



The Effect of Total Unemployment, Regional Minimum Wage, Population Density and Original Local Government Revenue to Human Development Index in Special Region of Yogyakarta 2014-2021

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Abstract

The Province of the Special Region of Yogyakarta (DIY) is a province that ranks second on the Human Development Index (IPM) nationally and in all provinces on the island of Java. But there are still districts that have an average HDI below the provincial average HDI. The purpose of this research is to identify and analyze the factors that influence the Human Development Index (HDI) in the Province of DIY. The data used in this research is secondary data. This study used panel data regression analysis using the E-Views 9 application. This study used a combination of time series data and cross-sectional data from 5 districts/cities in the Province of DIY. The variables used in this study are HDI, the number of unemployed, UMR, PAD and population density. The estimation model used in this study uses the Fixed Effect Model (FEM). The results show that variables which have a significant effect on HDI are the number of unemployed, regional minimum wage (UMR), and population density. Meanwhile, Original Local Government Revenue (PAD) doesn't have a significant effect on HDI.

Keywords: HDI, Regional Minimum Wage, Government Revenue, Population Density

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INTRODUCTION

Prosperity is something that every human being wants to achieve (Ningrum et al., 2020). In

fact, every country makes various social and economic policies to make its people have a good standard of living. The goal of public

welfare is also stated in the preamble of the 1945 Constitution, which is to promote public welfare and educate the nation's life. So, that the existence of the constitution shows that the government is showing its seriousness in its goal of achieving people's welfare.

The government continuously makes improvements in various sectors to improve the economy in Indonesia, this is done for the welfare of the people which will be a reflection of the success of the system implemented in a country (Mulyanti et al., 2019). The government is making various efforts to improve the economy as well as increasing the human resources of its people in order to achieve prosperity, namely to be able to meet the needs of clothing, food and shelter.

Realizing these ideals is not an easy thing, various regions are trying to improve the quality of their human resources such as by providing adequate supporting facilities in terms of education, health and social matters, so that the government can realize this through development. economy.

Economic development is interpreted as an effort to reduce poverty, overcome income inequality and provide employment opportunities (Baeti et al, 2013). Problems such as poverty, income inequality, lack of jobs and various other problems hinder people's welfare. Therefore, economic development that does not only look at economic growth figures but also looks at structural changes in society is very important to be improved.

High economic growth and development is not the basis that a community in an area can be said to be prosperous, but the level of community welfare can be measured through the Human Development Index or HDI. (Chalid & Yusuf, 2014).. The Human Development Index

(IPM) explains how residents can access development results in obtaining income, health, education, and so on (BPS, 2022).

The HDI was first introduced by the United Nations Development Program (UNDP) in 1990, the HDI was formed to measure the success of the development and welfare of a country or region in human development. HDI has three component approaches to serve as the basis for measuring people's welfare, namely a long and healthy life, knowledge, and a decent standard of living.

The component of long and healthy life which is the indicator is life expectancy from birth. Furthermore, the knowledge component is represented by expectations and the average length of schooling, and the last is a decent standard of living. In Indonesia, the HDI of all provinces is ranked to find out which province has the highest rank to the lowest.

DKI Jakarta Province has been at the top of the Human Development Index (IPM) ranking for ten consecutive years. DKI Jakarta can be ranked first with the highest HDI in Indonesia because DKI Jakarta is the capital city of the State of Indonesia where all centers of economic growth are in the province.

The province that ranks second in the highest HDI ranking both nationally and in Java Island is the Province of the Special Region of Yogyakarta (DIY). The DIY province has 4 regencies and 1 city, with an area of 3,133.15 km² which is the second smallest province area after Jakarta which has an area of 661.52 km² in all of Indonesia's provinces.

The Province of the Special Region of Yogyakarta has the second highest HDI ranking at the national level and the Island of Java, even though its area is ranked the second smallest of all provinces in Indonesia. This HDI ranking is a

good achievement, because the DIY province has a small area and is not the capital city of the State of Indonesia as it is in the first HDI ranking, namely the Province of DKI Jakarta however, the DIY province is able to be in the second highest HDI ranking.

between districts/cities in the Province of DIY. Several districts are still below the provincial average of 78.92, such as Kulonprogo and Gunungkidul Regencies. In 2021, the two districts will still have HDI scores that are lower than the provincial HDI average.

