The Influence of Zakat Infaq and Shadaqah, Economic Growth and Population on the Human Development Index in North Sumatra Province

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Abstract: This study aims to examine how zakat, infaq, and shadaqah (ZIS), economic growth, and population affect the Human Development Index (HDI) in North Sumatra Province. The background of this research lies in the persistent disparity of human development across regions and the lack of empirical studies that integrate Islamic social finance variables, such as ZIS, into human development analysis. The study employs a quantitative research design with a panel data regression method using the Fixed Effect Model (FEM). The sample consists of eight cities in North Sumatra (Medan, Binjai, Pematang Siantar, Tebing Tinggi, Tanjung Balai, Sibolga, Padangsidimpuan, and Gunung Sitoli) covering the 2018–2021 period. Data were obtained from the Central Statistics Agency (BPS) and the National Zakat Agency (BAZNAS). The findings show that ZIS has a positive but insignificant effect on the HDI, suggesting that the distribution of ZIS funds has not yet optimized its impact on human development. Economic growth has a significant negative effect on HDI, indicating that growth in North Sumatra remains non-inclusive and unevenly distributed. Meanwhile, the population variable has a negative but insignificant influence, implying that population growth has not been matched by improvements in quality. Simultaneously, the three variables explain 93.13% of the variation in HDI. Based on these results, the study recommends that policymakers and Islamic financial institutions enhance ZIS management by prioritizing empowerment-based programs rather than consumptive aid. Regional governments should also focus on inclusive economic growth, human resource quality improvement, and equitable access to education and healthcare as part of integrated human development strategies.
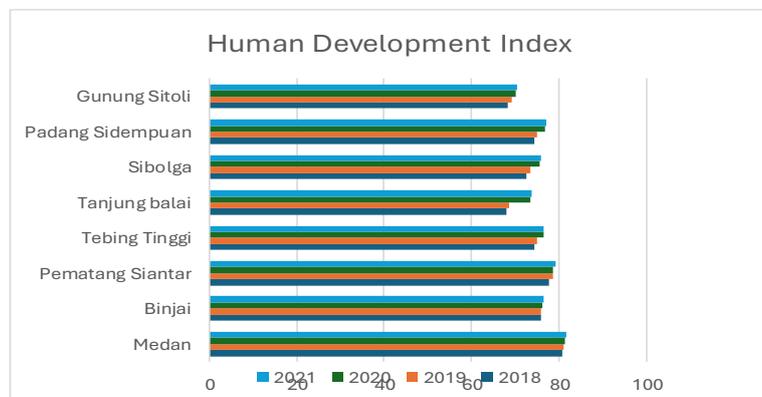**Keywords:** Human Development Index, ZIS, Economic Growth, Population

Introduction

Human development is not only a national concern but also a global issue that has become a central agenda in achieving sustainable and inclusive progress. Around the world, the widening gap in education, health, and income distribution has prompted policymakers and researchers to seek comprehensive solutions that go beyond mere economic indicators.[1] The Human Development Index (HDI), introduced by the United Nations Development Programme (UNDP) in 1990, serves as a global benchmark to assess the quality of human development by combining the dimensions of health, education, and standard of living. Thus, the HDI provides an integrated perspective that reflects how countries across the world strive to enhance human welfare in line with global development goals such as the Sustainable Development Goals (SDGs).[2]

In developing countries, improving the quality of education and health is key to improving the quality of life of the people, considering that unequal access to these basic services remains a major challenge Nabilah et al., 2025[3]; Anwar, 2022[4]. Indonesia as a developing country faces a similar issue, where the increase in the national HDI is often not in line with the equal distribution of community welfare in the regions, including the Regency/City areas in North Sumatra Province.[5]

Figure 1.

Comparison of Human Development Index (HDI) of Regencies/Cities in North Sumatra Province 2018-2021

Source: BPS, 2025 (Data processed)

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[1] UNDP, *The Next Frontier: Human Development and The Anthropocene*, *Human Development Report* (New York: United Nations Development Programme, 2020).

[2] T. O. Langoday, *Ekonomi Pembangunan: Membangun Negeri Unggul & Berperadaban*, ed. pertama (Jakarta: Arta Media, 2024).

[3] H. Nabilah, A. V. El-Tsana, & R. Wasir, "Menutup Kesenjangan Kesehatan: Peningkatan Kesetaraan Akses dan Kualitas Layanan Kesehatan," *Indonesian Journal of Health Science* 5, no. 3 (2025): 511–518.

[4] M. S. Anwar, "Ketimpangan Aksesibilitas Pendidikan dalam Perspektif Pendidikan Multikultural," *FOUNDASIA* 13, no. 1 (2022): 1–15.

[5] R. H. Bangun, "Disparitas Pembangunan Manusia di Sumatera Utara," *JAE: Jurnal Akuntansi dan Ekonomi* 6, no. 1 (2021): 75–84, https://doi.org/10.29407/jae.v6i1.14389.

Based on Human Development Index (HDI) data for the 2018-2021 period in eight cities in North Sumatra, an upward trend is evident, although achievements vary by region. Medan City ranked highest, rising from 80.65 in 2018 to 81.85 in 2021. Pematang Siantar and Padang Sidempuan also showed a positive trend, with scores reaching 79.17 and 77.19, respectively, in 2021. Meanwhile, Binjai and Tebing Tinggi recorded moderate increases of 76.57 and 76.65, while Sibolga consistently increased to 75.87. Tanjung Balai and Gunung Sitoli ranked lowest, below the provincial average of 73.78 and 70.51 in 2021. These data indicate that human development disparities persist between regions. Despite the COVID-19 pandemic's economic impact in 2020, the upward trend in the Human Development Index (HDI) continued, demonstrating that human development through education, health, and living standards is ongoing.

Although the HDI has been widely used as a development indicator, there is a gap in empirical studies regarding the determinants of HDI involving Islamic social financial instruments, namely zakat, infaq, and sedekah (ZIS). [6] Most previous research has focused on classic determinants such as economic growth rate and government investment allocation in education and health.[7] Meanwhile, the influence of the ZIS instrument as part of the wealth redistribution policy in Islamic economics on human development has rarely been studied, even though its potential in alleviating poverty and strengthening social welfare has been theoretically recognized. In addition, research findings regarding the influence of population size on the HDI also vary, some showing a negative influence, others finding a significant positive contribution.[8]

Conceptually, the HDI is a representation of the capabilities-based development approach proposed by Amartya Sen, where human development is defined as the expansion of people's substantive freedom to live according to their potential.[9] In the context of Islamic economics, the role of ZIS in human development can be understood as an effort to achieve material and spiritual well-being simultaneously, in line with the principles of maqashid sharia.[10] In the context of Islamic law, successful development must contribute to the fulfillment of all aspects of human needs, both material and non-material, with the ultimate goal of elevating human life to a better and more sustainable level. Thus,

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[6] E. K. Kiha, S. Seran, & H. T. Lau, "Pengaruh Jumlah Penduduk, Pengangguran, dan Kemiskinan terhadap Indeks Pembangunan Manusia (IPM) di Kabupaten Belu," *Intelektiva: Jurnal Ekonomi, Sosial & Humaniora* 2, no. 7 (2021): 60–84.

