Determinant of HDI in Yogyakarta Special Region Province

Rizki Annisa

Development Economic Study Program, Economics Faculty, Universitas Negeri Semarang

Permalink/DOI: https://doi.org/10.15294/efficient.v5i2.47578

Received: December 2021 ; Accepted: March 2022 ; Published: June 2022

Abstract

Yogyakarta Special Region (DIY) occupies the second position of high categorical HDI in Indonesia. The UMP, which is the benchmark for the number of wages given to workers, has the lowest amount in Indonesia. Several other factors that were thought to have influenced the high in HDI were inflation, GRDP, and LFPR. This study aims to determine and analyze the factors that influence HDI in DIY. The type of data used in this study is secondary data. The data used are sourced from BPS, Indonesian Statistics Report, Yogyakarta Labour Affair Office and GlobalDataLab. The research method used is multiple regression analysis time series for the period 1990-2019 DIY. The variables used in this study are HDI, Inflation, GRDP, UMP, and LFPR. The results showed that inflation has a negative and not significant effect on HDI. GDRP, UMP and LFPR have a positive and significant effect on HDI.

Keywords: Determinant, HDI, Inflation, GRDP, UMP, LFPR, Yogyakarta


© 2022 Semarang State University. All rights reserved

Correspondence Address :
Address: Gedung L2 Lantai 2 FE Unnes
Kampus Sekaran, Gunungpati, Semarang, 50229
E-mail : rizkiannisa99@gmail.com
INTRODUCTION

Human development is one of the focuses of the economic development process. In the UNDP report or the United Nations Development Program (1990), human development is defined as a process to increase human choices. Development is not only analyzed and understood from its economic growth, but also from a human point of view. Humans are positioned as an asset of the nation and create growth in social, cultural, political, economic and environmental aspects that can encourage increased welfare in society. Human resources apart from being the subject, are also used as objects in development (Muliza et al, 2017).

In Indonesia, human development is one of the priorities in national development as stated in the 2020 Government Work Plan as the first year of implementation of the 2020-2024 National Medium Term Development Plan (RPJMN). Assessing human development in an area requires benchmarks. The benchmark that has been set by the UNDP as a measure of the high and low levels of human development is called the Human Development Index (HDI).

HDI can be interpreted as a description of the welfare of the community in accessing the fields of education, health, and economy. BPS (2020), through the 2020 UNDP report as a periodic global HDI survey agency, reveals that Indonesia is ranked sixth in ASEAN and 189 on a global scale. In 2019, Indonesia’s HDI reached 71.92%. This figure increased by 0.53 points or grew 0.74% compared to 2018 with an HDI of 71.39%. The constituent elements of the HDI have undergone several changes.

The HDI calculation currently used is a new method based on the 2010 base year, which is formed from the dimensions of health, education, and expenditure. It consists of basic dimensions in the form of a long and healthy life, knowledge, and a decent standard of living. The three basic dimensions are accessed in development. If you do not have these three basic things, you cannot access other options.

The high and low value of a region’s HDI is influenced by several factors such as social and cultural characteristics, infrastructure, geography, and socio-economic development programs run by the government at various levels. The higher the HDI value, it can be said that the more prosperous the community is. Conversely, the lower the HDI value, it can be said that the lower the level of welfare (Zainuddin, 2015).

