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Analysis of the Influence of Government Expenditure in the Social Assistance Sector, Health Sector and Economic Growth towards the Indeks Human Development in Jombang District Year 2013-2023

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A B S T R A C T
This purpose of this research is to determine the relationship between government spending in the social assistance sector, health sector, and economic growth on the human development index in Jombang Regency Secondary data is used in the study in the form of time series from 2013 to 2023. The method used is multiple linear regression with the Ordinary Least Squares (OLS) approach. The research findings show that government spending in the social assistance sector and economic growth have an influence on the human development index. However, the variable of government expenditure in the health sector does not affect the human development index in Jombang Regency.

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INTRODUCTION

Based on the concept that humans are subjects involved in, implementing, and enjoying the results of development, if the quality of the population is low, then the role of humans is more dominant as parties who enjoy the results of development, while the role as actors and implementers of development will decrease. Indonesia has abundant natural resources, to maximize the potential for its economy to be superior, human resources must be developed. If both are utilized properly, it will support economic growth in a region. The Human Development Index (HDI) serves as an instrument to spread the impact of economic policies on the quality of life of the population, as well as being the basis for grouping a country into the category of developed, developing, or underdeveloped countries (Resa Aji Pangestu, 2022).

In developing the quality of the Human Development Index there are several important components such as government spending, especially in the fields of social assistance, health and economy. Development planning is carried out by the government has the authority and strategic position because of its duties as a public servant to raise prosperity, welfare, security, and justice for the community. Regional development planning includes activities planned to be implemented in the future. The main objective is to improve the overall welfare of society in a particular area or region within a planned time periode. The percentage of the Human Development Index can be concluded in Figure 1.1 that, the Human Development Index of Jombang Regency has increased every year. Although it can be compared with the Human Development Index percentage in Surabaya with the top ranking value in all cities/regencies in East Java, the Human Development Index value of Jombang Regency is still relatively low when compared to Surabaya.

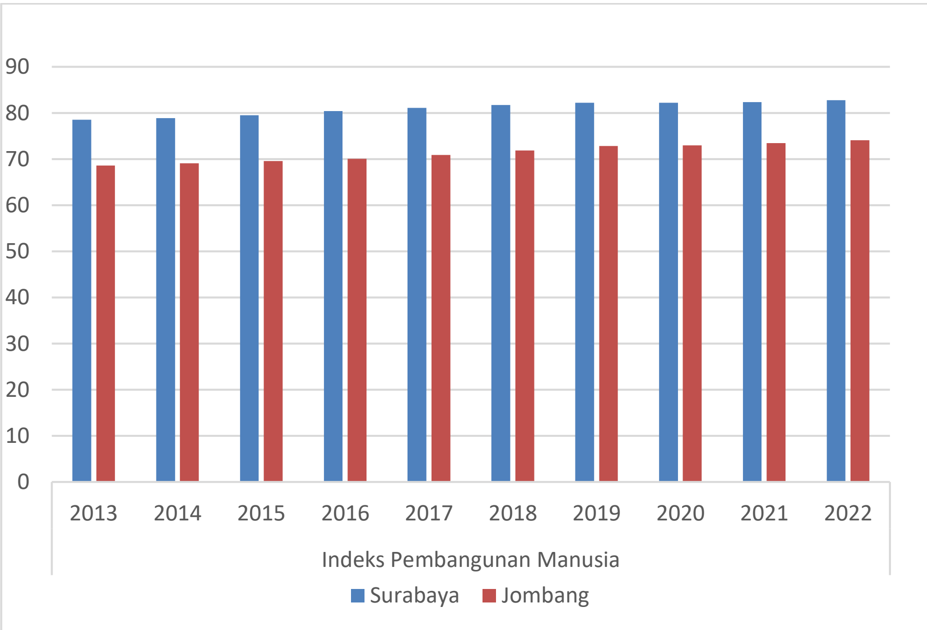

Figure 1. Percentage of Human Development Index of Surabaya City and Jombang Regency 2013-2022

The high HDI in each region can be influenced by the large level of social assistance that can improve the welfare of the community. Where it can help and protect when the community is affected by a decrease in income, in addition to reducing poverty. Of course, social assistance is intended to meet a decent standard of living and help households anticipate existing risks. A number of factors that influence human development include government spending on the social assistance sector & economic. Government spending in the social assistance sector as a whole, with an increase in the government budget allocation for the sector, productivity will increase, leading to increased human development. Furthermore, public investment can be defined as the cost incurred by the government for the social and economic assistance sectors.

