The Effect of Employment Factors and Investment on the Achievement of the Indonesian Human Development Index in 2019-2023

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Abstract. This study discusses how employment factors and investment can affect Indonesia's human development achievements during 2019 to 2023. The goal to be achieved in this study is to analyze the influence of employment factors such as the provincial minimum wage, Labor Force Participation Rate (LFPR), open unemployment rate, and domestic investment and Foreign Direct Investment (FDI) on Indonesia's Human Development Index (HDI) in 2019-2023. The method used in this study is a panel data analysis method with a fixed effect model. The results of the study showed that the minimum wage, LFPR, and the realization of domestic investment had a positive and significant, but the FDI variable does not have a significant. Meanwhile, open unemployment rate has a negative and significant effect on HDI Indonesia in 2019-2023. These results show that the government needs to improve employment policies and programs and create a conducive investment climate to increase Indonesia's HDI.

Keywords: Human Development, Minimum Wage, Labor Force, Unemployment, Investment.

1. Introduction

Development is the process of creating something new or making planned changes to improve the quality of life of the community. Development aims to improve the standard of living of the people through government efforts. Development includes a series of processes that connect various elements to improve the quality of life. This process can be analyzed systematically, starting from the initial stage to the next stages, to improve the welfare of society [1]. The government implements various development programs, including human development. Human development aims to expand opportunities and choices for society by increasing the capacity and ability of individuals to participate in development activities. Its success is measured using the Human Development Index (HDI) which can be compared from city/district, provincial, to national level [2].

The Human Development Index (HDI) was developed by UNDP in 1990 to measure the quality of life of a region or country through three main dimensions, namely education, health, and a decent standard of living. The HDI indicates the population's access to income, health, and education, and determines the development ranking of a region [3]. The United Nations Development Programme (UNDP) has determined the HDI achievement category, namely with an achievement value ≥ 0.800 grouped in the very high category, then for

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achievement values in the range of 0.700-0.799 will be grouped in the high category, then in the medium category the achievement value is in the range of 0.550-0.699 and if the achievement value is below 0.550 then it can be grouped in the low category [4].

Based on the annual Human Development Report (HDR) by UNDP, in 2022 Indonesia's Human Development Index (HDI) was ranked 112 out of 193 countries with an index value of 0.713. This value places Indonesia in the high human development class, which means that human development in Indonesia is at a high level. Although Indonesia's Human Development Index (HDI) shows a positive trend, its ranking in ASEAN is still quite low, below Singapore, Brunei Darussalam, Malaysia, Thailand which have achieved very high human development. Indonesia's decline in global ranking indicates a slowdown in improving the quality of human resources [4].

The Human Development Index (HDI) plays an important role in measuring the quality of human resources so that human resource development is one of the priorities in the 2020-2024 National Medium-Term Development Plan. This program aims to develop quality and competitive human resources, namely individuals who are healthy and intelligent, adaptable, innovative, skilled, and have good character. The HDI in the 2020-2024 RPJMN is targeted to reach 75.54 in 2024. However, until 2023, Indonesia's HDI has only reached 73.55. Indonesia's Human Development Index (HDI) has been classified as high (above 70) since 2016 and has continued to experience a consistent increase from 2020 to 2023. However, the average growth of Indonesia's HDI only reached 0.7 percent during the 2016-2023 period. This also indicates that Indonesia's HDI is growing slowly so that it requires serious attention from the government [5].

The measurement of HDI is based on three basic components, namely education, health, and a decent standard of living. However, many other factors can affect HDI such as the employment sector. Development of the employment sector is part of efforts to develop human resources [6]. Law Number 13 of 2003 concerning Employment states that employment includes all aspects related to the workforce before, during, and after the work period [7]. This employment measurement is based on employment indicators launched by the ILO in 2015. There are 17 employment indicators compiled by the ILO to measure employment [8]. Based on these indicators, there are three indicators that influence human development, namely the Labor Force Participation Rate (LFPR), Open Unemployment Rate, and Minimum Wage.

