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The Impact of ZIS, Corruption, And Education on Income Inequality in Developing Countries: A Case Study of Indonesia

Cupian[1], Verina Araminda Prinary[1], Ramadhansyah Rayyan Effendy[1], Nabela Hapsari[1]
[1]Padjadjaran University, Indonesia

ABSTRACT

This research aims to explain and find out how much influence ZIS (Zakat, Infaq and Sadaqah), corruption and education have on income inequality in Indonesia. This research uses a saturated sample, with data sourced from data from the National Zakat Amil Agency (BAZNAS), Transparency International, Central Statistics Agency (BPS) and World Bank. The research uses quantitative and time series data, the time series data contains years from 2011 to 2022, with Stata 15 as a data processing tool and multiple linear regression as our method. The findings of this research show that ZIS has a negative and significant effect on income inequality. The corruption variable has a negative and significant effect on income inequality. The education variable has a positive and insignificant effect. In the coefficient of determination test, the data obtained was 93.06% which could be explained by ZIS, corruption and education, while the remaining 6.94% could be explained by the influence of other variables not examined by the author. Furthermore, the research results show that ZIS and corruption jointly influence income inequality.

***Keywords**: Corruption, Income Inequality, Education, ZIS (Zakat, Infaq, and Sadaqah)*

INTRODUCTION

Currently, Indonesia is the fourth most populous country in the world (*Worldometer*), with a total population as of 2023 of 277.5 million. While amongs 8 billion people in the world, 25% are Muslims and Indonesia is the country with the largest number of adherents of Islam with a percentage of 86.8% or 236.53 million people in 2021 (BPS, 2023). This makes Indonesia have high potential for collecting ZIS funds. The Chairman of BAZNAS, Noor Ahmad, stated that Indonesia has the potential for Zakat, Infaq and Sadaqah (ZIS) to reach more than IDR 500 trillion. Moreover, in 2023, there are already 512 Amil Zakat Agencies (BAZ), 49,132 Zakat Collection Units (UPZ), 145 Zakat Institutions and 10,124 Amil (KEMENAG, 2023). We can see this potential from the data on the collection of ZIS and DSKL funds from the National Amil Zakat Agency in the last 5 years where it can be seen that the amount of ZIS and DSKL funds continues to increase yearly. A significant increase in ZS and DSKL funds collected began to occur in 2021-2022, from 14 trillion to 22.43 trillion and in 2022-2023, from 22.43 to 33.5 trillion.

Indonesia in 2022 out of 140 countries is ranked 94th in *The World Justice Project Rule of Law Index* with a score of 0.4 in the *Absence of Corruption* category which considers 3 forms of corruption such as bribery, influence of public or private interests, and misappropriation of public funds or

other resources. While in the *Overview of Scores and Rankings* which includes aspects such as *Open Government, Fundamental Rights, Civil Justice* and others. Indonesia is ranked 64 out of 140 countries with a score of 0.53. The system uses a score between 0 and 1, with 1 indicating the strongest adherence to the rule of law.

Corruption is a global problem that affects various sectors of people's lives. It can be said that there is no single party that is not involved in corruption, both vertically and horizontally (Wibowo, 2022).

According to SISDIKNAS Law No. 20 of 2003, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society. According to data from BPS related to Indonesia's education level, Indonesia has increased from year to year until until 2022 reaching an average education at the elementary, junior high, and high school levels of 75.10%.

LITERATURE REVIEW

2.1. Theoretical foundation

2.1.1. Income Inequality

Income inequality is a major problem in the economic development process. Income inequality occurs because there is a gap between the income of the high-income population and the low-income population. The problem of income inequality is not only faced in developing countries, but even in developed countries. However, the difference lies in the size of the level of inequality that occurs, as well as the level of difficulty in overcoming it in each country (Damanik et al., 2018).

Income inequality has become a major issue in the implementation of economic development in developing countries. Many developing countries, which have experienced high levels of economic growth, are beginning to realize that high economic growth has not been successful enough to reduce or even eliminate the problem of income inequality. This is because high economic growth does not directly improve people's living standards. (Arsyad, 2010)

Kuznets argues that in the early stages of economic growth, income distribution tends to worsen, but in the later stages, income distribution will improve. To determine the distribution of people's income, it can be seen from the Gini index number in a region (Kuncoro, 2006). The value of the gini index ranges from 0 to 1. A value of 0 indicates that all income is distributed equally (*perfect equality*), while a value of 1 means that all income is owned by only one person or group of people in the overall distribution (*perfect inequality*).