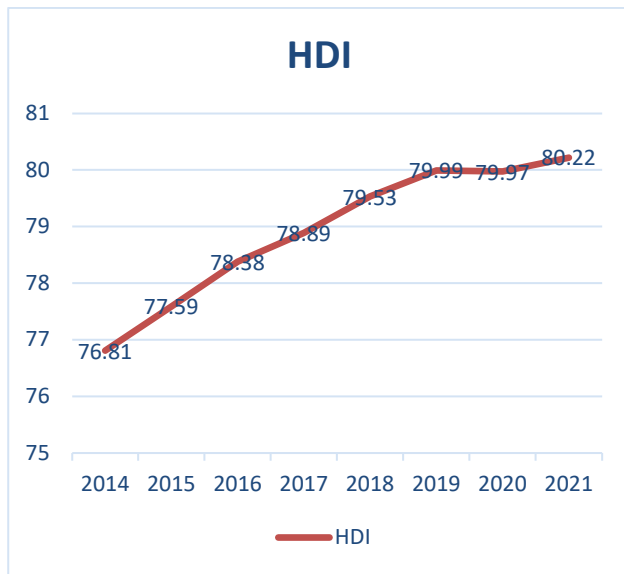


Figure 1. DIY Province HDI
Source: DIY Central Bureau of Statistics, 2021

It can be seen in Figure 2 that the HDI of the DIY Province tends to increase, which means that the HDI as an indicator to determine the level of social welfare in the DIY Province is at a good level of welfare. However, the high HDI number does not necessarily mean that the community is truly in a prosperous stage, because there are still provinces in Indonesia with high HDI ratings but still have economic problems that have continued for more than 5 years and have not experienced improvement. Figure 2 shows the average HDI data for districts/cities in the DIY Province.

In Figure 3, the HDI in DIY Province has a provincial average of 78.92 during 2014-2021. HDI with the new method began in 2014, during that year there was a gap in the level of welfare

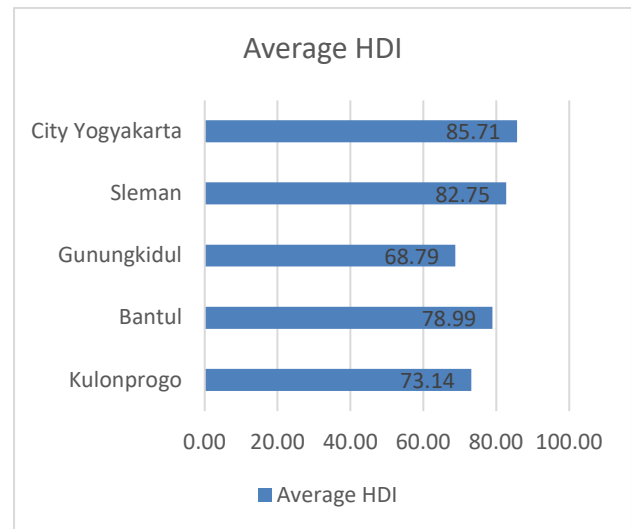


Figure 2. The average district/city HDI in DIY
Source: DIY Central Bureau of Statistics, 2021

Unemployment is one of the priority development targets that needs to be reduced (Noviatamara, 2019). The number of unemployed is the number of people in the labor force who want to work, but do not or do not yet have a job. If the number of unemployed increases, this means that the ability of the economy to create jobs is still insufficient to absorb labor and more and more labor supply has not been utilized.

People who do not work will not receive income, so that in meeting their needs they will experience difficulties, and this means that their welfare will decrease over time. Figure 3 shows the graph of the number unemployed in DIY. From 2014 to 2021 the number of unemployed is likely to increase where the HDI will also increase. The high HDI increase was not

matched by the reduced number of unemployed in the DIY Province.