This is based on several studies such as those conducted by [9] which explains that the minimum wage has a significant impact on the HDI, while the unemployment rate does not have a significant impact on the HDI in the Special Region of Yogyakarta. This shows that increasing the minimum wage can have a positive impact on the HDI by improving access to health and education services. When the minimum wage is increased, workers tend to be better able to access better health services [10]. Furthermore, there is a study conducted by [11] which uses one of the employment variables, namely LFPR and the results show that LFPR has a positive and significant effect on the HDI. The increase in labor force participation reflects an increase in public awareness of the importance of working which also indicates an increase in the quality of human resources. When labor productivity increases, this can

increase their bargaining power which means that the wages received will increase and human welfare will increase [12].

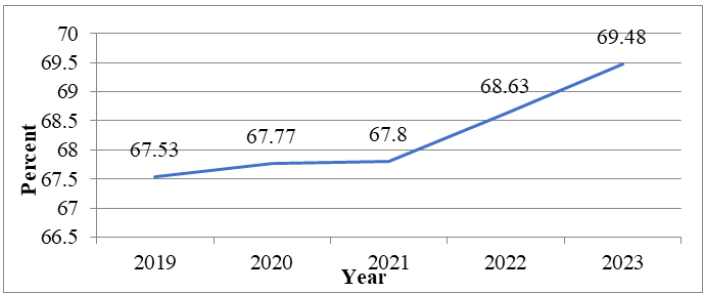

Fig. 1. Labor Force Participation Rate (LFPR) Indonesia (Percent)

Indonesia's Labor Force Participation Rate has increased every year. In 2019, the LFPR was at 67.53 percent. The following year, 2020, there was a slight increase to 67.77 percent. This positive trend continued in 2021, where the LFPR increased slightly to 67.8 percent. The consistent increase over the first three years indicates a slight but steady increase in labor force participation in Indonesia. However, a more significant change was seen in the last two years. In 2022, the LFPR experienced a larger spike, reaching 68.63 percent. This increase continued even more sharply in 2023, where the LFPR reached 69.48 percent [13].

The Labor Force Participation Rate (LFPR) is the ratio of the labor force to the working-age population, expressed as a percentage. The labor force is the number of people who are employed and those who are unemployed [14]. LFPR is one of the employment factors that influence HDI. This is in accordance with the research results obtained by [11] that LFPR has a significant positive effect on increasing HDI in Central Java Province. The labor force participation rate is also one of the welfare indicators in the HDI assessment. This is supported by [15] that balanced labor absorption between the agricultural and non-agricultural sectors can change the economic structure which has an impact on increasing community welfare. The level of community welfare is often associated with the level of wages or income received by workers. Wages are compensation received by workers for the work or services they provide. The results of research conducted by [16] show that a gradual increase in the minimum wage can increase workers' income, which can then encourage worker productivity and consumption.

Minimum wage is defined as the lowest monthly wage consisting of basic salary and fixed allowances. In addition, there is a Provincial Minimum Wage that applies in all districts/cities in one province based on the Regulation of the Minister of Manpower and Transmigration Number 7 of 2013. Overall, the minimum wage policy in Indonesia is aimed at meeting the standard of living for workers in accordance with applicable laws and regulations [17].

The minimum wage in Indonesia has always increased every year. In 2019, the average minimum wage was recorded at IDR 2,455,662.25 and continues to increase every year until it reaches IDR 2,923,309.40 in 2023. Significant increases are seen every year, with the largest increase occurring between 2022 and 2023. This increase reflects the government's efforts to

adjust the minimum wage to inflation and increasing living needs. Increasing the minimum wage can reflect government policies aimed at improving workers' welfare [18].

One of the fundamental problems faced by Indonesia is the problem of unemployment where the government has made various efforts to reduce the unemployment rate. Efforts taken by the government in the problem of unemployment from time to time have been carried out with various development approaches that rely on economic growth (production centered development). However, in reality, there are still many employment problems in Indonesia that have not been resolved by the government [19].