Several variables that can affect the HDI value include inflation, Gross Regional Domestic Product (GRDP), Provincial Minimum Wage (UMP), and Labor Force Participation Rate (LFPR). Based on research conducted by Ogbebor, et al (2020) and Pangesti and Susanto (2018), the results show that inflation has a negative and insignificant effect on HDI. Research conducted by Septianingrum, et al (2020), Zainuddin (2015), and Ramadona, et al (2019) shows that the results show that the GRDP variable has a positive and significant effect on HDI. Research conducted by Sunarsih, et al (2019), and Widodo, et al (2019), the results of the study show that the minimum wage variable has a positive and significant effect on HDI. Research conducted by Jamaliah and Amalia (2019) and Hakiki, et al (2020) shows results that the LFPR variable has a positive and significant effect on HDI. Based on the calculation of the new method, since 2010 DIY has always been in the second position of the provinces with the
highest HDI value in Indonesia after DKI Jakarta. In fact, until 2019 Yogyakarta is still in the second position of the province to have a high HDI category in Indonesia with a value of 79.99% and is DIY’s best achievement so far. This value surpassed Indonesia’s HDI in 2019, with a value of 71.92%. The HDI of provinces in Indonesia can be seen in the figure 1.

![Figure 1. HDI of Provinces in Indonesia in 2019 (in percent)](source: Badan Pusat Statistik (BPS), 2019)

Inflation can be described as a tendency to increase in general prices of goods continuously. If the price of goods and services increases, then inflation will be affected. The price of goods and services that increase will cause the condition to decrease in the value of money. Inflations of an economic phenomenon will have an impact on economic activity, which often has an impact on public finances and the purchasing power of money will be lower. So that when you want to get something, more money is needed and, in the end, it affects the development of the quality of life (Yolanda, 2017).

GRDP can be interpreted as an added value from all sectors of economic production in a region, which can describe economic growth. The existence of economic growth in an area can have an impact on increasing economic productivity and increasing income levels. An increase in the level of income will provide opportunities for people to access other fields and improve community welfare.

Provincial minimum wage (UMP) is a minimum standard of monthly wages in a province which is determined by the governor as a reference for industry players or entrepreneurs in remunerating their workers in a company or business entity. The regulation regarding the UMP is regulated in the Regulation of the Minister of Manpower and Transmigration Number 7 of 2013 concerning the minimum wage. The minimum wage is seen as a source of
wages to take home. The existence of a minimum wage is an effort that hopes to meet the needs of workers for education, health, transportation and recreation (Sunarsih, et al., 2019).

LFPR is the percentage ratio between the total workforce and the population aged 15 years and over. LFPR is an indicator to see how much the workforce (aged 15-64 years) has entered economic activity. The amount of LFPR will determine the welfare achieved by the community. The netted workforce in the world of work will receive wages from the companies they work for as a result of the work that has been done in a certain period where the wages become a tool to meet the daily needs of workers.

Based on the previous explanation, HDI is a picture of welfare. One of the factors opening access to welfare is the income from the wages that workers get as a result of remuneration for work for a period, which is usually monthly. The rate of wages given to workers is based on the UMP. The development of the UMR (which has now changed its name to UMP) will have an impact on increasing income.

Thus, it will have an impact on increasing the spending of workers. In the end, there will be an increase in the aggregate in the economy. In other words, the development of the UMR size has an effect on increasing the HDI (Zainuddin, 2015). The minimum wage is adjusted according to the Decent Living Needs based on the principle that employers are not allowed to pay wages lower than the minimum wage to workers (Utama, 2017).

This is because wages are included in one of the components to meet the needs of a decent life (Budijanto, 2017). Wages given by a company to employees and used by employees with two functions, namely as a tool to buy goods and services to meet their needs and as a means of encouraging workers to be more active, better, and productive (Fahrunisa, 2017).

The minimum wage policy is a wage system that can basically be seen from two sides. First, the minimum wage is a means of protection for workers to maintain that the value of the wages received does not decrease in fulfilling their daily needs. Second, as a means of protection for companies to maintain worker productivity (Dwirainaningsih, 2017).

The determination of the minimum wage allows workers to improve their nutrition so that in the long run they can increase their productivity. The increase in wages also allows the workforce to send their children to school and provide better nutrition. Both of these in the long term will have a big impact on increasing productivity and welfare (Teneh, et al, 2019). The Value of UMP Yogyakarta Province is set to be below the average of Indonesia’s UMP. The UMP DIY has been determined to be in the last rank in Indonesia until 2019.

