MediaTrend 20 (1) 2025 p. 121-136
Media Trend
Berkala Kajian Ekonomi dan Studi Pembangunan
http://journal.trunojoyo.ac.id/mediatrend

The Impact of Islamic Human Development Index and Fiscal Decentralization on Poverty Levels in North Sumatra

Ahmad Harun Daulay[1*], Zakik Zakik [2], Widita Kurniasari[3]

[1,2,3] Trunojoyo University, Madura

Article Information

History of article:
Received March 2025
Approved March 2025
Published March 2025

A B S T R A C T

This study aims to analyze the influence of the Islamic Human Development Index (IHDI) and Fiscal Decentralization on Poverty Levels in Districts in North Sumatera Province during 2016-2022. The research method uses panel regression. The calculation of the IHDI variable uses the theory and model of Maqashid Syari'ah. The results of this study include is the Islamic Human Development Index (IHDI) has a negative and significant effect on poverty in North Sumatra province. Government spending in the education and health sectors has a negative and significant effect. In comparison, government spending in the social sector has a negative but not significant effect on poverty in districts in North Sumatera province. This study contributes to the existing literature by introducing the Islamic Human Development Index (IHDI) as a more holistic measure of welfare that incorporates spiritual and ethical dimensions alongside conventional indicators. Additionally, it provides empirical evidence on how fiscal decentralization influences poverty reduction at the regional level, specifically in the context of North Sumatera. The findings offer valuable insights for policymakers seeking to design development strategies that align with Islamic values while enhancing the effectiveness of decentralized fiscal governance in addressing poverty.

Keywords: *Islamic Human Development Index (IHDI), Fiscal Decentralization, Poverty*
JEL Classification Code: *O15, E62, I32*

Author correspondence:
E-mail: nuha_illyas@ymail.com

DOI: http://dx.doi.org/10.21107/mediatrend.v20i1.

INTRODUCTION

North Sumatra Province is one of the regions that still faces major challenges in eradicating poverty. Despite having abundant natural and human resource potential, the latest data shows that this province still ranks fourth highest in terms of the number of poor people in Indonesia. Around 1.2 million people live below the poverty line in 2023, which shows that the development programs that have been implemented have not fully succeeded in addressing the roots of the social and economic problems of the community (Saragih et al., 2023). To assess welfare more comprehensively, the concept of the Islamic Human Development Index (I-HDI) emerged. Unlike the conventional Human Development Index (HDI), which focuses on aspects of education, health, and income, the I-HDI includes Islamic values that cover five dimensions of maqashid sharia: protection of religion (al-din), soul (al-nafs), reason (al-'aql), descendants (al-nasl), and property (al-mal). This concept is an important alternative in the context of a Muslim majority society, such as in North Sumatra (Yazid & Nurhayati, 2023).

Research shows that I-HDI has a significant negative relationship with poverty levels. This means that the higher the I-HDI value of a region, the lower the poverty rate. This is because the holistic approach of I-HDI is able to encourage development that is not only physical and economic, but also prioritizes spiritual values, ethics, and social balance (Saragih et al., 2023). In other words, I-HDI-based development can create a society that is not only economically prosperous but also morally and socially dignified.

Meanwhile, Indonesia has implemented a fiscal decentralization policy since the enactment of Law Number 22 of 1999, which gives broad authority to regions to manage the finances and development of their respective regions. The goal is to increase the efficiency of public services, reduce disparities between regions, and accelerate local economic growth (Ritonga et al., 2023). North Sumatra as part of this decentralization, received an allocation of General Allocation Funds (DAU) and Special Allocation Funds (DAK) from the central government to be used for regional development.

However, the effectiveness of fiscal decentralization in reducing poverty is still debated. Several studies have found that increasing fiscal capacity does not automatically reduce poverty, especially if it is not accompanied by good governance. In fact, in some regions, the increase in the budget is directly proportional to the increase in corruption practices and inefficiency in budget use (Ritonga et al., 2023). This is a serious challenge that needs to be addressed in the context of regional autonomy. One of the main weaknesses in the implementation of fiscal decentralization is the weak institutional capacity and low budget accountability at the regional level. The absence of effective supervision and the unpreparedness of human resources in local government are the dominant causes of the suboptimal use of transfer funds. In the long term, this not only hinders poverty reduction but also threatens sustainable development goals (Lubis et al., 2024). A development approach is needed that is not only oriented towards economic figures alone, but also integrates the cultural and religious values of the local community. This is where the I-HDI concept can complement regional fiscal policies. By combining spiritual and social indicators in development planning, regional governments can create policies that are more contextual and pro-marginalized.

North Sumatra, as a province rich in cultural diversity and with a large Muslim population, is a strategic region to implement an I-HDI-based development approach. On the other hand, the fiscal decentralization conditions in this region provide experimental space to assess the

extent to which regional fiscal interventions can synergize with Islamic values in significantly reducing poverty rates. However, until now, there have been few studies that simultaneously analyze the relationship between I-HDI and fiscal decentralization on poverty, especially in North Sumatra. This indicates a gap in the scientific literature that is important to fill. This study aims to answer this need by providing an empirical picture of how these two variables, namely, Islamic-based human development and fiscal decentralization, influence poverty dynamics at the provincial level.

Various studies on poverty have been conducted previously, with the conclusion that poverty can be caused by many factors, including education level, health status, employment status, and income. These three dimensions are the dimensions that make up the human development index (HDI). Education has a significant influence on reducing the poor population (Arsani et al., 2020); (Arifin, 2020); (Susanto & Pangesti, 2019). The human development paradigm is one of the dominant approaches in evaluating, understanding, and measuring poverty in the development sector, both among academics and policymakers. Hossein, M. et al., 2011. (Isa et al., 2023) showed that increasing the human resource component in the Muslim world will reduce poverty and move income distribution towards equality. Asaju, K (2012) concluded that investing in human resources through education is the best strategy to overcome it, especially poverty alleviation. All measures of poverty are considered based on certain norms; the choice of these norms is very important, especially in terms of poverty measurement based on consumption. The poverty line based on consumption (Consumption Based Poverty Line) consists of two elements: the first is the expenditure required to purchase minimum nutritional standards and other basic needs, and the second is the amount of other needs that vary greatly, reflecting the cost of participation in everyday community life. (Muhammad Reza, 2018).