The Open Unemployment Rate in Indonesia continues to decline every year. Although there was a spike due to the significant impact of the Covid-19 pandemic which caused the peak of unemployment in 2020 at 7.07%. After that, there was a consistent downward trend in the unemployment rate from 2021 to 2023. In 2023, the open unemployment rate reached 5.32%, almost equivalent to the unemployment rate in 2019 (5.23%). This trend indicates that the policies and efforts made to overcome the impact of the pandemic and restore the economy have yielded positive results, with more and more people getting jobs again [13].

In addition to employment factors, there are other factors that influence human development, namely macroeconomic variables in the form of investment. The existence of investment activities or capital investment can provide a multiplier effect in society. Investment activities are able to provide new fields and job opportunities so that they can increase the process of absorbing a lot of workers which will further reduce poverty and unemployment levels so that the further impact that arises is that the welfare of the local community increases [20].

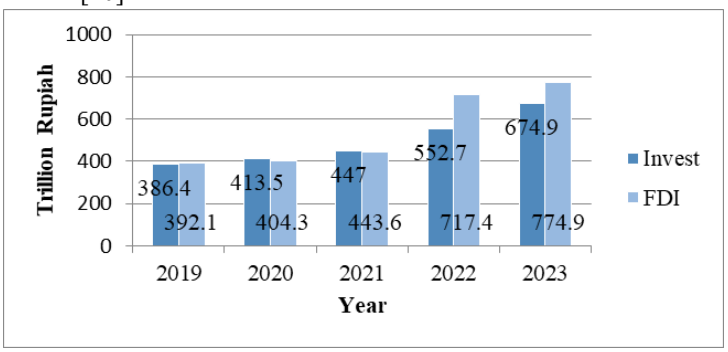

Fig. 2. Realization of Indonesian Domestic Direct Investment and Foreign Direct Investment (FDI) in 2019-2023 (Trillion Rupiah)

Between 2019 and 2023, domestic investment in Indonesia showed strong and consistent growth. Starting at 386.4 trillion rupiah in 2019, it rose steadily each year, reaching 674.9 trillion rupiah in 2023 [21]. Similarly, Foreign Direct Investment (FDI) also increased over the same period. From 392.1 trillion rupiah in 2019, FDI saw the largest jump in 2022, climbing to 717.4 trillion rupiah, and continued to grow to 774.9 trillion rupiah in 2023. This upward trend in both domestic and foreign investments indicates growing investor confidence in Indonesia's investment climate [22].

Investment has an important role in supporting human development in Indonesia. In Harrod- Domar's investment theory, investment or capital formation is a crucial factor that

influences economic growth. This capital formation can be achieved through the accumulation of savings. The capital formed is not only considered as an expenditure that will increase the economic capacity to produce goods and services, but will also increase the effective demand of the community. Investment has a close relationship with the creation of new jobs, because increased production activities will absorb labor so that people who were previously unemployed will get jobs and income. With this income, people can meet their living needs and achieve prosperity. This increase in income will also increase purchasing power society, which is one of the components of the Human Development Index (HDI) [23].

Based on the background above, the aim of the research the aim of this study is to analyze the influence of employment factors consisting of the labor force participation rate, minimum wage, and open unemployment rate, as well as domestic and foreign investment.

2. Literature Review

2.1 Human Development Theory

Human development is about expanding people's choices and opportunities, ensuring they can live long, healthy lives, acquire knowledge, and access resources for a decent standard of living. It also encompasses political, economic, and social freedoms, and opportunities for creativity and productivity. Human development involves forming human capabilities (health, knowledge, skills) and using these capabilities (for leisure, productivity, or social and political engagement). Balance between these aspects is crucial to avoid frustration. Income is a key but not the sole factor; development should prioritize overall well-being beyond just economic growth [24].

