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THE INFLUENCE OF THE HUMAN DEVELOPMENT INDEX AND GINI RATIO ON THE POVERTY LEVEL IN WEST JAVA PROVINCE

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Abstract

This study aims to "analyze the effect of Human Development Index and Gini Ratio on poverty rate". The sample of this study is 27 districts/cities in West Java with data for 10 years (2015-2024). The analysis method of this study is panel data regression analysis. The results showed that "the Human Development Index and Gini Ratio had a significant effect on the poverty rate". This research provides a perspective that measuring the IPM and Gini Ratio can provide a new perspective in determining policies for the community. As a practical contribution, the government can optimize policies to improve people's welfare, such as enhancing the quality of education, healthcare, and income distribution. This can reduce social and economic problems and periodically increase human development so that the growth of the poverty rate can be reduced.

Keywords: Human Development Index, Gini Ratio, Poverty

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INTRODUCTION

Indonesia ranks as the fourth most populous country in the world. According to data from Statistics Indonesia (BPS) in 2024, the population of Indonesia has reached 281.6 million people. In addition, Indonesia is the country with the largest Muslim population in the world (Pew Research Center, 2011). As a developing country, Indonesia faces a number of complex issues, one of which is poverty, which serves as a major obstacle to improving a country's human development index (HDI).

Poverty is caused by various factors, including low income, job termination, limited job opportunities, unequal access to education, scarcity of employment, lack of capital, limited natural resources, technological illiteracy, low work ethic, lack of skills, natural disasters, unstable political conditions, and sluggish economic growth (Toha et al, 2025). One province that has become a particular focus for poverty levels and its mitigation efforts is West Java. This province, comprising 18 regencies and 9 cities, experiences uneven population growth, resulting in complex issues such as poverty.

Poverty significantly affects the Human Development Index (HDI). A higher poverty rate can hinder improvements in HDI (Ashari et al, 2023). The West Java Provincial Government has made continuous efforts to promote sustainable development aimed at reducing poverty rates each year. Sustainable development is expected to improve community welfare and lower poverty levels in the region, thereby enhancing competitiveness among regions.

This condition is closely related to income levels, which contribute to inequality within society. The indicator that measures overall income inequality in a region is known as the Gini Ratio. The Gini Index serves as an important benchmark for formulating policies and solutions to address poverty. Based on this background, this study aims to examine how the government's contribution through HDI and the Gini Ratio influences poverty levels in West Java.

LITERATURE REVIEW

Human Development Index (HDI)

The Human Development Index (HDI) is a comparative measure of life expectancy, literacy, education, and standard of living. HDI illustrates how a society is able to access the outcomes of development in order to obtain income, health, education, and related benefits. HDI is commonly used to classify whether a country is considered developed, developing, or underdeveloped, as well as to assess the impact of economic welfare on quality of life (Istiqomah et al., 2025).

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According to the United Nations Development Programme (UNDP), human development has a positive impact on economic, social, political, cultural, and environmental prosperity. To measure this, HDI is used as an average achievement indicator in key dimensions of human development. There are three main dimensions of human development: a long and healthy life (health), knowledge (education), and a decent standard of living (UNDP, 2022). Each of these dimensions has its own calculation basis (Anggraini, 2018):

1. Life Expectancy
   Life expectancy is a key indicator to assess longevity. An individual's lifespan is not only the result of personal efforts but also reflects how well a country utilizes its resources to extend the life expectancy of its population. Theoretically, individuals can live longer if they are healthy, and when sick, access to health services can help them recover and extend their lifespan. Therefore, the life expectancy variable reflects both "length of life" and "healthy living" of the population. In calculating life expectancy, the maximum value used is based on UNDP standards, with an upper limit of 85 years and a lower limit of 25 years.
2. Knowledge
   An individual's level of knowledge at a given time is the result of a combination of heredity, learning, and experience. Measuring the achievement of community development can be done by evaluating how well the community utilizes its resources to provide educational facilities to improve knowledge and skills. Education is measured based on two indicators: expected years of schooling (for children aged 7 years and above) and mean years of schooling (for adults aged 25 years and older). The starting point at age 7 is in line with the government's compulsory education policy.
3. Decent Standard of Living
   According to Statistics Indonesia (BPS), the indicator for a decent standard of living is reflected in adjusted per capita expenditure and Purchasing Power Parity (PPP). The average annual expenditure is obtained from the National Socio-Economic Survey (SUSENAS) at both provincial and district/city levels. Meanwhile, the calculation of PPP uses 96 commodities, consisting of 66 food items and 30 non-food items, to enable price comparisons between regions.
   The use of the geometric mean in calculating HDI implies that achieving human development requires equal attention and importance across its three key dimensions. According to international standards, HDI values across regions can be classified into four categories: HDI < 60: low, 60 ≤ HDI < 70: medium, 70 ≤ HDI < 80: high, and HDI ≥ 80: very high (Sukmawati, 2018).