In the concept and views of Islam on socio-economic activities, it provides many breakthroughs to reduce poverty rates, not only focusing on distributing income alone, Islam also tries its best to reduce the gap among its people. Islam has sharia products to reduce poverty rates, namely by implementing the Maqashid Sharia system in its daily activities. There are 5 important aspects in Maqashid Sharia, namely protection of religion, soul, descendants, mind, and property. (Koyimah et al., 2020). The main purpose of the Maqashid Sharia system is for falah and maslahah. The purpose of this welfare is to improve welfare or a useful standard of living (masalih). So if one aspect of these needs is not met, it will be classified as poor. The existence of the HDI offered by the United Nations Development Program (UNDP) as a tool that can be used to measure the level of human development may be the most comprehensive indicator, but it is not fully compatible and sufficient to measure human development from an Islamic perspective. The theory and concept underlying the construction of the HDI are not based on Maqashid Sharia. Therefore, to measure the level of human development in a country with a Muslim majority, it would be more appropriate to use the Islamic Human Development Index (I-HDI), where the theory and concept are based on an Islamic perspective (Isa et al., 2023). The measurement of I-HDI according to Jasser Auda, which is built on the concept of Maqashid Syari'ah, states that basic human needs consist of 5 aspects, namely: religion (dien), soul (nafs), intellect (a'ql), family and descendants (nasl), and property (maal). This fifth dimension is a basic human need from an Islamic perspective, which, if not fulfilled, happiness in life and well-being (Falah) cannot be achieved perfectly (Auda, 2019).

Maqashid Syari'ah is the basis and foundation of human development in the Islamic perspective, centered on the material and moral dimensions. Both aspects are basic human needs, which include: 1) worldly needs, namely consumption related to materials and facilities to produce as much as possible; 2) spiritual needs related to ethics, morals, and social dimensions. (Yusuf, 2019). To measure human development with the Maqashid Syari'ah approach, Islamic thinkers have provided many theories and quantitative calculation methods, namely: al-Ghazali (1937), Ibn As'hur (2001), Dasuki and Abozaid (2007), Al-Syatibi (2004), al-Habsi & Hasan (1996), Chapra (2008), and Choudhury (2004). Specifically, the classical scholars Al-Ghazali and Al-Syatibi have summarized it into five main safeguards in life or through the term al-khamsah, namely protecting religion (hifz al-din), soul (hifz al-nafs), reason (hif al-'aql), descendants (hifz al-nasl), and property (hifz al-mal). (Moh. Toriquddin, Maqashid Syari'ah Theory from Ibn Ashur's Perspective, Ulul Albab- Journal of Islamic Studies (2013)).

The important thing and the essence of Maqashid Sharia law is creating virtue, avoiding something bad or taking advantage, and rejecting harm (jalbul mashalih wadar'u almafasid), which is the main orientation of Islamic law brought to earth, known as maslahah. This theory is based on the thoughts of Al-Ghazali (d. 505 H), who not only continued the thoughts of the teacher, namely al-Juwaini (Imam al-Haramain, died 478 H) according to his strength and clarity but also criticized, added to, and developed the work of al-Mankhul min ta'liqat al-Usul, where al-masalih is at the level of daruriyat, al-hajiyat, al-tahsiniyat, and al-tazniyat. (Muhd Taufiq bin Abdul Talib, Muhammad Shahrizal bin Nasir, and Wan Abdul Hayy bin Wan Omar, Mabadi Al Adab Al Islami `inda Najib Al Kilani Fi Riwayah `Ibarat Al Hubb Al Malayuwiyyah, Al Majallah al Dawliyyah li al buhuth al Islamiyyah wa al Insaniyyah al Mutaqaddimah (2014)).

Calculation of development using the IHDI method has been conducted and researched by Hendri Anto MB (2010) through the perspective of Maqhasid Syariah al-Ghazali, using sample research of members of various countries that are members of the OIC (Organization of Islamic Countries), Ali Rama (2019) through the Ibn Ashur approach entitled "Construction of Islamic Human Development Index", (Ali Rama and Burhanuddin Yusuf, Construction of Islamic Human Development Index, Journal of King Abdulaziz University, Islamic Economics 32, no. 1 (2019)). Abang Mohd. Razif Abang Muis (2018) in his journal entitled "Islamic Perspective on Human Development Management: A Philosophical", (Abang Mohd. Razif Abang Muis et al., Islamic Perspective on Human Development Management: A Philosophical Approach, International Journal of Academic Research in Business and Social Sciences 8, no. 4 (2018): 543–552. Rukiah (2019), who analyzed the IHDI in Indonesia from the perspective of Maqashidus Syariah (Rukiah, Islamic Human Development Index in Indonesia (A Maqhasid Syariah Approach). Iriansyah (2023) analyzed the IHDI from the perspective of Maqashid Syariah, which was compared with HDI. (M.Iriansyah Harahap, Asmuni, 2024). Indicators of development that have been used so far, such as economic growth, per capita income, poverty rate, disparity (gap), crime rate, Human Development Index (HDI) / Human Development Index (HDI), and others, where these measures have different goals and achievements.

METHODOLOGY

The data sources for this study include secondary data through the observation process from 2016 to 2022 through the Islamic Human Development Index (IHDI) variable and the fiscal decentralization variable (government spending in educa-

tion, health, and social), as well as the Poverty variable in Regencies/Cities in North Sumatra Province. In this study/research, Time Series data is combined with Cross Section, or commonly known as Pooled Data/Panel Data, from 2016 to 2022, where the period is taken by considering the dynamics and economic phenomena that occur. IHDI data calculated using five indices from the Maqashid Syari'ah theory sourced from the ad-Din Index and al-Mal Index data sourced from BPS and MUI/BAZNAS in Regencies/Cities in North Sumatra Province. An-Nafs Index and an-Nasl Index data sourced from BPS and Health Offices in Regencies/Cities in North Sumatra Province. Al-Aql Index data sourced from BPS and Education Offices in Regencies/Cities in North Sumatra Province. Fiscal decentralization variable data (government spending in education, health, and social sectors) sourced from APBD of all Regencies/Cities in North Sumatra Province. Secondary data in this study were obtained from various agencies and various publications, then the data were compiled into one table and inputted into data processing software, and this was used with EViews 10.0 software. Processing data in estimates using a combination of time series data and cross-sectional data, or what is called panel data (Pool Data), through a panel data regression model. The Islamic Human Development Index (IHDI) variable is formed from 5 combined variables to obtain the IHDI value in each Regency/City in North Sumatra Province.