[7] Zemed Degu Mangesha and Lakhwinder Singh, "Determinants of Human Capital Development in Ethiopian Economy: Theory and Empirical Evidence," *International Journal of Technology Management and Sustainable Development* 21, no. 2 (2022): 181–204, https://doi.org/10.1386/tmsd_00056_1.

[8] S. Khadijah, Saharuddin, K. Anwar, & Murtala, "Pengaruh Pertumbuhan Ekonomi dan Jumlah Penduduk terhadap Indeks Pembangunan Manusia di Kabupaten Simalungun," *Jurnal Aplikasi Ilmu Ekonomi* 1, no. 1 (2022): 74–82.

[9] BPS, *Indeks Pembangunan Manusia 2024*, vol. 19 (Jakarta: Badan Pusat Statistik, 2025).

[10] Amir et al., "Determinants of Human Development Index and Islamic Human Development Index Regency/City of Jambi Province 2016 - 2020," *International Journal of Science and Research Archive* 5, no. 2 (2022): 18–31.

development encompasses not only economic and socio-cultural aspects but also touches on the religious dimension of humankind.[11] The interaction between economic growth, income distribution through ZIS and population dynamics towards the HDI can be analyzed within the framework of endogenous growth theory, which places the quality of human resources as a key factor in the long-term development process.[12]

Based on the explanations presented, the main objectives of this study are to empirically test and examine: (1) the influence of ZIS on the human development index in North Sumatra Province; (2) the influence of economic growth on the human development index in North Sumatra Province; (3) the influence of population on the human development index in North Sumatra Province. The research problem is formulated as follows: how does ZIS, economic growth, and population influence the human development index in North Sumatra Province, both partially and simultaneously?

This study utilizes secondary data sourced from the Central Statistics Agency (BPS) and the National Zakat Agency (BAZNAS) of North Sumatra Province for the 2018-2021 period. It is hoped that the research results will provide an empirical overview of the determinants of the Human Development Index (HDI) in this region, while also enriching the literature by positioning Islamic social finance instruments as a strategic variable in human development at the regional level.

Theoretical Framework
Human Development Index

The Human Development Index (HDI), better known as the Human Development Index (HDI), is a benchmark developed by the UNDP since 1990 as an indicator representing the quality of a country's development through the dimensions of knowledge, health, and a decent standard of living. The basic concept of the HDI was born from the capabilities approach popularized by Amartya Sen, emphasizing that human development aims to expand people's substantive freedom to live according to their potential. The HDI has become an important measuring tool in evaluating the impact of economic policies on the quality of life of people in various countries.[13]

From a development perspective, humans act as both subjects and objects. This means that humans are not merely targets of development, but rather play a key role in the development process. Therefore, the creation of quality human

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[11] A. H. Daulay, Asmuni, & I. Harahap, "Investment, Islamic Human Development Index and Banking Financing on Economic Growth and Their Impact on Labor Absorption," *Amwaluna: Jurnal Ekonomi dan Keuangan Syariah* 7, no. 2 (2023): 1–8.

[12] P. T. Hoa, L. T. Liem, & N. K. Phuoc, "Human Development Index Impact on Economic Growth," *Journal of Science Ho Chi Minh City Open University* 2, no. 18 (2020): 1–13.

[13] BPS, *Indeks Pembangunan Manusia 2024*, Vol. 19 (Jakarta: Badan Pusat Statistik, 2025).

resources is a crucial aspect that cannot be ignored.[14] Modern development positions humans as the center and ultimate goal of the development process, which is realized through increasing access to resources, education and health.[15] According to Todaro (2004), he also emphasized that human development is the main target and the end of development itself.[16]

Zakat, Infaq and Shadaqah (ZIS)

Zakat, Infaq and Shadaqah are instruments for wealth distribution in Islamic economics which aim to create social welfare and economic justice.[17] From the perspective of the pillars of Islam, zakat functions strategically for the economy, namely distributing part of the wealth from the wealthy to vulnerable groups, so that it can reduce disparities and encourage socio-economic development.[18] Based on Islamic terminology, zakat is an obligation from Allah for a certain amount of wealth of a certain size which must be handed over to the entitled party or in other words, it is a part of the wealth issued by the party who is obliged to pay it, to be distributed to the mustahik group.[19] Thus, Zakat becomes an instrument to help society achieve financial sufficiency in fulfilling basic needs including food, clothing, shelter and access to adequate education.[20]

Islam not only establishes customary norms and principles for living life, but also provides comprehensive guidance regarding the basic principles of using wealth for the benefit of Allah SWT.[21] Following the guidelines stipulated in Regulation of the Minister of Religious Affairs of the Republic of Indonesia No. 52 of 2014, zakat is an obligation for every Muslim individual and business entity to allocate a portion of their wealth to be distributed to those entitled to it, as stipulated in Islamic law.[22] Infaq and sedekah are included in the category of

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[14] Y. Rinawati, F. A. N. Miftitah, F. A. Aldianto, M. H. Faj'ri, & A. E. Sujianto, "Pengaruh PDRB, Kemiskinan, dan Jumlah Penduduk terhadap IPM di Provinsi Jawa Timur Tahun 2017–2021," *Jurnal Ecogen* 5, no. 4 (2022): 517–527.

[15] E. Suharto, *Membangun Masyarakat Memberdayakan Rakyat*, ed. A. Gunarsa (Bandung: PT Refika Aditama, 2010).

[16] R. W. Putri, C. Mustika, P. Studi Pembangunan Ekonomi, & F. Ekonomi Jambi, "Pengaruh Pertumbuhan Ekonomi, Indeks Pembangunan Manusia dan Kepadatan Penduduk terhadap Tingkat Kemiskinan Kabupaten/Kota di Provinsi Jambi," *E-Jurnal Ekonomi Sumberdaya dan Lingkungan* 8, no. 2 (2019): 96–107.

[17] J. Nasution, *Ekonomi Zakat Wakaf*, ed. I. Harahap (Medan: FEBI UIN-SU Press, 2023).

[18] M. F. Zidan, M. M. Munir, & H. Husada, "Studi Ayat-Ayat Zakat sebagai Instrumen Peningkatan Indeks Pembangunan Manusia Muhammad," *Maklumat Journal of Da'wah and Islamic Studies* 2, no. 2 (2024): 76–83.

[19] M. Yafiz & B. Dharma, "Does Zakat and Government Social Expenditure Affect Poverty Level? Evidence from North Sumatra Indonesia," *Journal of Namibian Studies* 34 (2023): 2864–2874.

[20] Marliyah, B. Dharma, & A. M. B. Syarbaini, "Distributing Zakatu Kasbil 'Amal as an Alternative to Student Funding, Evidence in Indonesia's Universities," *F1000Research* (2024): 1–13.

[21] K. Sari & A. A. Tarigan, "Efektivitas Pendistribusian Dana Zakat, Infak dan Sedekah (ZIS) pada Badan Amil Zakat Nasional (BAZNAS) Kabupaten Asahan," *Jurnal Kajian Ekonomi & Bisnis Islam* 3, no. 6 (2022): 1262–1271.