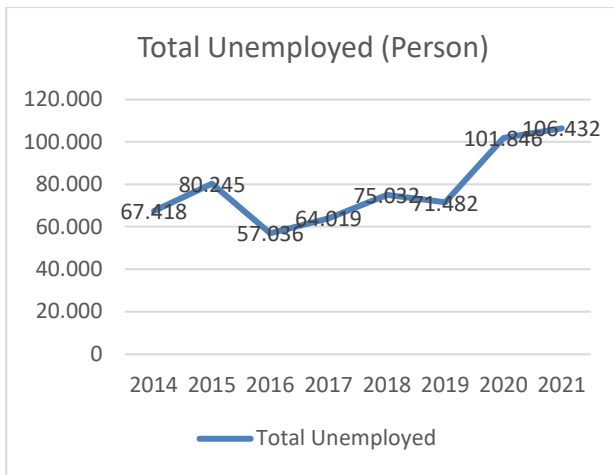


Figure 3. Number of DIY Unemployment 2014-2021

Source: DIY Central Bureau of Statistics, 2021

DIY Province with a high HDI level has not been able to solve the problem of unemployment in its territory. Unemployment causes the level of people's welfare to not be optimal, while the ultimate goal of development is to create a prosperous and prosperous society (Soesilowati, 2021).

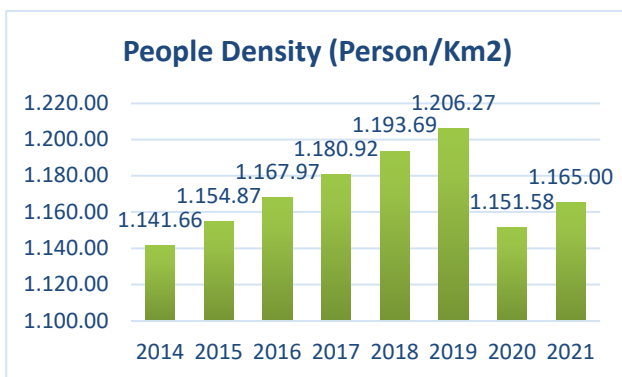


Figure 4. Population Density of DIY 2014-2021

Source: DIY Central Bureau of Statistics, 2021

Wages are one of the ways used by workers to improve welfare. Welfare of workers/laborers

is the fulfillment of physical and spiritual needs, both inside and outside the employment relationship which can directly or indirectly increase work productivity in a safe and healthy work environment (Karim et al., 2021).

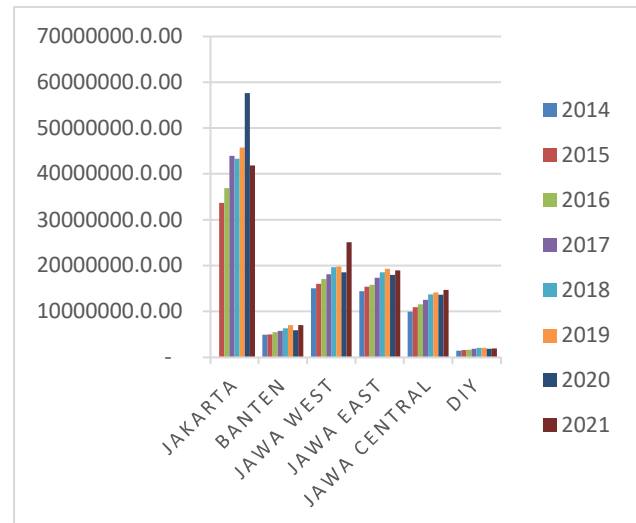


Figure 5. Local Revenue DIY Province 2014-2021

Source: DIY Central Bureau of Statistics, 2021

Regional Minimum Wage in DIY Province has the lowest wage among other provinces in Java Island. This low minimum wage can make people's welfare decrease because they cannot meet their needs properly, and it is difficult to save for their own investment.

Population determines development in an area so that the quantity and quality of the population must be a concern for the government for smooth development, quantity can be seen from the number and population density while the quality of the population of a region can be seen from the Human Development Index (IPM) achieved by a region (Antara & Suryana, 2020). Figure 4 shows population density data in the Province of DIY.

Figure 4 shows that population density tends to increase and will decrease in 2020 due to Covid-19 which has hit all regions in

Indonesia and the world, causing many deaths in its population. The quality of population density in an area depends on the quality of its human resources. High population density will cause many problems related to population problems such as poverty, housing, employment and others. (Christiani et al., 2014).

But on the other hand, a dense population can also result in the concentration of economic activities and the reach of infrastructure services to become more efficient (Latuconsina, 2017). Regional Original Income (PAD) is an indicator that can see the welfare of the community because PAD will of course be very dependent on income owned by the region itself (Diba. AOf et al., 2018).

