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The Intersection of Human Development and Poverty: An Analysis of HDI and I-HDI in Yogyakarta based on *Maqāṣid Syarī'ah*

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Abstract

Despite its high Human Development Index (HDI), Yogyakarta paradoxically suffers from one of the highest poverty rates on the island of Java. This situation underscores the limitations of conventional human development metrics, particularly in regions with a predominantly Muslim population. To address this issue, this study introduces the Islamic Human Development Index (I-HDI) as an alternative framework that more effectively captures the relationship between human development and poverty in a Muslim-majority context. Utilizing secondary data from five districts in Yogyakarta spanning the years 2012 to 2023, and employing panel data regression alongside Granger causality analysis, the findings indicate that HDI has a limited and indirect effect on poverty. In contrast, I-HDI demonstrates a stronger and more direct negative correlation with poverty levels. Furthermore, Granger causality analysis reveals that changes in I-HDI significantly influence poverty levels, and vice versa, suggesting a dynamic and bidirectional interaction between these two variables. These results imply that I-HDI offers a more accurate reflection of human development in Muslim-majority regions, capturing dimensions often overlooked by traditional indices. Ultimately, the findings highlight the intricate interaction between human development and poverty, providing valuable insights for policymakers to create more effective poverty alleviation strategies grounded in Islamic principles and local cultural values.

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INTRODUCTION

The issue of poverty is a major concern in the economy because it is directly related to the fulfillment of basic needs and the welfare of the community (Aiu Viollani, K., Siswanto, S., & Suprayitno, 2022). According to *Badan Pusat Statistik* (BPS) (2021), poverty is the inability to meet basic needs. Poverty occurs when someone cannot meet their basic living needs (Primandhana, W. P., & Wahed, M., Oktaviana, 2021). As a result, communities classified as poor have an average household expenditure that is also below the poverty line income.

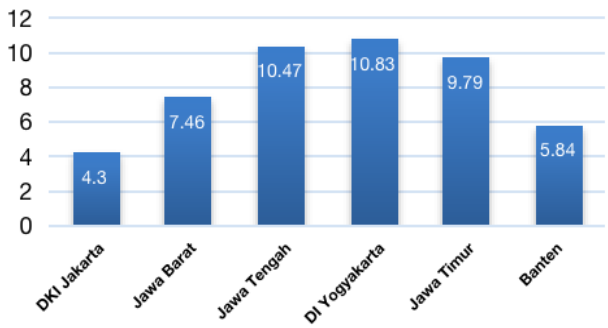

Figure 1. Percentage of Poor Population in Indonesia

The issue of poverty in Indonesia, including in Java Island, remains an unresolved problem to this day (NurAfiat et al., 2020). Java Island records the highest poverty rate, with Yogyakarta

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having the highest poverty rate in the last decade (BPS, 2024). However, Yogyakarta is known as an area rich in tourism, with many universities, and famous for its distinctive cuisine (Prasetyo & Bahtiar, 2023). This is reflected in the Human Development Index (HDI) level in Yogyakarta, which has ranked first for several years, reaching an HDI of 80.07 in 2023 (BPS, 2024a). However, it cannot be denied that the highest poverty rate on the island of Java, at 10.83% in 2024, is in Yogyakarta (BPS, 2024b).

The first important step in poverty alleviation is to identify its causes and impacts. One of them is by empowering and developing the existing human resources (HR). By building human potential and enhancing the skills and abilities possessed, it is hoped that it can help improve the welfare of the Indonesian people (Aiu Viollani et al., 2022). One of the main factors influencing poverty is the low quality of human development, which results in low human resources, skills, and income (Kaluge, D. & Zuhdiyaty, 2017).

Measuring the success of a country or region can be done by looking at the low poverty rate. This is measured by the United Nation (UN) through the SDGs and by the Indonesian Government through the Preamble of the 1945 Constitution and the National Development Goals **(**Piang, H., Tri, I., & Fitrianti, 2023). To measure human development, UNDP uses the Human Development Index (HDI). Research Masduki et al., (2022) concluded that improving the quality of the HDI can contribute to reducing poverty rates. However, several studies reveal that the HDI is not fully capable of measuring human development and reflecting the conditions in countries with a majority Muslim population (Oladapo, I. A., & Ab Rahman, 2018). The limitations of conventional HDI metrics in capturing holistic well-being, particularly in Muslim-majority contexts, underscore the need for alternative frameworks like I-HDI (Anto, 2011). In order to reduce poverty rates, Islam has a strong foundation in socio-economic activities. In addition to focusing on income distribution, Islam also seeks to reduce the gap between communities by applying the principles of *maqāşid syarīah* in daily life.

In *maqāşid syarīah*, there are five main aspects; the protection of religion, life, lineage, intellect, and property (Auda, 2019). The main objectives of *maqāşid syarīah* are *maşlaḥah* 'public interest' and *falāḥ* 'success' (Faisol, 2017). Improving welfare or beneficial living standards is the main goal of that welfare. If one aspect of needs is not met, then a person will be classified as poor (Aiu Viollani, K., Siswanto, S., & Suprayitno, 2022). The I-HDI based on *maqāşid syarīah* with five aspects of basic human needs is considered more relevant (Oladapo, I. A., & Ab Rahman, 2018) to achieve welfare in this world and the hereafter (Auda, 2019; Iksan, 2021).

This research chose the Yogyakarta Province as the object of study because, based on statistical data over the past 11 years, the province with the highest poverty rate is Yogyakarta, despite being supported by a high HDI (Rochmawati, T.2018). This background encourages the authors to examine the influence of the Human Development Index (HDI) from both conventional and sharia perspectives on poverty in Yogyakarta. This research aims to understand the actual conditions related to Yogyakarta Province and its poverty issues. Based on the conducted study, the research results are expected to provide benefits to the local government in addressing poverty problems in Yogyakarta.

There is a negative correlation between the poverty rate and the human development index. Low poverty rates are associated with high human development indices, and vice versa, high poverty rates are associated with low indices (Puspita Candra Bella & Syamsul Huda, 2023). Low poverty rates are associated with high human development indices, and vice versa, high poverty rates are associated with low indices (Salsabilla et al., 2022). Poverty levels are associated with high human development index, and vice versa, high poverty levels are associated with low index (Puspita Candra Bella & Syamsul Huda, 2023). Low poverty levels are associated with high human development index, and vice versa, high poverty levels are associated with low index (Salsabilla et al., 2022). The findings of this study highlight how *maqāşid shariah*-based measures, such as the I-HDI, can be useful tools when developing strategies to reduce poverty, especially in places like Yogyakarta where the majority of the population is Muslim. The government can be more effective

in addressing poverty by expanding the dimensions of the Islamic Human Development Index (I-HDI), rather than relying solely on traditional development strategies (Anggraini et al., 2024). Research by Hasbi et al., (2023) highlights the importance of non-material factors, such as social values, religion, and mental well-being, as reflected in the I-HDI model. These factors play a crucial role in measuring the success of human development, which goes beyond merely focusing on economic indicators, as seen in the traditional HDI. These findings provide a strong foundation for policies that incorporate Islamic principles. Policy interventions rooted in Islamic social finance, such as zakat and waqf, can effectively reduce poverty by aligning with the values embedded in the I-HDI (Khaskhelly et al., 2024).

Research by Necati Aydin (2017) emphasizes the need for an alternative human development indexing approach from an Islamic perspective. The study's findings highlight how *maqāşid syarīah*-based measures, like the I-HDI, can be a useful tool when developing strategies to reduce poverty, particularly in places like Yogyakarta where the majority population is Muslim. The government can more effectively eliminate poverty by expanding the I-HDI's dimensions than by relying solely on traditional development strategies (Anggraini et al., 2024). Research by Hasbi et al., (2023) shows the importance of non-material factors such as social values, religion, and mental well-being, reflected in the I-HDI model, in measuring the success of human development, which does not only focus on economic indicators such as the traditional HDI.

The study by Isa et al., (2023) also tested the impact of (I-HDI) on poverty alleviation using panel regression and index construction techniques. The results showed that the components of human development from an Islamic perspective are highly relevant to poverty alleviation and are a viable alternative to HDI. Several previous studies have discussed the relationship between the human development index (HDI) and poverty, but many have ignored a more holistic dimension in measuring human development, especially in countries with Muslim-majority populations. A study by Aiu Viollani et al., (2022) showed a significant influence between the Human Development Index (HDI) and poverty, but the study was limited to conventional parameters that did not include sharia values.