Ad-Din Index (ID) is proxied from the crime index (Crime Index). where the crime index is calculated using the following equation.

$$IC = \frac{Number\ of\ Criminal\ Offenses}{Total\ Population}\ X\ 100.000$$

Crime Index is a negative indicator, therefore it must be normalized with the equation:

$$NIC = \frac{100 - IC}{100}$$

Indeks Ad-Din:

$$ID = \frac{IC - Minimal\ NIC}{Maximal\ NIC - Minimal\ NIC}$$

IC = Crime Index, NIC = Normalized Crime Index, ID = Ad-Din Index, Minimal NIC = Normalized lowest Crime Index in year I, Maximal NIC = Normalized highest Crime Index in year i

The An-Nafs Index (INF) is measured using data on the level of life expectancy (Life Expectancy Index) of the population in the districts/cities of North Sumatra Province, with the following equation:

$$INF = \frac{Actual\ Life\ Expectancy - Minimal\ Life\ Expectancy}{Maximal\ Life\ Expectancy - Minimal\ Life\ Expectancy}$$

INF = Life Expectancy Index (An-Nafs), Actual Life Expectancy = Life expectancy level in year I, Minimal Life Expectancy = Minimum life expectancy level in year i, Maximal Life Expectancy = Maximum life expectancy level in year i

The Al-Aql Index (IA) is calculated using literacy rate data (Literacy Index/ LI) and average length of schooling (Means Years Schooling Index/ MYSI) of the population in the districts/cities of North Sumatra Province, with the following equation:

$$LI = \frac{Actual\ Literacy - Minimal\ Literacy}{Maximal\ Literacy - Minimal\ Literacy}$$

$$MYSI = \frac{Actual\ MYS - Minimal\ MYS}{Maximal\ MYS - Minimal\ MYS}$$

IA = 1/2 (LI + MYSI)

IA = Education Index (Al-Aql), LI = Literacy Index (Literacy), MYSI = Mean Years Schooling Index, Actual Literacy = Literacy rate in year i, Minimal Literacy = Minimum Literacy rate in year i, Maximal Literacy = Maximum Literacy rate in year i,Actual MYS = Mean Years Schooling rate in year i,Minimal MYS = Mean Years Schooling rate in year i, Maximal MYS = Mean Years Schooling rate in year i. An-Nasl Index (INS), is measured using data on the to-

tal birth rate (Birth Rate) and the morbidity rate (Pain Index/PI), from each district/city in North Sumatra Province, with the following equation:

$$FI = \frac{Actual\ Fertility - Minimal\ Fertility}{Maximal\ Fertility - Minimal\ Fertility}$$

For the pain index indicator, normalization is carried out because the indicator is negative, with the following equation:

$$NIP = \frac{100 - PI}{100}$$

Then the pain index (PI) is calculated with the following equation:

$$PI = \frac{NIP - Minimal\ NIP}{Maximal\ NIP - Minimal\ NIP}$$

INS = 1/2 (FI + PI)

FI = Fertility Index, NIP = Normalized Morbidity Index, PI = Pain Index, INS = Health Index (An-Nashl), Actual Fertility = Total Birth Rate in year I, Minimal Fertility = Minimum Birth Rate in year I, Maximal Fertility = Maximum Birth Rate in year I, Minimal Mortality = Minimum Morbidity Rate in year I, Maximal Mortality = Maximum Morbidity Rate in year i

Al-Mal Index (IM), measured using Gini coefficient ratio (GC) data, poverty depth level data (Poverty Index/PI), adjusted per capita expenditure. Before calculating the Al-Mal Index, the Gini ratio index and poverty depth level must be normalized with the equation:

Gini Normalization: nGC = 1 – GC
Poverty Depth Normalization: nPI = 100 – PI

The Gini Index (GCI) equation is as follows:

GCI = Actual nGC – Minimal nGC/Maximum nGC – Minimal nGC

The Poverty Depth Index (PII) equation is as follows:

PII = Actual nPI – Minimal nPI/Maximum nPI – Minimal nPI

From the results of the GCI and PII equations, the Distribution Equity Index (DEI) will be obtained with the following equation

DEI = 1/2 (GCI + PII)

Then the per capita expenditure data is adjusted (PP) to become an index with the following equation:

PPI = Actual PP – Minimal PP/Maximum PP – Minimal PP

Based on the calculation of the Distribution Equity Index (DEI) and the per capita expenditure index (PPI), the Distribution Equity Index (DEI) can be obtained Al-Maal with the following equation:
IM = 1/2 (DEI + PPI)
IM = Property Ownership Index (Al-Mal), GCI = Gini Coefficient Ratio Index, PII = Poverty Depth Index, PPI = Adjusted Per Capita Expenditure Index, DEI = Distribution Equity Index, nGC = Normalized Gini Coefficient, GC = Gini Coefficient, GCI = Gini Coefficient Index, nPI = Normalized Poority Index, PI = Poority Index, PP = Adjusted Per Capita Expenditure.