Social assistance is the distribution of selective assistance, which is not continuously provided in the form of goods or money given to the community. In Indonesia, social assistance is regulated or determined in Law No. 14 of 2019 concerning social welfare. The law explains that social assistance is assistance that can be in the form of services, money, goods to people in need / vulnerable to social risks. Social has a very significant role in supporting people who are in poor economic conditions. The social assistance program is designed to help meet basic needs such as food, health, education, and housing for people who are at risk of falling into poverty or facing economic difficulties. With social assistance, it is hoped that it can reduce social inequality, improve the quality of life, and provide better opportunities to obtain a decent life. The role of social assistance in creating social stability, reducing economic inequality, and providing a sense of security for people affected by difficult economic conditions. The conditions in Jombang Regency still have uneven social assistance. Most people in the low-income economic category have not received social assistance provided by the government.

Gross Regional Domestic Product (GRDP) includes components that are thought to influence the Human Development Index. The ability o the population to consume to buy everyday goods can be seen influenced by changes in the amount of GRDP results, this is related to the HDI (Handayani & Woyanti, 2021). Government spending describes the policies that have been set. When the government decides to buy goods/services, spending describes the costs that need to be disbursed to implement the strategy. Government spending in a real context can be used as an indicator of how much government activity is funded by the spending. The more and greater the activities carried out by the government, the greater the spending. The ratio of government spending to National Income is a dimension of how much the government'sobligations are in the economy (Cliff Laisina et al., 2015). Low overall community productivity will certainly affect the achievement of GDP or slow down the acceleration of economic growth, which in turn will lead to low human development in Indonesia. When viewed from the perspective of regional social order, the level of GRDP can be used to measure productivity.

Health sector development is an important thing to realize development in a region. Government health costs are a step to fulfill the basic rights of citizens, namely to obtain health services, which are regulated in the 1945

Constitution Article 8 paragraph 1 and Law Number 23 of 1992 concerning Health. The determination of public spending on health is in fact higher than. public provisions for health level education in a region also affect the growth and development of the Human Development Index.

LITERATURE REVIEW

Human Development Indeks

The essence of human development is to make individuals the main assets of the country that play a role in driving progress in various fields such as economy, social, politics, culture, and environment, in order to create a more peaceful community life. From this perspective, the main goal of human development is to create conditions that support humans to live longer, healthier, and be able to contribute productively. The human development approach increasingly emphasizes increasing choices that can be accessed by people in an independent and dignified manner.

Human development considers comprehensively the various directions of human life, such as economic growth, trade, employment, political freedom, cultural values, gender issues (Todaro & Smith, 2006). The Human Development Indeks (HDI) was introduced by UNDP *(United Nation Development Programme)* since 1990. Indonesia began calculating the HDI since 1996, which is done periodically every 3 years. To meet government needs, especially in calculating the General Allocation Fund, the HDI calculation is carried out annually starting in 2004. Since 2014, the indicator used to calculate the HDI in Indonesia refers to the new method applied by UNDP, with several adjustments.

Government Expenditure in Social Assistance Sector against Indeks Human Development

Expenditure on social assistance can be considered as one of the indicators in assessing the development of human quality of life, which includes important aspects such as education, health, and income. Spending on social assistance also contributes to overall national income, which ultimately has a positive effect on increasing the Human Development Index (HDI). This can be interpreted as a process that aims to expand the various policy alternatives that can be taken by the government, based on the idea that improving the quality of human resources will open up more opportunities and life choices for individuals, supported by social assistance from the government (Garmana, 2024).

H1: Government Expenditure in the Social Assistance Sector has an effect on Human Development Index

Government Expenditure in Health Sector to Human Development Indeks

The rate of births attended by medical personnel and the proportion of the government budget allocated to the health sector have a significant impact on reducing infant mortality rates. Overall, health data shows that increasing government spending in the health sector has a major impact on improving the performance of the sector (Haryanto, 2005). Health is a primary need for every individual, because without good health conditions, people will not be able to contribute productively to development in their area. Economic activity in a region can run well if all its residents have access to health insurance. The better the level of public health, the better the quality of human resources, which ultimately has a positive impact on increasing the Human Development Index (HDI) (Setiawan & Hakim, 2008).