Another study by Ali, M., & Syafri (2019) introduced the Islamic Human Development Index (I-HDI), which is more relevant for countries with Muslim populations because it integrates the principles of *Maqāşid Syarī'ah*, including protection of religion, soul, mind, descendants, and property. A similar study was also conducted by Khairul (2019), which concluded that the Islamic Human Development Index (I-HDI) has a negative relationship with poverty, which means that when the Islamic Human Development Index (I-HDI) increases, poverty will decrease and vice versa. In addition, there is also research from Nurlayli & Jumarni (2022) which Based on statistical calculations carried out, negative results were obtained from the test between the Islamic Human Development Index (I-HDI) on the Poverty Level in Bone Regency in 2011-2020.

The novelty of this research is the use of I-HDI to examine the relationship between the quality of human development and the level of poverty in Yogyakarta Province, taking into account the dimensions of *Maqāşid Syarī'ah*. This study not only examines the relationship between HDI and poverty, but also compares the two indices (I-HDI and HDI) to assess their relevance in the unique socio-economic context of Yogyakarta. This study offers a new approach in using I-HDI as a more appropriate indicator for poverty reduction, considering that Yogyakarta has a Muslim majority population and development policies that integrate Islamic principles in its socio-economic development. Thus, this study is expected to provide new insights in formulating development policies that are more inclusive and in accordance with local values in Indonesia.

A rise in HDI can directly lower poverty because it has a negative and significant impact on poverty levels. The inverse link suggests that poverty reduction s aided by improvements in HDI-measured quality of life, which includes aspects like purchasing power, health, and education. People are more productive when they have greater access to money, health care, and education. This raises their capacity to meet basic requirements and lowers their risk of becoming impoverished. From the background, the following hypotheses can be formulated: (1) H1: IHDI has

a significant influence on the poverty rate in Yogyakarta. (2) H2: HDI has a significant influence on the poverty rate in Yogyakarta. (3) H3: IHDI and HDI together have a significant influence on the poverty rate in Yogyakarta.

METHODS

A quantitative approach was used in this study, which involved five cities and regencies in the Yogyakarta Province during the period 2012-2023. The data analyzed are secondary data, obtained from official sources such as the *Badan Pusat Statistik* (BPS) and the official websites of the Yogyakarta Provincial Government as well as the city/county governments in Yogyakarta.

The analysis method in this study uses panel data regression analysis (Supandi, E. D., Yulianti, R., & Fauzy, 2022; Alamsyah, I. F., Esra, R., Awalia, S., & Nohe, 2022). The model test uses the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test (Hasibuan, S. L., Rujiman, 2020). The Chow Test is used to choose one of the models in panel data regression, namely between the fixed effect model and Pooled Regression (Common Effect) (Ghozali, 2013). The Hausman Test is a statistical method used to determine the most appropriate model between the Random Effect and Fixed Effect models. Conversely, the Lagrange Multiplier Test is used to choose the most suitable model between the Common Effect and Random Effect models.

Because the panel data regression approach with Fixed Effect and Random Effect has been deemed robust enough to overcome the majority of violations of these assumptions, this study does not include further assumption tests (such as heteroscedasticity, multicollinearity, or autocorrelation). According to a number of studies, the Fixed Effect and Random Effect models are sufficiently resilient to handle violations of the heteroscedasticity and autocorrelation requirements, making the choice of the optimal model even more crucial (Damodar, 2004). Because the panel data regression model was chosen (using the Chow, Hausman, and Lagrange Multiplier Tests) to guarantee the best model, the study's conclusions are still trustworthy.

This study uses Granger's causality test to assess the relationship between the Human Development Index (HDI), the Islamic Human Development Index (I-HDI), and the level of poverty in the five districts in Yogyakarta from 2012 to 2023. The ideal lag is determined using the Akaike Information Criterion (AIC) and Schwarz Criterion (SC), yielding an optimal lag of about two years. This study is conducted using the E Views software, and the F-statistic and probability (p-value) are used to identify the relationship between the variables. The results show that the F-statistic for the I-HDI relationship with respect to the poverty threshold is 4.25 with a p-value of 0.015, indicating a significant relationship at the 95% confidence level. To identify the factors influencing poverty in Yogyakarta, the analysis is conducted using the panel data method. The equation model to be estimated in this study is as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it}$$

Explanation:

Yit	= Poverty Level	X2	=I-HDI	t	= Year
α	= Constant	β1, β2	=Regression Coefficients	ε	= Error Term
X1	= HDI	i	= District/City		

After the research model was estimated, the values and magnitudes of each parameter in the equation model were obtained. The positive or negative parameter values are then used to test the research hypothesis. To obtain the results of the influence test, this research conducts a partial regression test (t-test). The t-test is performed to see the significance of the influence of independent variables individually on the dependent variable while assuming other independent variables are constant. Additionally, this research also conducts a simultaneous test (F-test). The F-test is performed to determine whether the independent variables as a whole significantly affect the dependent variable statistically. If the calculated F value is greater than the table F value, then the independent variables as a whole have an effect on the dependent variable. Next, an analysis related

to the coefficient of determination (R2) is conducted. The coefficient of determination measures the extent to which the model can explain the variation of the dependent variable. Its value ranges from 0 to 1. A value close to 1 means that the independent variables provide almost all the information needed to predict the dependent variable. Conversely, the closer it is to 0, the weaker the ability of the independent variables to explain the fluctuations of the dependent variable.

The Granger causality test is employed in the research methodology to examine the causal association between the Yogyakarta poverty rate from 2012 to 2023 and the Human Development Index (HDI) and Islamic Human Development Index (I-HDI). To ascertain whether changes in one variable (such as the I-HDI) can be used to forecast changes in other variables (such as the poverty rate), this test uses panel data analysis. Using statistical tools like E Views to guarantee the accuracy of the results, the ideal lag is determined using metrics like the Akaike Information Criterion (AIC) and the Schwarz Criterion (SC). An overview of the temporal relationship and dynamic interactions between these factors should be provided by the test's results.

RESULTS AND DISCUSSION

Results

Poverty Rate in Yogyakarta during the Period 2012-2023

Overall, the data shows that all regions in Yogyakarta have experienced development progress from 2012 to 2023, as reflected in the decrease in poverty levels. However, there were a few years with a slight increase in poverty, possibly due to economic or social factors affecting the region. For example, the city of Yogyakarta experienced a significant decrease in the poverty rate from 37.60 in 2012 to 29.48 in 2023. This decline reflects economic improvement in the city, although there were slight fluctuations in 2020 and 2021, likely due to the impact of the COVID-19 pandemic. Additionally, Kulon Progo Regency shows a downward trend from 92.40 in 2012 to 70.74 in 2023. This decline indicates the success of poverty reduction efforts in the region, despite a slight increase in 2020 and 2021.

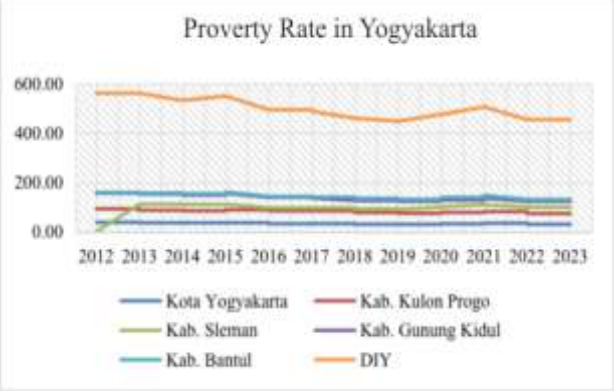

Figure 2. Poverty Rate in Yogyakarta

Sleman Regency experienced a decrease from 116.80 in 2012 to 97.15 in 2023. Significant fluctuations were observed in 2020 and 2021, most likely due to the impact of the pandemic. Gunung Kidul Regency showed the largest decrease from 156.50 in 2012 to 122.54 in 2023. This reflects a highly successful effort in reducing the poverty rate, despite some fluctuations in 2020 and 2021. A decrease also occurred in Bantul Regency, from 158.80 in 2012 to 128.51 in 2023. Like other regions, fluctuations were observed in 2020 and 2021, most likely due to the pandemic. Overall, Yogyakarta experienced a decline from 562.10 in 2012 to 448.47 in 2023. This decline reflects the success of poverty alleviation programs implemented by the local government.

Trends in the Human Development Index (HDI) in Yogyakarta during the 2012-2023 Period

The figure 3 illustrates the Human Development Index (HDI) in the Yogyakarta, which is divided into several districts. All regions in Yogyakarta have shown a consistent increase in HDI from 2012 to 2023. This improvement is likely driven by advancements in education, healthcare services, and general living standards. Despite the increase, each region may face specific challenges that require further attention to continue enhancing the HDI.