To obtain the Material Welfare Index and Non-Material Welfare Index values, use the following equations Material Welfare Index (MWI), using the Maal Index (IM) data consisting of the Distribution Equity Index (DEI) plus the Per Capita Expenditure Index (PPI)

MWI = 1/2 (DEI + PPI)

Non-Material Welfare Index (NMWI), using the Per Capita Expenditure Index data Ad-Dhien (ID), Index An-Nafs (INF,) Index Al-Aql (IA), Index Nasl (INS):

NMWI = 1/4 (ID+INF+IA+INS)

From the results of the IHDI forming equation, the next stage is to use the Islamic Human Development Index equation as follows:

I-HDI = 4/5 (NMWI) + 1/5 (MWI) x 100%

MWI = Material Welfare Index, NMWI = Non Material Welfare Index, IHDI = Islamic Human Development Index

In this study, the model built uses panel data analysis to determine the influence of the Islamic Human Development Index (IHDI) variable, Government Expenditure in Education (PPBP), Government Expenditure in Health (PPBK) and Government Expenditure in Social (PPBS) variables on the Poverty variable in Regencies/Cities in North Sumatra Province, the equation model is as follows

$$LnPOV_{it} = \beta 0 + \beta 1\ LnIHDI1_{it} + \beta 2\ LnPPBP2_{it} + \beta 3\ LnPPBK3_{it} + \beta 4\ LnPPBS4_{it} + e_{it} \ldots\ldots (1)$$

where POV is poverty, IHDI is islamic human development index, PPBP is Government expenditure on education, PPBK is government expenditure on health, PPBS is government expenditure on social affairs, i is cross section: i=1; ,2,3,....., 33 regency/city, t is time series t = 2016-2022, β is independent variable coefficient, e is error term

The selection of variables in this study is grounded in both theoretical relevance and empirical significance in explaining regional poverty dynamics, particularly in the context of Sumatera Utara. Poverty (POV) serves as the dependent variable and represents the core issue being investigated. It reflects the multidimensional deprivation experienced by individuals in terms of income, education, health, and social inclusion. Understanding what drives poverty is essential for designing effective, targeted policy interventions at the provincial level. The Islamic Human Development Index (IHDI) is included as a primary independent variable to capture the unique socio-religious dimensions of human development, particularly in Muslim-majority regions like Sumatera Utara. Unlike the conventional HDI, the IHDI incorporates the five elements of maqashid shariah (protection of religion, life, intellect, progeny, and wealth), offering a more holistic and value-based approach to measuring human well-being. Its inclusion enables an analysis that aligns development outcomes with local cultural and religious values, which are often overlooked in standard economic models.

To further dissect the role of the public sector in poverty alleviation, three categories of government expenditures are incorporated: education (PPBP), health (PPBK), and social affairs (PPBS). Government Expenditure on Education (PPBP) is a critical determinant of human capital formation. Higher investment in education contributes to improved literacy, skills development, and employment opportunities, which are fundamental pathways out of poverty. Similarly, Government Expenditure on Health (PPBK) directly influences population health outcomes, including life expectancy, maternal and child health, and disease prevention. Healthier individuals are more productive and capable of participating in the labor market, thereby reducing their vulnerability to poverty. Therefore, assessing the impact of health spending helps quantify how public health services contribute to social welfare. Government Expenditure on Social Affairs (PPBS) represents broader social protection mechanisms, such as welfare programs, subsidies, and support for vulnerable groups. These expenditures serve as safety nets that prevent extreme poverty and ensure basic living standards for marginalized populations. In the context of fiscal decentralization, how local governments prioritize and allocate social spending is crucial for determining its poverty-reducing effects.

Panel data regression analysis is a statistical method that combines time series data and cross-section data to analyze the effect of independent variables on dependent variables in more depth. This technique is widely used in economics, social sciences, and health because it is able to capture temporal dynamics and differences between individuals or entities. The advantages of panel data lie in its ability to increase the number of observations, reduce multicollinearity problems, and capture heterogeneity that cannot be observed directly (Aljandali & Tatahi, 2018). In practice, there are three main approaches in panel data regression analysis: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM).

CEM assumes that individual and time effects are insignificant and combines all data into one linear regression. Meanwhile, FEM accommodates differences between individuals by including fixed effects, while REM assumes individual effects as random components that are uncorrelated with explanatory variables (Costa & Sarmento, 2021). Panel data regression analysis techniques provide significant advantages in understanding causal relationships in heterogeneous and dynamic contexts. Model selection (CEM, FEM, REM) must consider statistical assumptions and test results such as the Chow Test and Hausman Test to avoid estimation bias. The accuracy of using these techniques contributes to more accurate data-based policies in various fields including economics, agriculture, and social. In panel data regression analysis, testing classical assumptions is an important stage to ensure the validity and reliability of the estimation results. Classical assumptions in the context of panel regression include the assumptions of normality, homoscedasticity, no autocorrelation, and no multicollinearity between independent variables. Violation of these assumptions can cause the estimation to be biased or inefficient (Andre et al., 2013).

Multicollinearity is tested using the Variance Inflation Factor (VIF) value. In a panel regression study of banking in Indonesia, this test is used before model estimation is carried out so that the results can be interpreted correctly (Pratama et al., 2024). Heteroscedasticity occurs when the residual variance is not constant, while autocorrelation means there is a correlation between residuals in a time series. Both of these issues can be detected by the Breusch-Pagan and Durbin-Watson tests. In the context of panel data, violations of these two assumptions are very common due to the complex time and individual structures, so that model improvements such as Generalized Least Square (GLS) or using robust standard errors estimates are needed (Srihardianti et al., 2016).

RESULTS AND DISCUSSION

From the results of the IHDI calculation for all regencies/cities in North Sumatra Province (33 regencies/cities) during 2016-2022, the regencies/cities that have a medium level IHDI value (60.00-69.99) are 1 regency/city or around 3.03 percent, namely in Nias Regency. Meanwhile, the areas that have a high level IHDI value (70.00-79.99) are 17 regencies/cities or 51.52 percent in 2016, while in 2016-2019 it decreased to 15 regencies/cities or around 45.45 percent and 14 regencies/cities or around 42.42 percent in 2020-2022. Regions that have a very high IHDI value (≥ 80.00), as many as 15 districts/cities or around 45.45 percent in 2016, while in 2017-2019 there were 17 districts/cities or around 51.52 percent, while in 2020-2022 there were 18 districts/cities or around 54.55 percent.