[22] M. I. Harahap, Imsar, & R. N. Dongoran, "Pengaruh Sukuk Korporasi dan Total Aset Perbankan Syariah terhadap Pertumbuhan Ekonomi di Indonesia Tahun 2016–2020," *Jurnal Ilmiah Ekonomi Islam* 8, no. 1 (2022): 370–375.

assets that can be distributed at any time without any time limit or amount limit (nishab).[23]

Empirically, the role of ZIS in the Human Development Index (HDI) still shows mixed results.[24] This study found that ZIS had an insignificant negative effect on the Human Development Index (HDI), necessitating improvements in distribution governance and optimization of its utilization.[25] However, theoretically, ZIS is believed to improve the quality of life of the community by reducing poverty, increasing access to education, and improving health services.[26]

Economic Growth

Economic growth is a benchmark as a means of assessing the level of economic progress of a region.[27] Economic growth refers to the increase in the output of goods and services in a region over a certain period, which is generally measured by GDP or GRDP.[28] The output value, either at current prices or constant prices, is the basis for calculating the percentage rate of economic growth.[29]

Economic growth is closely related to human welfare, where human resources, natural resources, capital and technological progress play an important role in driving this growth.[30] In particular, humans and nature are the

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[23] A. S. Widiastuti & Kosasih, "Pengaruh ZIS, Pertumbuhan Ekonomi, Pengangguran dan Inflasi terhadap Tingkat Kemiskinan di Indonesia," *Maro: Jurnal Ekonomi Syariah dan Bisnis* 4, no. 1 (2021): 12.

[24] Rahmad Ridho Zeen, Marliyah Marliyah, and Muhammad Lathief Ilhamy Nasution, "Analisis Distribusi Dana Zakat YBM PLN Pada Program Pengembangbiakan Kambing Susu Perah Di Kabupaten Pakpak Bharat," *Jambura Economic Education Journal* 6, no. 2 (2024): 564–80, https://doi.org/10.37479/jeej.v6i2.25056.

[25] Imsar, Nurhayati, & I. Harahap, "Analysis of Digital Education Interactions, Education Openness, Islamic Human Development Index (I-HDI) and Indonesia's GDE Growth," *Edukasi Islami: Jurnal Pendidikan Islam* 12, no. 1 (2023): 753–772, https://doi.org/10.30868/ei.v12i01.4265.

[26] Amir, A., Rafiqi, R., Amri, A. D., & Alissa, E., "Determinants of Human Development Index and Islamic Human Development Index Regency/City of Jambi Province 2016–2020," *International Journal of Science and Research Archive* 5, no. 2 (2022): 18–31.

[27] M. T. Koja, A. K. Hudang, & Y. R. Renggo, "Pengaruh Pertumbuhan Ekonomi, Indeks Pembangunan Manusia (IPM) dan Pengangguran terhadap Kemiskinan di Provinsi Nusa Tenggara Timur," *Jurnal Ilmiah Global Education* 5, no. 2 (2024): 1051–1064.

[28] D. N. Hidayati, A. Oktaviani, F. B. Aji, M. Farhan, & A. E. Sujianto, "Distribution of Zakat, Infaq, Shadaqah Funds and the Human Development Index to Economic Growth," *Saudi Journal of Economics and Finance* 6, no. 12 (2022): 431–438, https://doi.org/10.36348/sjef.2022.v06i12.005.

[29] I. Harahap & K. Tambunan, "The Effect of SBI and SBIS as Monetary Instruments on the Indonesia Economy," *Share: Jurnal Ekonomi dan Keuangan Islam* 11, no. 1 (2022): 1–19, https://doi.org/10.22373/share.v11i1.8603.

[30] N. Jannah, A. A. Tarigan, M. Helmi, F. Harahap, & Ambiya, "Rethinking Human Development: Contributions of Mahbub Ul Haq, Amartya Sen, and Umer Chapra to Conventional and Islamic Indices," *Economica: Jurnal Ekonomi Islam* 13, no. 2 (2022): 243–257, https://doi.org/10.21580/economica.2022.13.2.13576.

main factors that must complement each other to support the real sector as the driving force of production, distribution and consumption activities.[31]

Empirical research shows inconsistent results. According to Irawan & Akbar, 2022[32]; Hasibuan et al., 2023[33] Economic growth produces an insignificant positive contribution to the human development index. Conversely, other research finds a significant negative impact, indicating the phenomenon of growth without development, or non-inclusive growth, where the benefits of development are enjoyed only by certain groups, thus not impacting the community's quality of life.

Population

Population is a term that refers to the total number of individuals residing in an area at a given time. As a primary demographic indicator, population size reflects the size and composition of the population in a given area.[34] Population as a demographic variable has a complex relationship with human development. The classical Malthusian theory states that population growth can threaten development if it is not balanced by increased food production and welfare.[35]

Population growth in an area is influenced by three main factors, namely: [36] (a) births (fertility), which refers to the number of babies born to a woman in a certain period of time; (b) deaths (mortality), which is the reduction in the population due to individuals who die; and (c) population movement (migration), which is the mobility of the population from one area to another, both in (immigration) and out (emigration).[37]

The results of research related to population size and the human development index also show mixed results. Khairunnisa et al., 2023[38]; Rinawati

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[31] A. Khofifah, A. Soemitra, & K. Tambunan, "Sektor Riil dan Keuangan Syariah serta Pengaruhnya terhadap Pertumbuhan Ekonomi Regional Sumatera Utara Tahun 2015–2019," *Jurnal Ekonomika Indonesia Unimal* 10, no. 2 (2021): 6–14.

[32] A. Irawan & A. Akbar, "Pengaruh Pertumbuhan Ekonomi terhadap Indeks Pembangunan Manusia di Provinsi Sumatera Selatan Tahun 2016–2020," *Klassen* 2, no. 1 (2022): 17–31.

[33] S. R. Hasibuan, I. Harahap, & K. Tambunan, "Pengaruh Pertumbuhan Ekonomi, Pendidikan dan Kesehatan terhadap Indeks Pembangunan Manusia di Provinsi Sumatera Utara," *Jurnal Manajemen Akuntansi (JUMSI)* 3, no. 1 (2023): 272–285.

[34] G. A. D. M. Yoga, "Determinan Kesejahteraan Berdasarkan Indeks Pembangunan Manusia (IPM) di Provinsi Bali," *Ekuilnomi: Jurnal Ekonomi Pembangunan* 6, no. 2 (2024): 170–181.

[35] A. Wahab, "Pengaruh Pertumbuhan Penduduk, Upah, dan Inflasi terhadap Pertumbuhan Ekonomi dan Tingkat Pengangguran Terbuka di Sulawesi Selatan," *Jurnal Ekonomi Pembangunan* 8, no. 2 (2022): 168–187.

[36] BPS, *Proyeksi Penduduk Indonesia 2020–2050 Hasil Sensus Penduduk 2020* (Jakarta: Badan Pusat Statistik, 2020).