To see the comparison of the Minimum Wage between the Indonesian Provinces and the Yogyakarta Provinces, can be seen in figure 2. HDI which is a description of the welfare received by the community is one of the focuses of a country. The amount of welfare received by the community cannot be separated from the various factors that influence or determine it. Based on previous studies as references, several factors that determine the HDI are inflation, GRDP, UMP, and LFPR.

In addition, the selection of these variables is to support the analysis of the research problems raised in the form of a high HDI which is inversely proportional to the low UMP in Yogyakarta. The aim of
this research is to analyze and determine the magnitude of influence of inflation, GRDP, UMP and LFPR to HDI in partial and simultaneous in DIY Province.

**Figure 3.** UMP of 34 Provinces in Indonesia in 2019 (in IDR)
Source: m.liputan6.com

**RESEARCH METHODS**

This research is a type of quantitative research. Quantitative research is a research method based on the philosophy of positivism, used to measure specific populations or samples, data collection using research instruments, and quantitative or statistical data analysis, which aims to test predetermined hypotheses (Sugiyono, 2017: 8).

Based on the source, the type of data used in this study is secondary data, where indirect data is provided to data collectors. This secondary data is data that is to support primary data needs such as from books, literature, and related reading, and to support this research (Sugiyono, 2017: 137).

Based on the time of collection, this study uses the type of data time series. Time series is data that describes variables from time to time. Where this time series is a series of observations on an event, event, or variable that is taken and recorded from one period to another which is compiled as statistical data. The object in this study is the Province of Yogyakarta Special Region (DIY) which was observed over a period of 30 years (time series), from 1990 to 2019.

This study uses variable data on the Human Development Index (HDI), inflation, Gross Regional Domestic Product (GRDP), Provincial Minimum Wage (UMP), and Labor Force Participation Rate (LFPR). The data in this study came from various sources.

Based on the theories and several previous research studies which form the basis of the thinking framework, four independent variables were taken to determine their effect on HDI in...
DIY Province. The analytical method used in this study is multiple linear regression. The form of multiple linear regression model equations in this study are:

\[ Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 \log X_{2it} + \beta_3 \log X_{3it} + \beta_4 X_{4it} + e_{it} \] ..............................(1)

Description:
- \( Y \) = Human Development Index (HDI)
- \( X_1 \) = Inflation
- \( X_2 \) = Gross Regional Domestic Product (GRDP)
- \( X_3 \) = Provincial Minimum Wage (UMP)
- \( X_4 \) = Labor Force Participation Rate (LFPR)
- \( \alpha \) = Constant
- \( \beta_1 \) = Inflation Regression Coefficient
- \( \beta_2 \) = GRDP Regression Coefficient
- \( \beta_3 \) = UMP Regression Coefficient
- \( \beta_4 \) = LFPR Regression Coefficient
- \( i \) = DIY Province
- \( t \) = Year \( t \) (1990-2019)
- \( e \) = Disturbance error (confounding factor / residual)

The equation model above explains that HDI in DIY is affected by inflation, GRDP, UMP, and LFPR. Meanwhile, other variables outside the model use the ceteris paribus assumption or are considered constant. This model uses the classical Assumption test, one of the tests used in statistical requirements. In multiple linear regression analysis, this test is a condition that must be met.

This research also uses statistical testing of regression analysis. Multiple linear regression analysis is used by researchers, if it predicts how the dependent variable (criterion) will rise or fall if two or more independent variables are a factor predictor of the rise and fall of values (manipulation). Multiple regression analysis can be done if the independent variables are at least 2 (Sugiyono, 2017).

This analysis aims to see how much influence and direction of the relationship (positive or negative) between the independent variables and the dependent variable using interval or ratio data. The test used in multiple linear regression analysis is the t-test, the F test, and see the coefficient of determination.