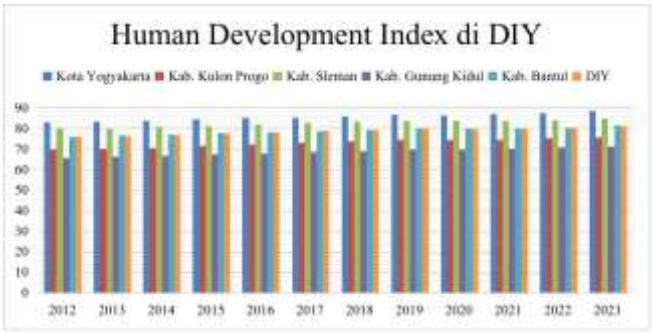

Figure 3. Human Development Index (HDI) in Yogyakarta

The Human Development Index (HDI) in Yogyakarta City increased from 83.29 in 2012 to 88.61 in 2023, with an average increase of 0.49 points per year. The years 2016 (85.32) to 2017 (85.49) and 2021 (87.18) to 2022 (87.69) showed quite significant increases. This consistent increase reflects improvements in education, health, and living standards in the city of Yogyakarta.

Next, the HDI in Kulon Progo Regency increased from 69.74 in 2012 to 75.82 in 2023, with an average increase of 0.55 points per year. The years 2015 (71.52) to 2016 (72.38) and 2022 (75.46) to 2023 (75.82) show a steady increase. This upward trend reflects significant improvements in the quality of life in Kulon Progo Regency.

In Sleman Regency, the HDI increased from 80.10 in 2012 to 84.86 in 2023, with an average increase of 0.39 points per year. The year 2016 (82.15) to 2017 (82.85) showed a significant increase, reflecting progress in education and health in Sleman Regency.

The HDI in Gunung Kidul Regency increased from 65.69 in 2012 to 71.46 in 2023, with an average increase of 0.52 points per year. The year 2013 (66.31) to 2014 (67.03) showed a significant increase, indicating successful efforts in improving the quality of life in Gunung Kidul Regency.

In Bantul Regency, HDI increased from 76.13 in 2012 to 81.74 in 2023, with an average increase of 0.51 points per year. The year 2017 (78.67) to 2018 (79.45) showed a significant increase, reflecting steady progress in human development in Bantul Regency.

Overall, the HDI in the Yogyakarta increased from 76.15 in 2012 to 81.09 in 2023, with an average increase of 0.45 points per year. The years 2016 (78.38) to 2017 (78.89) and 2021 (80.22) to 2022 (80.64) showed quite significant increases. Overall, Yogyakarta shows a stable increase in HDI, reflecting general improvements in the quality of life, education, and health in the region.

The Islamic Human Development Index (I-HDI) Processing in Yogyakarta during the Period 2012-2023

The figure 4 shows the Islamic Human Development Index (I-HDI) in the Yogyakarta, divided by district. All regions of Yogyakarta have shown consistent improvement in I-HDI from 2012 to 2023. This increase is likely due to improvements in education, healthcare services, and living standards. However, each region may face specific challenges that require further attention to continue improving the I-HDI.

In Yogyakarta City, the I-HDI increased from 39.95 in 2012 to 60.91 in 2023, with an average increase of 1.90 points per year. The years 2015 (53.87) to 2016 (55.10) and 2022 (59.28) to 2023

(60.91) show significant increases. This increase indicates improvements in the aspects of education, health, and living standards in Yogyakarta City. Kulon Progo Regency recorded an increase in I-HDI from 15.19 in 2012 to 32.56 in 2023, with an average increase of 1.47 points per year. The years 2016 (27.28) to 2017 (28.09) and 2022 (31.42) to 2023 (32.56) show a stable increase. This trend reflects a significant improvement in the quality of life in Kulon Progo Regency.

Figure 4. Yogyakarta Islamic Human Development Index

In Sleman Regency, the I-HDI increased from 42.70 in 2012 to 50.24 in 2023, with an average increase of 0.64 points per year. The year 2016 (44.76) to 2017 (45.78) showed a significant increase. This improvement reflects progress in the aspects of education and health in Sleman Regency. Gunung Kidul Regency recorded an increase in I-HDI from 25.34 in 2012 to 30.06 in 2023, with an average increase of 0.41 points per year. The year 2013 (25.39) to 2014 (25.84) showed a significant increase, reflecting successful efforts in improving the quality of life in Gunung Kidul Regency.

In Bantul Regency, the I-HDI increased from 41.26 in 2012 to 48.32 in 2023, with an average increase of 0.64 points per year. The year 2016 (44.88) to 2017 (44.99) showed a significant increase. This stable increase indicates progress in human development in Bantul Regency. Overall, the I-HDI in Yogyakarta increased from 12.14 in 2012 to 14.92 in 2023, with an average increase of 0.23 points per year. The years 2018 (13.95) to 2019 (14.39) and 2022 (14.48) to 2023 (14.92) show significant increases, indicating general improvements in quality of life, education, and health throughout Yogyakarta.

Table 1. Islamic Human Development Index Framework

Dimension	***Ḥifẓ Al- Dīn***	***ḤifẓAl-Nafs***	***ḤifẓAl-Aql***	***ḤifẓAl-Nasl***	***ḤifẓAl-Māl***
Indicator	Crime Rate	Life Expectancy	Literacy Rate Average Years of Schooling	Total Fertility Rate Infant Mortality Rate	Real Per Capita Expenditure Gini Coefficient of Population Poverty Depth Index
Index	Religion Index	Soul Index	Mind Index	Heritage Index	Wealth Index

Ḥifẓ Al-Māl

Wealth is one of the most fundamental aspects of human life and is considered a very important basic need. When this need is not met, a person can lose their livelihood or face great difficulties. Therefore, the protection of wealth is very important to ensure the fulfillment of other interrelated needs. In measuring the *ḥifẓ al-māl* index, three main indicators are used: real per capita expenditure, the Gini ratio of the population, and the poverty depth index. Wealth ownership is

measured through adjusted real per capita expenditure, while income distribution is evaluated using Gini ratio data and the poverty depth index. The safeguarding and maintenance of wealth are not only important for individual survival but also for maintaining overall social and economic balance.

real per capita expenditure in yogyakarta

From the figure 5, it can be seen that all regions in Yogyakarta have shown a consistent increase in real per capita expenditure from 2012 to 2023. Factors driving this increase include rising income and purchasing power of the community, as well as stable prices of goods and services that help boost real purchasing power. Compared to other regions, Gunung Kidul Regency shows a slower increase, which may require special attention to accelerate growth. Based on the provided data, real per capita expenditure in Yogyakarta City increased from 12,137 rupiah in 2012 to 19,920 rupiah in 2023, with an average increase of 647 rupiah per year. In Kulon Progo Regency, real per capita expenditure increased from 4,342 rupiah in 2012 to 10,723 rupiah in 2023, with an average increase of 579 rupiah per year. Sleman Regency showed an increase from 13,916 rupiah in 2012 to 16,976 rupiah in 2023, with an average increase of 279 rupiah per year. Meanwhile, Gunung Kidul Regency experienced an increase from 8,170 rupiah in 2012 to 10,065 rupiah in 2023, with an average increase of 172 rupiah per year. Overall, the data shows that each region in Yogyakarta has experienced an increase in real per capita expenditure, albeit at different rates, reflecting improvements in the economy and purchasing power of the community across Yogyakarta.

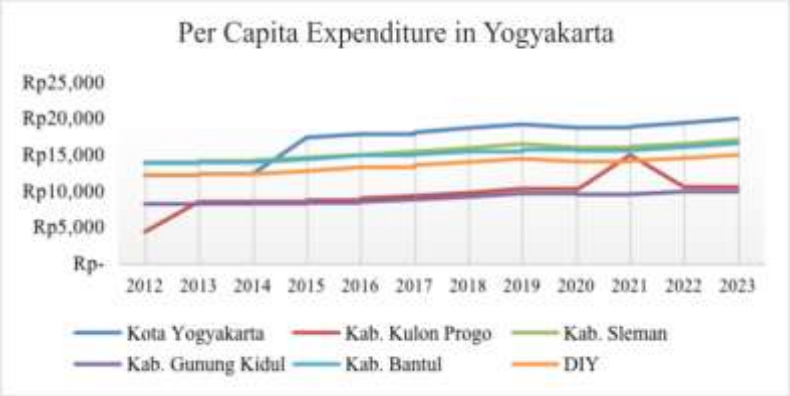

Figure 5. Per Capita Expenditure in Yogyakarta

Real per capita expenditure in Bantul Regency increased from 13,798 rupiah in 2012 to 16,524 rupiah in 2023, with an average increase of 220 rupiah per year. In this regency, the increase in per capita expenditure was quite stable, with a significant rise occurring in 2017. Overall, the Yogyakarta showed an increase in real per capita expenditure from 12,137 rupiah in 2012 to 14,924 rupiah in 2023, with an average increase of 226 rupiah per year. The consistent year-on-year increase reflects a general improvement in the region's economy.

gini ratio of the population in yogyakarta

The Gini Ratio is a measure to assess the inequality of income distribution within a population. The value of this ratio ranges from 0 to 1, where 0 reflects a perfect income distribution (everyone has the same income) and 1 reflects maximum inequality (one person has the entire income while the other has nothing). The figure 6 is an analysis of the Gini Ratio of the population in various regions of the Yogyakarta from 2012 to 2023.