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Gini Ratio

The Gini Ratio is a measure of inequality, ranging from 0 (perfect equality) to 1 (perfect inequality). The Gini coefficient is calculated by dividing the area between the diagonal and the Lorenz curve by the total area under the diagonal (Rijoly et al., 2023). In other terms, the Gini Ratio or Gini Coefficient is an aggregate measure of inequality first developed by Italian statistician Corrado Gini and published in 1912.

According to Indonesia's Minister of Manpower Regulation No. 25/MEN/IX/2009 regarding immigrant settlement development, the Gini Ratio is a measure of income distribution calculated based on ten income brackets or deciles. It reflects the extent of income or wealth distribution inequality within a population. A Gini coefficient close to zero indicates low inequality, while a value closer to one indicates high inequality. In calculating the Gini coefficient, the cumulative percentage of the population is represented on the horizontal axis, while the cumulative income is represented on the vertical axis (Rijoly et al., 2023).

The Gini Ratio is one of the key factors influencing poverty levels. Empirical evidence shows a pragmatic relationship between the Gini Ratio and poverty, where higher income inequality tends to correlate positively with higher poverty levels. This suggests that poverty can be viewed through the lens of inequality—when income distribution is highly unequal, particularly between poor and wealthier groups, poverty tends to worsen. Therefore, an increase in the Gini Ratio is generally followed by a rise in poverty levels (Endrawati et al., 2023).

Poverty

Poverty is defined as a condition in which individuals are unable to meet the minimum standard of living (Kuncoro, 2010). According to the Merriam-Webster International Encyclopedia (1990), poverty is “scarcity, dearth, or the state of one who lacks a certain amount of material possessions or money,” meaning a condition where an individual lacks financial resources or wealth (Rustanto, 2015).

The World Bank, in its publication *World Development Report 2000/2001: Attacking Poverty*, defines poverty as "a condition in which an adequate standard of living is not achieved." The World Bank further identifies poverty indicators as lack of adequate food, clothing, and shelter; limited access to healthcare; and insufficient access to education.

In Indonesia, poverty is measured using criteria set by Statistics Indonesia (BPS), which applies a statistically robust and flexible approach based on surveys and data processing. BPS defines poverty using the basic needs approach, rooted

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in the concept of absolute poverty, which refers to an individual's inability to meet the minimum basic living needs.

Indonesia has further developed this concept into the definition of "inability of the individual to meet basic needs" (Ririn Tri Puspita Ningrum, 2017). Under this approach, poverty is defined as an economic inability to meet basic food and non-food needs, measured by expenditure levels. Therefore, poor individuals are those whose average monthly per capita expenditure falls below the poverty line (BPS Kapuas Hulu, 2023).

The poverty line represents the minimum expenditure needed by an individual to fulfill basic life needs, including both food and non-food items, for one month. The poverty line varies across regions depending on local standards of living. The food poverty line is based on the minimum expenditure required to obtain 2,100 kilocalories per person per day, while the non-food poverty line includes essential expenses such as housing, clothing, education, and transportation (BPS Provinsi Aceh, 2023).

RESEARCH METHOD

The data in this study uses secondary data obtained through BPS, consisting of "Human Development Index, Gini Ratio and Poverty Level in West Java Province from 2015-2024 consisting of 27 Regencies/Cities". The method used in this study is panel data regression using STATA 17 software. This analysis method includes panel data regression analysis. There is also an equation model in this study, namely:

$$Poverty_{it} = \alpha + \beta_1 LOGIPM_{it} + \beta_2 LOGGR_{it} + u_i + \varepsilon_{it}$$

Description:

Y : " Dependent Variable (Poverty Percentage)"
α : " Constant "
Xn : " Independent Variable n"
IPM : " Human Development Index "
GR : "Gini Ratio"
βn : " Regression coefficient n"
ε : "Error Terms"
t : "Time period/year"
i : "Cross Sectional (data id)"
u : "Unit "

RESULTS AND DISCUSSION

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Table 1.
Common Effect

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. regress KMS IPM GR
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Source	SS	df	MS	Number of obs	=	270
				F(2, 267)	=	190.54
Model	1388.87125	2	694.435623	Prob > F	=	0.0000
Residual	973.124178	267	3.64465984	R-squared	=	0.5880
				Adj R-squared	=	0.5849
Total	2361.99542	269	8.78065213	Root MSE	=	1.9091

KMS	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
IPM	-.5193497	.0286214	-18.15	0.000	-.5757019	-.4629974
GR	14.61998	3.32647	4.40	0.000	8.070534	21.16943
_cons	40.35166	1.688842	23.89	0.000	37.02652	43.6768

Table 2.
Fixed Effect Model

KMS	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
IPM	-.3744924	.029502	-12.69	0.000	-.4326072	-.3163777
GR	4.569475	1.758358	2.60	0.010	1.105762	8.033187
_cons	33.71255	2.121776	15.89	0.000	29.53296	37.89214
sigma_u	1.9122686					
sigma_e	.69328209					
rho	.88383073	(fraction of variance due to u_i)				

F test that all u_i=0: F(26, 241) = 68.60 Prob > F = 0.0000

Analysis: Through the Chow Test, the Prob. Value is 0.0000 (<0.05) so the selected model is FEM, thus the Hausman Test is continued.

Table 3.
Hausman Test

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
IPM	-.3744924	-.388703	.0142106	.0100985
GR	4.569475	4.739546	-.170071	.1967555

b = Consistent under H0 and Ha; obtained from **xtreg**.
B = Inconsistent under Ha, efficient under H0; obtained from **xtreg**.

Test of H0: Difference in coefficients not systematic

chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 5.62
Prob > chi2 = 0.0601

Analysis: The Prob. result is 0.0601 (>0.05), therefore the accepted model is REM by conducting the LM Test.

Table 4.

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Lagrange Multiplier (LM) Test

Estimated results:

	Var	SD = sqrt(Var)
KMS	8.780652	2.963217
e	.4806401	.6932821
u	3.344488	1.828794

Test: Var(u) = 0

chibar2(01) = 857.83
Prob > chibar2 = 0.0000

Analysis: Through the Lagrange Multiplier (LM) Test, the Prob. Value is 0.0000 (<0.05) for which the selected model is REM.

Table 5.
Random Effect Model

Random-effects GLS regression — Number of obs = 270
Group variable: Id — Number of groups = 27

R-squared:
Within = 0.4019
Between = 0.5962
Overall = 0.5773

Obs per group:
min = 10
avg = 10.0
max = 10

Wald chi2(2) = 196.77
corr(u_i, X) = 0 (assumed) — Prob > chi2 = 0.0000

KMS	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
IPM	-.388703	.0277199	-14.02	0.000	-.4430329	-.3343731
GR	4.739546	1.747315	2.71	0.007	1.314871	8.16422
_cons	34.66569	2.010956	17.24	0.000	30.72428	38.60709
sigma_u	1.8287941					
sigma_e	.69328209					
rho	.87434667	(fraction of variance due to u_i)				

Analysis:

The F Test, Wald Chi2 value is 196.77 with a Prob. value of 0.0000 (<0.05) so it can be concluded that the Independent Variable ("Human Development Index and Gini Ratio") has a significant influence in a stimulant (simultaneous) manner on the Dependent Variable (Poverty).

The Determination Coefficient Test, R Square value is 0.5773 so it can be concluded that the contribution of the influence of the Independent Variable ("Human Development Index and Gini Ratio") on the Dependent Variable ("Poverty") in a stimulant (simultaneous) manner is 57.73%.

The T Test (Hypothesis) of the Human Development Index Variable has a Prob. value (significance) of 0.000 (<0.05) so it can be concluded that the Human

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Development Index Variable has a significant influence on the Y Variable ("Poverty").

The T Test (Hypothesis) of the Gini Ratio has a Prob. value. (significance) of 0.007 (<0.05) for that it can be concluded that the Human Development Index Variable has a significant influence on the Dependent Variable (Poverty).