Inequality in income distribution can be caused by several factors. (Adelman and Morris in Arsyad, 2010) eight causes of income inequality are:

1) High population growth has led to a decline in per capita income.
2) Inflation where money income increases but is not followed proportionally by an increase in the production of goods.
3) Uneven development between regions.

4) Heavy investment in capital-intensive projects.
5) Low social mobility.
6) Implementation of an import-substitution industrial policy that resulted in an increase in the prices of industrial products to protect the capitalist class.
7) Deteriorating exchange rate.
8) The absence of a folk craft industry.

2.1.2. Zakat, Infaq, and Sadaqah (ZIS)

Zakat is a certain part of the wealth that every Muslim is obliged to pay when it has reached the stipulated conditions. As one of the pillars of Islam. Zakat is paid to be given to those who are entitled to receive it (BAZNAS). The reason it is called zakat is because it contains the hope of obtaining blessings, cleansing the soul, and nurturing it with various goodness (Fiqh Sunnah, Sayyid Sabiq: 5). Etymologically, zakat means to grow (*an-namaa*), purify (*at-thaharatu*) and bless (*albarokatu*). While in terminology zakat has the meaning of issuing part of the treasure with certain requirements to be given to certain groups (mustahik) with certain requirements as well (Hafidhuddin, 2002). Zakat is a concept of worship taught by Islam by providing various benefits for both mustahik (zakat recipients) and muzakki (zakat givers). That way, both get great benefits.

Productive zakat is zakat that is managed in a productive way, which is done by providing business capital to the poor and needy as recipients of zakat and then developed, for the future (Asnainu, 2008). This productive zakat is different from consumptive zakat, because this consumptive zakat is in the form of direct distribution of funds in the form of compensation as a form of meeting the primary needs of mustahik (recipients) such as food, clothing, school fees, and others. So, this consumptive zakat can be called for consumable needs while productive zakat will provide a *multiplier effect* because there is a circulation of money that will generate.

Qadir (2001) argues that productive zakat is zakat given to mustahik as capital to carry out an economic activity, namely to develop the economic level and productivity potential of mustahik. Yusuf Al-Qardhawi in Nawawi (2010: 76) states that the Islamic government is allowed to build factories or companies from zakat funds and then ownership and profits are used for the benefit of the poor so that their needs can be met all the time. El-Din in Beik (2009) megalizes and states that the allocative function of zakat is said to be a tool or instrument to fight poverty. In addition to the zakat that has been explained above, the following is a further explanation of ZIS, namely:

a. Zakat

   Zakat is a portion of our wealth that is distributed by a Muslim to be allocated to groups or parties who are entitled to receive it. (Law No. 38 on Zakat Management, 1999).

b. Infak

   Infak is an asset issued by a person or business entity outside of zakat, which is intended for the public interest (Badan Amil Zakat Nasional, 2019). This is based on Law Number 23 of 2011 concerning Zakat Management.

c. Almsgiving

Alms are assets or non-assets that are issued for the public interest by a person or business entity other than zakat in accordance with Law No. 24 of 2011 (Badan Amil Zakat Nasional, 2019).

d. Other Religious Social Fund (DSKL)

Based on BAZNAS Regulation No. 2 on the Establishment and Work Procedures of the Zakat Collection Unit that Other Religious Social Funds (DSKL), which include votive assets, trust/trust assets, inheritance assets (not having heirs), sacrifices, expiation, fidyah, and confiscated assets as well as court administrative fees in religious courts (BAZNAS REGULATIONS, 2016).

2.1.3. Education

Education is one of the basic needs for all individuals and may be one of the factors that can release individuals and their families from poverty. This is because education is a "*social elevator"* which means that an individual can experience an increase in social position or status if the individual has a good educational background, from being at the lowest level in the various dimensions of social mobility according to Martin Lipset and Hans Zetterberg, which include occupancy ranking, consumption ranking, social class ranking, and power ranking.

