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Assessment of the Influence of Human Development Index and Unemployment Rate on Economic Expansion

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Abstrak:

This study aims to assess the effect of the Human Development Index (HDI) and unemployment rate on economic expansion. Using macroeconomic data and HDI indicators from various countries, this study applies regression analysis methods to identify the relationship between HDI, unemployment rate, and economic growth. The results showed that high HDI levels tend to be positively correlated with higher economic growth, while low unemployment rates also contribute to steady economic expansion. Policy implications include the importance of investment in human development and unemployment reduction strategies to support sustainable economic growth.

Keywords: Human Development Index (HDI), Unemployment Rate, Economic Expansion

BACKGROUND

Economic growth is one of the important indicators in assessing the welfare of a country. However, in order to holistically understand the progress of a society, not only economic growth needs attention, but also other factors that reflect the quality of life and human development. In this context, the Human Development Index (HDI) is a significant benchmark, combining indicators such as life expectancy, access to education, and per capita income. The importance of HDI as a measure of human well-being encourages to understand the relationship between HDI and economic growth. Evaluation of the impact of the Human Development Index on economic growth becomes relevant to determine the extent to which human well-being is reflected in a country's economic progress.

In addition to HDI, the unemployment rate is also an important variable to consider. The unemployment rate affects income distribution and socioeconomic stability, which in turn can affect economic growth. Therefore, research that includes evaluating the impact of the unemployment rate on economic growth will provide a more complete insight into the economic dynamics of a country. By understanding the interaction between HDI, unemployment rate, and economic growth, governments, international organizations, and relevant parties can identify appropriate policies and strategies to improve the overall well-being of society. Thus, this study aims to contribute to a deeper understanding of the complex relationship between the Human Development Index, unemployment rate, and economic growth, which can help in the formulation of more effective and sustainable policies.

THEORETICAL STUDIES

Human Development Index

The Human Development Index is mathematically a composite index calculated as a simple average of the life expectancy index, education index and decent living index. A high level of human development largely determines the ability of the population to absorb and manage sources of economic growth, both in relation to technology and institutions as an important means of achieving economic growth. At the macro level, life expectancy is used as an indicator of successful development in the health sector. Community welfare will be directly related to the community's need for quality education so that the literacy rate will increase.

Unemployment

In addition, with the unemployment rate, it can also be seen the inequality or gap in the distribution of income received by a community in the country. Unemployment can occur as a result of the high rate of change in the labor force that is not offset by the existence of a fairly wide employment and absorption of labor that tends to be a small percentage, this is due to the low growth rate of job creation to accommodate workers who are ready to work. Based on BPS data, it shows that the number of Indonesian population has increased from year to year. Unemployment in Indonesia is a problem that continues to swell. The unemployment rate of 4.68 percent is still unemployment on a reasonable scale. The natural unemployment rate is the natural unemployment rate that cannot be eliminated.

RESEARCH METHODS

Object and Scope of Research

The object and scope of this study is the Human Development Index and Unemployment against Economic Growth in Banten Province for the 2018-2021 period using data from the Central Statistics Agency.

Data Collection Methods

The method used in this study is a descriptive method with a quantitative approach, which is a research method that emphasizes the analysis of actual problems with data in the form of numbers.

Data Types and Sources

The type of data used in this study is secondary data that is quantitative, namely data that has been available in the form of numbers. While the data used in this study are time sequence data and latitude series data.

Data Analysis Techniques

Panel Data Analysis

Panel data regression model is a regression model by stacking observation data *Time series* with data *Cross section*. By defining an estimation model through an approach *General Effect, Fixed Effect, Random Effect*.

Model Conformity Test

The Model Conformity Test consists of the Chow Test and the Hausman Test.

Classic Assumption Test

Classical assumption testing is done so that hypothesis testing based on the analysis model is unbiased and the results are close to accurate or equal to reality. The Classical Assumption Test consists of Normality Test, Autocorrelation Test, Multicollinearity Test, Heteroskedesticity Test.

Test t

The t-test aims to show how much influence between individual variables in explaining the dependent variable.

Test F

To indicate whether all included independent variables have a shared influence on the dependent variable.

Test the coefficient of determination and correlation.

The coefficient of determination basically measures how far the model is able to explain the variation of the dependent variable. The value of the coefficient of determination is between zero and one. A small value means that the ability of the independent variable to explain the dependent variable is very limited. A value close to one means that the independent variable provides almost all the information needed to predict the variation of the dependent variable.

RESULTS AND DISCUSSION

Regression Analysis

$$\boldsymbol{Gini_t = \beta_0 + \beta_1 IPM_t + \beta_2 Pengangguran_t + \in_t}$$

$$\text{Gini}_t = 5{,}514742 + 0{,}036989\ IPM_t - 0{,}420663\ \text{Pengangguran}_t + \varepsilon_t$$

Based on the results of the calculation above, the results of the regression coefficient can be interpreted as follows:

1. The constant 5.514742 states that if all independent variables namely HDI (), and Unemployment () have an influence on the dependent variable, then Economic Growth

increases by 5.514742%.X_1X_2

2. The value of the HDI variable coefficient () is 0.036989. That is, with an increase in HDI variables by 1%, there will be an increase in economic growth (Y) by 0.036989%, X_1
3. The value of the coefficient of the variable Unemployment () is -0.420663 This means that an increase in the variable Unemployment by 1%, there will be a decrease in economic growth (Y) by -0.420663%.X_2

Model Conformity Test

0.0001

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	19.694646	2	0.0001

Based on the results of the Hausman Test above, it can be seen that the probability value of the Chi Square Cross-section is 0.0001 < α (0.05), then the temporary model is *Fixed Effects Model (FEM)*.

