

## The Influence of Population and Economic Growth on The Human Development Index in Kuningan West Java

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### Abstract

This study aims to investigate the impact of economic growth and population on the Human Development Index in Kuningan. This study aims to gain a deeper understanding of the extent to which economic growth and population affect the Human Development Index in Kuningan. The data used in this study is secondary data obtained from the Central Statistics Agency (BPS) during the period 2018 to 2023, covering 6 years. In this study, multiple linear regression methods were used to analyze the data. Research findings show that when economic growth increases by 1%, the human development index will decrease by 0.421795. This is due to the uneven distribution of economic growth in society, resulting in income inequality and difficulty in meeting the needs of a decent life. This finding also shows that if the population increases by 1%, it will reduce the human development index in Kuningan by 2.187595. This decline is caused by a lack of employment that is not proportional to population growth, which has the potential to result in high unemployment and a decrease in people's welfare.

**Keywords:** Human development index, economic growth and population

### INTRODUCTION

The level of economic development in a region can describe successful development achievements so that each region sets economic growth targets in planning and developing its economy. According to Jannah, (2020) economic growth is defined as an increase in GDP (Gross Domestic Product) regardless of whether the increase is greater or smaller than the population growth that occurs, and regardless of whether there are changes in the economic structure or not. The success of development depends on economic growth. GDP calculated using stable prices can be used to monitor a country's economic progress from year to year. The indicator for measuring physical and non-physical conditions in the population is the HDI. Physical conditions can be measured through life expectancy, while non-physical conditions can be measured through literacy levels, duration of education, and community finances. The ultimate goal of national development is the welfare of society. Increasing people's welfare can show that people's lives have changed for the better. This opinion is in line with (Damanik & Sidauruk, 2020). Development is a change to conditions to make them better and more sustainable to achieve a modern, advanced, and prosperous population. Development can be defined as an improvement process that has the aim of achieving improvements in various aspects, such as social status, community behavior and national institutions, economic progress, income gaps, and programs to reduce poverty. In reality,

development must reflect improvements and adjustments to the social system as a whole without changing differences in meeting individual needs for a better life (Khadijah et al., 2022).

Economic development can be explained as a process that gives rise to increased income for each individual in a country. The main goal in developing the economy is to reduce the unemployment rate, which in turn will create new job opportunities and increase the income received by the community. according to Zulhanafi et al., (2013) Society will be said to be prosperous when they can meet their own living needs. One of the challenges faced by the state in terms of community welfare is the community's inability to meet life's needs (Suliswanto, 2010) Apart from that, improving health and education must be considered capital in improving the quality of natural resources. The HDI measures each country's standard of living, life expectancy, and education. The Human Development Index is used to evaluate the results of efforts to increase human potential. The main focus of development is to strengthen the human base by empowering society. Growth estimates are based on indicators such as purchasing power, education level, and health. The more successful the calculation achievement, the greater the success in achieving development goals. Development creates significant transformation (Baeti, 2013).

The human development index is used to show the level of human welfare in the long term in an area. Data related to education, well-being, and quality of life (HDI) are collected. Regions with a high Human Development Index show good human resources (Todaro, 1999). Argues that "there are three main factors in economic growth. First, capital, physical equipment, and human resources. Second, population growth which in the next few years will automatically bring about growth in the labor force. Third, technological progress. Growth in population and workforce accompanied by adequate levels of knowledge, skills, and health can improve their standard of living. Increasing knowledge and technological capabilities in society can encourage increased productivity, which in turn will have an impact on increasing wages or income. Thus, it can be concluded that increasing income per individual will be an important factor in economic growth. Apart from that, HDI also has a direct influence on economic growth. The Human Development Index aims to identify differences in human development achievements in different regions or countries. This effort is important because the human resources owned by the region can be used to improve conditions in the region. Because Indonesia is a developing country, it is required to continue to improve the welfare of its population through fair and modern economic development.