**RESULTS AND DISCUSSION**

The coefficient of determination (R^2) aimed to measure how much contribution the influence of the independent variable has on the dependent variable. The result of the model coefficient in this research is 0.808329, indicating that the variables of inflation, GRDP, UMP and LFPR can explain the HDI variable by 80.83% and 19.17% explained by other variables outside the model with the ceteris paribus assumption. The next step is t-test which aimed to partially estimate the effect of each independent variable on the dependent variable. Table 1 are the results of the regression model estimation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Probability</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation</td>
<td>0.3371</td>
<td>Not Significant</td>
</tr>
<tr>
<td>LOG (GRDP)</td>
<td>0.0281</td>
<td>Significant</td>
</tr>
<tr>
<td>LOG (UMP)</td>
<td>0.0065</td>
<td>Significant</td>
</tr>
<tr>
<td>LFPR</td>
<td>0.0054</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: Processed data, 2021

Based on table 1, the probability of inflation is 0.3371 in significance level \( \alpha \) (0.05). it means that inflation doesn't have a significant
effect on the HDI. While the probability of GRDP and UMP are less than significance level $\alpha$ (0.05), it means that GRDP, UMP, and LFPR have a significant effect on HDI. The next is the F-test intended to detect the simultaneous influence of all independent variables on the dependent variable.

**Table 2. Multiple Linear Regression Test Result**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.651970</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.3371</td>
</tr>
<tr>
<td>LOG (GRDP)</td>
<td>0.0281</td>
</tr>
<tr>
<td>LOG (UMP)</td>
<td>0.0065</td>
</tr>
<tr>
<td>LFPR</td>
<td>0.0054</td>
</tr>
</tbody>
</table>

Source: Processed data, 2021

This study aims to determine the effect of inflation, GRDP, UMP and LFPR on the HDI in Yogyakarta Province during the period 1990 to 2019. The results of data processing the model equation obtained can be seen in table 2. Based on table 2, the results of multiple regression analysis formed are as follows:

$$\text{HDI} = -1.651970 - 0.034557 \text{ Inflation} + 4.402230 \times \text{LOGGRDP} + 4.521766 \times \text{LOGUMP} + 0.652840 \text{ LFPR} + e$$

The results of the regression model analysis resulted in an F-count value of 31.57524 and a probability F-statistic of 0.000000. These results indicate that all the independent variables in the form of inflation, GRDP, UMP, and LFPR have an effect on the dependent variable in the form of HDI simultaneously and are significant at the 5% significance level with the assumption of ceteris paribus. The estimation results of inflation to HDI in this model in this study indicate that the inflation variable has a negative effect and is not significant to HDI with the value of the regression coefficient -0.034557.

These results indicate that an increase of 1% in inflation leads to a decrease in HDI by 0.03% with the assumption of ceteris paribus. Based on the results of the coefficients and probability, inflation is the only variable that has no effect on HDI in this study. With a coefficient value of -0.034557 and a probability of 0.3371.

The results show that inflation is not significant to HDI. The results of this study are in line with research conducted by Pangesti and Susanto (2018), where the results show that inflation has a negative and insignificant effect on HDI. Current inflation controls can be controlled even if the fuel subsidy is removed. The current government’s courage to remove oil subsidies is supported by the stable and declining world oil price.

According to macroeconomic experts, inflation in Indonesia was triggered by rising production costs and rising transportation sector costs due to rising oil prices. The results showed that inflation had a negative and significant effect due to government policies to provide assistance to economically weak or poor people, such as: market operations for basic needs, Direct Cash Assistance (BLT), Healthy Indonesian Cards, and Smart Indonesia Cards.

The results of this study are in line with the quantity theory of money, where inflation is caused by the money supply in society. This is due to the role of the government in maintaining inflation, by supporting the needs of the people and maintaining the prices of commodity goods that exist in society. The estimation results of GDRP in this model in this
study indicate that the GRDP variable has a positive and significant effect on HDI with a regression coefficient value of 2.250224.