H2: Government Expenditure in the Health Sector has no effect on the Human Development Index

Economic Growth to Human Development Indeks

Human development is the main target of the overall development process, because it has a crucial role in increasing a country's ability to adopt modern technology and expand its capacity, thereby encouraging sustainable growth and development (Todaro, 2004). Economic growth refers to developments in economic activities that result in an increase in the number of goods and services produced in society. Economic growth is measured by the increase in real Gross Domestic Product (GDP). Economists have analyzed various important factors that influence economic growth, one of which is the Human Development Index, which can also accelerate the economic growth of a region (Melliana & Zain, 2013). The contribution of human development to economic growth by increasing workforce capacity can ultimately increase economic production so that community output also increases. Meanwhile, the contribution of economic growth to human development is by increasing government revenue which can then be invested in human development.

H3: Economic Growth affects the Human Development Indeks

Based on the hypotheses outlined above, this study has the following conceptual framework:

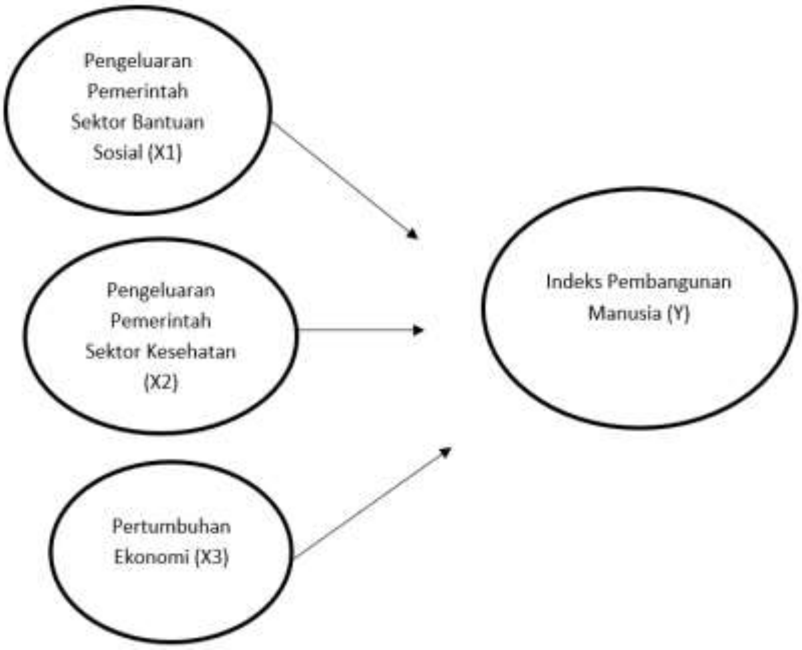

Figure 2. Conceptual Framework

METHODOLOGY

This study uses secondary data with data sources from the Central Statistics Agency. Researchers use quantitative data with the nature of time series data or data with a certain time span. Researchers use annual data from 2013 - 2023 with variables of Government Expenditure in the Social Assistance Sector, Government Expenditure in the Health Sector, Economic Growth, and Human Development Index in Jombang Regency.

Definition of Research Variables

This research variable is divided into 2, namely:

a. Independent Variable
   The independent variable is a variable that provides an explanation or has an influence on other variables. This variable is also known as the antecedent variable. In this study, there are three independent variables, namely Government Expenditure in the Social Assistance Sector (X1), Government Expenditure in the Health Sector (X2), Economic Growth (X3).
b. Dependent Variable
   A dependent variable is a variable whose value is influenced by another variable, the main focus of which is to analyze how changes in the independent variable affect the dependent variable. The dependent variable used is the Human Development Index (Y).

Data Analysis Method

This research is a quantitative research, by analyzing the extent to which the independent variable influences one dependent variable. The type of analysis used is multiple linear regression analysis. Jombang Regency was chosen as the object of research using time series data for ten years (2013-2023), while the software used to assist data analysis is Eviews 10 software.

Classical Assumption Test

The classical assumption test is a group of statistical tests that must be carried out so that the results of the linear regression analysis are valid and unbiased. The approach used is Ordinary Least Squares (OLS), because it will only provide estimates to meet the assumptions, namely the Best Linear Unbiased Estimator (BLUE). The OLS method itself is an econometric technique that involves independent variables as explanatory variables and dependent variables as variables explained in a linear model. If the regression analysis does not use the OLS method, such as in logistic regression or ordinal regression, then the classical assumption test is not a requirement (Imam Ghozali, 2017).

Heteroscedasticity Test

Heteroscedasticity testing, which is analyzed is whether there is a difference in variance between one residual and another in the observation data. One of the characteristics of a good regression model is having a uniform residual variance between observations, this condition is known as homoscedasticity. Testing using the White Test method, if the significance value of the independent variable is greater than 0.05, then it can be concluded that there is no heteroscedasticity.