Ki Hajar Dewantara, who we call the Father of Indonesian Education, believes that education is a demand in the life of growing children, guiding all the forces of nature that exist in these children so that they as humans and as members of society can achieve the highest safety and happiness. According to SISDIKNAS Law No. 20 of 2003, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society. In education there are levels set based on the development of students and the level of complexity of teaching materials. Later, each individual will experience an increase in levels from primary education when the individual is in the introduction period, secondary education when the individual starts character building, and higher education when the individual has become someone who has his own character and thoughts.

The level of education can be used as one of the indicators to see the welfare level of the population. The higher a person's level of education, the better the quality of that individual's human resources. According to Psacharopoulos in Kokila (2000), has emphasized the role of education in reducing inequality and poverty in line with Dejanvry and Sadoulet in Kokila (2000) who state that education reduces inequality and poverty directly, by increasing productivity for the poor, improving their chances of obtaining better paid jobs. Therefore, education is the most important factor that can get a person out of poverty. From there, we can see that poverty and education have a big connection because education provides the ability to develop through the pursuing of knowledge and skills (Suryawati, 2005).

2.1.4. Corruption

Corruption has become an international problem of nations and the causes of corruption can vary depending on the context. Usually, the media often publicizes corruption cases related to power in government. In fact, corruption has actually occurred from the simplest things to more complex things. Corruption is always associated with politics, economics, government policies on social and international issues, and national development. Every year, maybe even every month, many people are caught committing acts of corruption.

The definition of corruption can be viewed in various perspectives. In essence, corruption can occur in any aspect of life, not just government, giving rise to various definitions of corruption. Corruption is a term from the Latin "*corruptio"* from the verb *corrumpere* which means rotten, damaged, destabilizing, twisting, bribing, stealing. Nurdjana's opinion states that corruption is a term derived from the Greek "*corruptus*", which means actions that are not good, bad, cheating, can be bribed, immoral, deviating from sanctity, violating religious, mental and legal norms.

According to Indonesian law, corruption is an unlawful act with the intention of enriching oneself / others, both individuals and corporations, which can harm state finances or the state economy. Based on Law Number 31 of 1999 in conjunction with Law Number 20 of 2001. There are 30 corruption offenses categorized into 7 types.

1. State financial loss
2. Bribery
3. Extortion
4. Embezzlement in office
5. Fraudulent acts
6. Conflict of interest in the procurement of goods and services
7. Gratuities

2.2. Previous Research Results

Table 1. Article Summary

Title and Author	**Variables**	**Methods**	**Results**
The Effect of ZIS and Corruption on Income Inequality 2010-2019 in Indonesia (Reska, 2021)	Income Inequality (Y), ZIS (X1), Corruption (X2)	Quantitative analysis uses secondary data obtained through those available at BAZNAS, Transparency International, and BPS. The data analysis technique used is time series.	The results of testing together the ZIS and corruption variables on income inequality, state that these two variables have a significant effect together.
The Effect of Education, Unemployment,	Income Inequality (Y) Education (X1)	Using secondary data of cross section type with a quantitative	Education and poverty partially affect income inequality in Indonesia,

and Poverty on Income Inequality in Indonesia (Hindun, Seojoto, Hariyati, 2019)	Unemployment (X2) Poverty (X3)	approach. Associative research type, Pooled Least Square (PLS), Fixed Effect (FE), and Random Effect methods.	while unemployment does not. Then, education, unemployment, and poverty simultaneously affect income inequality.
The Effects of Corruption on Economic Growth and Income Inequality in Asian Countries (Dwiputri, 2020)	Corruption (X), Economic Growth (Y1), and Income Inequality (Y2)	The first essay uses a theoretical model developed from the Ramsey Economic Growth Model. The second essay uses empirical data with the Grease the Wheel Hypothesis approach.	The results show that corruption also negatively affects the level of income inequality, especially in Asia. The higher the level of corruption, the higher the level of income inequality in Asian countries.

