analysis that there is no influence between GRDP and MYS in Java Province, it is seen from the results of the F-Test with a probability value of $0.055520 > \alpha$. The hypothesis shows that H_0 is accepted with the assumption that there is no effect of variable X on variable Y. Then based on the T-test value that the GRDP coefficient is $7.14E-06$ with a probability value of $0.0560 > \alpha$ with the assumption that there is a relationship between variable X and variable Y, while the value of the Determination Coefficient (R^2) is 0.024343 stating that there is a relationship of 2.43% while 97.57% is explained by other variables not examined.

Keywords—gross regional domestic product; mean years of schooling

I. INTRODUCTION

One of the ways to measure how significant the development happens in a region or a country is by seeing on the Human Development Index. Human Development Index (HDI) is a measurement to sight how far society can improve their lives to be more prosperous by choosing their path. Gross Domestic Product in a region can become a parameter of society's welfare in that region. When Gross Domestic Product is increasing, the society will easily fulfill their basic needs so poverty will decrease [1]. Another research shows the Gross Regional Domestic Product (GRDP) will have a negative and significant influence on the poverty rate in Bali [2]. Gross Regional Domestic Product (GRDP) is also one of the important factors for understanding the economy in one region in a certain period [3]. Based on data from the Central Bureau of Statistics, Indonesia Human Development Index in 2016 was 70.18. That score has increased from previous years. The score also is the highest achievement for Indonesia including in

a high category. However, several regions are low in the Human Development Index. Through the Human Development Index, it is described the education development condition in Indonesia.

In the report of the Central Bureau of Statistics on Human Development Index in 2015 stated that [4].

“If it re-relates between a conventional and human development concept, both concepts are related to each other. A classic (conventional) development concept is an increase in economic growth. Economic growth and human development are dual causation [5], in which economic growth increases human development. However, on the other hand, the increase in human development may increase economic growth. Constantini V. and M. Salcatore stated that a high increase in human development positively affects economic growth indirectly” [6].

West Java becomes one of the regions which influences Indonesia's development. It can be seen from the dominant number of citizens compared to other regions. Due to the Central Bureau of Statistics data that the Mean Years of Schooling in West Java in 2017 was 8.46 years. That data was included in a low category which meant that the average people pursued education until grade two in junior high school. It was different from government policy which was 12-years compulsory study. It was like the Mean Years of Schooling in Indonesia were not much different compared in 2017 at 8.5 years. Indonesian government in the last 5 (five) years had put much effort into achieving the target based on a medium-term development plan that in 2019 Indonesia will have an average of study length at 8.8 years.

Human development will not be separated from economic growth occurring in a region. Economic growth, one of those, can be observed from the level of people's purchasing power and income obtained from the region. The increasing of people's purchasing power can give an illustration that human development is better.

Based on background mentioned above, there are several research problem formulation as following: (1) to understand Gross Regional Domestic Product (GDRP) in West Java from 2012-2016; (2) to understand the Mean Years of Schooling in West Java from 2012-2016; and (3) to understand the influence

of Gross Regional Domestic Product (GDRP) on the Mean Years of Schooling in West Java from 2012-2016.

II. RESEARCH METHODOLOGY

The method used in this research is the regression model consists of 4 stages which are a determination of estimation model, determination of estimation method, testing of assumptions and model suitability, and interpretation. Firstly, the determination of the estimation model is conducted to decide the model which will be used. The determination of the model consists of 3 models such as common effect, fixed effect, and random effect. Secondly, in this second stage decide which method will be used in this research. The methods that will be tested are 3 (three) methods such as chow test, LaGrange multiplier, and Hausman test. Next, from the result of the model determination, the next method is testing the assumptions and model suitability by conducting several testing such as normality test, multi-collinearity test, heteroscedasticity test, and autocorrelation test. Last, in this step is the interpretation stage using the result of the suitability test by conducting 3 (three) trials to decide the influence between a dependent variable and an independent variable. In this last step using the 3 (three) test, F-test, determination coefficient test, and T-test. Data used in this research is secondary data which can be obtained from the Central Bureau of Statistics West Java and scientific report/publication.