Classic Assumption Test

Normality Test

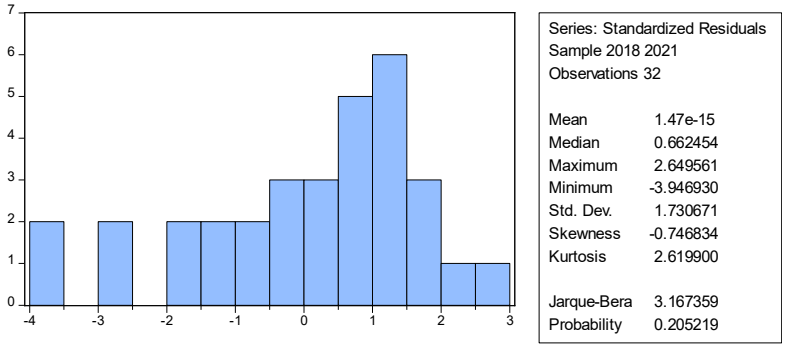

Figure 1 Normality Test Graph

Used to find out whether the dependent and independent variables are normally distributed or not. In this study, a normality test was carried out using the Jarque-Bera Test (JB test). The results of the analysis show a JarqueBera Probability value of 0.205219 or more than 0.05. Thus it can be said that the data is normally distributed.

Heteroscedasticity Test

This study used heteroscedasticity to make the model not constant. From the test results show the probability value of the two independent variables is less than 0.05. This means that regression of the model occurs heteroscedasticity.

Uji Autokorelasi

One measure in determining the presence or absence of autocorrelation is to use the Durbin Watson (DW) test. DW values derived between dU and 4-dU values indicate a model that is free from autocorrelation problems. The results of the autocorrelation test above show DW of 3.262373 with dL = 1.2437 and dU = 1.6505 (See table dL dU). It can be explained that the result of dU ≤ DW ≤ (4-dU) or 1.6505 < 3.262373 < 2.3495. This means that the results of autocorrelation testing meet these conditions and it can be stated that the model used is free from autocorrelation.

Test t

Known: Table T = $\text{Tinv}(a; n-k) \rightarrow = \text{Tinv}(0.05; 32-3) = 2{,}04523$

1. Human Development Index (HDI) (X_1) to Economic Growth (PE)

   Conclusion: statistics t (-2.626903) < t table (2.04523) were then H_0 rejected and consequently not rejected and the probability value (0.0154) < (0.05) hence the data was significant. So that the result is that there is an influence and significant between HDI variables and Economic Growth.H_1

2. Unemployment (X_2) to Economic Growth (PE)

   Conclusion: statistics t (-4.117475) < t table (2.04523) were then H_0 rejected and consequently not rejected and the probability value (0.0005) < (0.05) hence the data was significant. So that the result is that there is an influence and significant between the variables of Unemployment and Economic Growth.H_1

Test F

Known:

Table F = $\text{Finv}(a; k-1; n-k) \rightarrow = \text{Finv}(0.05; 3-1; 32-3) = 3{,}327654$

Based on the output above, it can be seen that the statistical f value (3.564042) > table f (3.327654) with probability (0.007196) < α (0.05) is rejected, the consequences are not rejected, meaning that simultaneously the variables Human Development Index (HDI), and Unemployment H_0H_1**simultaneously affect** Economic Growth in Banten for the 2017-2021 period.

Test of Coefficient of Determination and Correlation

One of the measuring tools to determine the R2 determination test is to look at the value of the coefficient *Customized R-square*. Value *customized R Square* it means that the value of R Square has been corrected by that value *Standard Error*. Value *Customized R-square* used so that the use of the coefficient of determination is not biased towards the number of variables.

1. **Value of Determination (*R-Square*)**

   It can be seen in the output above, that the *R-squared* value of 0.593168 The value illustrates that the contribution of HDI and Unemployment variables to the rise and fall or variation of the PE variable is 59.31% and the remaining 40.69% is the contribution of other variables that are not included in the model proposed in the study (collected in Confounding Variables or).∈

2. **Correlation value (*adjusted r- square*)**

   The magnitude of the correlation at the r value (*Adjusted R-squared*) of 0.426737 or 42.67%, means that the relationship between the Independent Variable and the Dependent Variable in the study can be said to **have a weak relationship** because it is 100% apart.

Economic Interpretation

HDI on Economic Growth

Based on the tests that have been done, it can be explained that the variable coefficient of the Human Development Index has a positive relationship with Economic Growth. This is in accordance with the hypothesis that HDI positively affects Economic Growth, according to research conducted by . Vice versa, the low HDI value reflects the failure of a region or region in optimizing the resources owned and available, so as to reduce income inequality. Based on the tests that have been done, it can be explained that the variable unemployment coefficient has a positive relationship with economic growth. This is in accordance with the hypothesis that unemployment positively affects economic growth, according to research conducted by .

CONCLUSION AND ADVICE

Conclusion

Human Development has a significant positive influence on Economic Growth in Banten in 2017-2021. has a positive relationship and influence on Economic Growth in Banten in 2017-2021. With economic growth, it is expected to be able to solve the problem of

unemployment and poverty. Human Development and Unemployment together have a significant influence on Economic Growth in Banten in 2017-2021.

Suggestion

Based on the research that has been done, researchers provide the following suggestions:

1. The government pays more attention and provides good teaching or job training, especially for areas in Banten, so that by improving the quality of human resources will reduce excessive unemployment.
2. The community participates in socialization and assistance from the government if the government conducts job training programs with the aim of helping people live safer so that existing economic growth will increase.

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