

DETERMINATION OF THE HUMAN DEVELOPMENT INDEKS IN INDONESIA: TRANSFORMATION FROM 1990 TO 2022

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Abstract. The Human Development Index is an alternative measurement of human development based on several essential components of quality of life. To achieve a better quality of life, a country must see a comparison with other countries. The higher the Human Development Index of a region or country, the better the achievement of human development. This study analyzes the effect of the Gross Domestic Product, Open Unemployment Rate, Percentage of Poor Population, and Proportion of Population living below the International Poverty Line in Indonesia from 1990 to 2022 projections on the Human Development Index. The analytical tool used is time series data. The method used is Vector Auto Regression (VAR) using secondary data from the Central Statistics Agency (BPS) and the World Bank from 1990 to 2022. Based on the results of the analysis, it is known that the variables of Gross Domestic Product (GDP) and Open Unemployment Rate (TPT) hurt negatively affect the Human Development Index (HDI). At the same time, the Percentage of Poor Population and the Proportion of Population Living below the International Poverty Line (GKI) positively affect the Human Development Index (HDI).

Keywords: Human Development Index; Gross Domestic Product; Open Unemployment Rate; Proportion of Population

1 INTRODUCTION

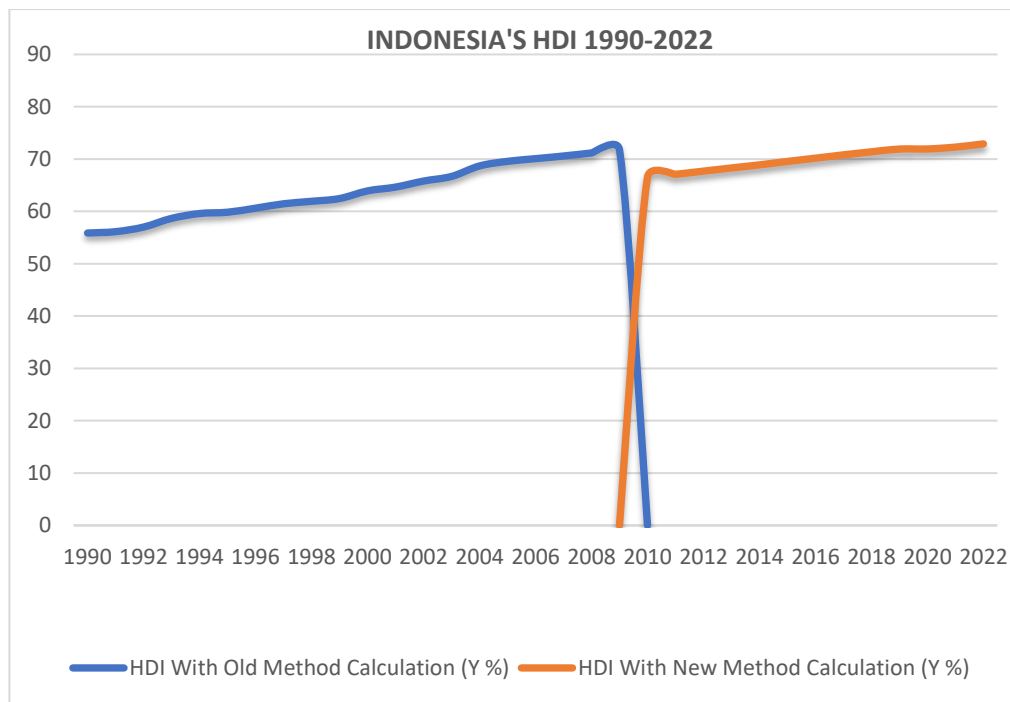
Making changes for the better is about development, and it needs attention. Since economic growth does not always solve welfare problems such as poverty and people's living standards, development is often seen as the success of achieving quality human resources. The development process includes changes based on people's attitudes, social status, accelerated economic growth, as well as programs that do not reduce diversity, basic needs, individual desires as well as existing social groups to achieve a goal that is both material and spiritual (Hasibuan, 2020).