One thing that influences human development is economic growth. Economic growth refers to increasing production and services in a country as a result of the development of all factors indicating economic growth, such as the construction, development, education, capital goods sectors, and so on. In this case, economic growth is believed to be driven by an increase in the quantity of goods and services available. Population size is a significant problem for regional economic development. Todaro and Smith argue that population growth creates market potential, fuels demand for various goods and services, and drives many businesses to achieve economies of scale. Therefore, the population acts as an engine for growth. Providing products at affordable prices to reduce production costs and improve people's living standards is an action that can reduce poverty levels through production that provides benefits for all parties involved. The United Nations Development Program (UNDP) believes that human development is when people and communities can have more choices. By considering this statement, it is clear that community welfare is the result of development, namely that people have the freedom to choose what they want. The impact of the Human Development Index on poverty is negative and significant, which means that when the Human Development Index increases, the poverty level will decrease while taking into account other factors.

As the Human Development Index increases, human work performance will continue to increase, which will ultimately increase income to meet the needs of a decent life. In principle, human development is a process to achieve the goals of human welfare, increase people's choices, increase creativity and productivity, and increase people's income. With increasing income, it will be possible for people to access education, health, and other services so that the economic

development of a region can proceed smoothly. The Human Development Index is a measurement of human development achievements based on various aspects of the quality of life. According to BPS, the Human Development Index also functions as a standard indicator in education, literacy levels, and living standards in various countries around the world. HDI has an important role in classifying countries as developed, developing, or underdeveloped, as well as being able to evaluate the impact of economic policies on quality of life (Prasetyo & Dinarjito, 2021). The HDI calculation is based on data that describes 3 main factors, namely life expectancy as an indicator of health, literacy level and average length of study as a measurement of academic success, and purchasing power as an important variable. This allows the index to evaluate a region's achievements in human development based on quality of life. This index reflects how much the population allocates their funds to meet the basic needs that exist in society, in a way that can be considered financially sustainable development (Khadijah et al., 2022)

According to Rorong, (2022), the Human Development Index shows that success in achieving development goals is very dependent on the government's role as a provider of supporting facilities. Four factors must be considered in the human development process to achieve development goals. First, efforts to increase human productivity and contribute fully to creating income and meeting life's needs. Therefore, economic development is considered an inseparable part of human development. Second, welfare must be distributed evenly, so that every individual has the same opportunity to obtain social, political, and financial resources. All barriers that hinder access must be removed, because everyone deserves the opportunity to improve their quality of life. Third, access to opportunities and opportunities must be ensured not only enjoyed by the current generation but also prepared for future generations. Resources must be maintained and managed well so that they can be renewed on an ongoing basis. Lastly, empowerment is key, it is hoped that each person can play an active role in determining the direction of their own life. Participation in decision-making is very important in the development process. Human development is not only limited to the four factors previously mentioned; several concepts regarding resource utilization can increase human capacity on a macro scale, including various activities such as education and training, health and nutrition, employment opportunities, a healthy living environment, and free political life.

Economic growth refers to the difference in economic activity from the previous year to the next year. Economic growth increases when there is an increase in the number of goods and services produced. Economic growth is not an economic condition that only occurs every year but is a process that takes place continuously. The economy is defined as developments and changes that occur over time. To simplify data handling, the author uses GRDP as basic information for calculating economic development. Utilizing Village Fund Data amounting to hundreds of millions provides better results compared to using data in nominal rupiah or percentages. To achieve optimal economic growth, the role of the population becomes very important. If the population is not large and natural resources are abundant, high profits from investment will be created. However, if the population increases, the impact will reduce economic activity because productivity per individual will decrease, community welfare will also decrease, and economic growth will be hampered. The availability of a large number of workers will result in the income received being insufficient to meet their living needs at a minimum level. In this case, economic growth will experience increasing obstacles (Sukirno, 2000).