These results indicate that a 1% increase in GRDP will lead to an increase in HDI of 2.25% with the assumption of ceteris paribus. Based on the results of the coefficients and probability, GRDP is one of the variables that influences and determines the HDI value. In this study, GRDP becomes the second position variable that influences the HDI level, with a coefficient value of 4.402230 and a probability of 0.0281.

The results of this study are in line with Bauer's theory which states that human capital (HR) is a driving factor as well as an impact on economic growth. Human resources are dedicated to economic growth through their contribution to economic activity. In addition, economic growth forms workers and families into human capital according to modern economists, namely in the form of an increase in knowledge, skills, and abilities of the entire population of the country concerned.

These results are in line with Kuznets' theory in the research of Rakhmadani (2018), where the results show that there is a positive and significant effect of GRDP on HDI. The increase in GDP growth will lead to an increase in per capita income in the community. People tend to use their income on goods that directly contribute to the Human Development Index, such as consumption of food, beverages, education, and health. Which then affects household patterns as well as expenditure allocations, so that it has an impact on the condition of improving human development.

In Septianingrum, et al (2020), the results of the study suggest that GRDP has a positive and significant effect on HDI. Where the relationship between GRDP and HDI can be described in a theoretical perspective through the mechanism trickle down effect. Where economic development will increase the ability to provide facilities and infrastructure that support improving the quality of education, health, and the community's economy.

GRDP is an indicator to see equitable development. Where GRDP can be interpreted as a description of the ability to generate income and remuneration for production factors in an area (Diba, Fathorrazi, and S, 2018). The increase in remuneration for production factors in an area will affect people's income. The income earned by the community will later become a source of fulfillment for family needs and in order to achieve their welfare.

The size of the GRDP in an area has an effect on improving the quality of society. A large GRDP will help the government improve all public facilities, such as education and health (Ramadona, Riswan, and Dialami, 2019). Improving the quality of public facilities is expected to improve the quality of life of the community. So that increases the quality of life of the community, and also affects HDI.

High GRDP can change the pattern of meeting people's consumption needs. This is because people's purchasing power is closely related to HDI, namely people's income as a composite indicator that influences it (Todaro 2006). So that the increase in GRDP has an impact on purchasing power and increased people's income, which will later affect the HDI.

The estimation results of UMP in this model in this study showed that the UMP variable had a positive and significant effect on HDI with a regression coefficient value of
These results indicate that a 1% increase in UMP will encourage an increase in HDI by 1.61% with the assumption of ceteris paribus. Based on the results of the coefficients and probability, UMP is one of the variables that influences and determines the HDI value. In this study, UMP became the first variable that had the greatest influence in determining the HDI level, with a coefficient value of 4.521766 and a probability of 0.0065.

The wages given to workers are based on the amount of the UMP. In human development theory, wages or income become access to the resources needed to achieve a decent life. Thus, the amount of UMP has an effect on the welfare of the community as seen through the HDI. Besides that, the results of this study are in line with the ethical wage theory. Where the minimum wage should be able to take into account, the welfare received by the families of the workers concerned.

This result is in line with the research of Sunarsih, et al (2019), where the UMP has a positive and significant effect on HDI. The minimum wage is income in the form of money which can give a glimpse of the development progress. As a result, money has an important meaning in expanding choices, especially for the poor in improving their welfare. If there is a situation where the price of goods increases, it will result in a tendency toward purchasing power, and vice versa. UMP is defined as the ability of the community to purchase a number of basic necessities.

This can be observed in the average per capita expenditure as per capita income which represents the achievement of a decent development. The welfare level says that if you want to increase consumption per capita, it is called an increase in the amount of household expenditure that is higher than the inflation rate in the same period. Life is guaranteed with the ability to buy power as the number of basic needs. Community welfare can be achieved by empowering the community to support it.