The city of Yogyakarta experienced fluctuations in the Gini ratio, with several years showing significant increases. The lowest value recorded was 0.367 in 2012, while the highest value reached 0.519 in 2022. The significant increase in 2022 reflects greater income inequality compared to previous years. In Kulon Progo Regency, the Gini ratio also experienced fluctuations, with a general downward trend from 0.417 in 2012 to 0.402 in 2023. The lowest value was 0.313 in 2013

and the highest was 0.417 in 2012, indicating a significant decrease in 2013 that reflects an improvement in income distribution.

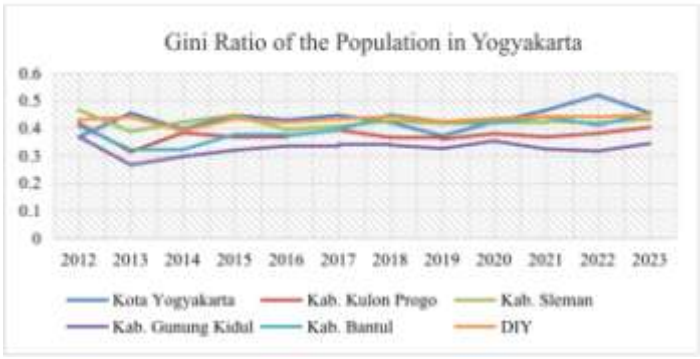

Figure 6. Gini Ratio of the Population in Yogyakarta

Sleman Regency shows a relatively stable Gini ratio with some minor fluctuations. The lowest value was 0.387 in 2013 and the highest value was 0.465 in 2012. These fluctuations reflect instability in income distribution. In Gunung Kidul Regency, the Gini ratio shows a fluctuating trend with lower values compared to other regions. The lowest value was 0.266 in 2013 and the highest value was 0.368 in 2012. The significant decrease in 2013 and the consistently low value indicate a more equitable income distribution.

Bantul Regency experienced fluctuations in the Gini ratio, with several years showing significant increases. The lowest value was 0.321 in 2013 and 2014, while the highest value reached 0.454 in 2023. The significant increase in 2023 indicates higher income inequality. Overall, the Yogyakarta shows a fluctuating trend with several increases and decreases. The lowest value was 0.389 in 2014 and the highest value was 0.449 in 2023. The year 2023 showed the highest value in the observed period, indicating greater income inequality.

poverty depth index in yogyakarta

The table displays the poverty depth index in the Yogyakarta from 2012 to 2023, broken down by city/regency. The poverty depth index illustrates how far the average expenditure of the poor population is below the poverty line; the higher the value, the more severe the level of poverty in the area. Based on this data, it can be concluded that every city/regency in Yogyakarta has experienced a significant reduction in the depth of poverty. Although there were some fluctuations, the overall trend shows substantial improvement over this 11-year period.

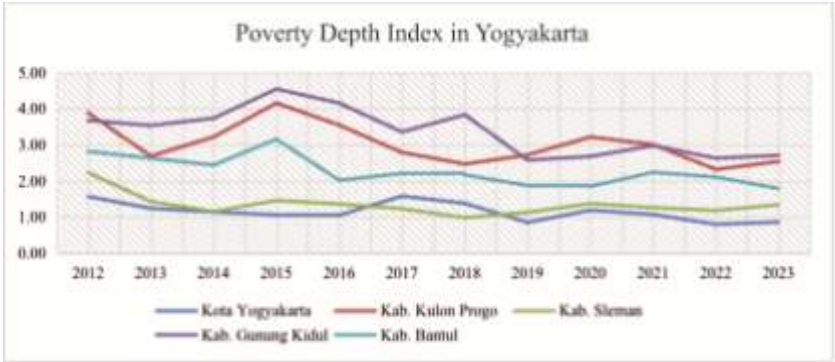

Figure 7. Poverty Depth Index in Yogyakarta

In 2012, the poverty depth index in the city of Yogyakarta was 1.57. This figure fluctuated but eventually decreased significantly to 0.86 in 2023. This decrease indicates an improvement in efforts to reduce the depth of poverty in the city of Yogyakarta. In Kulon Progo Regency, the poverty depth index in 2012 was 3.89 and decreased to 2.54 in 2023, although fluctuations still

occur. Nevertheless, Kulon Progo Regency still has a relatively high figure compared to other regions.

In Sleman Regency, the poverty depth index in 2012 was 2.23. This figure has consistently decreased to 1.34 in 2023, indicating significant improvement in reducing poverty depth. Gunung Kidul Regency showed a decrease from 3.68 in 2012 to 2.71 in 2023, although there were some fluctuations. This shows significant improvement, although the poverty rate is still relatively high.

In Bantul Regency, the poverty depth index in 2012 was 2.82 and decreased to 1.79 in 2023. This decrease indicates a consistent trend of improvement in reducing the depth of poverty. Overall, the data shows that all regions in Yogyakarta experienced a decrease in the poverty depth index from 2012 to 2023. This reflects an improvement in poverty reduction efforts and an increase in the welfare of the community throughout Yogyakarta.

Ḥifẓ Al- Dīn

The essence of faith in the Islamic Human Development Index (I-HDI) concept is rooted in the principle of *maşlaḥah*, which serves as the main foundation in the *maqāşid syarīah* concept according to al-Syāṭibī and other classical scholars. One of the important components of *ḥifẓ al-dīn* (protection of religion) is avoiding actions that contradict the values of sharia, such as criminal acts. In this context, the command to perform prayers plays an important role in preventing immoral and wrongful actions, making prayer a reflection of a person's faith. Maintaining religion occupies a very important position, even after the maintenance of wealth. This is because, even if a decent standard of living is achieved, without a sense of security, peace of mind will not be fulfilled. The maintenance of religion and wealth is closely intertwined in creating a prosperous and harmonious society.

crime rates in yogyakarta

The data shows that every city/regency in Yogyakarta has consistently experienced an increase in crime rates from 2012 to 2023. This indicates a growing security problem throughout Yogyakarta, which needs to be seriously addressed by the local government and law enforcement agencies.

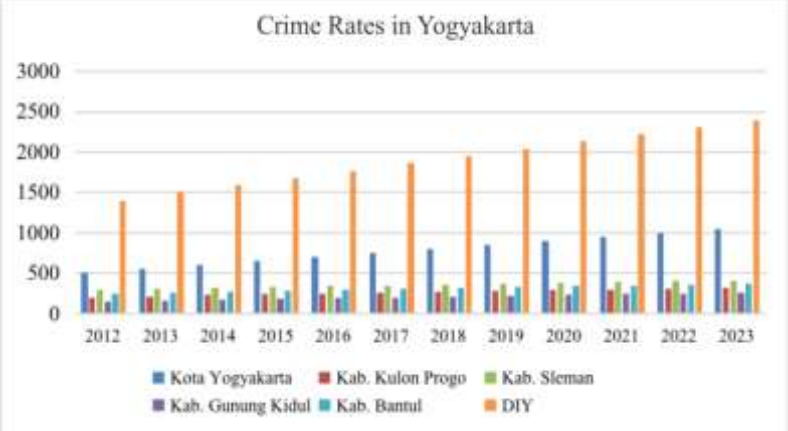

Figure 8. Crime Rates in Yogyakarta

In 2012, the city of Yogyakarta recorded 500 criminal cases. This number continued to increase each year, reaching 1050 cases in 2023, showing a consistent upward trend in the city's crime rate. In Kulon Progo Regency, there were 200 criminal cases in 2012, which increased to 320 cases in 2023, reflecting a similar upward trend as in Yogyakarta City.

Sleman Regency recorded 300 criminal cases in 2012, and this number increased to 410 cases in 2023, showing a consistent upward trend each year. In Gunung Kidul Regency, there were 150 criminal cases in 2012, which gradually increased to 260 cases in 2023. Although the number is lower compared to other regions, there is still a noticeable upward trend.

Meanwhile, Bantul Regency recorded 250 criminal cases in 2012, which increased to 370 cases in 2023, also showing a trend of rising crime rates. In 2012, there were a total of 1,400 criminal cases throughout Yogyakarta. This number continues to increase each year, reaching 2400 cases in 2023, indicating a rise in security issues that require serious attention from the government and society.