[37] Maria Elpida Manalu, Karin Sarah Angelina Siahaan, and Joko Suharianto, "Analisis Dampak Jumlah Penduduk, Pengangguran, Dan IPM Terhadap Tingkat Kemiskinan Di Provinsi Sumatera Utara 2001-2021," *Menawan: Jurnal Riset Dan Publikasi Ilmu Ekonomi* 3, no. 2 (2025).

[38] I. Khairunnisa, F. Yusnita, I. W. Suryani, & M. Panorama, "Terhadap Indeks Pembangunan Manusia (IPM) Sumatera Selatan Tahun 2018–2022," *Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi)* 7, no. 3 (2023): 1735–1750.

et al., 2022[39]; Darnawaty & Purnasari, 2012[40] found that population size has a significant positive impact on the human development index, indicating that population growth can be a development asset if accompanied by improvements in human resource quality. However,[41] instead found a negative and insignificant influence, emphasizing the importance of quality rather than just quantity of population.

Method

This study applies a quantitative approach with an associative method to analyze the correlation and impact of independent variables on the dependent variable. Data analysis was conducted using panel data regression (pooled data), a combination of time series and cross-sectional data.[42] The cross-sectional data in this study covers eight cities in North Sumatra Province: Medan, Binjai, Pematang Siantar, Tebing Tinggi, Tanjung Balai, Sibolga, Padangsidimpuan, and Gunung Sitoli. The time series data covers the period 2018-2021.

The selection of locations was based on the availability of data appropriate to the research needs. The data used were secondary data obtained from the Statistics Indonesia (BPS) of North Sumatra Province for economic growth, population, and the Human Development Index (HDI), the National Zakat Agency (BAZNAS) for Zakat, Infaq, and Shadaqah (ZIS) distribution data, and literature in the form of journals, books, and other relevant official publications. The variables analyzed in this study consisted of one dependent variable, the Human Development Index (HDI), as a percentage (%), and three independent variables: Zakat, Infaq, and Shadaqah (ZIS) in rupiah (Ln-transformed), Economic Growth (PE) as a percentage (%), and Population (JP) in people (Ln-transformed).

Data management in this study was conducted using Eviews software version 12. Panel data analysis included selecting the best model through specification tests, namely the Chow Test, the Hausman Test, and the Lagrange Multiplier Test to determine whether the appropriate model is the Common Effects Model (CEM), the Fixed Effects Model (FEM), or the Random Effects Model (REM).

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[39] Y. Rinawati, F. A. N. Miftitah, F. A. Aldianto, M. H. Faj'ri, & A. E. Sujianto, "Pengaruh PDRB, Kemiskinan, dan Jumlah Penduduk terhadap IPM di Provinsi Jawa Timur Tahun 2017–2021," *Jurnal Ecogen* 5, no. 4 (2022): 517–527.

[40] F. Darnawaty & N. Purnasari, "Analisis Pengaruh Pertumbuhan Ekonomi, Pertumbuhan Penduduk, dan Aspek Pendidikan terhadap IPM di Sumatera Utara," *EKOMBIS Sains Jurnal Ekonomi, Keuangan dan Bisnis* 4, no. 2 (2012): 9.

[41] I. Arbiansah, F. I. Asya, H. Diogsha, J. Saputri, & M. Kurniawan, "Pengaruh Pertumbuhan Ekonomi, Jumlah Penduduk dan Jumlah Tamatan SMA terhadap Indeks Pembangunan Manusia di Indonesia Tahun 2014–2023," *Jurnal Media Akademik (JMA)* 2, no. 6 (2024): 1–13.

[42] D. Priyatno, *Olah Data Sendiri Analisis Regresi Linier dengan SPSS & Analisis Regresi Data Panel dengan Eviews* (Yogyakarta: Cahaya Harapan, 2022).

In this study, due to differences in scale and to equate data units, variables were estimated using natural logarithm (Ln) transformation. Prior to regression, certain variables were transformed using natural logarithms. Therefore, the research model is formulated as follows:

$$Ln(Y_{it}) = \beta_0 + \beta_1 Ln(X1_{it}) + \beta_2 X2_{it} + \beta_3 Ln(X3_{it}) + \varepsilon_{it}$$

Where:

Y	: Human Development Index
X_1	: Zakat, Infaq and Shadaqah
X_2	: Economic growth
X_3	: Total population
β_0	: Constant
$\beta_1, \beta_2, \beta_3$	: Regression Coefficient
ε_{it}	: Interference Variable
t	: Time period (years)
I	: Area
Ln	: Natural Logarithm (Ln)

Results and Discussion
1. Model Selection Results
a. Chow Test

The Chow test is a method applied in practice to determine the best fit between the Fixed Effect Model and the Common/Pooled Least Squares Model. If the test results accept the null hypothesis (H0), then the Common Effect Model is the best fit. Conversely, if the null hypothesis (H1) is rejected, then the Fixed Effect Model is considered the best fit. Therefore, the hypothesis in the Chow test can be formulated as follows:

H0: *Common Effect Model*
H1: *Fixed Effect Model*

Table 1.
Chow Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	16.658836	(7,21)	0.0000
Cross-section Chi-square	60.157268	7	0.0000

Source: Processed Data Eviews 12, 2025

Because the Prob. value is 0.000 < the value of α = 0.05, H0 is rejected. Thus, the most appropriate model to use is the Fixed Effect Model.

b. Hausman test

The Hausman test is a method for determining whether a fixed effect or random effect model is best for estimating panel data. The hypothesis in the Hausman test is formulated as follows:

H0: *Random Effect Model*

H1: *Fixed Effect Model*

If the Hausman test results accept the null hypothesis, then the most appropriate model is the Random Effect Model. On the other hand, if the null hypothesis is rejected, then the model considered more appropriate is the Fixed Effect Model.

Table 2.

Hausman Test

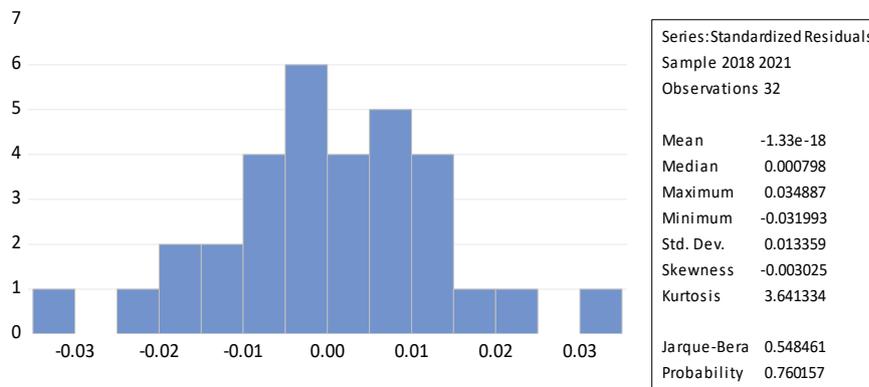| Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	24.437070	3	0.0000

Source: Processed Data Eviews 12, 2025

Because the Prob. value is 0.000 < the value of $\alpha = 0.05$, H0 is rejected, so the best model is the Fixed Effect Model. Based on the results of the Chow Test and the Hausman Test, the best model chosen is the Fixed Effect Model, so no further testing with the LM Test is necessary.

c. Classical Assumption Test

1) Normality Test

Figure 2.