The model estimation in this study uses Eviews 10 software with the OLS method to see the Islamic Human Development Index (IHDI) and Fiscal Decentralization models {Government Expenditure

Table 1.
Number of Districts/Cities in North Sumatra Province According to Islamic Development Status 2016-2022

Value	Number of Districts/Cities in North Sumatra Province						
	2016	2017	2018	2019	2020	2021	2022
≤ 60,00	0	0	0	0	0	0	0
60,00 – 69,99	1	1	1	1	1	1	1
70,00 – 79,99	17	15	15	15	14	14	14
≥ 80,00	15	17	17	17	18	18	18

Source: authors' calculation (2024)

Table 2.
Chow and Haussman Test

Variable	Model Test	Value	Conclusion
Poverty	*Chow*	0.0000	*Fixed Effect Model*
	Haussman	0.0136	*Fixed Effect Model*
	Lagrange Model (LM)	-	-

Source: authors' calculation (2024)

in Education (PPBP), Government Expenditure in Health (PPBK) and Government Expenditure in Social Affairs (PPBS)} affecting Poverty (POV) of Districts/Cities in North Sumatra Province, then the best regression model to be used is determined whether the Common Effect or Fixed Effect model (Chow test is carried out), to determine the best regression model used whether the Fixed Effect or Random Effect model (Haussman test is carried out). To determine the best regression model used, whether the Random Effect or Common Effect model (Lagrange Multiplier (LM) test is carried out).

To test the best model used between the common effect model and the fixed effect model, a Chow test was conducted, where the cross-section F value was obtained of 0.000 <α = 0.05, which means that H0 is rejected and H1 is accepted, namely the fixed effect model. So, from the results of the Chow test, the use of the fixed effect model is better compared to the common effect model. Furthermore, because the better model is the fixed effect, a Hausman test was conducted to determine the best model to use between the fixed effect model and the random effect model. The results of the Haussman test showed a probability chi-square df value of 0.014 <α = 0.05, which means accepting H0 and rejecting H1, namely the fixed effect model. So, from the results of the Hausman test, the use of the fixed effect model is better compared to the random effect model. The LM test is no longer performed because the best model has shown that the fixed effect model is better to use, so that all subsequent models and tests on the poverty model (POV) use the fixed effect model. So, from the results of the Chow, Haussman, and Lagrange tests, the best model is to use the Fixed Effect Model. The use of the Fixed Effect Model on panel data must meet the requirements of being free from violations of basic assumptions (classical assumptions), but not all classical assumption tests in the OLS method are used; only multicollinearity and

heteroscedasticity are needed. The results of the multicollinearity test on the Poverty model (POV) with 4 (four) independent variables, namely: Islamic Human Development Index (IHDI), Government Expenditure on Education (PPBP), Government Expenditure on Health (PPBK) and Government Expenditure on Social Affairs (PPBS) show no significant correlation between the independent variables.

The probability value of the F-statistic is equal to 0.0000 (less than α = 0.05). This means that simultaneously and together the independent variables (IHDI, PPBP, PPBK, and PPBS) have an effect on the dependent variable (POV). The estimation results have met the model suitability test for simultaneous testing, so that the estimation results can be used for analysis. R2 lies between 0 and 1, if R^2 is equal to 1, it means that the independent variables explain 100 percent of the variation of the dependent variable. Conversely, if R^2 is equal to 0, it means that the independent variables in the model do not explain any variation in the dependent variable.

cance level tests. The probability t-statistic value of IHDI is equal to 0.0000; PPBP is equal to 0.0428; PPBK is equal to 0.0002, and PPBS is equal to 0.5180. Compared to the value of α = 0.05, the IHDI, PPBP and PPBK variables have values smaller than α, indicating that these variables have a significant effect on POV at a 95 percent confidence level, while the PPBS variable, with a probability value greater than α = 0.05, indicates that the influence of the PPBS variable is not significant at a 95 percent confidence level. The results of this test can also describe how much influence the independent variables used (IHDI, PPBP, PPBK, and PPBS) have on the dependent variable, namely, Poverty (POV).

The Islamic Human Development Index (IHDI) in this study showed a significant and simultaneous influence at a 95 percent confidence level on Poverty. The results of this estimation are shown from the probability value (F-Stat) of 0.0000 which is smaller than α = 0.05. The influence of the Islamic Human Development

Table 3.
Estimation FEM Model

Dependent Variable : POV	Independent Variabel				
	C	IHDI	PPBP	PPBK	PPBS
Coefficient	73.04688	-0.727842	-0.004300	-0.009243	-0.001694
Prob (t-Stat)	0.0000	0.0000	0.0428	0.0002	0.5180
R^2			0.927804		
Prob (F-Stat)			0.000000		

Source: authors' calculation (2024)

The model is said to be better if $R^2$is closer to 1. The model estimation produces an R^2 of 0.927804. This means that the existence of independent variables (IHDI, PPBP, PPBK, and PPBS) is able to explain the dependent variable (POV) by 92.78 percent, the remaining 8.22 percent is explained by other variables outside the model. With R^2 0.927804 (approaching 1), the estimation results meet the suitability test from the determination coefficient aspect. Partial tests are also called signifi-

Index (IHDI) variable on poverty is negative and significant at a 95 percent confidence level in the Regency/City of North Sumatra Province during 2016-2022. With a coefficient value of 0.0000, it means that every 1 percent increase in the Islamic Human Development Index (IHDI) will reduce poverty by 0.73 percent in the Regency/City of North Sumatra Province during 2016-2022. Conversely, if the Islamic Human Development Index (IHDI) decreases by 1 percent, it will have an impact on increas-

ing the poverty rate by 0.73 percent in the Regency/City of North Sumatra Province during 2016-2022.

The results of this estimation show that the influence of the Islamic Human Development Index (IHDI) in efforts to reduce poverty levels in the regencies/cities of North Sumatra Province during 2016 to 2022 is very significant. This is indicated by the highest coefficient value compared to the other 3 independent variables used. The high influence of the IHDI and its impact on reducing poverty in the regencies/cities of North Sumatra Province cannot be separated from the indicators that form the IHDI, which also showed a positive increase during 2016-2022, where the increase in the IHDI value was very significant, especially the Non Material Welfare Index (NMWI) value which is formed from 4 (four) indicators, namely the Ad-Dhien Index (ID), An-Nafs Index (INF,) Al-Aql Index (IA) and Nasl Index (INS). While the Material Welfare Index (MWI) indicator, which is formed from the Maal Index (IM) has a positive impact on the IHDI value, but is not as significant as the Non Material Welfare Index (NMWI) value.