Multicollinearity Test

Multicollinearity Test is a test conducted to ensure whether in a regression model there is intercorrelation or collinearity between independent variables. This test is conducted with the aim of finding out whether in a regression model there is a correlation between independent variables. This test is carried out by looking at the Variance Inflation Factor (VIF) value, where if the VIF value is less than 10, then it can be concluded that there is no multicollinearity.

Normality Test

The normality test is a test to determine whether the residual data in the regression model follows a normal distribution. This is one of the important assumptions in linear regression, especially so that the significance test (t and F tests) produces valid estimates. This study uses the Jarque-Berra test type is a well-known goodness-of-fit test used to assess the distribution structure of data

Autocorrelation Test

Autocorrelation test is the relationship between the residuals of one observation and the residuals of another observation. Simply put, autocorrelation test is an analysis of regression consisting of testing the influence of independent variables on dependent variables, so that there should be no correlation between observations and previous observation data. This study uses the Lagrange Multiplier (LM) Test model. If the test result is <0.5, there is no autocorrelation.

Multiple Linear Regression Analysis

Multiple regression analysis is used by researchers to observe how changes in dependent variables occur when two or more independent variables that act as predictors experience changes, either an increase or a decrease (Sugiyono, 2018).

The multiple linear regression equation is mathematically expressed by:

$$Y = a + b1X1 + b2X2 + b3X3 + e$$

Description:
Y = Human Development Index
a = Constant
X1 = Government Expenditure on Education Sector
X2 = Government Expenditure on Health Sector
X3 = Economic Growth
b = Regression coefficient on each independent variable
e = Standard

Coefficient of Determination Test (R^2)

The Coefficient of Determination (R^2) test is used to determine the extent to which the independent variable is able to explain the variations that occur in the dependent variable, both individually and together (Dwi, 2017).

T-Test

The t-test is an inferential statistical test used to determine whether there is a significant difference between the means of two groups and how they relate, as well as comparing the means of two samples to determine statistically significant differences (Dwi, 2017).

F Test

The F test is a statistical test used in hypothesis testing to check whether the variances of two populations or two samples are the same or not. The significance used in the analysis is 0.05. If the F significance value is less than 0.05, then it can be interpreted that the independent variables simultaneously have an influence on the dependent variable. Conversely, if the value exceeds 0.05, then the independent variables do not have a significant influence simultaneously (Dwi, 2017).

RESEARCH RESULT

Heteroscedasticity Test

Heteroskedasticity Test: White

F-statistic	7.646045	Prob. F(9,1)	0.2740
Obs*R-squared	10.84244	Prob. Chi-Square(9)	0.2867
Scaled explained SS	4.450183	Prob. Chi-Square(9)	0.8794

Figure 3. Normality Test Results
Source: Eviews 10

Based on the image above, the results of the white test to detect the presence or absence of Heteroscedasticity can be seen in the results of the Chi-Square Prob. (9) which is 0.8794, which is >0.05. This means that there is no Heteroscedasticity in the independent variable.

Multicollinearity Test

Variance Inflation Factors
Date: 12/30/24 Time: 21:22
Sample: 2013 2023
Included observations: 11

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	7279.435	74.83529	NA
X1BANTUANSOSIAL	1.56E-18	6.228861	3.024613
X2KESEHATAN	9.10E-21	5.709346	2.277255
X3PDRB	5.22E-14	74.66327	3.188124

Figure 4. Multicollinearity Test Results
Source: Eviews 10

Based on the image above, the Centered VIF value shows that the independent variables of government expenditure in the social assistance sector (X1), health sector (X2) and GRDP (X3), the centered VIF value is each <10, so there is no multicollinearity.