Normality Test

Source: Processed Data Eviews 12, 2025

One of the data requirements in this study is that it must be normally distributed, which can be determined through a normality test. This test, using the Jarque-Bera method, showed a value of 0.548461 with a probability of 0.760157. Since the probability is >0.05, the residuals of the model are normally distributed. Thus, the normality assumption in the regression model is met.

2) Multicollinearity Test

Table 4.

Multicollinearity Test

	ZIS	PE	JP
ZIS	1.000000	-0.342420	0.032891
PE	-0.342420	1.000000	0.151411
JP	0.032891	0.151411	1.000000

Source: Processed Data Eviews 12, 2025

Multicollinearity testing was conducted by analyzing the correlation level between independent variables. The correlation results showed that the relationship between the ZIS variable and PE was -0.342420, ZIS with JP was 0.032891, and PE with JP was 0.151411. Since all correlation values did not exceed 0.80, this regression can be declared free of multicollinearity.

d. Hypothesis Testing
1) Partial T-Test

Table 5.

T-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.336981	0.034192	126.8435	0.0000
ZIS	0.000266	0.000462	0.575531	0.5710
PE	-0.003844	0.001157	-3.322619	0.0032
JP	-0.000683	0.002805	-0.243351	0.8101

Source: Processed Data Eviews 12, 2025

The t-test was conducted to determine the influence of each independent variable on the dependent variable (HDI) partially, with a significance level of 5% (0.05).

a) ZIS (Zakat, Infaq, and Shadaqah) obtained a regression coefficient of 0.000266 and a Prob. 0.5710 > 0.05. These findings indicate that ZIS has a positive, insignificant effect on the HDI.

b) PE (Economic Growth) obtained a regression coefficient of -0.003844 and a Prob. 0.0032 < 0.05. These findings indicate that economic growth has a significant, negative effect on the HDI.

c) JP (Population) obtained a regression coefficient of -0.000683 and a Prob. 0.8101 > 0.05. These findings indicate that population size has a negative, but insignificant, effect on the HDI.

2) F Test (Simultan)

Table 6.

F Test

R-squared	0.931314
Adjusted R-squared	0.898607
S.E. of regression	0.016232
Sum squared resid	0.005533
Log likelihood	93.19893
F-statistic	28.47414
Prob(F-statistic)	0.000000

Source: Processed Data Eviews 12, 2025

The results of this test yielded a statistical value of 28.47414 with a probability (p-value) of 0.000000 < 0.05. This finding indicates that the ZIS, economic growth, and population variables simultaneously contribute significantly to the HDI. Thus, the applied panel data regression model is suitable for explaining the correlation between variables in this study.

e. Coefficient of Determination (R^2)

The coefficient of determination (R-squared) value is 0.931314, or 93.13%, meaning that 93.13% of the variation in changes in the HDI can be explained by the independent variables. The remaining 6.87% is influenced by variables not included in this research model. The adjusted R2 value of 0.898607 indicates that after accounting for the number of variables, the regression model still has strong ability to explain variations in the HDI.

f. Fixed Effect Model Panel Data Regression Results

Table 7. Panel Data Regression Output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.336981	0.034192	126.8435	0.0000
ZIS	0.000266	0.000462	0.575531	0.5710
PE	-0.003844	0.001157	-3.322619	0.0032

JP	-0.000683	0.002805	-0.243351	0.8101
	Effects Specification			
Cross-section fixed (dummy variables)				
Root MSE	0.013149	R-squared		0.931314
Mean dependent var	4.320014	Adjusted R-squared		0.898607
S.D. dependent var	0.050975	S.E. of regression		0.016232
Akaike info criterion	-5.137433	Sum squared resid		0.005533
Schwarz criterion	-4.633586	Log likelihood		93.19893
Hannan-Quinn criter.	-4.970422	F-statistic		28.47414
Durbin-Watson stat	1.752666	Prob(F-statistic)		0.000000

Source: Processed Data Eviews 12, 2025

$$IPM = 4.33 + 0.000266 - 0.00384 - 0.000682$$

1) Constant (C) = 4.336981. This means that if all independent variables (ZIS, Economic Growth, and Population) are zero, then the baseline value of the Human Development Index (HDI) is 4.336981.

2) If ZIS increases by 1%, the Human Development Index also increases by 0.000266%. Conversely, if ZIS decreases by 1%, it will reduce the Human Development Index by 0.000266%. Therefore, ZIS has an insignificant positive contribution to the Human Development Index.

3) If Economic Growth increases by 1%, it can decrease the Human Development Index by 0.003844%. However, if Economic Growth decreases by 1%, it can increase the Human Development Index by 0.003844%. These results demonstrate how Economic Growth has a significant negative effect on the Human Development Index.

4) If Population increases by 1%, it can decrease the Human Development Index by 0.000683%. Conversely, if the population decreases by 1%, it causes an increase in the Human Development Index of 0.000683%. This means that the population has an insignificant negative effect on the Human Development Index.

The Influence of Zakat, Infaq and Shadaqah on the Human Development Index

Zakat, Infaq, and Shadaqah (ZIS) have a positive but statistically insignificant effect on the Human Development Index (HDI), with a coefficient value of 0.000266 and a probability of 0.5710 ($p > 0.05$). This finding implies that although the direction of influence aligns with theoretical expectations, the contribution of ZIS to HDI improvement in North Sumatra is not yet empirically

significant. This result is consistent with the findings of Amir et.al (2022)[43]; Wibowo & Gunaepi (2021)[44] and Lestari (2023)[45], who also reported that ZIS did not significantly affect HDI. Both studies highlighted that the main obstacle lies in the limited effectiveness and uneven distribution of ZIS funds, where a substantial portion is still allocated for consumptive rather than productive purposes.

However, the current study extends the analysis by emphasizing the regional context of North Sumatra, where disparities in ZIS governance across urban and rural areas have a measurable impact on human development outcomes. Compared to studies in Java or national-level analyses, this research provides new empirical evidence that ZIS management in peripheral provinces faces structural inefficiencies in targeting and empowerment programs.

Theoretically, Suharto (2010)[46] and Nasution (2023)[47] assert that zakat, infaq, and shadaqah can function as sustainable social safety nets when managed productively to enhance education, health, and income equality. The insignificant result found here introduces a practical gap between normative Islamic economic principles and actual governance practices, reinforcing the need for reform toward productive ZIS utilization, such as skill development and microfinance empowerment.

The Influence of Economic Growth on the Human Development Index

Economic growth shows a significant negative effect on the HDI, with a coefficient of –0.003844 and a probability of 0.0032 ($p < 0.05$). This means that higher economic growth in North Sumatra correlates with a decline in the quality of human development.

This result is in line with the study by Khadijah et al[48] which revealed that economic growth could negatively impact HDI when growth is non-inclusive. Similar findings were also documented by Koja et al. (2024)[49] in East Nusa

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[43] Amir, A., Rafiqi, R., Amri, A. D., & Alissa, E., "Determinants of Human Development Index and Islamic Human Development Index Regency/City of Jambi Province 2016–2020," *International Journal of Science and Research Archive* 5, no. 2 (2022): 18–31.