As stated by the United Nations Development Programme (UNDP) in 1990, human development is defined as development chosen for a population that can be considered as an effort to achieve the level that has been achieved by the effort. According to the UNDP, human

development is the means to realize a prosperous society. Economic development is one way to create and improve the welfare of society. The Human Development Index (HDI) is a metric used to measure several achievements of progress. The Human Development Index (HDI) is a UNDP instrument used to assess how well a region's development is performing from a human perspective. In accordance with established agreements, specific areas, such as countries, provinces, districts, or cities, can be addressed. Human development is the process of giving people more choices, first published in 1990. Human development is the process of giving people more choices, according to the Human Development Report (HDR). To live a respectable life, one must make several choices, the most important of which are longevity and health, knowledge, and access to trade (BPS, 2022).

The idea of whole human social development is a desirable one and enhances the physical and mental well-being of the people. It is also stated quite clearly that the current trend places a strong emphasis on human resources to boost the economy. The ability of the population to engage in the growth process can be further expanded by the physical and mental development of human resources. Indonesia's status shifted from an upper-middle income country to a lower-middle income country in July 2021 due to the impact of the pandemic on the country's economy. In addition, part of the country's recent progress in poverty has declined, rising from a September 2019 low of 9.2 percent to a September 2021 high of 9.7 percent (N et al., 2022).

Indonesia ranks sixth in ASEAN and 111th in the world according to HDI. While this increase is positive for Indonesia's development, the HDI is not evenly distributed across the 34 provinces. The uneven HDI between provinces indicates a gap in people's welfare. The low level of welfare indicates that development has not gone well, so it is necessary to assess the performance of the government. For Indonesia, being included in the list of countries with high development status is a significant achievement. Indonesia's HDI has increased from the beginning of the introduction of HDI in 1990-2022 can be seen in the following figure:



Source: Central Bureau of Statistics

Figure 1. 1

Graph of Human Development Index (HDI) in Indonesia 1990-2022

Based on data released by BPS in 1990-2022, Graph 1.1 shows that the development of human development in Indonesia continues to improve. However, it can be seen that in 2010 a new method for calculating HDI was applied. Which, in the 1990 UNDP Old Method has Dimensions / Indicators: Health= Life Expectancy at birth (AHH), Education= Literacy Rate (AMH) and Average Years of Schooling (RLS), Standard of Living= GDP per capita, and Index Aggregation= Average Count. And the 2010 UNDP Refined New Method has Dimensions/Indicators: Health= Life Expectancy at Birth (AHH), Education= Expected Years of Schooling (HLS) and Average Years of Schooling (RLS), Living Standards= GNI per capita, and Index Aggregation: Measured/Geometric Mean. It can be seen that the standard of living changed to GNP per capita, which resulted in the calculation data also changing. So that in 2010 the data dropped from 2009. On this basis, this study will analyze the effect of GDP, Open Unemployment Rate, Percentage of Poor Population, Proportion of Population Living below the International Poverty Line on HDI in Indonesia. However, this still proves that the transformation of HDI in Indonesia increases every year.

This mini-research aims to show that there are various factors that can affect HDI transformation. It can be seen from the Human Development Index based on data obtained from BPS, that the HDI in Indonesia has a number that continues to increase every year. So that research is needed on the determinants of the Human Development Index in Indonesia, namely by using the variables of GDP, Open Unemployment Rate, Percentage of Poor Population, Proportion of Population Living below the International Poverty Line. In addition, analyzing

these factors will allow the results to be used to monitor whether the HDI is increasing or even decreasing. GDP shows variation in all economic activities, including the ability to show how a country produces goods and services. GDP also shows the business cycle that is most likely to affect the performance of a country's institutions (Salim & Suropto, 2023).

How Indonesia's large labor force will not have adequate employment prospects if GDP growth slows to less than 5.0% per year. Therefore, one of the variables that will most likely result in lower incomes and, ultimately, lower levels of prosperity and well-being achieved by an individual is the open unemployment rate. A person is more likely to be trapped in a low HDI if his or her level of welfare is lower. To discuss this, this paper is divided into four sections: first, the research methodology, then the percentage of poor people, the analysis of the proportion of people living below the international poverty line, and the conclusions and implications (Suropto et al., 2020).

The difference with the originality of previous studies is the sample data location or region used, the analysis tool and the difference in sample time. Where based on the description above, this research has the aim of analyzing the influence of GDP factors, Open Unemployment Rate, Percentage of Poor Population, Proportion of Population Living below the International Poverty Line on HDI in Indonesia, so the title of this research is "Determinants of the Human Development Index in Indonesia: Transformation from 1990 to 2022 Projection". Time series data collection was used in this study during 1990-2022. Secondary data from the World Bank and the Central Bureau of Statistics are used in this study. Vector Auto Regression (VAR) is used in this research methodology.