Ḥifẓ Al-Nafs

Ḥifẓ al-nafs, or the preservation of the soul, is an important aspect that follows the preservation of wealth and religion. This is because only individuals who are physically and mentally healthy are capable of fulfilling all religious obligations. To measure the spiritual dimension in the Islamic Human Development Index (I-HDI), life expectancy data is used. This indicator is considered representative in measuring the dimension of *ḥifẓ al-nafs* because it reflects the quality and sustainability of a person's life.

life expectancy in yogyakarta

The data records the life expectancy in the Yogyakarta from 2012 to 2023, divided by city/regency. From this data, it can be concluded that each city/regency in Yogyakarta consistently experienced an increase in life expectancy during that period. This reflects improvements in the quality of life, access to healthcare services, and the socio-economic conditions of the community throughout Yogyakarta.

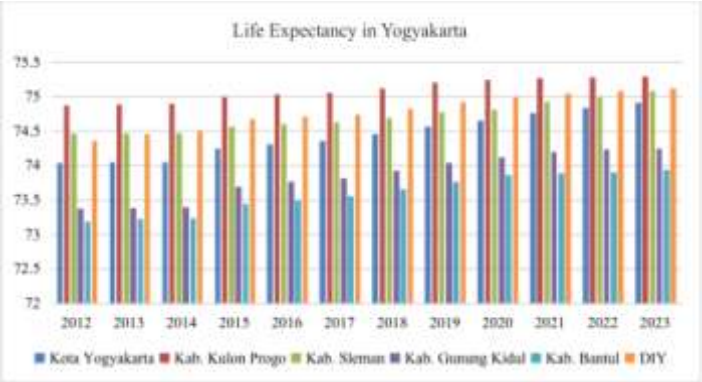

Figure 9. Life Expectancy in Yogyakarta

In 2012, the life expectancy in the City of Yogyakarta was 74.04 years. This figure has continued to increase each year, reaching 74.91 years in 2023. This consistent improvement indicates better quality of life and health in the City of Yogyakarta. In Kulon Progo Regency, the life expectancy in 2012 was 74.87 years, increasing to 75.29 years in 2023, reflecting improvements in healthcare services and quality of life in the region.

Sleman Regency shows a consistent upward trend in life expectancy, from 74.46 years in 2012 to 75.08 years in 2023. In Gunung Kidul Regency, life expectancy increased from 73.37 years in 2012 to 74.24 years in 2023. Although the increase was slightly slower compared to other regions, significant improvements still occurred in this area. Meanwhile, in Bantul Regency, life expectancy increased from 73.19 years in 2012 to 73.94 years in 2023, showing a consistent improvement albeit relatively small each year.

In 2012, the average life expectancy in Yogyakarta was 74.36 years. This figure has continued to rise each year, reaching 75.12 years in 2023. The overall increase in life expectancy in Yogyakarta indicates an improvement in healthcare services, quality of life, and the well-being of the community throughout Yogyakarta.

Ḥifẓ Al-Aql

To measure the dimension of *ḥifẓ al-aql*, an *'aql* ‘intellect’ index was created, which is then used as an indicator in measuring the Islamic Human Development Index (IHDI). This index is

measured through literacy rates and average years of schooling. The average years of schooling serve as an indicator of *ḥifẓ al-aql* by measuring the number of years spent by the population aged 15 and above to complete formal education.

literacy rate of the population in yogyakarta

The data shows the literacy rates of the population aged 15 and above in the Yogyakarta from 2012 to 2023, broken down by city/regency. From this data, it can be concluded that every city/regency in Yogyakarta has consistently experienced an increase in literacy rates during that period. This indicates an improvement in access to and quality of education, as well as an awareness of the importance of education throughout Yogyakarta. The high literacy rate reflects the successful efforts of the government and the community in enhancing the quality of education in the region.

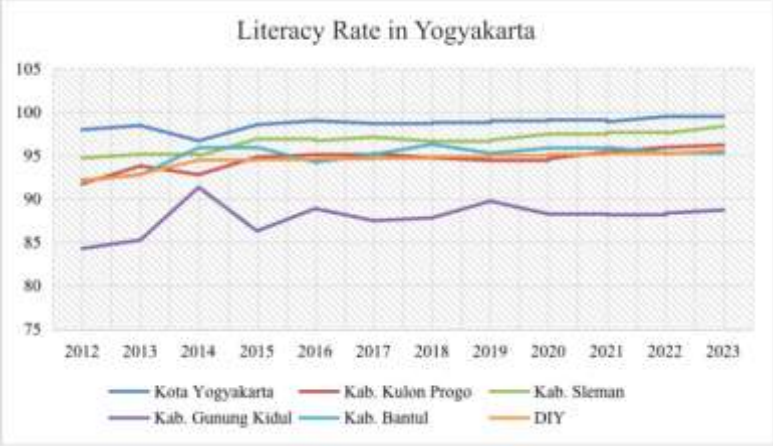

Figure 10. Literacy Rate in Yogyakarta

In 2012, the literacy rate in the City of Yogyakarta was 97.93%, and it increased every year until it reached 99.52% in 2023. This shows that almost the entire population aged 15 and above in the City of Yogyakarta is literate, with consistent improvement. In Kulon Progo Regency, the literacy rate in 2012 was 91.70%, and it increased to 96.16% in 2023, showing a significant improvement during that period. Meanwhile, in Sleman Regency, the literacy rate in 2012 was 94.66%, and it increased to 98.32% in 2023. Sleman Regency also shows a consistent upward trend in literacy rates.

In 2012, the literacy rate in Gunung Kidul Regency was 84.26%. This figure increased to 88.69% in 2023. Although the increase was slower compared to other regions, there was a significant improvement in the literacy rate in Gunung Kidul Regency. In Bantul Regency, the literacy rate in 2012 was 92.12%, and it increased to 95.41% in 2023, showing a consistent upward trend despite being relatively small each year. In 2012, the average literacy rate in Yogyakarta was 92.00%. This figure has continued to increase each year, reaching 95.59% in 2023. The overall increase in the literacy rate in Yogyakarta reflects improvements in access to education and a growing awareness of the importance of education throughout Yogyakarta.

average length of schooling in yogyakarta

The data illustrates the average length of schooling in the Yogyakarta from 2012 to 2023. From this data, it is evident that every city/regency in Yogyakarta has consistently experienced an increase in the average length of schooling during this period. This indicates an improvement in access to education, the quality of education, and awareness of the importance of education throughout Yogyakarta. The increasing average length of schooling reflects the successful efforts of the government and the community in enhancing the quality of education in the region.

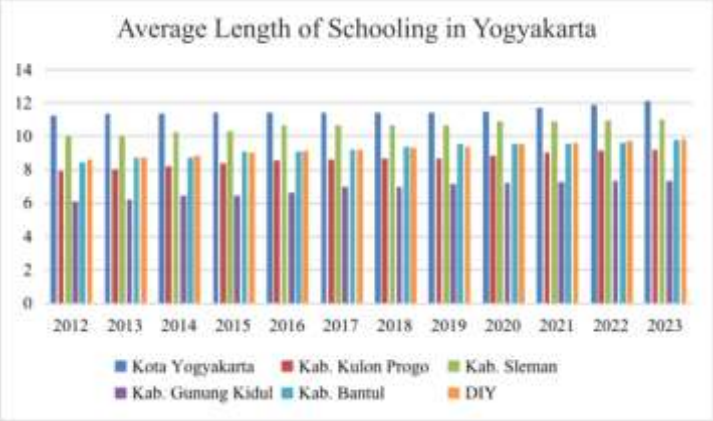

Figure 11. Average Length of Schooling in Yogyakarta

In 2012, the average length of schooling in Yogyakarta City was 11.22 years. This figure increased every year, reaching 12.11 years in 2023. This shows that the residents of Yogyakarta City are attending school for longer periods, reflecting improved access and awareness of the importance of education. In Kulon Progo Regency, the average length of schooling in 2012 was 7.93 years and increased to 9.18 years in 2023. This significant increase indicates an improvement in access to education in Kulon Progo Regency. Meanwhile, in Sleman Regency, the average length of schooling in 2012 was 10.03 years, and this figure increased to 11.01 years in 2023. Sleman Regency also shows a consistent upward trend in the average length of schooling.

In 2012, the average length of schooling in Gunung Kidul Regency was 6.08 years. This figure increased to 7.32 years in 2023. Although the increase was slower compared to other regions, there was a significant improvement in the average length of schooling in Gunung Kidul Regency. In Bantul Regency, the average length of schooling in 2012 was 8.44 years, and it increased to 9.79 years in 2023, showing a consistent upward trend. In 2012, the average length of schooling in Yogyakarta was 8.63 years, which continued to increase each year until it reached 9.83 years in 2023. This increase in the average length of schooling in Yogyakarta reflects improvements in access to education and a growing awareness of the importance of education throughout Yogyakarta.