Amartya Sen, an Indian economist and philosopher, introduced the concept of human development in the late 1980s. Sen argued that development should enhance human freedom and dignity, not just economic growth. His theory emphasizes expanding human choices, opportunities, and meeting basic needs like health, education, and a decent standard of living [25]. The United Nations Development Programme (UNDP) later adopted and developed these ideas into the Human Development Index (HDI), a composite measure of health, education, and standard of living, used to compare and monitor human development across countries [4].

To calculate the Human Development Index (HDI), each component (health, education, and standard of living) must first be standardized using the minimum and maximum values set by UNDP. The Human Development Index (HDI) is calculated using a formula after calculating all components of the HDI. The formula for the geometric mean of the HDI is as follows:

$$HDI=\sqrt[3]{I_{Health}+I_{Education}+I_{Expenditure}} \quad (1)$$

Description:
I_{Health}:Health Index year-n
$I_{Education}$: Education Index year-n $I_{Expenditure}$:
Expenditure Index year-n

2.2 Employment

Law Number 13 of 2003 concerning Manpower states that manpower includes all aspects related to the workforce before, during, and after the work period [7]. This employment measurement is based on 17 indicators launched by the ILO in 2015, namely the 9th edition of the Key Indicator of Labor Market (KILM). These indicators are divided into 8 main categories.

First, participation in the workforce is measured by the Labor Force Participation Rate (LFPR). Second, indicators of the working population. Third, indicators of unemployment and underemployment. Fourth, indicators of inactivity measure the level of inactivity. Fifth, indicators of education and literacy are related to educational attainment. Sixth, indicators of wages and labor costs. Seventh, labor productivity is assessed based on labor productivity. Finally, poverty indicators include the poor working population and income distribution [8].

The Labor Force Participation Rate (LFPR) is the 1st KILM in the employment indicator. LFPR is the ratio of the labor force to the working-age population, expressed as a percentage. The labor force is the number of people who are employed and those who are unemployed [14]. According to [26], LFPR is the percentage of the adult population that is in the labor force. LFPR is measured using the following formula:

$$\text{LFPR} = \frac{\text{Workforce}}{\text{Adult Population}} \times 100 \qquad (2)$$

The open unemployment rate is included in the employment indicators. Open unemployment rate is the main indicator to measure the availability of labor that is not absorbed in economic activities, defined as the percentage of the number of unemployed to the number of the workforce. Mankiw [26] explains that unemployment is the percentage of the workforce that is not working. The unemployment rate is measured by the following formula:

$$\text{Open Unemployment Rate} = \frac{\text{Number of Unemployed}}{\text{Workforce}} \times 100 \qquad (3)$$

Wages are included in the employment indicators in the wages and labor costs indicators. Minimum wages can be defined as the minimum amount of wages that must be paid by an employer to a wage earner for work performed during a certain period, which cannot be reduced based on a collective agreement or individual contract. This definition refers to the binding nature of the minimum wage, regardless of the method of application, which can be determined through laws, decisions of competent authorities, wage councils, or through collective agreements that are given legal force [27].

2.3 Investment

In general, investment in Indonesia consists of Domestic Investment and Foreign Investment (FDI). Domestic Investment is an activity of investing capital to conduct business in the territory of the Republic of Indonesia carried out by domestic investors using domestic capital. Foreign Investment is an activity of investing capital to conduct business in the territory of the Republic of Indonesia carried out by foreign investors, either using foreign capital entirely or in partnership with domestic investors. The objectives of implementing investment include increasing national economic growth, creating jobs, increasing sustainable economic

development, increasing the competitiveness of the national business world, increasing national technological capacity and capability, encouraging the development of the people's economy, processing potential economics into real economic strength using funds originating from both domestic and foreign sources, and increasing community welfare. [28].

3. Method

3.1 Data and Source of Data

The type of data used in this study is secondary data obtained from various sources such as the United Nation Development Programme (UNDP), the Central Statistics Agency (BPS) of Indonesia, and the Directorate General of Industrial Relations and Social Security for Workers (PHI and JSK) of the Ministry of Finance. The secondary data used covers 34 provinces in Indonesia with a time span between 2019-2023.