[44] F. E. Wibowo & A. Gunaepi, "Pengaruh ZIS, Kemiskinan dan Harapan Lama Sekolah terhadap Indeks Pembangunan Manusia di Provinsi Jawa Barat," *Jurnal Ilmiah Ilmu Administrasi (JIIA)* 11, no. 1 (2021): 19–28.

[45] D. Lestari, "Pengaruh Dana Zakat, Infak, Sedekah, Upah Minimum Provinsi dan Kemiskinan terhadap Indeks Pembangunan Manusia di Indonesia," *Jurnal Ekonomi Syariah Darussalam* 4, no. 2 (2023): 101–128.

[46] Suharto, *Membangun Masyarakat Meberdayakan Rakyat.*

[47] Juliana Nasution, "Determinants of the Successful Digital Campaigns on Zakat: An Analysis Based on Islamic Marketing Perspective," *Ekuilibrium : Jurnal Ilmiah Bidang Ilmu Ekonomi* 18, no. 1 (2023): 94–109, https://doi.org/10.24269/ekuilibrium.v18i1.2023.pp94-109.

[48] S. Khadijah, Saharuddin, K. Anwar, & Murtala, "Pengaruh Pertumbuhan Ekonomi dan Jumlah Penduduk terhadap Indeks Pembangunan Manusia di Kabupaten Simalungun," *Jurnal Aplikasi Ilmu Ekonomi* 1, no. 1 (2022): 74–82.

[49] Koja, Hudang, and Renggo, "Pengaruh Pertumbuhan Ekonomi , Indeks Pembangunan Manusia (IPM) Dan Pengangguran Terhadap Kemiskinan Di Provinsi Nusa Tenggara Timur."

Tenggara, showing that growth concentrated in limited sectors or regions tends to increase inequality and limit improvements in health and education outcomes.

The new contribution of this study lies in identifying that North Sumatra's economic growth, though positive in aggregate, is primarily driven by capital-intensive sectors such as industry and mining. These sectors generate limited employment, hence failing to translate growth into better human welfare. This pattern confirms the phenomenon of "growth without development," offering new regional evidence of non-inclusive growth in Indonesia's western region.

Apsari et.al (2022)[50] and Dewi et.al (2024)[51] emphasize that genuine development must expand human capabilities rather than merely increase income. The findings of this study reaffirm this conceptual principle, revealing that economic expansion detached from social inclusivity can hinder the multidimensional goals of human development. Thus, this study contributes a novel regional perspective on the incompatibility between GDP growth and HDI improvement in developing provinces.

The Influence of Population on the Human Development Index

Population has a negative and statistically insignificant effect on HDI, with a coefficient of –0.000683 and a probability of 0.8101 ($p > 0.05$). This indicates that population growth in North Sumatra has not been accompanied by parallel improvements in education, health, or income dimensions. The result aligns with the findings of According to Malthus's theory[52], who also reported an insignificant relationship between population size and HDI in Indonesia. Similar outcomes were found by Arbiansah et al[53] uggesting that high population growth without human capital investment tends to suppress development quality.

However, the present study adds a regional insight by showing that urban areas such as Medan and Pematang Siantar still experience overpopulation pressures that strain infrastructure and public services, while smaller cities face population stagnation. This dual demographic dynamic provides a new understanding that the negative population HDI relationship is driven not only by quantity but also by inequality in spatial distribution.

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[50] Phatriakalista Intan Apsari, Arin Setiyowati, and Fatkhur Huda, "Implementasi Sinergitas Pengelolaan Dana Zis Pada Perbankan Syariah Dan Organisasi Pengelola Zakat (OPZ) Untuk Penguatan Ekosistem Zakat: Studi Literatur Bank Syariah Indonesia (BSI) Dan Badan Amil Zakat Nasional," *Issue 1 1 Perisai* 6, no. 1 (2022): 1–16, https://doi.org/10.21070/perisai.v6i1.

[51] Nurul Aulia Dewi, Isnaini Harahap, and Muhammad Ridwan, "Evaluation Of Corporate Zakat Implementation Practices At Pt Sari Valuta Asing : Case Study Of Compliance With Baznas Guidelines," *International Annual Conference on Islamic Economic and Law*, 2024.

[52] A. Wahab, "Pengaruh Pertumbuhan Penduduk, Upah, dan Inflasi terhadap Pertumbuhan Ekonomi dan Tingkat Pengangguran Terbuka di Sulawesi Selatan," *Jurnal Ekonomi Pembangunan* 8, no. 2 (2022): 168–187.

[53] I. Arbiansah, F. I. Asya, H. Diogsha, J. Saputri, & M. Kurniawan, "Pengaruh Pertumbuhan Ekonomi, Jumlah Penduduk dan Jumlah Tamatan SMA terhadap Indeks Pembangunan Manusia di Indonesia Tahun 2014–2023," *Jurnal Media Akademik (JMA)* 2, no. 6 (2024): 1–13.

Malthus's classical theory Januardi (2018)[54] warned that population growth exceeding resource capacity could inhibit development. Nonetheless, this study contributes a nuanced view in line with modern human capital theory population growth is not inherently harmful if accompanied by education and productivity enhancement. Thus, the novelty of this finding lies in highlighting that demographic expansion in North Sumatra remains a potential asset, but its developmental value is constrained by weak governance and unequal access to opportunities.

Conclusion

Based on the findings of panel data regression analysis using the Fixed Effect Model (FEM) on eight cities in North Sumatra province for the 2018-2021 period, several conclusions can be drawn: 1) Zakat, Infaq, and Shadaqah have a positive but insignificant effect on the Human Development Index (HDI). This indicates that the distribution of ZIS has not been optimal in improving the quality of knowledge, health, and a decent standard of living. 2) Economic growth shows a significant negative impact on the HDI. This indicates that economic growth is not inclusive and has not been felt evenly by the community. 3) Population has a negative but insignificant effect on the HDI. This means that population growth has not directly affected the quality of human development, because population quantity has not been balanced by the quality of human resources. Simultaneously, ZIS, Economic Growth, and Population are able to explain 93.13% of the variation in the HDI in North Sumatra, which means these factors together contribute to the dynamics of human development. Therefore, it can be concluded that socio-religious factors (ZIS), economic (economic growth), and demographic (population) show different roles in human development in North Sumatra. Based on the limitations and conclusions of the analysis, the researchers recommend that institutions and governments direct ZIS (Islamic State Fund) not only toward consumer assistance but also toward empowerment programs for the poor. Economic growth should be directed toward job creation, income equality, and improving the quality of public services. The government should also strengthen equitable education and healthcare programs. Integrating sharia economic policies, such as ZIS, with regional development programs is crucial to supporting the Human Development Index (HDI).

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[54] Januardi, "Zakat Dalam Perspektif Hukum Positif," *Jurnal Masyarakat Dan Filantropi Islam* 1, no. 1 (2018): 9–12.