III. RESULTS AND DISCUSSION

From the result of data testing, it can be found the best model which is the Random Effect Model (REM). Then in this part, researchers will conduct interpretation from the result of data processing by conducting F-test, T-test and determination coefficient (R²).

The result of F-test is shown in the table 1:

TABLE I. THE RESULT OF F-TEST

	F-Statistic	P-Value	Conclusion
Score	3.731573	0.055520	Do not have effect
Critical area H0 is accepted if p-value > α = 0,05			

Table 2 shows the score of p-value 0.055520 > α = 0.05 therefore H0 is accepted. Then it can be concluded that the independent variable (X) such as Gross Regional Domestic Product does not affect the dependent variable which is Mean Years of Schooling (MYS).

Based on the result of the T-test shows that the independent variable (X) in which Gross Regional Domestic Product (GRDP) has coefficient 7.14E-06 or 0.00000714 and the score of p-value is 0.0560 in which the score of α = 0.05. Therefore, score of the p-value > α = 0.05 which means that the relation between the independent variable (X) such as Gross Regional Domestic Product (GRDP) is very small or insignificant on the dependent variable (Y) such as Mean Years of Schooling.

The determination coefficient (R²) is explained in the table 2:

TABLE II. DETERMINATION COEFFICIENT

Determination coefficient (R²)	Coefficient score
R ²	0.024343

Based on the table 2 shows the lower determination coefficient score (R²) is 0.024343, therefore that score shows that 2.43% from Mean Years of Schooling can be explained by a variable of as Gross Regional Domestic Product (GRDP). Then, as many as 97.57 is explained by other variables. Therefore, from that similarity on this panel data regression is:

$$\gamma = 7.481345 + 7.14E-06 \chi + e$$

The result of the panel regression test states that the Gross Regional Domestic Product (GRDP) does not have an influence on the Mean Years of Schooling in West Java by the probability score of 0.055520. It improves the proof that the small Gross Regional Domestic Product (GRDP) will not attract people interest to improve their education. However, in Human Capital theory explains that a plus point or human capital will improve because of the need for good and service production.

Some factors influence Mean Years of Schooling due to Ernawati which is the poverty rate, the burden of dependency and place for a living have a significant impact on the Mean Years of Schooling [7]. Those factors are also motivated by the number of people and demography location in a different region.

Then based on the statistic test which researchers conduct is Mean Years of Schooling has positive relation but insignificant with Gross Regional Domestic Product (GRDP) on Determination Coefficient (R²) about 2.43%. Therefore 97.57% is explained by other factors that are not observed.

Referring to theory due to Mankiw, Romer, and Weil that a source of economic growth is from human capital accumulation. Then Supartoyo et al stated that human capital theory explains that a man can increase his income through a higher education level [8]. Based on that theory, it is shown that economic growth has an impact on the education sector in macro. However, based on research results states that there is no influence between economic growth and education. That statement can be seen that education does not attract people's interest because people who have a big income, therefore, education will become a burden for the people.

Then on education planning concept in macro, there is a cost-benefit approach used to create human resource who will have a point plus for the economy [9]. In contrast, the result data from this research shows that education does not attract people's interest in West Java in improving the economy.

IV. CONCLUSION

If the score of Gross Regional Domestic Product (GRDP) is small, it does not influence on Mean Years of Schooling. Therefore, the small score of Gross Regional Domestic Product (GRDP) does not attract the people's interest to improve the formal education level. Besides, the small score of Gross Regional Domestic Product (GRDP) states that area has a low level of good and service production and misdistribution

economic, so it does not attract the people's interest to improve education level as an added value for human capital.

However, Mean Years of Schooling has a relation with the Gross Regional Domestic Product (GRDP). If the Mean Years of Schooling (MYS) is increase or vice versa will increase or decrease the value of Gross Regional Domestic Product (GRDP). Likewise, with the opposite, Gross Regional Domestic Product (GRDP) is increase or decrease will be possible for Mean Years of Schooling to increase or vice versa.

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