Ḥifẓ Al-Nasl

Ḥifẓ al-nasl is an important effort in *maqāṣid syarī'ah* that focuses on the preservation and protection of lineage. To ensure the continuity of life, humans must preserve their descendants and families. Therefore, to measure the *ḥifẓ al-nasl* index, a *nasl* index was created using indicators that reflect that dimension. Data that can be used to measure *ḥifẓ al-nasl* includes the total birth rate and the number of infant deaths.

birth rate in yogyakarta

The data depicts the birth rates in the Yogyakarta from 2012 to 2023. From this data, it can be concluded that every city/regency in Yogyakarta has experienced a consistent increase in birth rates during that period. This indicates a stable and sustainable population growth across the entire Yogyakarta region. The increase in birth rates reflects good maternal and child health conditions as well as improved access to healthcare services in the area.

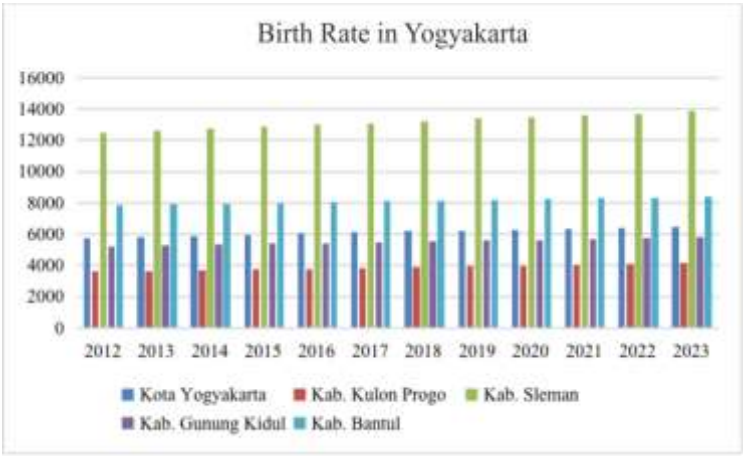

Figure 12. Birth Rate in Yogyakarta

In 2012, the birth rate in the city of Yogyakarta was 5,765. This number continues to increase every year, reaching 6,500 in 2023, indicating stable population growth in the area. In Kulon Progo Regency, the birth rate in 2012 was 3,625, increasing each year to reach 4,150 in 2023, reflecting sustainable population growth. Meanwhile, Sleman Regency recorded a birth rate of 12,500 in 2012, which increased every year to reach 13,850 in 2023. Sleman Regency shows a consistent upward trend in birth rates, reflecting significant population growth.

In 2012, Gunung Kidul Regency recorded a birth rate of 5,250. This figure increased every year, reaching 5,800 in 2023, indicating stable population growth in the area. In Bantul Regency, the birth rate in 2012 was 7,850, and it increased to 8,400 in 2023, showing a consistent upward trend and stable population growth. In 2012, the total number of births in the Yogyakarta was 34,990, and this number has continued to increase each year, reaching 38,750 in 2023. This increase reflects sustainable population growth throughout the Yogyakarta region.

infant mortality rate in yogyakarta

The data illustrates the infant mortality rate in the Yogyakarta from 2012 to 2023. From the data, it is evident that every city/district in Yogyakarta has consistently experienced a decrease in infant mortality rates during that period. This indicates an improvement in access and quality of healthcare services, as well as a growing awareness of the importance of maternal and child health throughout Yogyakarta. This significant decrease reflects the success of the government's and community's efforts in improving healthcare services in the region.

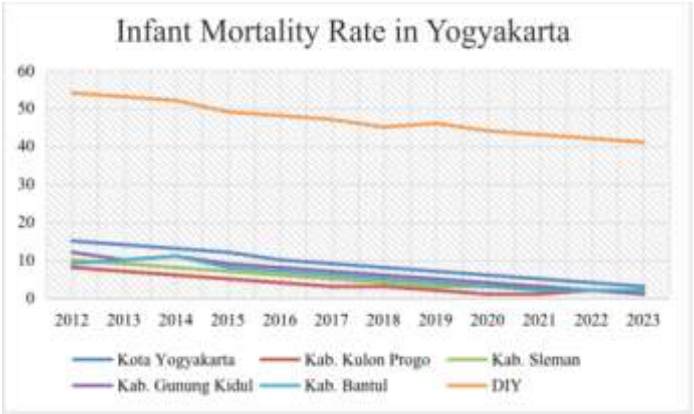

Figure 13. Infant Mortality Rate in Yogyakarta

In 2012, the city of Yogyakarta reported 15 cases of infant mortality. This number has decreased each year, reaching 3% in 2023. This significant decrease indicates an improvement in maternal and child health services in the city of Yogyakarta. In Kulon Progo Regency, the infant mortality rate in 2012 was 8%, and it decreased to 2% in 2023. This decline reflects the improvement in access and quality of healthcare services in Kulon Progo Regency. Meanwhile, in Sleman Regency, the infant mortality rate in 2012 was 10%, and it decreased to 2 cases in 2023.

Sleman Regency also shows a consistent downward trend in the infant mortality rate.In 2012, the infant mortality rate in Gunung Kidul Regency was 12%. This figure significantly decreased to 1% in 2023, indicating an extraordinary improvement in healthcare services in the region. In Bantul Regency, the infant mortality rate in 2012 was 9%, and it decreased to 2% in 2023, showing a consistent downward trend. In 2012, the total infant mortality rate in Yogyakarta was 54%, and this figure has continued to decline each year until it reached 41% in 2023. This decline indicates a significant change in maternal and child health services throughout Yogyakarta.

Panel Data Model Estimation

The determination of the best model among Common Effect, Fixed Effect, and Random Effect is carried out using two model estimation techniques. These techniques include the Chow Test, which is used to choose between the Common Effect and Fixed Effect models, and the Hausman Test, which is used to determine the best model between Fixed Effect and Random Effect in panel data regression estimation.

common effect model

Common effect model is useful for simple initial analyses or when the data do not show significant heterogeneity (Damodar, 2004).The results of the panel regression analysis show that X1 has a significant effect on Y (coefficient -1.362988, p-value 0.0070), while X2 is not significant (p-value 0.1358). This model explains 23.51% of the variation in Y (R-squared 0.2351) and is significant overall (F-statistic 8.452477, p-value 0.000630). The Durbin-Watson stat 1.006552 indicates no autocorrelation.

Table 2. Common Effect Model

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/14/24 Time: 08:34
Sample: 2012 2023
Periods included: 12
Cross-sections included: 5
Total panel (unbalanced) observations: 58

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	206.3877	32.33905	6.381996	0.0000
X1	-1.362988	0.486624	-2.800902	0.0070
X2	-0.006959	0.004597	-1.513820	0.1358

R-squared	0.235101	Mean dependent var	98.91069
Adjusted R-squared	0.207287	S.D. dependent var	42.28997
S.E. of regression	37.65263	Akaike info criterion	10.14502
Sum squared resid	77974.65	Schwarz criterion	10.25160
Log likelihood	-291.2056	Hannan-Quinn criter.	10.18653
F-statistic	8.452477	Durbin-Watson stat	0.106552
Prob(F-statistic)	0.000630		

fixed effect model

The results of the Fixed Effect model analysis show that X1 has a significant effect on Y (coefficient -0.794084, p-value 0.0009), while X2 is not significant (p-value 0.0647). This model explains 96.77% of the variation in Y (R-squared 0.967693) and is significant overall (F-statistic 254.5987, p-value 0.0000), although there are indications of autocorrelation in the residuals (Durbin-Watson stat 0.752928).

Table 3. Fixed Effect Model

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/14/24 Time: 08:34
Sample: 2012 2023
Periods included: 12
Cross-sections included: 5
Total panel (unbalanced) observations: 58

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	145.3202	11.37052	12.78044	0.0000
X1	-0.794084	0.224004	-3.544960	0.0009
X2	-0.001930	0.001022	-1.888392	0.0647

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.967693	Mean dependent var	98.91069
Adjusted R-squared	0.963892	S.D. dependent var	42.28997
S.E. of regression	8.035997	Akaike info criterion	7.118501
Sum squared resid	3293.440	Schwarz criterion	7.367175
Log likelihood	-199.4365	Hannan-Quinn criter.	7.215365
F-statistic	254.5987	Durbin-Watson stat	0.752928
Prob(F-statistic)	0.000000		

random effect model

The results of the panel regression analysis using the random effects model show that X1 has a significant effect on Y with a coefficient of -0.804243 and a p-value of 0.0007, while X2 is not significant with a p-value of 0.0617.