3.2 Analysis Method

The method used in this final project research is panel data regression. This method Panel data regression is used in this study because the data used is cross-section data represented by data from 34 provinces in Indonesia and the time span used in the study, namely 2019-2023, represents time series data. The panel data regression model is a model that combines two types of data, namely time series data and cross-section data [29].

Based on [30] explain several advantages of using panel data, namely it can significantly increase the sample size, is suitable for studying the dynamics of change, and panel data allows us to study more complex models. The weakness of panel data is that it can cause several estimation and inference problems (conclusions) related to both data units because it contains cross-section and time series units. Panel data regression has heteroscedasticity problems as often occurs in cross-section data processing. In addition, panel data regression also has autocorrelation problems that often occur in time series data processing.

According to [31] in his theory explains that the estimation method of panel data regression models in general can be done through a model approach, namely Pooled Least Squares (PLS)/Common Effect Model (CEM), Fixed Effects Model (FEM) and Random Effects Model (REM). Determining the best model in panel data regression is done with several tests. According to [30], there are three tests conducted to determine the best model in panel data analysis. first, the chow test to determine the best model between FEM and CEM. second, the lagrange multiplier test to determine the best model between CEM and REM. finally, the hausman test to determine the best model between FEM and REM.

3.3 Classical Assumption Test

The classical assumption test in panel data regression analysis aims to ensure that the regression model used has met the basic assumptions so that it can produce an estimator that is BLUE (Best Linear Unbiased Estimator), consistent, and efficient. The classical assumption test is carried out to detect problems in the model, such as multicollinearity, heteroscedasticity, autocorrelation, and residual non-normality, so that the estimation results become biased and cannot be interpreted properly. Fulfillment of classical assumptions will

produce a reliable and unbiased estimator, and validate the regression model used [29].

3.4 Statistical Test

Statistical tests aim to evaluate the significance of the overall regression model and the significance of the influence of each independent variable on the dependent variable. Statistical tests are performed by comparing the value of the test statistic calculated from the sample data with the critical value determined based on the probability distribution. The main purpose of statistical tests is to assess the goodness of fit of the regression model through the R-squared test , testing the significance of the model overall regression through the F-statistic test, and testing the significance of the influence of each independent variable on the dependent variable through the T-statistic test. Thus, statistical tests provide important information in evaluating and interpreting the results of linear regression analysis [32].

3.5 Research Model

The model formed in this study is intended to determine and analyze the influence of independent variables on dependent variables which in this study uses panel data which is a combination of time series and cross section data. Panel data analysis in this study is used to determine how much influence the employment factor has on improving the quality of Indonesia's HDI.

$$HDI_{it} = \beta_0 + \beta_1 LNWages_{it} + \beta_2 LFPR_{it} + \beta_3 Unemp_{it} + \beta_4 LNInvest_{it} + \beta_4 LNFDI_{it} + \varepsilon_{it} \quad (4)$$

HDI = Human Development Index
LNWages = Natural Logarithm of Provincial Minimum Wage (Million Rupiah/Month)
LFPR = Labor Force Participation Rate (%)
Unemp = Open Unemployment Rate (%)
LNInvest = Natural Logarithm of Domestic Investment (Billion Rupiah) LNFDI = Natural Logarithm of Foreign Direct Investment (Billion Rupiah)
β_0 = constant/*intercept*

$\beta(1,2,3,4)$ = coefficient/*slope*

ε = *error term*

i = *cross section data* (Province)

t = *time series data* (2019-2023)

4. Result And Discussion

4.1 Data Estimation Results

4.1.1 Model Suitability Test

Panel data requires model fit testing due to the unique and complex characteristics of panel data. Unlike cross-sectional or time-series data, panel data has individual and time dimensions, allowing for heterogeneity both between individuals and between times [30] Selecting the

right model is very important to obtain consistent estimates and accurate interpretations. Selecting the best model in panel data can be done through several tests, namely the Chow Test, Hauman Test, and Lagrange Multiplier Test. The significance level used for this model is 5%.