According to the Solow-Swan model, economic growth can be seen in the process of economic growth, population increase, capital investment, technological development, and production which are interconnected with each other. The per capita income of a region describes the ability of the average community to meet their needs, especially basic needs. Meeting the basic needs of society is a sign of success in achieving prosperity, which depends on the extent to which people's income can be equalized in the area concerned. The level of poverty is not only related to income per individual but is also related to the fairness of income distribution in an area (Cholili, 2013). Resident refers to all people who have lived in the territory of the Republic of Indonesia for

at least 6 months or more. In addition, those who have lived for less than 6 months but have the intention to stay in Indonesia are also considered residents (Kuncoro, 1997). The role of the community is very important in the economy and development efforts of a country because they contribute human resources, expertise, and leadership in the business world (Adioetomo & Samosir, 2010). Confucian theory investigates the correlation between population size and social welfare. He argues that when the population exceeds a certain limit, this will hurt the quality of life, especially if the population exceeds the availability of land or agricultural resources to meet its needs. Confucius stated that an optimal balance must be achieved between land area and population. To overcome the problem of overpopulation, he proposed that the government relocate residents to less densely populated areas.

Thomas Robert Malthus (1766-1834), believed that as population continued to increase, it would be difficult for society to meet its needs. People are destined to live in poverty forever. It seems that Malthus's calculations were way off base. Average standards of living around the world are increasing as the population increases, but the world's population has increased sixfold over the last two centuries. A developing economy has resulted in reduced problems of chronic hunger and malnutrition compared to the time when Malthus lived. Ibn Khaldun said that when the population increases, the number of workers also increases, which results in increased production. Conversely, when the population decreases, the number of workers will also decrease, which causes a decrease in production. According to Todaro, (1999), Society as a driver of progress due to a higher population is a market potential that creates demand for various goods and services. This is certain to encourage economic activity which can ultimately create benefits for all parties by increasing production efficiency, reducing production costs, and providing an adequate supply of human resources to stimulate economic growth (Kumalasari & Poerwono, 2011).

## **METHODOLOGY**

The location of this research was carried out in Kuningan, which is in West Java Province. The focus of this research is the human development index which is used as an influenced factor. Meanwhile, the factors observed are economic growth and population. The data used uses time series data, namely from 2018 to 2023. The data source used is indirect, namely obtained from publications from the Central Statistics Agency (BPS) of Kuningan Regency, West Java Province. The technique used is the literature study method which refers to academic journals and books. Next, documentation techniques were used to collect data on economic growth, population, and human development index in Kuningan Regency, West Java Province. This research uses multiple regression analysis methods. To process data, this research uses the Eviews 12 program as a processing tool.

## **RESULT AND DISCUSSION**

To ensure that the data obtained from BPS has good results, classical assumptions are tested. After that, the data was analyzed using the multiple linear regression method. In addition, hypothesis testing was carried out to evaluate the influence between the dependent variable and the independent variable. Then, the coefficient of determination is calculated to determine the extent to which the independent variable contributes to the dependent variable.

### **Classic assumption test**

OLS (Ordinary Least Square) serves as the initial technique used to estimate regression. If the research model meets the requirements, for example, it is not affected by classical assumptions, then it can be continued by carrying out multiple linear regression testing. However, before testing multiple linear regression, it is necessary to test the classical assumptions. There are many classical assumption tests, including multicollinearity, heteroscedasticity, normality, and autocorrelation.

### **Normality test**

One of the test methods carried out under classical assumptions is normality testing. The purpose of this test is to determine whether the variable being studied has a normal distribution or not.

### **Multicollinearity Test**

Multicollinearity refers to a strong or near-perfect linear relationship between the independent variables in the regression model. A good regression model should not show a perfect or near-perfect correlation between the independent variables. (Feriyanto, 2014)

### **Heteroscedasticity Test**

The heteroscedasticity test is a condition where the residual variance is inconsistent for each observation in the regression model. An effective regression model should not show heteroscedasticity

### **Autocorrelation Test**

The autocorrelation test is used to assess whether there is a violation of the classic assumption of autocorrelation, which means there is a relationship between the residuals in one observation and other observations in the regression model. If the Durbin-Watson value is not in the range of -2 to +2, then the Run test can be carried out as a solution to overcome the autocorrelation problem (Sujarweni & Utami, 2019).