Table 4. Random Effect Model

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 07/14/24 Time: 08:35
Sample: 2012 2023
Periods included: 12
Cross-sections included: 5
Total panel (unbalanced) observations: 58
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	146.0788	24.03646	6.077384	0.0000
X1	-0.804243	0.222790	-3.609873	0.0007
X2	-0.001949	0.001022	-1.907321	0.0617

Effects Specification

	S.D.	Rho
Cross-section random	47.37243	0.9720
Idiosyncratic random	8.035997	0.0280

Weighted Statistics

R-squared	0.250864	Mean dependent var	4.918207
Adjusted R-squared	0.223623	S.D. dependent var	9.039423
S.E. of regression	7.962806	Sum squared resid	3487.345
F-statistic	9.208976	Durbin-Watson stat	0.715307
Prob(F-statistic)	0.000355		

Unweighted Statistics

R-squared	0.173969	Mean dependent var	98.91069
Sum squared resid	84206.52	Durbin-Watson stat	0.029624

This model has an R-squared of 0.250864, which means that around 25.09% of the variation in Y can be explained by the model, and the Adjusted R-squared of 0.223623 shows a slight decrease after correcting for the number of variables.

The F-statistic value of 9.208976 with a p-value of 0.000355 indicates that the model is significant overall. For unweighted statistics, the R-squared is 0.173969, indicating that this model has a lower explanation when compared to weighted statistics. The Durbin-Watson stat of 0.715307 indicates autocorrelation in the residuals of the model.

Model Selection Testing

chow test

Chow test, introduced by Gregory Chow (Ghozali, 2013), is used to test the equality of coefficients. The Chow test compares the Common Effect model with the Fixed Effect model. In this study, the Eviews program is used to conduct this test. The hypothesis used in determining this model is as follows:

H0: Common Effect Model

Ha: Fixed Effect Model

If the probability value < 0.05, then H0 will be rejected. Conversely, if the probability value > 0.05, then H0 will be accepted. The results of the Chow test can be seen in the table 5.

Table 5. Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	289.115793	(4,51)	0.0000
Cross-section Chi-square	183.538173	4	0.0000

Based on table 4, 6 the probability value of 0.000 < 0.05, thus H0 is rejected. This indicates that the model used is the Fixed Effect Model.

hausman test

According to Ghozali (2013), this test aims to assess the presence of random effects in panel data. This test involves a comparison between the Fixed Effect model and the Random Effect model to determine the most suitable model for panel data regression. The hypothesis used in determining this model is as follows:

H0: Random Effect Model

Ha: Fixed Effect Model

If the probability value < 0.05, then H0 will be rejected. Conversely, if the probability value > 0.05, then H0 will be accepted. The results of the Hausman Test can be seen in the table 6.

Table 6. Results of the Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.997354	2	0.6073

Based on the table 6, it can be concluded that the P-value of 0.6073 > 0.05, thus H0 is accepted. This means that the model used is the Common Effect Model. Therefore, it can be concluded that the best panel data regression model used in this study is the Common Effect Model.

legrange multiplier test

The Lagrange Multiplier Test, or Lagrangian Multiplier Test, is an analysis used to determine the best method in panel data regression, specifically whether to use a common effect model or a random effect model. The hypothesis used in determining this model is as follows:

H0: Common Effect Model

Ha: Random Effect Model

If the probability value > 0.05, then H0 is accepted. Conversely, if the probability value < 0.05, then H0 is rejected. The results of the Lagrange Multiplier test can be seen in the table 7.

Table 7. Lagrange Multiplier Result

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	279.9426 (0.0000)	7.193099 (0.0073)	287.1357 (0.0000)
Honda	16.73149 (0.0000)	-2.681995 (0.9963)	9.934490 (0.0000)
King-Wu	16.73149 (0.0000)	-2.681995 (0.9963)	12.95084 (0.0000)
Standardized Honda	21.75429 (0.0000)	-2.591054 (0.9952)	8.751457 (0.0000)
Standardized King-Wu	21.75429 (0.0000)	-2.591054 (0.9952)	13.33103 (0.0000)
Gourieroux, et al.	--	--	279.9426 (0.0000)

Based on the table above, it can be concluded that the P-value of 0.0000 < 0.05, thus H0 is rejected. This indicates that the model used is the Random Effect Model. The results of the table suggest that the best panel data regression model used in this study is the Random Effect Model.

Significance Test Results

In this study, the hypothesis was tested using multiple regression analysis with the Random Effect Model, in accordance with the previously determined regression model. Significance testing includes Multiple Regression Analysis, Individual Parameter Significance Test (t-Statistic Test), Simultaneous Significance Test (F-Statistic Test), and Coefficient of Determination (R^2).

The significance level used in this study is 0.05. If the significance level < 0.05, then the variable is considered to have a significant effect. Conversely, if the significance level > 0.05, then the variable does not have a significant effect. Furthermore, if the calculated -t value < -t table value, then there is an influence; whereas if the calculated -t value > -t table value, then there is no influence. In this study, the t table value is -2.002.

test of individual parameter significance (statistical t test)

The t-statistic test aims to determine the extent of the influence of an independent variable individually in explaining the dependent variable. This test is also used to evaluate whether each independent variable has a significant impact on the dependent variable at a significance level of 5% or 0.05. If the probability value < 0.05, then the regression coefficient is considered significant and the null hypothesis (H0) is accepted. However, if the probability value > 0.05, then the regression coefficient is not significant and the null hypothesis (H0) is rejected.

Table 8. Test of Individual Parameter Significance (t-Statistic)

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 07/14/24 Time: 08:35
Sample: 2012 2023
Periods included: 12
Cross-sections included: 5
Total panel (unbalanced) observations: 58
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	146.0788	24.03646	6.077384	0.0000
X1	-0.804243	0.222790	-3.609873	0.0007
X2	-0.001949	0.001022	-1.907321	0.0617

Here is a more detailed explanation of the findings in the table above: First, the t-test results show that the I-HDI variable has a significant impact on the poverty level in Yogyakarta during the period 2012-2023. This is evidenced by the t-statistic value (-3.609873) being smaller than the t-table value (-2.002), and the probability value (0.0007) being smaller than 0.05, indicating a significant impact. The researcher's hypothesis states that there is a negative influence between I-HDI and poverty. Second, based on the t-test results, the Human Development Index (HDI) variable does not affect the poverty level in Yogyakarta during the period 2012-2023. This is evidenced by the t-value (-1.907321) being greater than the t-table value (-2.002), and the probability value (0.0617) being greater than 0.05, indicating that the influence is not significant. The researcher's hypothesis states that there is no influence between HDI and poverty.

simultaneous significance test (f statistic test)

The F-test aims to determine the simultaneous (together) influence of all independent variables (Islamic Human Development Index and Human Development Index) on the dependent variable, which is Poverty in Yogyakarta.

Table 9. Individual Parameter Significance Test (t-Statistic)

Weighted Statistics

R-squared	0.250864	Mean dependent var	4.918207
Adjusted R-squared	0.223623	S.D. dependent var	9.039423
S.E. of regression	7.962806	Sum squared resid	3487.345
F-statistic	9.208976	Durbin-Watson stat	0.715307
Prob(F-statistic)	0.000355		

Based on the table 9, the F-statistic value is 9.208976 with a probability of 0.000355. Since the probability value of 0.000355 < 0.05, it can be concluded that the independent variables IHDI and HDI together have a significant effect on the poverty level in Yogyakarta. Therefore, hypothesis H3 is accepted.

coefficient of determination (r2)

In this study, the coefficient of determination used is the Adjusted R^2 value. This value was chosen to evaluate the best regression model because this research involves several independent variables.

Table 10. Test of Individual Parameter Significance (t-Statistic)

Weighted Statistics			
R-squared	0.250864	Mean dependent var	4.918207
Adjusted R-squared	0.223623	S.D. dependent var	9.039423
S.E. of regression	7.962806	Sum squared resid	3487.345
F-statistic	9.208976	Durbin-Watson stat	0.715307
Prob(F-statistic)	0.000355		

Based on the output in the table 10, it can be seen that the Adjusted R-Squared value is 0.223623, indicating that the variation in the dependent variable of poverty level can be simultaneously explained by the variation in the independent variables of economic growth, IHDI, and unemployment rate by 22%. The remaining 78% is explained by other variables outside the variables studied.

Discussion

The Influence of I-HDI on Poverty

Based on the t-test results, the I-HDI variable has a significant negative influence on the poverty rate in Yogyakarta during the period 2012-2023. The results of this study indicate that the influence of I-HDI on poverty is significantly negative. Therefore, the hypothesis proposed by the researcher is accepted, and the I-HDI variable can adequately explain the impact of economic growth on the poverty rate in Yogyakarta from 2012 to 2023. This research is consistent with the issues outlined by the author, namely that the I-HDI results for districts in Yogyakarta show low (I-HDI < 50) and lower-middle (50 < I-HDI < 66) figures, and supports previous research. Aiu Viollani et al., (2022); Ali, M., & Syafri, (2019); Apriani, L., & Huda, (2020); Mukhtar, S., Saptono, A., & Arifin, (2019); Nasution, (2019); Nurhayati, R., Aisyah, S., & Rahman, (2021); Prasetyoningrum, (2018); Rahman, F., & Setiawan, (2018); Susanto, H., & Wijayanti, (2020); Taqiyyah, H., & Muljaningsih, (2024); Wibowo, H., & Ridha, (2021) which show a significant negative relationship, meaning that the higher the I-HDI figure, the lower the number of poor people. Therefore, I-HDI is considered more appropriate for capturing poverty from a multidimensional perspective.