Table 1. Model Suitability Test Results

Model Fit Test	Probability Chi-square	Model
Chow Test	0,0000	Fixed Effect Model
Hausman Test	0,0002	Fixed Effect Model

Table 1 shows the results of the model selection test. The results of the Chow test show a chi-square probability value that is less than the 5% significance level. This result also shows that the decision taken is to reject H0 so that the best model selected is the Fixed Effect Model (FEM). Furthermore, the Hausman test is carried out to determine the best model between FEM and REM. This test is carried out because the results obtained from the Chow test are the FEM model. The Hausman test shows that the chi-square probability value is 0.0002 which is less than the 5% significance level. This result also shows that the best model selected in the Hausman test is the Fixed Effect Model (FEM) because the decision taken is to reject H0. Based on the results of several model suitability tests that have been carried out, the best model used in this study is the Fixed Effect Model (FEM).

4.1.2 Classical Assumption Test

The classical assumption test in panel data regression ensures the model is BLUE (Best Linear Unbiased Estimator), consistent, and efficient. Table 2 shows the results. The Pearson correlation test indicates no multicollinearity, as all correlation values are below 0.8. The Modified Wald Test reveals heteroscedasticity, with a prob>chi2 value less than 0.05, indicating inequality in residual variances. Lastly, the Wooldridge Test detects autocorrelation, with a Prob>F value below 0.05, indicating correlation between residuals across periods.

Table 2. Classical Assumption Test Results

Multicollinearity Test						*) :
	lnwages	LFPR	Unemp	lnpInvest	lnFDI	
lnwages	1,000					
LFPR	-0,3199	1,000				
Unemp	0,1253	-0,5711	1,000			
lnpInvest	-0,0865	-0,2232	0,3878	1,000		
lnFDI	-0,0146	-0,1831	0,3175	0,6500	1,000	
Heteroscedasticity Test				Prob>chi2		
Modified Wald Test				0,0000*		
Autocorrelation Test				Prob>F		
Wooldridge Test				0,0000*		

significant at 1% level of reality

4.1.3 Refinement of Classical Assumptions

Fixed effect Model (FEM) is the best model approach selected after conducting a model suitability test. After obtaining the best model, it is continued by conducting a classical assumption test to detect problems in the model such as multicollinearity, heteroscedasticity, and autocorrelation. The results of the classical assumption test detected that there were heteroscedasticity and autocorrelation problems in the selected regression model so that model improvements were made with Generalized Least Square (GLS) or Feasible Generalized Least Square (FGLS). The results of the model improvements can be seen in Table 3.

Table 3. Results of Improvement of Classical Assumptions of FEM Estimation

Variable	Coefficient	Prob
LNWages	7,486525	0,000*
LFPR	0,0543276	0,007*
Unemp	-0,2673803	0,000*
LNInvest	0,1587114	0,001*
LNFDI	0,0309976	0,327
Constant	-43,0234	0,000*
Prob>F		0,0000*
R Squared		0,8385

*) : significant at 1% level of reality

4.1.4 Statistical Test

The statistical tests conducted on the model include the F test, t test, and R2 test, with results shown in Table 3. The F test indicates that all independent variables collectively influence the dependent variable, with a Prob>F value of 0.0000 at the 5% significance level. The t-test reveals that four independent variables (LnWAGES, LFPR, UNEMP, and LnInvest) significantly affect the dependent variable, with probability values of 0.000, 0.007, 0.000, and 0.001, respectively. However, the LnFDI variable is not significant, with a probability value of 0.327. The R^2 value of 0.8376 indicates that 83.85% of human development achievements are explained by the model, while 16.15% are explained by other variables not included in the model.