Thus, the Islamic Human Development Index (IHDI) as one of the measuring tools for the success of human development according to Islamic law, is able to make a significant contribution in efforts to reduce the number and percentage of poor people. A high IHDI value indicates that the application of macro social indicators, especially the indicators used in calculating the IHDI, will have a significant impact on reducing poverty. So, the high or low IHDI value of a region or area will provide an indication of whether human development in that region or area is able to improve the welfare of its population or not. A high IHDI value will describe a low level of poverty, conversely, a low IHDI value gives a signal that poverty is still relatively high. The results of this study are in line with previous studies, especially the Islamic Human Development Index (IHDI) by Kity Aiu Viollani (2022), Khoirul Fadilah (2019), A. Alif Nafilah K (2016), Amara Fardany Nasyta (2020), and Sinta Bella (2022). Asep Nurhalim, Lely Mawarni and Resfa Fitri (2022), Khoirul Tamimi (2023), Wulanda (2020), Sri Nurlayli (2022), Abd. Halim Dalimunthe (2023) Nopita Lisa (2022).

Fiscal decentralization in this study, using government spending indicators in the education, health, and social sectors, shows a significant and simultaneous influence at a 95 percent confidence level on Poverty (POV). The results of this estimation are shown from the probability value (F-stat) of 0.0000, which is smaller than $\alpha = 0.05$. In detail, the estimation results of each variable are explained as follows, Government spending in the education sector has a negative and significant effect at a 95 percent confidence level on Poverty in the Regency/City of North Sumatra Province during 2016-2022. With a coefficient value of 0.0428, it means that every 1 percent increase in government spending in the education sector will reduce poverty by 0.04 percent in the Regency/City of North Sumatra Province during 2016-2022. Conversely, if the government budget in the education sector is reduced by 1 percent, it will have an impact on increasing the poverty rate by 0.04 percent in the Regency/City of North Sumatra Province during 2016-2022. Government expenditure in the health sector has a negative and significant effect at a 95 percent confidence level on Poverty in Districts/Cities in North Sumatra Province during 2016-2022. With a coefficient value of 0.0002, it means that every 1 percent increase in government expenditure in the health sector will reduce Poverty by 0.0002 percent in Districts/Cities in North Sumatra Province during 2016-2022. Conversely, if the government budget in the health sector is reduced by 1 percent, it will have an impact on increasing Poverty by 0.0002 percent in Districts/Cities in North Sumatra Province

during 2016-2022. Government expenditure in the social sector has a negative but not significant effect at a 95 percent confidence level on Poverty in Districts/Cities in North Sumatra Province during 2016-2022.

The results of this study indicate that fiscal decentralization (government spending on education, health, and social sectors) implemented in districts/cities in North Sumatra province during the 2016-2022 period has made a positive contribution to reducing the number and percentage of poor people. The impact of increasing budget allocations in the education and health sectors has contributed to reducing poverty levels in districts/cities in North Sumatra Province, while government budget allocations in the social sector have not had a significant impact on reducing poverty levels in districts/cities in North Sumatra Province. In general, of the government spending allocations which are indicators of fiscal decentralization, the highest influence is government spending on health, then government spending on education and government spending on social sectors on poverty levels, although their influence is relatively low on poverty levels in districts/cities in North Sumatra Province. This relatively low influence is due to the government budget allocation being more focused on dealing with the problem of the Covid-19 outbreak that hit Indonesia and North Sumatra, especially in 2019-2022. As a result, more government budget is consumed for the problem of dealing with the Covid-19 outbreak compared to others, including the budget allocated for social problems.

Budget allocation related to social issues, including the provision of assistance to the underprivileged, the provision of scholarships to poor families, the provision of assistance to the elderly, the rehabilitation and renovation of habitable houses, and so on, have been practically postponed/stopped during the healing and handling period of the pandemic. In fact, several districts/cities can no longer distribute the social budget due to a lack of budget.

This condition has an impact on the increasing number of poor people in 2019-2022 compared to the number of poor people in 2016-2018. This shows that when the budget allocation, especially in the social sector, will have a significant effect on the increase/decrease in poverty in the districts/cities of North Sumatra province. The use of the budget with allocations in the fields of education, health, and social services has proven to be effective and efficient in overcoming poverty problems, especially the budget allocated according to its needs and allocated according to its purpose. Increasing the budget in the fields of education, health, and social will have an impact on reducing the poverty rate. The higher the budget, the more it will provide a stimulus for reducing the poverty rate, conversely, the budget is reduced, the more it will have an effect on increasing poverty.

The results of this study are in line with previous studies, especially the influence of government spending on education, health and social sectors, by A. Ariza (2012), (Ariza, 2012) N. Ismail (2016), Ismail, "Determinants of the Human Development Index: Analysis of Al-Ghazali's Maqasih Syariah Approach (Case Study: OIC Countries)." R. Mustika Putri (2019), M.Iriansyah Harahap, Asmuni, S. S. (2024). “Does Economic Growth, Government Spending, Open Unemployment, and Consumption Patterns Affect The Human Development Index Islamic and Human Development Index?, Putri, Theoretical and Applied Islamic Economics 6, no. 7 (2019): 1410–1420. Suharno (2019), Rukiah (2019), (Rukiah, 2019).

Overall, this study shows that the variables used in reducing poverty rates, namely the Islamic Human Development Index (IHDI) and Fiscal Decentralization

(Government Expenditure in the Education, Health and Social Sectors) have a positive impact on reducing poverty in the Regency/City of North Sumatra Province during the study period, 2016-2022. The influence of the variables Islamic Human Development Index (IHDI) and Fiscal Decentralization (Government Expenditure in the Education, Health and Social Sectors Health and Social Sector) on Poverty, by 92.78 percent shows a very high and significant influence in efforts to reduce poverty, and around 7.22 percent of poverty will decrease due to other variables not analyzed in this study. So, the decrease in poverty rates can be realized if the value of the Islamic Human Development Index (IHDI) and Fiscal Decentralization (Government Spending in Education, Health, and Social Sectors) is increased comprehensively and simultaneously.