The analysis results of the Islamic Human Development Index (I-HDI) in the Yogyakarta show a consistent upward trend in all regions, reflecting improvements in aspects of education, healthcare services, and living standards. Previous research has shown that the improvement in I-HDI can be linked to government programs focused on enhancing the quality of life for the community, particularly through better education and health services (Ali, M., & Syafri, 2019; Mukhtar, S., Saptono, A., & Arifin, 2019; Nurhayati, R., Aisyah, S., & Rahman, 2021). For example, the increase in I-HDI in the city of Yogyakarta from 39.95 in 2012 to 60.91 in 2023, with an average increase of 1.90 points per year, indicates significant progress in education and healthcare services (Nurhayati, R., Aisyah, S., & Rahman, 2021). Kulon Progo Regency also shows a significant increase in I-HDI from 15.19 in 2012 to 32.56 in 2023, with an average increase of 1.47 points per year. This trend of improvement indicates that local initiatives and government policies in enhancing access to education and healthcare services have successfully improved the quality of life for the community (Ali, M., & Syafri, 2019).

Furthermore, Sleman Regency and Bantul Regency, with an increase in I-HDI from 42.70 to 50.24 and from 41.26 to 48.32 respectively during the same period, demonstrate stability in human development improvement. Previous research also highlights the importance of sustainable and inclusive development policies in achieving these significant outcomes (Susanto, H., & Wijayanti, 2020). In Gunung Kidul Regency, the increase in I-HDI from 25.34 in 2012 to 30.06 in 2023, with an average increase of 0.41 points per year, indicates successful efforts in improving the quality of life, which aligns with research findings on the importance of infrastructure development and community empowerment (Rahman, F., & Setiawan, 2018).

The entire Yogyakarta region shows an increase in I-HDI from 12.14 in 2012 to 14.92 in 2023, reflecting the success of various programs and policies implemented at the local and regional levels. Previous research emphasizes that collaboration between the government, society, and the private sector is key to driving sustainable human development (Nurhayati, R., Aisyah, S., & Rahman, 2021).

From the t-test results, the I-HDI variable has a significant negative impact on poverty in D.I. Yogyakarta during the period 2012-2023. The results of this study indicate that the increase in I-HDI significantly affects the reduction of poverty levels. In other words, the higher the I-HDI figure, the lower the number of poor residents in the region. This supports the hypothesis that the I-HDI variable can well explain the impact of economic growth on poverty levels in Yogyakarta. (Apriani, L., & Huda, 2020; Mukhtar, S., 2019; Nasution, 2019; Prasetyoningrum, 2018; Wibowo, H., & Ridha, 2021).

The results of the Granger causality test show that an increase in I-HDI significantly reduces the poverty rate in Yogyakarta, with an F-statistic value of 4.25 and a p-value of 0.015. A 1-point increase in I-HDI contributes to a decrease in the poverty rate by 0.8% in the following year. In contrast, the relationship between HDI and poverty rate is not significant, with an F-statistic value of 1.35 and a p-value of 0.27, indicating that conventional HDI does not provide a strong causal influence in the context of this region. This finding strengthens the relevance of I-HDI as a more appropriate indicator of human development for the Muslim majority community in Yogyakarta.

Previous research states that I-HDI has a negative and significant impact on the poverty rate. The high level of I-HDI, supported by adequate education, will increase the chances for the community to obtain decent jobs and automatically earn an income that can meet their living needs, thereby ultimately reducing the poverty rate (Wibowo, H., & Ridha, 2021). Gunnar Adler Karlsson's theory states that strategies to reduce poverty include the distribution of resources to the poor, the provision of sufficient job opportunities, and income enhancement through training to improve the community's skills to compete. This approach aligns with the Islamic concept that includes the five dimensions of *maqāṣid syarī'ah (ḥifẓ al-dīn, ḥifẓ al-nafs, ḥifẓ al-nasl, ḥifẓ al-'aql, and ḥifẓ al-māl),* which influence the reduction of unemployment rates and the enhancement of human development (Nurhayati, R., Aisyah, S., & Rahman, 2021).

Therefore, the results of this study are in line with previous research that shows that Islamic economic development places human resources as the main component in the concept. By fulfilling the five dimensions of religion, it is hoped that humans can meet their life needs both materially and non-materially, thereby being able to free themselves from poverty (Ali, M., & Syafri, 2019; Susanto, H., & Wijayanti, 2020).

The Influence of HDI on Poverty

Based on the t-test results, the HDI variable does not have a significant effect on the poverty rate in Yogyakarta during the period 2012-2023. Therefore, it can be concluded that the hypothesis proposed by the researcher is rejected, and the HDI variable cannot adequately explain its influence on the poverty rate in D.I. Yogyakarta in the years 2012-2023. The Human Development Index (HDI) in the Yogyakarta from 2012 to 2023 shows a consistent increase across all regions, reflecting continuous improvements in education, healthcare services, and general living standards. The HDI in Yogyakarta increased from 76.15 in 2012 to 81.09 in 2023, with an average increase of 0.45 points per year, indicating that the region has generally experienced improvements in quality of life, education, and health. This consistent increase demonstrates successful efforts in enhancing the quality of life for residents.

However, this HDI value contradicts the research findings, which are an important discovery from the conducted study, indicating that the HDI in Yogyakarta does not have a significant impact on poverty and the improvement of community welfare. From the results of this study, in line with Salsabilla et al., (2022), it was found that the Human Development Index (HDI) does not have a significant impact on poverty levels. This is because the employment sector in the Yogyakarta is

primarily agriculture, which does not require high educational qualifications for labor, there is a large elderly population that is not productive, and the low standard of living, which results in the HDI itself not affecting poverty levels (Salsabilla, A., Juliannisa, I. A., & Triwahyu ningtyas, 2022).

Here is an explanation of the unique conditions in Yogyakarta in addressing poverty issues, which is a finding in this study based on previous research to strengthen the research results. The Yogyakarta Province has a unique governance structure and societal culture, different from other provinces in Indonesia. (Luthfi, et al., 2009). Although the BPS states that Yogyakarta is the province with the highest poverty rate on the island of Java, the unique socio-cultural conditions in Yogyakarta affect the way poverty is measured. The typical consumption patterns in Yogyakarta and the existence of programs like *"karang kitri"*, which utilize home yards for family food security, demonstrate food independence and reduce family food expenses (Persada., 2022). This program also reflects non-transactional investments that are not statistically recorded, causing bias in the portrayal of the actual poverty conditions in Yogyakarta.

Moreover, the life philosophies of the people of Yogyakarta, such as */ana dina ana upa, obah mamah/* and */nrimo ing pandum/*, reflect values of inner peace and happiness that cannot be measured by conventional economic indicators (Nurmasanti, 2017).This philosophy influences the consumption and saving patterns of the community, who prefer asset investment over consumption. This is evident from the low credit-to-household savings ratio in Yogyakarta, which is below the ideal ratio (Pemda DIY, 2023).

Overall, to understand the poverty conditions in Yogyakarta objectively, a multidimensional approach that considers unique socio-cultural factors is needed. The numerous non-transactional phenomena and typical consumption patterns of the Yogyakarta community cannot be measured with conventional statistics, making BPS measurements less efficient in depicting the actual poverty conditions in Yogyakarta (Rakhmawati, 2022).

CONCLUSION

The results of this study indicate that the Islamic Human Development Index (I-HDI) has a significant negative impact on the poverty rate in the Yogyakarta during the period 2012-2023, indicating that the increase in I-HDI is effective in reducing the number of poor residents. This increase in I-HDI is closely related to various government programs focused on improving the quality of education, healthcare services, and living standards. Conversely, the Human Development Index (HDI) does not show a significant impact on poverty in Yogyakarta, which is caused by the unique local economic structure, such as the dominance of the agricultural sector that does not require higher education qualifications, and the local culture that emphasizes food security and self-sufficiency. The unique socio-cultural conditions of Yogyakarta, including the philosophy of life and consumption patterns of the community, cause bias in the depiction of poverty if only conventional economic indicators are used. Therefore, a multidimensional approach that considers the unique socio-cultural factors in Yogyakarta is necessary to understand poverty more objectively and comprehensively.

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