4.2 The Influence of Employment Factors on the Human Development Index

4.2.1 The Influence of Provincial Minimum Wage on Human Development Index

Based on the research results obtained, the provincial minimum wage has a positive and significant effect on Indonesia's human development index in 2019-2023. This result is in line with the research of [33] which states that the minimum wage variable has a positive and significant effect on the HDI on Sumatra Island using the multiple linear regression analysis

method. Research conducted by [34] also stated that the increase in the minimum wage has a positive and significant impact on improving the quality of human development in Indonesia. The minimum wage improves the welfare of low-income individuals by enabling better diets, access to health services, and reducing income inequality among workers. Increased minimum wages also positively impact life expectancy by enhancing public health through improved welfare and health access. Thus, adequate minimum wages not only enhance economic welfare but also play a crucial role in improving the quality of education and health, which are essential components of human development.

4.2.2 The Influence of the Labor Force Participation Rate on the Human Development Index

Based on the research results obtained, the labor force participation rate has a positive and significant effect on Indonesia's human development index in 2019-2023. This is in accordance with the research results obtained by [11] that LFPR has a significant positive effect on increasing the Human Development Index in Central Java Province. In line with research by [35] which aims to determine what variables affect the human development index in East Java Province throughout 2004 to 2011. The results obtained show that there is an influence between the level of workforce participation and the human development index which shows a positive influence. Meaning that an increase in the human development index will be followed by an increase in the labor force participation rate. An increase in labor force participation reflects an increase in public awareness of the importance of working which also indicates an increase in the quality of human resources. When labor productivity increases, this can increase their bargaining power which means that the wages received will increase and human welfare will increase [12].

4.2.3 The Influence of the Open Unemployment Rate on the Human Development Index

Based on the research results obtained, the open unemployment rate has a negative and significant effect on Indonesia's human development index in 2019-2023. This result is in line with the research of [36] using panel data regression analysis using the pool model approach, which found that the unemployment rate had a significant negative effect on the HDI in Indonesia for the period 2014-2020. High unemployment rates can reduce people's welfare due to reduced income, which is an important factor in improving human development. As a result, people who do not have income cannot meet their living needs or improve their quality of life, such as paying for education and health costs [37]. Similar results were also obtained by [38] who found that there was a significant negative relationship between the unemployment rate and the HDI in Indonesia for the period 2015-2022. These results explain that the higher the unemployment rate, the higher the decline in the Human Development Index (HDI).

4.3 The Impact of Investment on Human Development Index

In addition to analyzing the influence of employment factors, this study also tries to analyze the influence of investment, namely domestic investment and Foreign Investment (FDI). Based on the research results obtained, domestic investment has a positive and significant effect on Indonesia's human development index in 2019-2023.However, the FDI variable does

not have a significant effect on increasing the Human Development Index (HDI). These results are supported by research conducted by [39] using the Vector Error Correction Model (VECM) method found that domestic investment has a significant positive effect on HDI growth. In line with the research of [20] using the Multiple Linear Regression method and path analysis with the results of the study showing a positive and significant direct relationship between domestic investment and HDI. [40] stated that domestic investment will increase economic activity and productivity in a region, creating more jobs, especially in Java which has many productive ages. This will encourage people to pursue education, increase purchasing power, and ultimately improve development and human quality as reflected in the Human Development Index (HDI).

5. Conclusion

This study found that employment factors significantly impact Indonesia's Human Development Index (HDI) from 2019 to 2023. The Provincial Minimum Wage positively affects HDI, enhancing economic welfare, education, and health. The Labor Force Participation Rate (LFPR) also positively correlates with HDI, indicating that higher labor participation boosts work awareness and human resource quality, potentially raising wages and welfare. Conversely, the Open Unemployment Rate negatively impacts HDI, as high unemployment reduces income and quality of life. Domestic investment positively impacts HDI by creating jobs and enhancing welfare, while foreign investment shows a positive but insignificant effect on HDI.

Based on the conclusion above, the government needs to expand and improve the implementation of the Pre-Employment Card program which aims to improve workforce skills through training. Training programs must also be determined to ensure that graduates have skills relevant to the job market. Improving skills will increase productivity, income, and quality of life, including education and health as components of the HDI. In addition, increasing the minimum wage can improve access to education and health, although it must be regulated so as not to increase poverty.

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