### **Regression Testing**

This research uses the method that must be used, namely using the Eviews 12 application using multiple linear regression analysis techniques. This method is carried out by testing R, R Square, F, and t to analyze the data:

1. Multiple correlation test (R Test). The R test shows that there are multiple correlations, which means the relationship between two or more independent variables on the dependent variable. The R-value range is from 0 to 1. If the value is above 0.5 or even close to 1, then the relationship will become stronger. However, if the value is below 0.5 or close to 0, then the relationship will become weaker (Feriyanto, 2014).
2. Determinant Coefficient Test (R Square). R Square, or R squared, shows the level of strength of the relationship between the independent variable and the dependent variable. This number will be converted into a percentage to describe the extent to which the independent variable contributes to the dependent variable.
3. Simultaneous Test (F). Variance analysis is a testing method that is used together (with the F test) to assess whether there is a significant influence between several independent variables on the dependent variable in the regression. The t-test, also known as the partial regression coefficient test, is a useful tool to determine whether there is a significant impact of one of the independent variables on the dependent variable. The influence of independent factors on dependent factors can be seen by looking at the Sig value in the last column. The significance value shown in this table is below 0.05. Acceptance of the null hypothesis occurs if the significance value exceeds 0.05, while rejection of the null hypothesis occurs if the significance value is less than 0.05.

### **Simultaneous Significant Test Results (F Test)**

In the F Test (Model Fit Test), a Prob (F-statistic) value of 1.164708 was obtained, where the probability value was higher than the error level set at 0.05. It can be concluded that the regression model that has been formed is appropriate or suitable. The output of the regression results produces a constant probability of 0.0000 which is smaller than the error level set at 0.05 ( $0.0000 < 0.05$ ). So it can be concluded that the constant variable is significant. For variable X1, the

probability obtained is 0.7016, which is higher than the error rate set at 0.05 ( $0.7016 > 0.05$ ). So it can be concluded that variable X1 has no significance to the dependent variable. In variable X2 the probability obtained is 0.1165 which is higher than the error level set at 0.05 ( $0.1165 > 0.05$ ). So it can be concluded that variable X2 is not significant to the dependent variable. The regression model formed is:

$$y = -0.052505X1 + e$$

### **Coefficient of Determination**

Based on the Adjusted R-Squared value of 0.620132, based on the data that has been tested above, economic growth and population have a significant influence on the development index in Kuningan Regency, namely 62.01% of the total influence. The remaining 37.99% was caused by other factors not specifically analyzed in this study. The Effect of Economic Growth on the Human Development Index in Kuningan Regency. Based on the data tested above, it can be concluded that there is a negative relationship between economic growth and HDI in Kuningan in the 2018-2023 period. The coefficient obtained is -0.421795, indicating that every 1% increase in economic growth will cause a decrease of 0.421795 in the human development index. The cause is the fact that economic growth cannot be felt evenly by society, resulting in inequality in income and difficulties in gaining access to better education and health services than before. As a result, there was a decline in the level of the human development index. This research is in line with previous research conducted by (Izza et al., 2021). According to the research results, it was revealed that economic growth has a detrimental and significant impact on HDI.

### **The Influence of Population on the Human Development Index**

Based on the analysis of the data that has been tested, it can be concluded that there is a positive relationship between the population variable and the human development index in Kuningan district in the 2018-2023 period. With a coefficient of 2.187595, a 1% increase in population will have an impact on increasing the HDI. This occurs because there is high population growth without being balanced by adequate employment opportunities, resulting in high unemployment rates and ultimately hurting the level of social welfare which decreases. This is the same as expressed in the theory carried out by (Khadijah et al., 2022a) which states that the human development index decreases in areas with many poor people. This happens because poor people have difficulty getting what they need, such as education and medical care. To carry out development, the government needs qualified people. This research is in line with previous research conducted by Febrianti Wahyuningrum which showed that the human development index was significantly influenced by population.

## **CONCLUSION**

Economic growth hurts the human development index. The large population hurts human development. Both economic growth and population contribute positively to the human development index in Kuningan Regency. This is due to the uneven distribution of economic growth in society, resulting in income inequality and difficulty in meeting the needs of a decent life. This finding also shows that if the population increases by 1%, it will reduce the human development index in Kuningan by 2.187595. This decline is caused by a lack of employment that is not proportional to population growth, which has the potential to result in high unemployment and a decrease in people's welfare.

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