Local Own Revenue (PAD) is income derived from the regional revenue source. The higher the PAD owned by an area, the more the area will be able to meet the needs expected by its people, so that it can improve welfare. Figure 5 shows PAD in the Province of the Special Region of Yogyakarta (DIY).

The condition of the PAD in the DIY Province in 2014-2021 as seen in Figure 1.7 shows that the PAD of the DIY Province is the lowest of all the provinces in Java Island. With the level of HDI which ranks second nationally and in all provinces in Java, it shows that the PAD is still low.

The government in this case plays a role in focusing on providing supporting facilities and infrastructure to achieve community welfare, in order to create areas with high human quality, local governments use the APBD to finance development in these sectors (Harliyani & Haryadi, 2016).

There are many studies that examine the Human Development Index but there is still little research related to HDI which is included

in the high national ranking but is not offset by a decrease in the number of unemployed, low Regional Minimum Wage (UMR), population density, low Regional Original Income (PAD), and still have regencies whose level of welfare is still below the provincial average. So, the authors are interested in researching the Human Development Index (IPM) in DIY Province in 2014-2021.

RESEARCH METHODS

This type of research is quantitative research, namely research that uses numerical data or data whose units can be calculated, as a tool for analyzing information about what we want to know (Djollong, 2014). This research was conducted using secondary data, where secondary data is data obtained indirectly.

This data can be obtained from literature studies which include documents, books, journals, reports, the internet and the like. Secondary data in this study retrieved data related to the variables used, namely data on the Human Development Index (IPM), the number of unemployed, the Regional Minimum Wage (UMR), population density and Regional Original Income (PAD).

The analysis tool applied is multiple regression analysis with panel data method. Panel data is a combination of cross section data and time series data. In supporting this analysis tool, the Eviews 9 statistical application is used which aims to analyze the effect of the number of unemployed, Regional Minimum Wage (UMR), population density and Regional Original Income (PAD) on the Human Development Index (IPM) in districts/cities in the Province of the Special Region Yogyakarta (DIY) in 2014-2021. The following is the equation model of this study:

$$\text{LogIPM}_{it} = \beta_0 + \beta_1 \text{LogJP}_{it} + \beta_2 \text{LogUMR}_{it} + \beta_3 \text{LogKP}_{it} + \beta_4 + \mu \text{LogPAD}_{it}$$

Where IPM is Human Development Index, JP is Unemployment number, UMR is Regional minimum wage, KP is Population density, PAD is Locally-generated revenue, β is regression coefficient, I is 5 regencies/cities, T is year and μ is error

RESULTS AND DISCUSSION

The best model used in this study is the Fixed Effect Model (FEM) after the Likelihood Ratio Test-Chow Test was carried out to determine whether the best model used is the Common Effect Model (CEM) or the Fixed Effect Model (FEM). The output results in the regression using the Chow test are shown in table 1.

Table 1. Estimation Results Likelihood Ratio-Chow Test

Effect Test	Statistics	df	Probability
Cross-section F	415.627306	(4,31)	0.0000
Chi-square cross-sections	160.022837	4	0.0000

Source : Data Processed, 2023

After carrying out the chow test, it shows that the chi-square probability has a value of 0.0000 < 0.05, which means that Ho is rejected and H1 is accepted, so the best regression model used in this study is the Fixed Effect Model (FEM). Based on the results of the Chow test, it is known that the best model used is the FEM model, then the Hausman test is used to select the next best model. The Hausman test was carried out to select the best model to be used

between the Fixed Effect Model (FEM) and the Random Effect Model (REM).

Ho is accepted and H1 is rejected when the probability value is > 0.05 which means that the best regression model to use is the REM model. If the opposite happens, that Ho is rejected and H1 is accepted when the probability value is < 0.05, then the best regression model to use is the FEM model. Table 2 are the results of the Hausman test.

Table 2. Correlated Random Effects Estimation Results – Hausman Test

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Probability
Random cross-sections	1662.507662	4	0.0000

Source : Data Processed, 2023

The results of the Hausman test show that the best model used in this study is the Fixed Effect Model (FEM). Because the probability value is 0.0000 < 0.05 which means that Ho is rejected and H1 is accepted. After thorough testing it can be seen that the selection of the best model in this study is the Random Effect Model.