2 LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The purpose of this literature review is to avoid plagiarism and also as a comparison with previous studies that discuss what factors affect the Human Development Index (HDI). Here are some previous studies that are references in this study. Research originality is a study that has been conducted by previous researchers (Akbar et al., 2011). To support the research conducted by researchers on the Human Development Index in Indonesia, there are several previous studies that aim to compare and strengthen the results of the analysis carried out:

1. Emilia Khristina Kiha in 2021 in a journal entitled "The Effect of Population, Unemployment and Poverty on the Human Development Index (HDI) in Belu Regency". This study uses Multiple Regression Analysis tools, with HDI, Total Population, Unemployment and Poverty variables. The results of statistical analysis show that Total Population, Unemployment and Poverty have no significant effect on HDI.
2. Mariana Naibaho in 2021 in a journal entitled "The Effect of Gross Regional Domestic Product (GRDP) and Open Unemployment Rate on the Human Development Index in Langkat Regency". This study uses Multiple Regression Analysis tools, with HDI, GRDP, TPT variables. The results of statistical analysis show that GRDP has a positive and significant effect on HDI, TPT has a significant negative effect on HDI.

To further clarify the direction of the research that shows the influence of the independent variables Gross Domestic Product, Open Unemployment Rate, Percentage of Poor Population and, Proportion of Population Living below the International Poverty Line.

3 RESEARCH METHOD

3.1. Type of Research

This study aims to test the hypothesis, which is to test whether there is a fundamental relationship and answer the research questions posed. This study used quantitative data types. Quantitative research methodology was used in this study (Yuniarti & Sukarniati, 2021). Defines quantitative research as any type of research that produces findings that can be quantified or measured by statistical methods. In this study, quantitative research methodology was used. Based on secondary data, journal articles, and research findings related to the problem, this research aims to explain the issues. This research will be conducted with the period of 1990 to 2022 explaining the effect of GDP, Open Unemployment Rate, Percentage of Poor Population, Proportion of Population Living below the International Poverty Line on HDI in Indonesia (Marries, 2008).

The researchers used the VAR approach in this investigation. One technique for analyzing time series is the Vector Autoregressive (VAR) method. The modeling technique known as vector autoregression (VAR) eliminates the need to identify endogenous and exogenous variables. A time series model based on annual data from 1990-2022 was used as data (Sembiring, 2016).

The advantages of the Vector Autoregressive (VAR) method of analysis are firstly that it is very simple, in that it can distinguish between endogenous and exogenous variables, secondly that it is a simple approximation, in that the OLS method is applied to all equations separately, and finally that the estimation results of this method are often better than the results obtained with complex simultaneous equation models. Vector Autoregressive (VAR) is a very useful analytical tool for studying the relationship between economic variables and creating structured economic models. The following is the formula for the VAR method:

$$x_t = A_0 + A_1x_{t-1} + A_2x_{t-2} + A_3x_{t-3} + \dots + A_px_{t-p} + e_t$$

Description:

x_t = nx1 vector containing n variables in the VAR model

A_0 = an iterep vector of size nx1

A_1 = nxn coefficient matrix

e_t = an nx1 vector of residuals

3.2. Research Variables

1) Dependent Variable

The Human Development Index (HDI), denoted by the symbol Y, is the dependent variable in this study. The Human Development Index, which can be used to measure the level of development of a region or country, is an important tool for assessing the effectiveness of initiatives aimed at improving the quality of human life. The Human

Development Index (HDI) measures a region's performance in three fundamental areas of development.

2) Independent Variable

In this study, four independent variables were used, namely:

- a. Gross Domestic Product (GDP)
GDP, or gross domestic product, is one of the metrics used to measure economic growth. The Central Bureau of Statistics (BPS) website is the data source coded X1.
- b. Open Unemployment Rate (OOP)
The percentage of unemployment to the total labor force is known as the open unemployment rate. The Central Bureau of Statistics (BPS) provides the Open Unemployment Rate data, which is used in this study and coded X2.
- c. Percentage of Poor Population (PPM)
Individuals classified as poor have an average monthly per capita income that falls below the poverty threshold (GK). The Central Bureau of Statistics (BPS) website is the data source and is coded X3.
- d. Proportion of the Population Living below the International Poverty Line (IPL)
The percentage of the population with an income below US\$1.91 PPP (purchasing power parity) per capita per day is known as the Proportion of People Living Below the International Poverty Line. World Bank data on the percentage of the population living below the international poverty line, denoted by the symbol X4, is used in this study.