Bibliography

Amir, Amri, Rafiqi Rafiqi, Ary Dean Amri, and Evalina Alissa. "Determinants of Human Development Index and Islamic Human Development Index Regency/City of Jambi Province 2016 - 2020." *International Journal of Science and Research Archive* 5, no. 2 (2022): 18–31.

Anwar, Muhammad Saiful. "Ketimpangan Aksesibilitas Pendidikan Dalam Perpsektif Pendidikan Multikultural." *FOUNDASIA* 13, no. 1 (2022): 1–15.

Apsari, Phatriakalista Intan, Arin Setiyowati, and Fatkhur Huda. "Implementasi Sinergitas Pengelolaan Dana Zis Pada Perbankan Syariah Dan Organisasi Pengelola Zakat (OPZ) Untuk Penguatan Ekosistem Zakat: Studi Literatur Bank Syariah Indonesia (BSI) Dan Badan Amil Zakat Nasional." *Issue 1 1 Perisai* 6, no. 1 (2022): 1–16. https://doi.org/10.21070/perisai.v6i1.

Arbiansah, Ifan, Falakh Izat Asya, Hr Diogsha, Jeni Saputri, and Muhammad Kurniawan. "Pengaruh Pertumbuhan Ekonomi, Jumlah Penduduk Dan Jumlah Tamatan SMA Terhadap Indeks Pembangunan Manusia Di Indonesi Tahun 2014-2023." *Jurnal Media Akademik (JMA)* 2, no. 6 (2024): 1–13.

Bangun, Rita Herawaty. "Disparitas Pembangunan Manusia Di Sumatera Utara." *JAE: Jurnal Akuntasi Dan Ekonomi* 6, no. 1 (2021): 75–84. https://doi.org/10.29407/jae.v6i1.14389.

BPS. *Indeks Pembangunan Manusia 2024*. Vol. 19. Jakarta: Badan Pusat Statistik, 2025.

———. *Proyeksi Penduduk Indonesia 2020 – 2050 Hasil Sensus Penduduk 2020*. Jakarta: Badan Pusat Statistik, 2020.

Darnawaty, Friska, and Nina Purnasari. "Analisis Pengaruh Pertumbuhan Ekonomi, Pertumbuhan Penduduk, Dan Aspek Pendidikan Terhadap IPM Di Sumatera Utara." *EKOMBIS Sains Jurnal Ekonomi, Keuangan Dan Bisnis* 4, no. 2 (2012): 9.

Daulay, Ahmad Harun, Asmuni Asmuni, and Isnaini Harahap. "Investment, Islamic Human Development Index and Banking Financing on Economic Growth and Their Impact on Labor Absorption." *Amwaluna: Jurnal Ekonomi Dan Keuangan Syariah* 7, no. 2 (2023): 339–46. https://doi.org/10.29313/amwaluna.v7i2.12493.

Dewi, Nurul Aulia, Isnaini Harahap, and Muhammad Ridwan. "Evaluation Of Corporate Zakat Implementation Practices At Pt Sari Valuta Asing : Case Study Of Compliance With Baznas Guidelines." *International Annual Conference on Islamic Economic and Law*, 2024.

Harahap, Isnaini, and Khairina Tambunan. "The Effect Of SBI And SBIS As Monetary Instruments On The Indonesia Economy." *Share: Jurnal Ekonomi Dan Keuangan Islam* 11, no. 1 (2022): 1–19. https://doi.org/10.22373/share.v11i1.8603.

Harahap, Muhammad Ikhsan, Imsar, and Rahmah Nur Dongoran. "Pengaruh Sukuk Korporasi Dan Total Aset Perbankan Syariah Terhadap Pertumbuhan

Ekonomi Di Indonesia Tahun 2016-2020." *Jurnal Ilmiah Ekonomi Islam* 8, no. 01 (2022): 370–75.

Hasibuan, Siti Rama, Isnaini Harahap, and Khairina Tambunan. "Pengaruh Pertumbuhan Ekonomi, Pendidikan Dan Kesehatan Terhadap Indeks Pembangunan Manusia Di Provinsi Sumatera Utara." *JURNAL MANAJEMEN AKUNTANSI (JUMSI)* 3, no. 1 (2023): 272–85.

Hidayati, Dewi Nur, Ayustia Oktaviani, Fakhri Bayu Aji, Mujib Farhan, and Agus Eko Sujianto. "Distribution of Zakat , Infaq , Shadaqah Funds and the Human Development Index to Economic Growth." *Saudi Journal of Economics and Finance* 6, no. 12 (2022): 431–38. https://doi.org/10.36348/sjef.2022.v06i12.005.

Hoa, Pham Tan, Le Thanh Liem, and Nguyen Kim Phuoc. "Human Development Index Impact On Economic Growth." *Journal of Science Ho Chi Minh City Open University* 2, no. 18 (2020): 1–13.

Imsar, Nurhayati, Isnaini harahap. "Analysis of Digital Education Interactions, Education Openness, Islamic Human Development Index (I-HDI) and Indonesia's GDE Growth." *Edukasi Islami: Jurnal Pendidikan Islam* 12, no. 1 (2023): 753–73.

Irawan, Andri, and Ali Akbar. "Pengaruh Pertumbuhan Ekonomi Terhadap Indeks Pembangunan Manusia Di Provinsi Sumatera Selatan Tahun 2016-2020." *KLASSEN* 2, no. 1 (2022): 17–31.

Jannah, Nurul, Azhari Akmal Tarigan, Muhammad Helmi, Fasthabiqul Harahap, and Ambiya. "Rethinking Human Development : Contributions of Mahbub Ul Haq , Amartya Sen , and Umer Chapra to Conventional and Islamic Indices." *Economica: Jurnal Ekomomi Islam* 13, no. 2 (2022): 243–57. https://doi.org/10.21580/economica.2022.13.2.13576.

Januardi. "Zakat Dalam Perspektif Hukum Positif." *Jurnal Masyarakat Dan Filantropi Islam* 1, no. 1 (2018): 9–12.

Khadijah, Siti, Saharuddin, Khairil Anwar, and Murtala. "Pengaruh Pertumbuhan Ekonomi Dan Jumlah Penduduk Terhadap Indeks Pembangunan Manusia Di Kabupaten Simalungun." *Jurnal Aplikasi Ilmu Ekonomi* 1, no. 1 (2022): 74–82.

Khairunnisa, Indah, Fitri Yusnita, Isra Wina Suryani, and Maya Panorama. "Terhadap Indeks Pembangunan Manusia (Ipm) Sumatera Selatan Tahun 2018-2022." *Jurnal Ilmiah MEA (Manajemen , Ekonomi , Dan Akuntansi)* 7, no. 3 (2023): 1735–50.

Khofifah, Ainun, Andri Soemitra, and Khairina Tambunan. "Sektor Riil Dan Keuangan Syariah Serta Pengaruhnya Terhadap Pertumbuhan Ekonomi Regional Sumatera Utara Tahun 2015 – 2019." *Jurnal Ekonomika Indonesia Unimal Volume* 10, no. 2 (2021): 6–14.