Furthermore, statistical tests were carried out, namely the F test, t test and Adjusted R-squared. The F test is used to test whether all the independent variables used in the regression model have a joint effect on the dependent variable. The value of the F-table can be seen by $df_1 = \text{number of variables (n)} - 1$, which in this study has a number of independent variables $4 - 1 = 3$ and $df_2 = nk - 1 = 40 - 4 - 1 = 35$ at the level of significance of 0.05, the f-table results are 2.87.

The estimation results show that the F-statistic has a value of 2850.928 > 2.87 or the

probability of the f-statistic < a significance level of $0.000000 < 0.005$. These results indicate that H_0 is rejected and H_1 is accepted, which means that together the independent variables in this study affect the dependent variable.

The next statistical test is a statistical test with a coefficient of determination (adjusted R^2) used to measure how far the ability of the independent variables in the model can explain the variation in the dependent variable. If the value of the coefficient of determination is close to 0, the ability of the independent variables to explain the dependent variable is limited.

Meanwhile, the greater the value of R^2 or close to one means the greater the ability of the independent variables to explain the dependent variable. The value of the adjusted R-Squared in this study is 0.998292 which means that the number of unemployed, regional minimum wages, population density and regional original income have an effect on the HDI variable of 99.82% and 0.18% explained by other factors outside model

The results of panel data regression using the Fixed Effects Model regression model show that the variable number of unemployed has an influence with a negative and significant relationship to the Human Development Index (IPM). The probability value of the variable number of unemployed is 0.0359 which is smaller than $\alpha = 0.05$ with a coefficient value of -0.006076 which means that the variable number of unemployed has a negative relationship. If the number of unemployed decreases by 1%, the HDI index will increase by 0.006076 assuming *ceteris paribus*.

These findings are consistent with the results of research conducted by Yuliani & Saragih, (2014), and Baeti et al., (2013) where the number of unemployed has a negative and

significant effect on HDI. Baeti et al., (2013) stated that unemployment can lead to reduced income in society even though income is the most dominant role for increasing human capital.

An increasing number of unemployed will reduce the HDI, so that the number of unemployed that continues to increase will have a negative impact on the welfare of the people in the DIY Province, but it can be seen from the data that the number of unemployed has increased while the HDI has also increased. Absorption of labor in DIY Province is still lacking, because the number of unemployed continues to increase.

The condition of the HDI in Sleman Regency is ranked second compared to the districts/cities in the DIY Province, even though it has the highest number of unemployed. Meanwhile, Kulonprogo Regency has the fourth-lowest HDI ranking, the second of the districts/cities in the DIY Province, but the number of unemployed people is the lowest.

In 2021, the Long School Expectancy (HLS) component in Sleman Regency is the second highest after Yogyakarta City, which is 16.74 years, while in Kulonprogo Regency the second lowest is 14.27. Likewise, the Average Years of Schooling (RLS) in 2021 for Kulonprogo Regency has an RLS of 9.02 years and for Sleman Regency of 10.92 years.

So that the welfare level of Sleman Regency is higher than Kulonprogo Regency because it excels in the education component. Besides that, the difference in the number of residents in Sleman Regency, which is approximately one million people, is higher than Kulonprogo Regency, which has a population of approximately 450 thousand people. So that job competition in Sleman Regency is higher and

causes increased unemployment. The findings from Maulana (2013), stated that the higher a person's education level, the higher the HDI. Based on data obtained from the Central Statistics Agency, (2021) the working population is dominated by residents who have a low level of education, namely at the Elementary School (SD) level.

However, as time goes by, the quality of the working population has improved in the Province of DIY. The higher the level of education completed, the more people who have a high school level work. The primary school level in August 2020 was 26.51%, dropping in August 2021 to 24.54%. Whereas at the diploma level I/II/III in August 2020 it was 4.58%, increasing in August 2021 it was 4.89% and at the university level there were 13, 64 in August 2020 and increased in August 2021 by 13.88%.

The majority of the main jobs in the people of the DIY Province are the processing industry, agriculture, and food and drink accommodation because the DIY Province is a province that has many tourist areas so that many people have businesses in these fields. There are still many people in the DIY Province who are unemployed, but they have the enthusiasm to improve their quality as seen from their level of education so as to improve the quality of the workforce.