2.3. Research Model

The research model explains the relationship between the independent variable (X) and the dependent variable (Y). Researchers provide a research model with the following image:

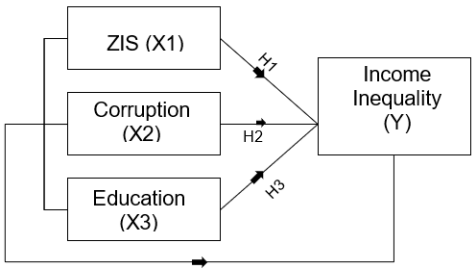

Figure 1. Framework of Thinking

2.4. Hypothesis

A hypothesis is a statement that predicts how variables relate to each other and that can be tested through research (Leanvy, 2017), while for this research will be formulated as follows:

H1 = It is suspected that there is a negative and significant effect of ZIS on income inequality.

H2 = It is suspected that there is a negative and significant effect of corruption on income inequality.

H3 = It is suspected that there is a negative and significant effect of education on income inequality.

H4 = It is suspected that there is a simultaneous influence of ZIS, corruption and education variables on income inequality.

RESEARCH METHODS

This section describes about operational definition and measurement of the variable used, population, sample data collection technique, data analysis technique, data

3.1 Operational Definition and Variable Measurement

This section is useful for clarifying and explaining each variable used in the research conducted.

3.1.1 Operational Definition

Based on the topic and title of the research conducted, namely "The

Impact of ZIS, Corruption, and Education on Income Inequality in Developing Countries: Case Study in Indonesia", researchers categorize the variables used in this study into three independent variables (X) and one dependent variable (Y). The explanation of each variable is as follows:

a. The dependent variable (Y)

The dependent variable in this study is income inequality, which uses the Gini index as its indicator. The value of the Gini index is 0-1, as the value approaches one, there is perfect income inequality, while as the value approaches 0, income is perfectly distributed.

b. Independent variable (X)

The independent variable (X) is the variable that affects the dependent variable. This variable is also called *explanatory variable*, *control variable*, *predictor variable*, and *regressor.* (Creswell, 2010)

1) ZIS (X1)

Consists of Zakat, Infaq, Sadaqah, and Waqf.

2) Corruption (X2)

Corruption is the act of individuals in the government who harm the state and the economic system of a nation because they commit bribery, dishonesty, and other deviant tasks from the main duties of their position with the aim of obtaining personal or group benefits.

3) Education (X3)

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society.

3.1.2 Variable Measurement

Applied to research by taking data from ZIS variables obtained from BAZNAS Statistics 2011-2022, data from corruption variables obtained from *Transparency International in* the form of *Corruption Perception Index* and data from education variables obtained from the Central Statistics Agency (BPS) in the form of Education Statistics Data.

Table 2. Variables

Research Variables	**Source**	**Indicator**	**Measurements**
Income Level (Y)	Worldbank	GINI Index	0-1
ZIS (X1)	BAZNAS Statistics	Growth of Zakat, Infaq, Sadaqah Fund Collection, (ZIS) and DSKL	Rupiah
Corruption (X2)	*Transparency International*	*Corruption Perception Index*	0-100
Education (X3)	Statistical Data, BPS	Education Level	Percentage (%)

3.2. Population and Sample

3.2.1. Population

The population that researchers use in the study is Indonesia with data sourced from the annual report of the National Amil Zakat Agency (BAZNAS), *Transparency International*, and the Central Statistics Agency (BPS) for education data through Education Statistics data.

3.2.2 Sample

In this study, researchers determined the sample with coverage in Indonesia from 2011 - 2022 with data obtained from the National Amil Zakat Agency (BAZNAS), *Corruption Perception Index*, and the Central Statistics Agency (BPS), or it can be said that this research uses non-probability sampling because the data has been determined and not randomized.

This study uses a saturated sample technique, which is the entire population used as a sample (Ansori, 2017). Taking for five years, namely 2011 to 2022 with ZIS data from BAZNAS, *Transparency International* and Education Statistics Data from the Central Statistics Agency (BPS). The length of the period was chosen because the effects of corruption are likely to affect the long term, so it is better to use a long period than just one year (You & Khagram, 2005).