Normality Test

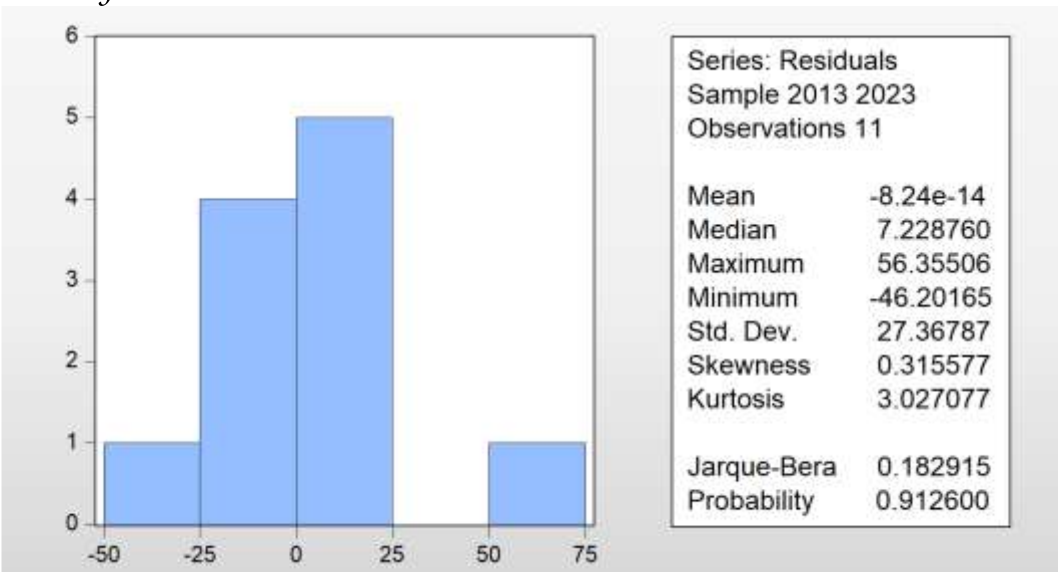

Figure 5. Normality Test Results
Source: Eviews 10

The significant probability result is 0.91, so the result is higher than >0.05. This shows that the data distribution does not show deviations from the normality curve, which means that the data is normally distributed.

Autocorrelation test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.150383	Prob. F(2,5)	0.1302
Obs*R-squared	6.133074	Prob. Chi-Square(2)	0.0466

Figure 6. Autocorrelation Test Results
Source: Eviews 10

The results of the autocorrelation test using the LM Test model can be seen in the Prob.Chi-Square (2) of 0.0466, which is <0.05, meaning that there is no autocorrelation in this study.

Multiple Linear Regression Analysis

In this study, the formula for the multiple linear regression equation is as follows:

IPM = 6298.611+ 36.070-09 PPBS + -1.350-10 PPSK+ 2.350-06PDRB + e

Based on the regression results, the following equation can be obtained:

1. The constant value of 6298.611 indicates that if all independent variables, namely Government Spending in the social assistance sector, health sector, and GRDP, are considered to have no effect or have a value of zero, then the Human Development Index (HDI) in Jombang Regency is estimated to increase by 6298.611.
2. The coefficient of Government Spending in the social assistance sector has a positive value of 6.070e-09, which indicates that a 1% increase in spending in this sector will cause an increase in the Human Development Index of 6.070e-09.
3. The coefficient of Government Spending in the health sector shows a negative value of -1.350e-10, which means that a 1% increase in spending in the health sector is actually estimated to decrease the Human Development Index by -1.350e-10.
4. The coefficient for the economic growth variable has a positive value of 2.350e-06, which indicates that a 1% increase in economic growth will increase the Human Development Index by 2.350e-06.

Koefisien Determinasi (R^2)

Table 1. Test of Determination Coefficient (R2)

R-squared	**Adjusted R-squared**
0.990655	0.986650

Source: Eviews 10

The Adjusted R-squared result was 0.98, meaning that 0.98% of the HDI was influenced by Government Expenditure in the social assistance sector, Government Expenditure in the health sector, and GRDP in Jombang Regency. While the rest (100 – 0.98% = 2%) was influenced by other variables not included in this study.

T-Test

Table 2. t-Test Results

Variable	**t-table**	**t-count**	**Probability**
Y (Human Development Index)			
Government Expenditure on Social Assistance Sector	6.070-09	2.306	0.0018
Government Health Sector Expenditure	-1.350-10	2,306	0.1985
PDRB	2.350-06	2,306	0.0000

Source: Eviews 10

Based on the output of the results above, it is known:

1. Variable X1 shows a significant value of 0.0018 <0.05, so the variable of government expenditure in the social assistance sector has an effect on the Human Development Index.

2. Variable X2 shows a significant value of 0.19> 0.05, so the variable of government expenditure in the health sector has no effect on the Human Development Index.
3. Variable X3 shows a significant value of 0.047> 0.05, so the variable of economic growth has no effect on the Human Development Index.

F Test

Table 3. F-Test Results

Prob (F-statistic.)	0,0000

Source: Eviews 10

The test results show that the probability value (F-statistic) is 0.0000 <0.05, so Ho is rejected and H1 is accepted. This shows that the independent variables simultaneously have a significant effect on the Human Development Index in Jombang Regency.