Residents with primary school education levels still dominate the working population, which means they are able to take advantage of their ability to work even though they have low education and can earn an income. This is related to the characteristics of the population of the DIY Province who still adhere to Javanese culture which still upholds simplicity. But the working population with higher levels of education is also increasing, so that welfare can

increase. The Regional Minimum Wage (UMR) has a positive and significant effect on the Human Development Index (IPM) in the Province of the Special Region of Yogyakarta in 2014-2021.

Based on the results of the panel data regression with the Fixed effect Model (FEM) that has been carried out, the probability value of the UMR variable is 0.0000 which is smaller than $\alpha = 0.05$ with a coefficient value of 0.0819282 which means that the UMR variable has a positive direction. positive. If the minimum wage increases by 1%, the HDI index will increase by 0.081982 assuming *ceteris paribus*.

The minimum wage owned by the DIY Province tends to increase, in line with the HDI which has also increased so that it is in line with the results obtained. These findings are also consistent with the results of several previous studies, including those conducted by Sania, et al., (2021), Zahira, et al., (2022), and Chalid & Yusuf, (2014) that UMR has a positive and significant effect on HDI. The higher the minimum wage received by the community will further increase income in the community and lead to increased welfare, with an increase in community welfare it will affect the increase in the HDI itself, (Gunawan et al., 2022).

The regional minimum wage in DIY Province is the lowest minimum wage when compared to all provinces in Java Island. Even though it has the lowest UMR, the welfare of the DIY Province is still increasing. The increase in UMR was also triggered by an increase in inflation in Yogyakarta every year, so that the UMR experienced an increase. The district that has the lowest average UMR in DIY Province is Gunungkidul Regency, which is IDR 1,405,345 and the City of Yogyakarta has the highest

average UMR, which is IDR 1,641,435. This is related to the need for decent living in larger cities so that they have a higher UMR than other districts. Besides that, why does the Province in DIY have the lowest regional minimum wage compared to the others,

Based on data obtained from the Central Statistics Agency (BPS), in February 2021 the income of residents working in agriculture in DKI Jakarta Province has an average net income of IDR 2,493.8 million, West Java is IDR 918.5, Central Java is IDR 926.9, East Java in the amount of IDR 918.6 and Banten in the amount of IDR 1,047.2 million. Meanwhile in DIY Province it was only IDR 769.4. However, in August 2021 the average agricultural income in the DIY Province increased to IDR 846.0, although it was still the lowest income compared to other provinces. The increase in income has made the welfare of the people in DIY Province also increase.

It is necessary to pay attention to the income of workers, not only according to the increase in inflation, the UMR has also increased, but by looking at the needs for education, health, and so on. UMR income needs to be increased again, so that people's productivity is also stimulated and they have higher motivation to work. Needs are not only fulfilled by one person, but also workers work to meet family needs.

The results of panel data regression using the Fixed Effects Model regression model show that the population density variable has an influence with a positive and significant relationship to the Human Development Index (IPM). The probability value that is owned by the population density variable is 0.0172 which is smaller than $\alpha = 0.05$ with a coefficient value of 0.050085 which means that the population

density variable has a positive relationship direction. If the population density increases by 1%, the HDI will increase by 0.050085% assuming *ceteris paribus*. This is consistent with the third hypothesis in this study, namely population density has a positive and significant effect on the Human Development Index (IPM) in the Special Region of Yogyakarta Province in 2014-2021.

This research is in line with research conducted by Latuconsina, (2017) that population density has a positive and significant effect on HDI, based on the results of the research he conducted it was found that population density is in flat areas and has fairly good access has a positive and significant effect on HDI. As can be seen, the average population density in Yogyakarta City is the highest compared to other regencies, namely 12,550 people/km² and the lowest is Kulonprogo, which is 723 people/km². Research conducted by Antara & Suryana, (2020) and Rosyadah, (2021) also has the same results, namely population density has a positive and significant effect on HDI.

Population density in DIY Province tends to increase every year, one of which is due to more incoming migration than outgoing migration in DIY Province. In 2019 there were 37,827 people entering and 22,530 people leaving, in 2020 the number of incoming migration decreased to 30,604 people and out migration of 21,324 people due to the implementation of policies to reduce the spread of Covid-19, then in 2021 the number of migration that re-enters increased by 38,807 people and out migration of 28,546 people.