3.3. Data Type and Data Source

1) Data Type

This research uses quantitative data, or data measured on a numerical scale. The data is in the form of time series data covering 32 years in Indonesia, namely from 1990 to 2022. Secondary data sources were used in this study. Secondary data is information obtained indirectly through intermediary media (created by other parties) or used by organizations other than management but may be accessible to certain researchers (Az zakiyyah et al., 2023).

2) Data Source

The sources related to this research are literature studies from various sources and secondary data, namely the Indonesian Central Bureau of Statistics (BPS) and the World Bank in the period 1990-2022. The data used in this study are the human development index, the open unemployment rate, the percentage of poor people and the proportion of people living below the international poverty line in Indonesia from 1990 to 2022.

3.4. Data Analysis Method

1) Stationarity Test (Unit Root Test)

Economic time series data usually have a unit root due to their stochastic nature or non-stationary trends. Ultimately, a misleading regression model will result if the data is not stationary, which may also affect the unsatisfactory results of subsequent tests such as traditional assumption tests. Testing the stationarity of the data, also referred to as the unit root test, is a prerequisite for being able to estimate a model using this data set (Ranis et al., 2006).

2) Optimal Lag Test

Optimal lag testing is a statistical technique used to ascertain the optimal number of lags in a regression model. It is useful to avoid overfitting by removing variables associated with insignificant results. By using the optimal lag test, the regression model can be optimized to provide more reliable and accurate results. Before estimating time series data, the Akaike Information Criterion (AIC) and Schwarz Information Criterion (SC) can be used to select the number of lags (order) to be used in the Vector Autoregressive VAR model. The model with the lowest AIC value will be selected as the lag in this study. The stability test of the VAR model is also conducted at this stage. Before proceeding to the cointegration test stage, the ideal lag and VAR stability test are determined (Hidayat et al., 2018).

3) VAR Stability Test

Vector Autoregressive (VAR) stability test is a method to calculate the stability of a variable over time. This stability test allows researchers to identify and analyze variables that are consistent and stable over a period of time. The roots of a polynomial function are summed to perform a VAR stability test. If each root of the polynomial function is on the unit circle or if its absolute value is less than one, which indicates that the IRF and VD are valid, then the VAR model is said to be stable. The VAR stability requirement is verified by using the roots of the characteristic polynomial to determine whether the resulting VAR estimates are stable or not. If each root in the VAR system has a modulus less than one, then the system is stable. The Vector Autoregressive (VAR) method was first introduced by Sims in 1980. Sims stated that to prevent endogenous and exogenous variables, they should be treated the same if there is a contemporaneous relationship between the observed variables. Sims then developed the idea of VAR, which discusses the problems and obstacles facing VAR, based on the idea that this model relies on determining the variables that interact, determining a number of gaps, and must include them in the system so that the model can capture the relationship between variables. This method is an analytical tool that makes economic models in a structured manner (Nasir et al., 2021).

4) Impulse Response Function Test

Impulse Response Function (IRF) is a metric that uses the dynamic structure of a system of VAR equations to measure and visualize the impact of a shock to one endogenous variable on all other endogenous variables. IRF is often used in economics to measure how one variable moves in response to changes in other variables. The impact of related variables, such as GDP, open unemployment rate, percentage of the population in poverty, and percentage of the population living below the international

poverty line, as well as how they react to shifts in the economy, can be assessed using IRFs. In addition, the IRF can organize how shocks in the standard deviation of innovation affect the current and future values of endogenous variables (Nurlina et al., 2023).

5) *Variance Decomposition Test*

By decomposing endogenous variables into shock components for endogenous variables in a VAR, a technique known as Variance Decomposition can be used to examine system dynamics. To forecast related data and examine how random disturbances affect system variables, VARs are often used. The variation of each variable's forecast error is decomposed into elements using variance decomposition so that the endogenous variables can be influenced (Guritno et al., 2020).