3.3 Data Collection Technique

This research uses secondary data collection methods, with ZIS obtained from the annual National Zakat Statistics on the official website of the National Amil Zakat Agency (BAZNAS), while the *corruption perception index* is obtained from the publication by *Transparency International*, and the Central Bureau of Statistics (BPS) for the acquisition of Education Statistics Data. Each uses data according to coverage in Indonesia. As the dependent variable in this study, income inequality (Y), the independent variables are ZIS (X1), corruption (X2) and education (X3).

This research uses the quantitative data approach, which centered on research that achieves objectivity, control, and precise measurement. Methodologically, this approach relies on a deductive design that aims to refute or build evidence in favor of certain theories and hypotheses. Quantitative approaches are most often used in explaining research that investigates causal relationships, associations, and correlations (Leanvy, 2017).

3.4 Data Analysis Technique

3.4.1 Classical Assumption Test

The research stages in this regression method are carried out by multiple linear regression analysis, by fulfilling the requirements of the classical assumption test that has been determined and required, which consists of Normality Test, Multicollinearity Test, Autocorrelation Test and Heteroscedasticity Test.

3.4.2 Descriptive Statistics

Descriptive statistics are statistics used to analyze data by describing the data that has been collected without intending to make conclusions that apply to the public or generalizations. (Sugiyono, 2019)

3.4.3 Data Analysis

3.4.3.1 Multiple Linear Regression

This research uses quantitative methods, with data obtained secondarily, displayed time series. The data used and

collected with a five-year time series from 2011 to 2022. The econometric model formed in this study is as follows:

$$Y_t = a + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + e_t$$

Description:
Y = Income Inequality
a = Constant
b = Regression Coefficient
t = Time period
X_1 = ZIS
X_2 = Corruption
X_3 = Education
e = *Error term*

3.4.4 Hypothesis Test

This research will use F-test adn R-Squared test in conducting the hypothesis test, further explantion will be covered in discussion section.

DATA ANALYSIS AND DISCUSSION

4.1. Description of the Research Object

In this study, the type of data used by researchers is secondary data in the form of *time series* for twelve years in the period 2011-2022. The GINI index, which represents income inequality, decreased in the period from 2015 to 2022. This states that there is an equal distribution of income in that time range.

Table 3. Research Data

Year	Obs	XI	X2	X3
	Inequality	**ZIS**	**CIP**	**Education**
2011	0.405	1.729	30	0.69
2012	0.405	2.212	32	0.70
2013	0.408	2.639	32	0.71
2014	0.402	3.300	34	0.74
2015	0.404	3.650	36	0.75
2016	0.393	5.017	37	0.76
2017	0.388	6.224	37	0.76
2018	0.384	8.118	38	0.76
2019	0.376	10.228	40	0.76
2020	0.376	12.511	37	0.75
2021	0.379	14.118	38	0.75
2022	0.379	22.430	34	0.75

Source: National Zakat Agency, *Transparency International,* and Central Bureau of Statistics

Zakat is one of the obligations for a Muslim and is considered an act of worship, there is also infaq and sadaqah which is one form of worship that is recommended to be done by a Muslim to help others. ZIS has an influence on the distribution of assets with the aim of distributing these assets evenly among the community to help others. Based on Law No. 23 of 2011 concerning zakat management, BAZNAS is chosen as an institution that has the authority to collect and manage the zakat funds. In this law, BAZNAS has a strategic plan to increase the growth of ZIS collection, this is because of the digitalization in the method of collecting these funds, namely by collaborating with *fintech*

companies that make funders more flexible to provide zakat funds.

Education is very important for us humans to survive in this world. Because with education, one can have various skills and knowledge to succeed in facing all obstacles and problems. With education, people can have cognitive and emotional intelligence that helps them make the right decisions with crucial considerations. In microeconomics, the daily lives of households are filled with making crucial decisions for their family members. If a father, who is the backbone of the family, has an inadequate education and decides to work improperly, the needs of the household will not be met, which can have a negative impact such as committing crimes to meet needs such as corruption.