CONCLUSIONS

The influence of the IHDI on Poverty, based on the estimation results, shows that IHDI has a negative and significant effect on poverty in the districts/cities of North Sumatra province during 2016-2022. The influence of government spending in the fields of education, health, and social, on Poverty, based on the estimation results, shows that government spending in the fields of education and health has a negative and significant. In comparison, government spending in the social sector has a negative but not significant effect on poverty in districts/cities of North Sumatra province during 2016-2022. The magnitude of the influence between all variables used, namely, IHDI, government spending on education, government spending on health, and government spending on social issues on poverty.

Several things are recommended as follows indicators used as a measure of development success, especially human development in an effort to improve welfare, should be reviewed by including indicators that emphasize not only the achievement of material welfare, but must also be balanced with the achievement of non-material welfare. The value of the IHDI must continue to be improved by sorting and selecting products and outputs that are not contrary to religious rules and teachings, especially Islam, and by not damaging resources that are sources of income and can be sustainable (not extinct). Fiscal decentralization as a form of regulation in regional development funding should be more focused on achieving not only physical aspects, but also quality aspects. Development in the physical aspect must be managed according to needs and under accountable supervision, while in the non-physical aspect, more emphasis is placed on the quality of the development implementer itself. Budget management policies in development must prioritize patterns that are "pro" to achieving community welfare and prioritize aspects of honesty, openness, and obedience to regulations.

REFERENCE

A.Jajang W.Mahri, et al. (2021). *Ekonomi Pembangunan Islam* (et al Muhamad Irfan S (ed.); Pertama, J). Departemen Ekonomi dan Keuangan Syariah-Bank Indonesia.

Al-Qur'an dan Terjemahan. (2019). Lajnah Pentashihan Mushaf Al-Quran,Jakarta.

Andriansyah, Y. (2017). Menuju Desentralisasi Kebijakan Ekonomi Dalam Islam : Pengalaman Dinasti ʿUśmaniyyah Abad 16-18 M dan Indonesia di Masa Orde Baru. *Al-Amwal : Jurnal Ekonomi Dan Perbankan Syari'ah*, 9(1). https://doi.org/10.24235/amwal.v9i1.1280

Anto, H. (2011). Introducing an Islamic Human Development Index (I-HDI) to Measure Development in OIC Countries. *Islamic Economic Studies*.

Ariza, A. (2012). Pengaruh Pertumbuhan Ekonomi dan Belanja Modal Terhadap

Indeks Pembangunan Manusia (IPM) Dalam Perspektif Islam. 1(4), 1–21.

Aydin, N. (2017). Islamic vs conventional Human Development Index: Empirical evidence from ten Muslim countries. *International Journal of Sosial Economics*. https://doi.org/10.1108/IJSE-03-2016-0091

Bintang, M. (2015). Determinan Indeks Pembangunan Manusia: Analisa Pendekatan Maqasid Syari'ah Al-Ghazali (Studi Kasus: Negara-Negara OKI). *EKSYAR: Jurnal Ekonomi Syari'ah & Bisnis Islam*, 2(2), 512–534.

BPS. (2020b). *Statistik Kesejahteraan Rakyat Provinsi Sumatera Utara*.

Candra Yunita Sari, I., & Supadmi, N. (2016). Pengaruh Pendapatan Asli Daerah Dan Belanja Modal Pada Peningkatan Indeks Pembangunan Manusia. *E-Jurnal Akuntansi*, 15(3), 2409–2438.

Chalid, N., & Yusuf, Y. (2014). Pengaruh Tingkat Kemiskinan dan Tingkat Pengangguran, Upah Minimun Kabupaten/Kota Dan Laju Pertumbuhan Ekonomi Terhadap Indeks Pembangunan Manusia di Provinsi Riau. *Jurnal Ekonomi*, 22(2), 1–12. http://ejournal.unri.ac.id/index.php/JE/article/viewFile/2592/2547%0A

Fauzia, I. Y. (2018). *Prinsip Dasar Ekonomi Islam Perspektif Maqashid al-Shari'ah*.

Ghazali. (2005). Ghazali.

Isa, M. M., Kareem, M. A. A., Shah, M. E., & Shirazi, N. S. (2023). Islamic Human Development Index (i-HDI) and Poverty Reduction in OIC Countries. Journal of King Abdulaziz University, *Islamic Economics*, 36(1), 71–90. https://doi.org/10.4197/Islec.36-1.4

Istan, M. (2017). Pengentasan Kemiskinan Melalui Pemberdayaan Ekonomi Umat Menurut Persfektif Islam. *AL-FALAH : Journal of Islamic Economics*, 2(1), 81. https://doi.org/10.29240/jie.v2i1.199

Koyimah, I., Mahri, A. J. W., & Nurasyiah, A. (2020). Analysis Of Human Development With The Islamic Human Development Index (IHDI) In West Java Province In 2014-2018. *Review of Islamic Economics Amd Finance*, 3(2), 91–108.

Kurniawan, D. (2004). Otonomi Daerah dan Desentralisasi Fiskal di Indonesia. Makalah, 963–977. http://download.portalgaruda.org/article.php?article=142378&val=5460&title=Otonomi Daerah dan Desentralisasi Fiskal di Indonesia

Lubis, H., Anshari, M. I., & Lubis, A. R. (2024). Pengaruh Belanja Pemerintah Daerah terhadap Kemiskinan di Sumatera Utara. *Jurnal Ekonomi dan Kebijakan Pembangunan*, 15(1), 55–68.

M.Iriansyah Harahap, Asmuni, S. S. (2024). Does Economic Growth , Government Spending, Open Unemployment , and Consumption Patterns Affect The Human Development Index Islamic and Human Development Index ? *IQ-TISHODUNA: Jurnal Ekonomi Islam*, 13(148), 359–378.

Mahendra Putra, P., & Ulupui, I. (2015). Pendapatan Asli Daerah, Dana Alokasi Umum, Dana Alokasi Khusus, Untuk Meningkatkan Indeks Pembangunan Manusia. E-Jurnal Akuntansi, 11(3), 863–877.

Mili, M. (2014). A Structural Model for Human Development : Does Maqāṣid Al-Sharīʿah Matter ! *Islamic Economic Studies*, 22(2), 47–63. https://doi.org/10.12816/0008095

Muhammad Bintang P, et al. (2015). Determinan Indeks Pembangunan Manusia : Analisa Pendekatan Maqashid Syari'ah Al-Ghazali (Studi Kasus: Negara-Negara OKI). *Eksyar*, 2(November

2015), 512–534.