4 RESULT AND DISCUSSION

1) *Stationarity Test (Unit Root Test)*

To ensure that the estimated VAR model does not violate fundamental econometric assumptions, a number of diachronic tests need to be performed before estimating the VAR model. Using the Phillips-Perron (PP), stationarity or unit root test is conducted as a first step. Table 1 displays the test findings as follows:

Table 1. Stationarity Test Results (Unit Root Test)

No.	Variabel	T-statistic, PP	Stasioneritas	Pro	Description
1	Y	-5.146327	Second Difference	0.0002	Stasioner I(1)
2	LOGX1	-5.652065	Second Difference	0.0000	Stasioner I(1)
3	X2	-10.44590	Second Difference	0.0000	Stasioner I(1)
4	X3	-6.929275	Second Difference	0.0000	Stasioner I(1)
5	X4	-7.262257	Second Difference	0.0000	Stasioner I(1)

Data Processed by the Author: Using Eviews Application

The Phillips-Perron (PP) test, based on Table 1, shows that all variables have probability values of less than 5% or alpha 0.05, which indicates that all variables are stationary. The variables Y, LOGX1, X2, X3, and X4 are all stationary at the second difference level, meaning that all five variables have the same level of stationarity. For this reason, the Vector Autoregressive (VAR) model is suitable for this investigation.

2) *Optimal Lag Test*

Optimal lag testing is a statistical technique used to ascertain the optimal number of lags in a regression model. It is useful to avoid overfitting by removing variables associated with insignificant results. By using the optimal lag test, the regression model can be optimized to provide more reliable and accurate results. The optimal delay test is used to determine the optimal delay length for further analysis. The optimal delay test is an important step in using the VECM model. The first step in forming the vector

autoregression equation to obtain the optimal delay and stability of the vector autoregression equation can be formed using the VECM equation. through the lowest or minimum FPE (Final Prediction Error), AIC (Akaike Information Criterion), SC (Schwarz Information Criterion), and HQ (Hannan-Quinn information criterion).

Table 2. Optimal Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-299.4619	NA	905.1719	20.99737	21.23311	21.07120
1	-154.3474	230.1816	0.235637	12.71362	14.12806	13.15660
2	-117.6393	45.56873	0.124457	11.90616	14.49931	12.71830
3	-71.59682	41.27946	0.047686	10.45495	14.22680	11.63625
4	9.258503	44.60983*	0.003465*	6.602862*	11.55342*	8.153314

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Table 2. above shows that the values of FPE, AIC, SC and HQ. Shows the optimal lag at stage 4 due to the minimum or low value. In the FPE value, the lowest value shows a value of 0.003465. It can be concluded that the model is used for stability testing and that the VAR model analyzed is lag 4.

3) VAR Stability Test

The VAR Stability Condition Check, which is conducted through the Polynynoinal Root of Charateristic, is used in this stability test. One of the conditions for this test is that the modulus value of the variable must be less than 1. IRF analysis will be considered invalid as a result of this VAR stability test estimation, and vice versa. If all the roots of the polynomial function are found in the unit circle or if the absolute value is less than one, which indicates that the IRF & VD are valid, then the vector autoregressive model is considered stable.

Table 3. VAR Stability Test Results

ROOT	MODULUS
-0.455072 + 0.855966I	0.969416
-0.455072 + 0.855966I	0.969416
0.966468	0.966468
0.091962 – 0.949731I	0.954173
0.091962 + 0.949731I	0.954173
0.672624 – 0.675759I	0.953454
0.672624 + 0.675759I	0.953454
0.831725 – 0.445936I	0.943729
0.831725 + 0.445936I	0.943729
0.908703 + 0.216384I	0.934111
0.908703 – 0.216384I	0.934111
-0.786962 + 0.487283I	0.925610
-0.786962 – 0.487283I	0.925610
-0.171132 – 0.887153I	0.903508