An increase in population is a vulnerable situation, because if the human resources in society are of less quality, it will hinder

economic development and have a negative impact on people's welfare. In contrast to conditions where increasing the number of residents with human resources owned is productive human resources, will make economic development run smoothly.

The population density in DIY is dominated by people who have productive human resources, because the high population density in DIY Province makes economic activity also increase. DIY Province is a province that has many tourist areas, the main employment industry for food and beverage processing and accommodation is also high there.

Many of these jobs operate in tourist areas, with a population density the higher the economic activity to create a production chain where people meet each other's demand and supply from among producers in the area around the tour. Increasing public facilities following the distribution of population, access to educational infrastructure, health, places to sell various necessities such as supermarkets, markets, and so on will be easy to obtain.

The denser the population, the more complete the available public facilities will increase so that people's welfare also increases. With the population density, the higher the economic activity to create a series of production where people fulfill each other's demand and supply from producers in the area around the tour.

Increasing public facilities following the distribution of population, access to educational infrastructure, health, places to sell various necessities such as supermarkets, markets, and so on will be easy to obtain. The denser the population, the more complete the available public facilities will increase so that people's welfare also increases. With the population

density, the higher the economic activity to create a series of production where people fulfill each other's demand and supply from producers in the area around the tour.

Increasing public facilities following the distribution of population, access to educational infrastructure, health, places to sell various necessities such as supermarkets, markets, and so on will be easy to obtain. The denser the population, the more complete the available public facilities will increase so that people's welfare also increases.

The fourth hypothesis in this study states that Regional Original Income (PAD) has a positive and significant effect on the Human Development Index (IPM) in the Special Region of Yogyakarta Province in 2014-2021. Based on the results of panel data regression with the Fixed effect Model (FEM) that has been carried out, the probability value of the PAD variable is 0.9463 greater than $\alpha = 0.05$ with a coefficient value of $-6.69E-05$ which means that the PAD variable has a direction relationship which is negative and not significant.

According to the results that have been obtained, it indicates that the fourth hypothesis in this study is rejected, because PAD has no positive and insignificant effect on the Human Development Index (IPM) variable. Regional Original Revenue (PAD) is revenue originating from regional revenue sources consisting of regional taxes, regional levies, results of separated regional wealth management, and other legal income.

The greater the PAD received into the APBD, the less dependent the region will be on central government assistance. PAD can function to provide financing in regional development. PAD condition in DIY Province is the lowest compared to other provinces in Java

Island. DIY Province still has contribution gaps between districts/cities in the DIY Province. The regency that has the largest contribution in January 2021 is Sleman Regency. In terms of local tax revenue, Sleman Regency contributed 34.90%, Yogyakarta City contributed 20.00%, Gunungkidul Regency 2.72%, Kulonprogo Regency 1.77% and Bantul Regency 2.44%. Regarding other sources of PAD, such as regional fees and revenue from regional assets that are separated, Sleman Regency is still the district with the largest contribution in DIY.

PAD in DIY district is still relatively far between districts/cities. There are still regions that are very superior and areas that are very low, and the amount of transfer income in DIY in 2020-2021 is also still higher than PAD. PAD is expected to be able to make a large contribution to the APBD so that it is not dependent on the central government, and regional independence can increase so as to create even better economic conditions. But it still appears that in 2021 transfer income will be higher so that PAD in the DIY Province cannot have a significant effect on HDI.

CONCLUSION

Based on the results of the research conducted, the conclusions in this study are: The number of unemployed has a positive and significant effect on the Human Development Index (IPM), which indicates that if the number of unemployed increases, the Human Development Index (IPM) will increase and vice versa.

The Regional Minimum Wage (UMR) has a positive and significant effect on the Human Development Index (IPM), which indicates that if the Regional Minimum Wage (UMR) increases, the Human Development Index (IPM)

will increase and vice versa. Population density has a positive and significant effect on the Human Development Index (IPM), which indicates that if the population density increases, the Human Development Index (IPM) will increase and vice versa. Regional Original Income (PAD) has no effect on the Human Development Index (IPM).

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