Regression Equation Analysis

$$KMS = 34{,}66 - 0{,}38*IPM_{it} + 4{,}73*GR_{it} + u_i + e_{it}$$

1. The constant value obtained is 34.66, thus it can be interpreted that if the variable X has a constant value or zero, then the dependent variable is 34.66.
2. The HDI Regression Coefficient value has a negative value (-) of -0.38, thus it can be interpreted that for every one unit increase in the HDI, the poverty rate is estimated to decrease by 0.38 units.
3. The Gini Ratio Regression Coefficient value has a positive value (+) of 4.73, thus it can be interpreted that for every one unit increase in the Gini Ratio, the poverty rate is estimated to increase by 4.73 units.

CONCLUSION

The improvement of welfare in West Java Province is closely related to the Human Development Index (HDI) and the Gini Ratio. HDI has a significant influence on reducing poverty levels. Through quality education, people can develop competencies and expertise in their respective fields, which will contribute to the nation. Through improved health, the population can achieve longer life expectancy and better well-being. With increased income, individuals are better able to meet their economic needs. In addition, the Gini Ratio also has a significant impact on poverty. The higher the income inequality, the higher the poverty rate; conversely, the lower the income inequality, the lower the poverty rate, and the gap between social groups will also decrease. Therefore, the role of the West Java government in implementing appropriate policies is crucial in supporting poverty alleviation efforts, both through human development and reducing income inequality.

REFERENCES

Anggraini, Y. (2018). *Kebijakan Indeks Pembangunan Manusia (IPM) di Indonesia*. Indocamp.

Ashari, A., Fatwati, S. R. ., Hasanah, S. ., Juwairiyah, S. ., Rudi, R., & Utama, A. P. . (2023). BAZNAS Contribution Through Productive Zakat Program to the

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Economy Poor Society. *Majapahit Journal of Islamic Finance and Management*, *3*(1), 1–14. https://doi.org/10.31538/mjifm.v3i1.30

BPS Kapuas Hulu. (2023). *Jumlah Penduduk Miskin*. Badan Pusat Statistik Kabupaten Kapuas Hulu. https://kapuashulukab.bps.go.id

BPS Provinsi Aceh. (2023). *Profil Kemiskinan Penduduk di Provinsi Aceh, Maret 2023*. *4*, 1–5.

Endrawati, D., Nujum, S., & Selong, A. (2023). Pengaruh Pertumbuhan Ekonomi, Rasio Gini dan Indeks Pembangunan Manusia Terhadap Tingkat Kemiskinan Indonesia 2017-2022. *Jurnal Pendidikan Tambusai*, *7*(3), 20144–20151.

Istiqomah, N., Muda, R. A., Indriyani, P., & Rohmi, M. L. (2025). Pengaruh Kemiskinan dan Kesehatan terhadap Indeks Pembangunan Manusia di Daerah Provinsi Jawa Barat. *Manajemen Dan Ekonomi Kreatif*, *3*(1), 01–11.

Kuncoro. (2010). *Ekonomika Pembangunan*. Erlangga.

Pew Research Center. (2011). The future of the global Muslim population. Projections for 2010-2030. *Population Space and Place*, *13*(1), 1–221.

Rijoly, J. C., Titioka, B. M., Tupamahu, K., Latumahina, F. S., Patty, M., Talarima, B., Waas, R., & Alfons, C. (2023). *Realitas Ketimpangan Pendapatan Kota Ambon Sebuah Kajian Empiris*. CV. Adanu Abimata.

Ririn Tri Puspita Ningrum. (2017). Analisa Metode Penetapan Kriteria Kemiskinan dan Implikasinya Terhadap Standarisasi Mustahiq di Indonesia. *Engagement : Jurnal Pengabdian Kepada Masyarakat*, *1*(1), 77–110. https://doi.org/10.29062/engagement.v1i1.9

Rustanto, B. (2015). *Menangani Kemiskinan*. PT. Remaja Rosdakarya.

Sukmawati, S. (2018). *Persembahan*. UIN Walisongo Semarang.

Toha, M., Zuana, M. M. M., & Isbahi, M. B. (2025). Acculturation of Mataraman Local Wisdom with Islamic Values: Implications for Social and Economic Development. *Danadyaksa: Post Modern Economy Journal*, *2*(1), 33–47. https://doi.org/10.69965/danadyaksa.v2i1.143