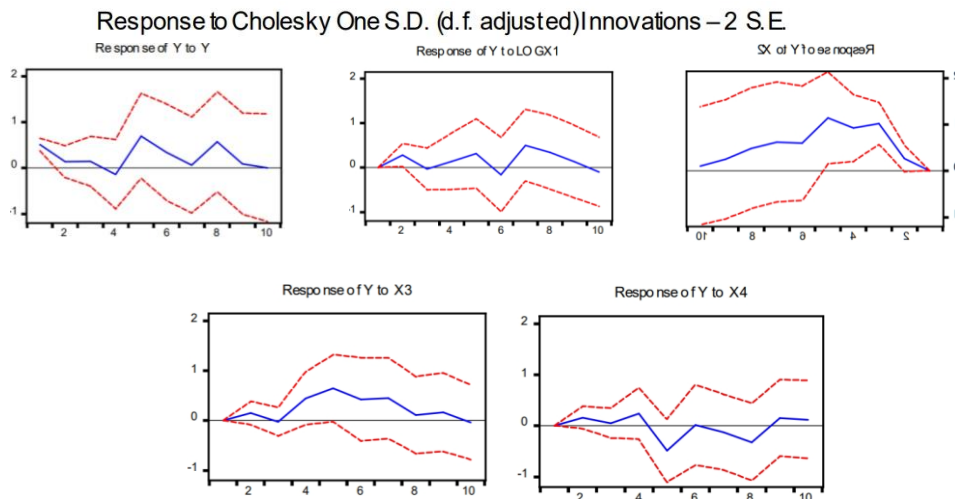
-0.171132 + 0.887153I	0.903508
-0.691368 – 0.567850I	0.894675
-0.691368 + 0.567850I	0.894675
-0.876854	0.876854
0.264974 – 0.551374I	0.611739
0.264974 + 0.551374I	0.611739

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Table 3. shows that the modulus value is less than 1, indicating that this composition is already in the optimal position and the analysis in the VAR stability test is stable at the optimal point. This VAR stability test can be used to conduct Impulse Response Function (IRF) analysis if the findings are stable.

4) Impulse Response Function Test

In Figure 2.1, the Cholesky Reaction Impulse Response of Y to Y, Y to LOGX1, Y to X2, Y to X3, and Y to X4 shows an increase and decrease in each period, corresponding to one SD innovation. When all the roots of the polynomial functions are found in the unit circle or when their absolute values are less than one, indicating that the IRF and VD are valid, the Vector Autoregressive (VAR) model is considered stable.



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Figure 2. 1

Impulse Response Function Plot Test Results

The first figure in the Y against Y figure shows how the IRF fluctuates and responds positively to shocks to the variable when present, starting with the response of the Y variable when there is a shock to the variable from the first period. The IRF then decreases until the fifth and eighth periods, where it starts to experience upward shocks and responds positively.

When exposed to the shock, Y's reaction to LOGX1 is to react negatively from the first period to the second period and then positively in the fifth and seventh periods. However, Y continues to react negatively until the fifth period and starts to respond positively from

the sixth to the tenth period. Y's response to X2 from the beginning of the period to the tenth period experiences an upward shock reaching 1 and continues to respond positively.

Y's response to X3 is to respond positively to shocks in the first period up to period 3 and then back up in the 4th period up to the 8th period and stabilize when it reaches the last period.

When Y is exposed to X4, it reacts poorly to the shock in the fourth period, decreases in the fifth period, increases in the sixth period, and then decreases once again in the eighth period. Moreover, from the 9th period to the 10th p, it starts to stabilize.

5) *Variance Decomposition Test*

Variance Decomposition is an analytical method to break down the variance of variables influenced by different factors. Variance decomposition decomposes the total variance into its components caused by different factors. Using this technique, information regarding the percentage contribution of each variable's variance to changes in a particular variable can be obtained.

Tabel 4. Hasil Uji Stabilitas VAR

<i>Variance Decomposition of Y:</i>						
Period	S.E.	Y	LOGX1	X2	X3	X4
1	0.514068	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.694430	58.82613	16.14095	15.08051	4.663606	5.288801
3	1.246911	19.60768	5.067405	72.02310	1.487299	1.814517
4	1.644296	11.97153	3.638433	72.99741	8.193304	3.199325
5	2.291201	15.44923	3.765490	62.40638	12.20767	6.171226
6	2.434928	15.65239	3.765224	61.27748	13.83564	5.469272
7	2.605259	13.73132	6.991885	59.22577	15.03703	5.013994
8	2.753661	16.59945	7.821955	56.12064	13.61690	5.841062
9	2.779136	16.40525	7.915894	55.92597	13.71754	6.036353
10	2.785834	16.32678	7.999663	55.80650	13.67270	6.194352

Data Processed by the Author: Using Eviews Application

Table 4. above shows the Structural Variance Decomposition used to predict the impact of shocks in the future. In the results above, it is obtained that changes in the Human Development Index (Y) are generally dominated by shocks to the Human Development Index (Y) itself with a forex composition of 100.0000 in the first period which continues to decline drastically and continuously for 10 periods until a variance of 16.32678 which can be seen in the last period.