The results of this regression are in line with the results of research by Widodo et al. (2019), where the UMP has a positive and significant effect on HDI. An increase in the minimum wage will result in an increase in the need for decent living, so that there will also be an increase in the standard of living. The increase in the minimum wage received has an impact on increasing the purchasing power of the community so that the UMP has a positive impact on HDI.

The effect of the minimum wage (UMP at the provincial level) has a non-market impact, namely an increase in the health of pregnant women and children. This effect also affects the welfare assessment as a result of changes in the minimum wage (Bhai, 2019). There is a change in the minimum wage, having an impact on the welfare obtained by workers. The impact of increasing the minimum wage on children whose parents work at wages close to the minimum wage will depend on the balance of the impact on the work of the parents, family income, and the level of stress on the parents.

Increasing the minimum wage increases family income and increases welfare, they benefit a lot of authority from child development and movement between generations (Hill and Jennifer, 2018). The estimation results of LFPR in this model in this study showed that the LFPR variable had a positive and significant effect on HDI with a regression coefficient value of 0.592796.
These results indicate that a 1% increase in LFP will increase the HDI by 0.59% with the assumption of ceteris paribus. Based on the results of the coefficients and probability, LFPR is one of the variables that influences and determines the HDI value. LFPR is the third variable on the magnitude of its influence in determining the HDI level with a coefficient value of 0.652840 and a probability of 0.0054.

The results of this study are in line with the theory of endogenous growth which emphasizes human capital as skilled labor in the development process. The existence of human capital plays a role in determining long-term economic growth and encourages the active role of public policies in stimulating economic development through direct and indirect investment in the formation of human resources and access to the necessities of life.

These results are also in line with the research of Jamaliah and Amalia (2019), where LFPR has a positive and significant effect on HDI. Development in an area must be supported by the human ability to allocate available resources by converting consumptive activities into productive activities in producing goods and services and supporting economic development, which is represented in the LFPR.

Human resources are related to the work effort given to a production process and can describe the quality of the efforts made by humans in producing goods and services in a given period. The quality of human resources which is visible from HDI became one of the indicators of human development in an area and indicates a combination of state of health, level of education, and living standard.

**CONCLUSION**

Based on the results of data processing and discussion related to the effects of inflation, the GDP, UMP and LFPR on HDI in Yogyakarta Province for the period 1990-2019, the results of the research can be concluded as follows that inflation has a negative and insignificant effect on HDI. Any increase in inflation will cause a decrease in HDI in the DIY Province. This is due to government policies to provide assistance to economically weak or poor people, such as market operations for basic needs, Direct Cash Assistance (BLT), Healthy Indonesian Cards, and Smart Indonesia Cards.

GRDP has a positive and significant effect on HDI. GRDP growth will encourage an increase in HDI in DIY Province. This is because an increase in GRDP affects the per capita income of the community and has an impact on the consumption of food, beverages, education, and health. Which then affects household patterns and expenditure allocations, so that in the end it has an impact on increased human development.

UMP has a positive and significant effect on HDI. Where the increase in UMP will have an impact on HDI in DIY Province. Wages based on the UMP as remuneration for work that has been done will be the access of workers to fulfill their daily needs. Which ultimately affects the level of welfare that can be accessed by the community and represented in the HDI.

LFPR has a positive and significant effect on HDI. So, if there is an increase in LFPR, it will have an impact on increasing the HDI. Human resources are related to the work effort given to a production process, which can be seen through LFPR. The quality of human resources represented in the HDI is one of the indicators...
of human development in an area and shows a combination of health conditions, education level and living standards.

REFERENCES


Fahrunisa, A. (2017). The Influence of Outsourcing Employee Wages on Family Economics Welfare (Study at F Lomenic Indonesian Prosperity Labor Union, SBSI Cilegon). Taken back from uinbanten: http://repository.uinbanten.ac.id/1282/