Muhammad Reza, et al. (2018). The Effect Of Islamic Human Development Index On Poverty Level in Bireuen District Period 2000-2017. 01(02), 35–43.

Muis, A. M. R. A., Alias, M. S., Kamaruding, M., & Mokthar, M. Z. (2018). Islamic Perspective on Human Development Management: A Philosophical Approach. I*nternational Journal of Academic Research in Business and Sosial Sciences*, 8(4), 543–552. https://doi.org/10.6007/ijarbss/v8-i4/4031

Necati Aydin. (2016). Islamic versus conventional human development index : empirical evi- dence from ten Muslim countries. *International Journal of Sosial Economics*.

Nugroho, F. H., Ningsih, I. W., Wahyuni, E., & Ahmaddien, I. (2020). Analisis Pengaruh Pandemi Dan Pembelajaran Secara Daring Terhadap Prestasi Melalui Variabel Intervening Keadaan Ekonomi Mahasiswa Universitas Sangga Buana Ypkp Bandung. *Jurnal EBI*, 2(2), 11–19. https://doi.org/10.52061/ebi.v2i2.18

Nurcholis, M. (2014). Analisis Pengaruh Pertumbuhan Ekonomi, Upah Minimum Dan Indeks Pembangunan Manusia Terhadap Tingkat Pengangguran Di Provinsi Jawa Timur Tahun 2008-2014. *Jurnal Ekonomi Pembangunan*, 12(1), 48. https://doi.org/10.22219/jep.v12i1.3654

Rama, A. (2018). Mengukur Derajat KeIslaman Ekonomi dan Faktor Pendorongnya : Studi Kasus Provinsi di Indonesia. *Maqdis: Jurnal Kajian Ekonomi Islam*, 3(1), 1–15.

Rama, A., & Yusuf, B. (2019). Construction of Islamic human development index. *Journal of King Abdulaziz University, Islamic Economics*, 32(1). https://doi.org/10.4197/Islec.32-1.3

Reni Mustika Putri, K. M. (2019). Determinan Islamic Human Development Index (IHDI) Provinsi Jawa Timur Tahun 2001-2016. *Ekonomi Syariah Teori Dan Terapan*, 6(7), 1410–1420.

Ritonga, I. T., Silalahi, T., & Ginting, M. (2023). Fiscal Decentralization and Local Government Performance in Reducing Poverty. *Public Governance Review*, 12(2), 102–115. https://www.journal.iapa.or.id/pgr/article/view/274

Rochmawati, T. (2016). Analysis of Islamic Human Development Index (I-HDI) of Yogyakarta 2015-2016 Through Maqashid Syari'ah.

Rukiah. (2018). Analisis Kontribusi Dan Interaksi Antara Pertumbuhan Ekonomi, Kebijakan Fiskal Dan Demografi Terhadap Islamic Human Development Indeks (I-HDI) Pada Provinsi-Provinsi di Indonesia.

Rukiah. (2019). Islamic Human Development Index di Indonesia (Suatu Pendekatan Maqhasid Syariah). *Istinbath*, 18(2), 307–327.

Rusydiana, A. S., & Pamuncak, M. B. (2018). Mengukur Indeks Keislaman Ekonomi Negara ASEAN Measuring the Islamic Economic Index of ASEAN Countries. Maro, *Jurnal Ekonomi Syariah Dan Bisnis*, 1(2), 56–66.

Saragih, Y. R., Rambe, S. H., & Lubis, M. A. (2023). Pengaruh Indeks Pembangunan Manusia Islam (I-HDI) terhadap Kemiskinan di Provinsi Sumatera Utara. *Dinasti International Journal of Economics, Finance & Accounting*, 4(3), 456–470. https://dinastipub.org/DIJEFA/article/view/3101

Sasana, H. (2012). Pengaruh Belanja Pemerintah Daerah dan Pendapatan per Kapita terhadap Indeks Pembangunan Manusia. *Media Ekonomi Dan Manajemen*, 25(1), 1–12.

Sasana, H. (2016). Dampak Implementasi Desentralisasi Fiskal Terhadap Pertumbuhan Ekonomi Dan Stabilitas Harga Di Provinsi Di Indonesia. *Media Ekonomi Dan Manajemen*, 30(1), 59–67. https://doi.org/10.24856/mem.v30i1.230

Satria, W., & Mubarak, M. S. (1999). *The Effect of Economic Growth and Wage on Employment Opportunities at Samarinda City*. 467–478.

Sri Herianingrum, et al. (2019). The effect of government expenditure on islamic human development index. *Opcion*, 35(88), 685–703.

Talib, M. T. bin A., Nasir, M. S. bin, & Omar, W. A. H. bin W. (2014). Mabadi al Adab al Islami `inda Najib al Kilani fi riwayah `Ibarat al Hubb al Malayuwiyyah. *Al Majallah Al Dawliyyah Li Al Buhuth Al Islamiyyah Wa Al Insaniyyah Al Mutaqaddimah*.

Toriquddin, M. (2013). Teori Maqashid Syari'ah Perspektif Ibnu Ashur. *ULUL ALBAB Jurnal Studi Islam*. https://doi.org/10.18860/ua.v14i2.2657

UNDP. (2019). *Human Development Report 2019* Beyond income , beyond averages , beyond today : Inequalities in human development in the 21st century.

Wardana, D. P. (2016). Pengaruh Pembangunan Ekonomi Terhadap Pembangunan Manusia Di Kalimantan Timur. *INOVASI : Jurnal Ekonomi Keuangan, Dan Manajemen*, 12, 179–191. http://journal.feb.unmul.ac.id/index.php/INOVASI/article/view/804

Yazid, M., & Nurhayati, S. (2023). Islamic Human Development Index: A Maqashid Shariah-Based Indicator for Regional Development. *Jurnal Ekonomi Islam*, 11(2), 220–233. https://www.jurnal.stie-aas.ac.id/index.php/jei/article/view/15170

Yusuf, A. R. dan B. (2019). Construction of Islamic Human Development Index Ali. *Journal of King Abdulaziz University-Islamic Economics* ·, January. https://doi.org/10.4197/Islec