Corruption certainly causes losses to the state, the *corruption perception index* (CPI) has increased every year from 2011 to its peak in 2019. But in the following years, the *corruption perception index* experienced a fluctuating decline. Although many steps have been taken by the Indonesian government. Corruption is still commonplace and common in society. Corruption is very detrimental to many people, for those involved and those not involved in the case. Actually, corruption is very difficult to be monitored by the body in charge of combating it, because corruption is very ingrained in the individuals and the system itself. Starting from upstream to downstream, they have worked together to ensure that the entire process of running corruption can be carried out secretly. That's why so many state funds are reaped by irresponsible people and enjoy it at will.

4.2 Description of Research Data

The research used data for 12 years from 2011 to 2022. Using income inequality variable as dependent variable with GINI index, *corruption perception index* (CPI), and education as independent variables.

4.2.1 Income Inequality Variable

The dependent variable used is income inequality in this study. The indicator used is the GINI index which reflects a value of 0-1. As the value of the Gini index approaches 1, it indicates perfect income inequality and vice versa, if it is close to 0, it means that income is perfectly distributed.

Figure 2. GINI Index Graph

Source: Worldbank

In the graph above, it can be seen that in the 2011-2022 period, the smallest GINI index number occurred in 2019-2020, which amounted to 0.376. Then the highest GINI index number was in 2013 which amounted to 0.408. Which means that in the period 2019-2020 is a year where income distribution is more equitable than in 2013. In addition, there is also a decrease in the Gini index number from 2013 to 2020, namely from 0.408 to 0.376. But after that, there was another increase of 0.002, namely to 0.378 in 2022.

4.2.2. Zakat, Infaq, and Alms (ZIS) Variables

The first independent variable (XI) used in this study is ZIS. The indicator used is the growth rate of ZIS and DSKL fund collection from BAZNAS National Zakat Statistics in billion units, 2011-2022 period.

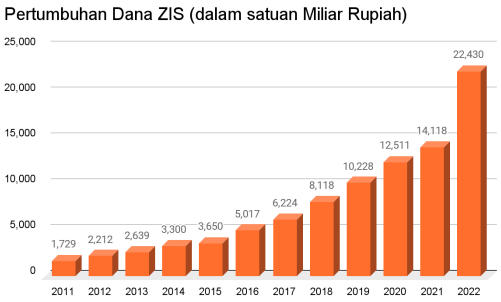

Figure 3. Graph of ZIS Collection Growth
Source: National Zakat Statistics

In the graph above, it can be seen that the period 2011-2022 reflects a continuous increase. We can see that in 2022 there was a significant increase from the previous year, namely 2021 by 59%, from 14.118 billion to 22.430 billion in 2022.

4.2 3. Corruption Variable

The second independent variable (X2) used in this study is corruption. The indicator used is the *corruption perception index* (CPI) which reflects a 0-100 scale where if the CPI value is higher, the country is more free from corruption. This research takes a period of 12 years, namely the period 2011-2022 in Indonesia.

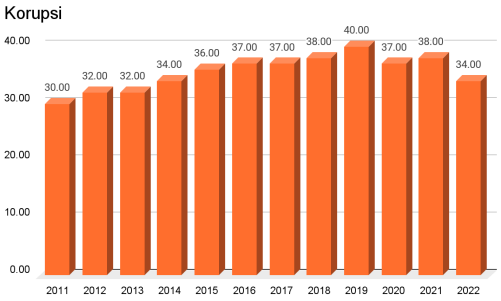

Figure 4. *Corruption Perception Index* Graph

Source: Transparency International

In the graph above, we can see that within a period of 12 years the highest *corruption perception index* number was in 2019. In addition, there was an increase in the *corruption perception index* from 2011 to 2019, which was 30 to 40. From there, we can know that in 2019 the Indonesian state was more free from corruption than in 2011.

4.2.4. Education Variables

The third independent variable (X3) used in this study is education. The indicator used is the average education level of elementary, junior high, and high school levels in Indonesia for the 2011-2022 period.

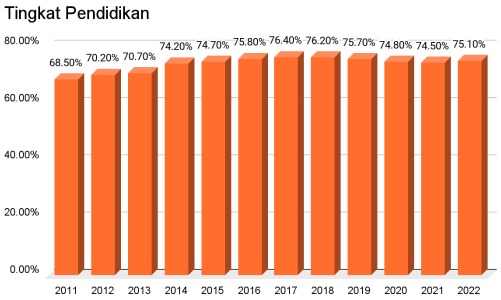

Figure 5: Indonesia's Education Level

Source: Central Bureau of Statistics, Susenas

In the graph above, there is an increase in the education level from 2011 to 2017, from 68.5% to 76.4%. After 2017, there is a decrease until 2021 and an increase again in 2022.