DISCUSSION

The Influence of Government Expenditure in the Social Assistance Sector on the Human Development Index in Jombang Regency

The results of the tests that have been carried out show that Government Expenditure in the Social Assistance Sector has a significant effect on the Human Development Index (HDI) in Jombang Regency. The social assistance provided by the local government has been right on target for the community. This is indicated by the fact that several forms of assistance have been provided to people in need and in accordance with existing real data. The distribution of social assistance is provided by the Jombang Regency Government, including Non-Cash Food Assistance (BPNT), which is a real form of government concern in helping underprivileged people to meet their food needs with the hope that people will gain access to nutritious food and live healthier. There are several methods of distributing this assistance, namely transfers and through bank accounts and food cards.

This study is in line with research conducted by (Fitriani, 2022) which states that Social Assistance has a positive effect on the Human Development Index (HDI) in the Special Region of Yogyakarta Province during the period 2016 to 2020. This means that if social assistance increases, the Human Development Index (HDI) will also increase.

The Effect of Government Expenditure in the Health Sector on the Human Development Index in Jombang Regency

Based on the results of the analysis, the Effect of Government Expenditure in the Health Sector has no effect on the Human Development Index. Health is an important investment for the government for the future of its region. The level of health in Jombang Regency is still classified as many health cases that have not been resolved by the local government. There are still many cases, including HIV/AIDS cases which are quite rampant in Jombang Regency, stunting which needs to be handled considering that stunting cases in Jombang Regency are quite high.

This study is in line with research (Firmansyah et al., 2020) that the level of health does not have a significant effect on the human development index partially. Where health must be viewed as an investment to improve the quality of human resources. By increasing the quality of human resources, it automatically triggers an increase in the human development index.

The Effect of GRDP on the Human Development Index in Jombang Regency

The results of the analysis obtained that GRDP has an effect on the Human Development Index. Good demographic and infrastructure conditions can naturally increase work productivity, because access to the distribution of goods and services becomes easier, ultimately driving economic growth in the area. Therefore, to truly improve people's welfare, a more comprehensive strategy is needed that focuses not only on economic growth, but also on equalizing the quality of education and health, as well as supporting infrastructure development. Only with this holistic approach can the quality of human resources and, ultimately, the HDI be improved sustainably.

This study is supported by (Firmansyah et al., 2020) that economic growth has a positive and significant effect on the Human Development Index. A relatively high level of human development will affect the performance of economic growth through population capabilities and consequently increasing productivity and creativity of the community. With increased productivity and creativity, the population can absorb and manage resources that are important for economic growth.

CONCLUSIONS AND RECOMMENDATIONS

1. Government Expenditure in the Social Assistance Sector has an effect on the Human Development Index in Jombang Regency. This is indicated by the fact that several forms of assistance have been provided to people in need and are in accordance with existing real data. The distribution of social assistance provided by the Jombang Regency Government includes Non-Cash Food Assistance, Direct Cash Assistance, which is a real form of government concern in helping underprivileged people to meet their food needs with the hope that people will gain access to nutritious food and live healthier.
2. Government Expenditure in the Health Sector has no effect on the Human Development Index in Jombang Regency. This has an impact on the life expectancy of humans which is quite long. The level of health in Jombang Regency is still classified as having many health cases that have not been resolved by the local government. There are still many cases, including HIV/AIDS cases which are quite rampant in Jombang Regency, stunting which needs to be handled considering that stunting cases in Jombang Regency are quite high.
3. Economic Growth has an effect on the Human Development Index in Jombang Regency. Income disparities in a region are often caused by striking differences in demographic conditions between regions. These differences can include population growth rates, economic structure, quality of education

and health, and community characteristics. Good demographic and infrastructure conditions can naturally increase work productivity, because access to the distribution of goods and services becomes easier, ultimately driving economic growth in the area. 4. Government Expenditure in the Social Assistance Sector, Health Sector and Economic Growth together affect the Human Development Index in Jombang Regency. Marked by programs that have been designed and implemented by the government can provide an impact according to the expectations of the local government, the impact is also on the increase in the human development index in Jombang Regency.

ADVANCED RESEARCH

1. For the government or agencies: as an illustration and consideration in determining the direction of policy related to the Human Development Index in Jombang Regency through government spending in the social assistance sector, government spending in the health sector and economic growth as a reference.
2. For academics and researchers, it can be a discourse, information, and additional references for future research on relevance in the economic field.

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