Then the next variable that affects the Human Development Index (Y) is GDP (LOGX1). When viewed in the table, it shows a good response in the second contribution of

16.14095 and then decreased again in the sixth period to reach 3.765224 and increased again until the last period which reached a variance of 7.999663.

The Open Unemployment Rate (X2) has a large influence on the Human Development Index (Y) which has a variance of 55.80650 at the end of the period, namely in period 10.

The percentage of poor people (X3) also has a fairly good influence on the Human Development Index (Y) from the 5th period continues to increase continuously until the last period. Then on the variable;

The last is the Proportion of the Population Living below the International Poverty Line (X4) to the Human Development Index (Y). This time there is an increase and decrease. In the 2nd period, the variance value of 1.814517 decreased from the first period. And again rose in the 5th period by 6.171226, fell again for three periods and the results in the final period reached a figure of 6.194352..

5 CONCLUSION AND RECOMMENDATION

By using time series data for 1990-2022 that applies the Vector Autoregressive (VAR) model, where the VAR method allows researchers to determine the relationship between variables Analysis and estimation of the magnitude of the influence of independent variables. with the dependent variable. This method also helps to determine the interaction between independent variables. This study is used to determine the effect between the effect of GDP, Open Unemployment Rate, Percentage of Poor Population and Proportion of Population Living below the International Poverty Line on the Human Development Index in Indonesia. In conclusion, based on the Impulse Response results for 10 periods, starting from the response of the HDI variable to the shock, the variable varies and responds to the shock in period 1 positively and continues to decline until periods 5 and 8, and then begins to stabilize (Wibowo & Khoirudin, 2019).

It can be explained that HDI has reached the same equilibrium as before the shock to the HDI variable. The Y value (Human Development Index) responded by LOGX1 (GDP) negatively to the shock in period 2 and rose again in the 5th and 7th periods, but continued to respond negatively until period 5 and then began to respond positively from period 6 to period 10. Furthermore, the Y value (Human Development Index) against X2 (Open Unemployment Rate) from the beginning of the period to the tenth period experienced an upward shock reaching 1 and continued to respond positively to the shock. Then there is the Y Value (Human Development Index) against X3 (Percentage of Poor Population) is responding positively to the shock in the first period to period 3 and then back up in the 4th period to the 8th period and returned to stability when it reached the last period. The Human Development Index (Y) is the final value, compared to X4 (percentage of population living below the international poverty line). Y responds negatively to shocks in the fourth period, decreases in the fifth period, increases once again in the sixth period, and then decreases once again in the eighth period. Moreover, from the ninth to the tenth period, Y starts to stabilize.

Based on the results of the study, the implications that are considered relevant to this study are as follows. This research is expected to be able to add insight into for researchers and readers regarding what factors affect the Human Development Index. This research is expected to be one of the references related to further research that will use variables that affect the Human

Development Index. This research is expected to be an illustration or information insight for the public regarding how the Human Development Index is developing.

The limitations of this study are that researchers only analyze variables that are one of the factors affecting the Human Development Index in Indonesia using Time Series data from 1990 to 2022. So it is hoped that further research can conduct research in Indonesia using Time Series data with a longer period of time and in order to obtain diverse data. And this research only focuses on variables that are significant to the Human Development Index, namely the variable of Gross Domestic Product (GDP) and Open Unemployment Rate (TPT) hurt negatively affect the Human Development Index (HDI). At the same time, the Percentage of Poor Population and the Proportion of Population Living below the International Poverty Line (GKI) positively affect the Human Development Index (HDI).