4.3 Hypothesis Testing and Analysis

4.3.1 Descriptive Statistical Analysis

The variables in this study are income inequality (Y), ZIS (X1), Corruption (X2), and Education (X3) for a period of 12 years, namely from the 2018 period to the 2022 period. This research uses descriptive statistical methods to display data statistically.

Table 4. Descriptive Statistics

Variables	Obs	Mean	Std Error	Min	Max
Inequality (Y)	12	0.3915833	0.0126739	0.376	0.408*
ZIS (X1)	12	8.653439	0.8098521	7.455877	10.0182
CPI (X2)	12	35.41667	2.998737	30	40
Education (X3)	12	0.739	0.0260803	0.685	0.764

Source: STATA Data Processing (2024)Source: STATA Data Processing (2024)

The table above is the result of data processing using multiple linear regression. It can be seen, Obs shows the amount of data or observations on each variable. The observations in the regression model in this study amounted to 12 because the observations used were in accordance with the number of observation periods, namely 2011-2022. The following is an explanation of the results of data processing on each variable:

a. Income Inequality Variable

The income inequality variable has an average of 0.391. The variable shows the highest value of 0.408 and the lowest value of 0.376. Meanwhile, the standard deviation or standard deviation value shows 0.0126.

b. ZIS Variable

The ZIS variable has an average of 8.65. This variable shows the highest value of 10,018 and the lowest value of 7.45. Meanwhile, the standard deviation value or standard deviation shows 0.809.

c. Corruption Variable

The corruption variable has an average of 35.4. This variable shows the highest value of 40 and the lowest value of 30. Meanwhile, the standard deviation value or standard deviation shows 2.99.

d. Education Variable

The education variable has an average of 0.739. This variable shows the highest value of 0.764 and the lowest value of 0.685. Meanwhile, the standard deviation value or standard deviation shows 0.026.

4.3.2. Classical Assumption Test

4.3.2.1. Normality Test

The normality test aims to determine whether the data is normally distributed or not. Data that has normality will have normal distributed observations. The normality testing step taken by researchers is to use the Skewness Kurtosis Tests method where if the Prob>z is greater than 5%, it can be said that the data for each variable is normally distributed.

Table 5. Skewness Kurtosis Test Results

Variables	Obs	Pr (Sk)	Pr (Kr)	Chi2	Max
Inequality	12	0.9813	0.0118	5.86	0.0535
ZIS	12	0.8174	0.3157	1.19	0.5526
CPI	12	0.5022	0.5938	0.79	0.6722
Education	12	0.0589	0.7153	4.04	0.1326

Source: STATA Data Processing (2024)

Based on the Skewness Kurtosis test results above, it can be seen that Prob>chi2 on each variable exceeds 5% alpha. So, it can be concluded that the data on inequality, lzis, cpi, and education variables are normally distributed.

4.3.2.2 Multicollinearity Test

The multicollinearity test aims to determine whether the regression model has a correlation between the independent variables or not. A regression model should not have a correlation to the independent variables because it will cause the regression model to be unrepresentative. In this study we used the Variance Inflation Factor (VIF) method to detect multicollinearity.

Table 6. Variance Inflation Factor (VIF) Test Results

Variables	Min	Max
Education	4.88	0.205113
CPI	4.36	0.229130
ZIS	2.09	0.478238
Mean VIF	3.78	

Source: STATA Data Processing (2024)

Based on the Variance Inflation Factor (VIF) test results, the result we get is an average VIF of 3.78. So, at the 5% level (alpha) the regression model of this study does not have a multicollinearity problem because the average VIF is smaller than 5.

4.3.2.3 Autocorrelation Test

Autocorrelation test aims to determine whether there is autocorrelation in the data or not. In this study we used the Breusch Godfrey Test method to detect autocorrelation in the regression model.