Kiha, Emilia Khristina, Sirilius Seran, and Hendriana Trifonia Lau. "Pengaruh

Jumlah Penduduk, Pengangguran, Dan Kemiskinan Terhadap Indeks Pembangunan Manusia (Ipm) Di Kabupaten Belu." *INTELEKTIVA : JURNAL EKONOMI, SOSIAL & HUMANIORA PENGARUH* 2, no. 07 (2021): 60–84.

Koja, Marlince Tara, Adrianus Kabubu Hudang, and Yuniarti Reny Renggo. "Pengaruh Pertumbuhan Ekonomi , Indeks Pembangunan Manusia (IPM) Dan Pengangguran Terhadap Kemiskinan Di Provinsi Nusa Tenggara Timur." *JURNAL ILMIAH GLOBAL EDUCATION* 5, no. 2 (2024): 1051–64.

Langoday, Thomas Ola. *EKONOMI PEMBANGUNAN: Membangun Negeri UNggul & Berperadaban*. Pertama. Jawa Tengah: Arta Media, 2024.

Lestari, Dewi. "Pengaruh Dana Zakat, Infak, Sedekah, Upah Minimum Provinsi Dan Kemiskinan Terhadap Indeks Pembangunan Manusia Di Indonesia." *Jurnal Ekonomi Syariah Darussalam* 4, no. 2 (2023): 101–28.

Manalu, Maria Elpida, Karin Sarah Angelina Siahaan, and Joko Suharianto. "Analisis Dampak Jumlah Penduduk, Pengangguran, Dan IPM Terhadap Tingkat Kemiskinan Di Provinsi Sumatera Utara 2001-2021." *Menawan: Jurnal Riset Dan Publikasi Ilmu Ekonomi* 3, no. 2 (2025).

Mangesha, Zemed Degu, and Lakhwinder Singh. "Determinants of Human Capital Development in Ethiopian Economy: Theory and Empirical Evidence." *International Journal of Technology Management and Sustainable Development* 21, no. 2 (2022): 181–204. https://doi.org/10.1386/tmsd_00056_1.

Marliyah, Budi Dharma, and Ahmad Muhaisin B Syarbaini. "Distributing Zakatu Kasbil ' Amal as an Alternative to Student Funding, Evidence in Indonesia ' s Universities." *F1000Research*, 2024, 1–13.

Nabilah, Hanifah, Ashfiya Vi'Aqila El-Tsana, and Riswandy Wasir. "Menutup Kesenjangan Kesehatan: Peningkatan Kesetaraan Akses Dan Kualitas Layanan Kesehatan." *Indonesian Journal of Health Science* 5, no. 3 (2025): 511–18.

Nasution, Juliana. "Determinants of the Successful Digital Campaigns on Zakat: An Analysis Based on Islamic Marketing Perspective." *Ekuilibrium : Jurnal Ilmiah Bidang Ilmu Ekonomi* 18, no. 1 (2023): 94–109. https://doi.org/10.24269/ekuilibrium.v18i1.2023.pp94-109.

———. *Ekonomi Zakat Wakaf*. Edited by Isnaini Harahap. Medan: FEBI UIN-SU Press, 2023.

Priyatno, Duwi. *Olah Data Sendiri Analisis Regresi Linier Dengan Spss & Analisis Regresi Data Panel Dengan Eviews*. Yogyakarta: Cahaya Harapan, 2022.

Putri, Rahma Wardana, Candra Mustika, Program Studi, Ekonomi Pembangunan, Fak Ekonomi, and Universitas Jambi. "Pengaruh Pertumbuhan Ekonomi , Indeks Pembangunan Manusia Dan Kepadatan Penduduk Terhadap Tingkat Kemiskinan Kabupaten / Kota Di Provinsi Jambi." *E-Jurnal Ekonomi Sumberdaya Dan Lingkungan* 8, no. 2 (2019): 96–107.

Rinawati, Yuni, Firda Aulia Nur Miftitah, Fahmi Alif Aldianto, Muhammad

Hafidz Faj'ri, and Agus Eko Sujianto. "Pengaruh PDRB , Kemiskinan , Dan Jumlah Penduduk Terhadap IPM Di Provinsi Jawa Timur Tahun 2017-2021." *Jurnal Ecogen* 5, no. 4 (2022): 517–27.

Sari, Karmila, and Azhari Akmal Tarigan. "Efektivitas Pendistribusian Dana Zakat , Infak Dan Sedekah (ZIS) Pada Badan Amil Zakat Nasional (BAZNAS) Kabupaten Asahan." *Jurnal Kajian Ekonomi & Bisnis Islam* 3, no. 6 (2022): 1262–71.

Suharto, Edi. *Membangun Masyarakat Meberdayakan Rakyat*. Edited by Aep Gunarsa. PT Refika Aditama, 2010.

UNDP. "The Next Frontier: Human Development and The Anthropocene." In *Human Development Report*. New York: United Nations Development Programme, 2020, 2020.

Wahab, Abdul. "Pengaruh Pertumbuhan Penduduk, Upah, Dan Inflasi Terhadap Pertumbuhan Ekonomi Dan Tingkat Pengangguran Terbuka Di Sulawesi Selatan." *Jurnal Ekonomi Pembangunan* 8, no. 2 (2022): 168–87.

Wibowo, Finantyo Eddy, and Aang Gunaepi. "Pengaruh Zis, Kemiskinan Dan Harapan Lama Sekolah Terhadap Indeks Pembangunan Manusia Di Provinsi Jawa Barat." *Jurnal Ilmiah Ilmu Administrasi (JIIA)* 11, no. 1 (2021): 19–28.

Widiastuti, Ayu Sindi, and Kosasih. "Pengaruh ZIS , Pertumbuhan Ekonomi , Pengangguran Dan Inflasi Terhadap Tingkat Kemiskinan Di Indonesia The Effect Of Zis , Economic Growth , Unemployment And Inflation On Poverty Levels In Indonesia." *Maro; Jurnal Ekonomi Syariah Dan Bisnis* 4, no. 1 (2021): 12.

Yafiz, Muhammad, and Budi Dharma. "Does Zakat And Government Social Expenditure Affect Poverty Level ? Evidence From North Sumatra Indonesia." *Journal of Namibian Studies* 34 (2023): 2864–74.

Yoga, Gede Agus Dian Maha. "Determinan Kesejahteraan Berdasarkan Indeks Pembangunan Manusia (Ipm) Di Provinsi Bali." *EKUILNOMI : Jurnal Ekonomi Pembangunan* 6, no. 2 (2024): 170–81.

Zeen, Rahmad Ridho, Marliyah Marliyah, and Muhammad Lathief Ilhamy Nasution. "Analisis Distribusi Dana Zakat YBM PLN Pada Program Pengembangbiakan Kambing Susu Perah Di Kabupaten Pakpak Bharat." *Jambura Economic Education Journal* 6, no. 2 (2024): 564–80. https://doi.org/10.37479/jeej.v6i2.25056.

Zidan, Muhammad Faiz, Muhammad Misbakul Munir, and Huslan Husada. "Studi Ayat-Ayat Zakat Sebagai Instrumen Peningkatan Indeks Pembangunan Manusia Muhammad." *Maklumat Journal of Da'wah and Islamic Studies* 2, no. 2 (2024): 76–83.