REFERENCES

- Akbar, A., Ullah, M. I., Ullah, M. A., Aslam, M., & Imdadullah, M. (2011). Determinants of Economic Growth in Asian Countries: A Panel Data Perspective. In *Pakistan Journal of Social Sciences (PJSS)* (Vol. 31, Issue 1). <https://www.researchgate.net/publication/260454652>
- Az zakiyyah, N., Lubis, F., & Wahyuni, I. (2023). Determinants of Poverty In Indonesia. *EKO-REGIONAL: Jurnal Pembangunan Ekonomi Wilayah*, 18(2). <https://doi.org/10.32424/1.erjpe.2023.18.2.3182>
- BPS. (2022). Indeks Pembangunan Manusia. In indeks pembangunan manusia. Badan Pusat Statistik. <https://www.archive.bps.go.id/publication/2023/05/16/ef80bec78ab91cb5b703b943/indeks-pembangunan-manusia-2022.html>
- Guritno, D. C., Kurniawan, M. L. A., Mangkunegara, I., & Samudro, B. R. (2020). Is there any relation between Hofstede's cultural dimensions and corruption in developing countries? *Journal of Financial Crime*, 28(1), 204–213. <https://doi.org/10.1108/JFC-06-2020-0115>
- Hasibuan, L. (2020). Analisis Determinan Indeks Pembangunan Manusia (IPM) di Indonesia (Vol. 5, Issue 2). <https://core.ac.uk/download/pdf/353678123.pdf>
- Hidayat, M. J., Hadi, A. F., & Anggraeni, D. (2018). Analisis Regresi Data Panel Terhadap Indeks Pembangunan Manusia (IPM) Jawa Timur Tahun 2006-2015. *Majalah Ilmiah Matematika Dan Statistika*, 18(2), 69. <https://doi.org/10.19184/mims.v18i2.17250>
- Marries, R. (2008). Dampak Fluktuasi Variabel. <https://lib.ui.ac.id/file?file=digital/119807-T%2025359-Dampak%20fluktuasi-metodologi.pdf>
- N, Y., Lubis, F., & Az zakiyyah, N. (2022). Analysis of Factors Affecting Regional Original Revenue In Nusa Tenggara Timur (2015-2020). *EKO-REGIONAL: Jurnal Pembangunan Ekonomi Wilayah*, 17(2). <https://doi.org/10.32424/1.erjpe.2022.17.2.2970>
- Nasir, M., Wibowo, A., & Yansyah, D. (2021). The Determinants of Economic Growth: Empirical Study of 10 Asia-Pacific Countries. *Jurnal Ilmu Ekonomi*, 10(1).
- Nurlina, N., Ridha, A., & Asnidar, A. (2023). Analisis Determinan Indeks Pembangunan Manusia di Indonesia Tahun 1990-2021. *Jurnal Samudra Ekonomi Dan Bisnis*, 14(2), 239–250. <https://doi.org/10.33059/jseb.v14i2.7287>
- Ranis, G., Stewart, F., & Samman, E. (2006). Human Development: Beyond the Human Development Index. *Journal of Human Development*, 7(3), 323–358. <https://doi.org/10.1080/14649880600815917>
- Salim, A., & Satripto, S. (2023). Does prudential capital reduce bank risk-taking? Empirical evidence from the Indonesian banks industry. *Jurnal Ekonomi & Studi Pembangunan*, 24(1), 182–197. <https://doi.org/10.18196/jesp.v24i1.17696>
- Sembiring, M. (2016). Analisis Vector Autoregression (VAR) Terhadap Interrelationship Antara IPM dan Pertumbuhan Ekonomi di Sumatera Utara. [https://download.garuda.kemdikbud.go.id/article.php?article=563876&val=6149&title=Analisis%](https://download.garuda.kemdikbud.go.id/article.php?article=563876&val=6149&title=Analisis%20)

20Vector%20Autoregresion%20VAR%20Terhadap%20Interrelationship%20Antara%20IPM%20
Dan%20Pertumbuhan%20Ekonomi%20Di%20Sumatera%20Utara

Suripto, N. A., Firmansyah, N. A., & Sugiyanto, F. X. (2020). Poverty viewed from the perspective of domestic production in Yogyakarta: the Solow growth model approach. *International Journal of Business and Globalisation*, 24(2), 174. <https://doi.org/10.1504/IJBG.2020.105166>

Wibowo, A. R., & Khoirudin, R. (2019). Analysis of Determinan of Poor Population In Central Java 2008-2017. *EKUILIBRIUM*, 14, 1–15.

Yuniarti, D., & Sukarniati, L. (2021). Penuaan Petani dan Determinan Penambahan Tenaga Kerja di Sektor Pertanian. *AGRIEKONOMIKA*, 10(1), 38–50. <https://doi.org/10.21107/agriekonomika.v10i1.9789>