Table 7. Breusch Godfrey Test Results

Lags (p)	Chi 2	df	Prob > chi2
1	4.88	0.205113	0.9428

Source: STATA Data Processing (2024)

Based on the Breusch Godfrey test results, the Prob>chi2 value is 0.9428. So at the 5% level (alpha) this research regression model does not have an autocorrelation problem because the prob>chi2 of 0.9428 is greater than 0.5 (alpha).

4.3.2.4. Heteroscedasticity Test

Heteroscedasticity test aims to determine whether there are deviations in the model due to different variants from other observations. In this study we used the Breusch Pagan Test method to detect heteroscedacity in the regression model.

Table 8. Breusch Pagan Test Results

Chi2	0.50
Prob > chi2	0.4796

Source: STATA Data Processing (2024)

Based on the Breusch Pagan test results, the chi2 is 0.50. So at the 5% level (alpha) the regression model of this study does not have a heteroscedasticity problem because the chi2 of 0.50 is smaller than 7.815 (Xk2).

4.3.3. Multiple Linear Regression Analysis

In this study, the data processing method used is the multiple linear regression method where the data will be tested empirically. This method is useful for us to look for ties with functional properties, of two or more independent variables (dependent) with dependent variables (independent). The following are the multiple linear regression results of our research regression model:

Table 9. Multiple Linear Regression Analysis

Variables	Coefficient	Std. Error	t	P>|t|	95% conf, Interval	
ZIS	-0.13515	0.0021074	-6.41	0.000	-0.0183746	-0.0086555
CPI	-0.0020294	0.0008222	-2.47	0.039	-0.0039254	-0.0001334
Education	0.1703601	0.0999207	1.70	0.127	-0.0600573	0.4007776
_cons	0.4545128	0.0475834	9.55	0.000	0.3447853	0.5642404

Source: STATA Data Processing (2024)

Based on the results obtained above, explain the value using the multiple linear equation model as follows:

$$Ketimpangan_t = \beta_0 - \beta_1 ZIS_t - \beta_2 CPI_t +$$

$$Ketimpangan_t = 0.45 - 0.013 ZIS_t - 0$$

The regression model equation above can be interpreted as follows:

a. A constant of 0.45 means that if ZIS, Corruption, and Education do not exist, then income inequality is 0.45.
b. Every increase in ZIS fund growth by one unit will reduce income inequality by 1.3%, ceteris paribus.
c. Every one unit increase in *corruption perception index* will decrease income inequality by 0.002, ceteris paribus.
d. Every one unit increase in education will increase income inequality by 0.17, ceteris paribus

4.4 Hypothesis Test

Hypothesis testing in this study using the F test and t test. The results of the test are explained as follows.

4.4.1 F Test and R-Squared

The F-test conducted is useful to prove the effect of the independent variables on the dependent variable simultaneously and the R-Squared aims to explain how much the variation of the independent variable is able to explain the variation of the dependent variable. Since we use STATA, the F-test and R-Squared can be seen from the multiple regression results as follows.

Table 10. F Test Results and R-Squared

R-Squared	F	Sig	Hypothesis	Results
0.9306	35.77	0.0001	H0 rejected	Influential Simultaneously

Source: STATA Data Processing (2024)

Based on the regression results of this research model, it can be seen that the results of our F test are Prob> F < 0.05, namely 0.0001 < 0.05 or F count> F table, namely 35.77> 4.07. So it can be said that there is a meaningful (significant) relationship between the dependent variable and the independent variable and has a simultaneous influence. As for the R-Squared test, it can be said that the variation of the independent variable can explain the dependent variable by 93.06% and 6.94% is explained outside the model.

4.4.2 T-test

The t test method carried out is useful for proving the effect of the independent variable on the dependent variable partially. In this study, we can know the t test on each variable through the regression results that have been carried out previously, the following are the results of the regression model.

Table 11. T test results

Variables	t	Sig	Hypothesis	Results
ZIS	-6.41	0.000	H0 rejected	Influential
CPI	-2.47	0.039	H0 rejected	Influential
Education	1.70	0.127	H0 accepted	No Effect

Source: STATA Data Processing (2024)

The interpretation results of the t test:

a. The t-test result for ZIS variable shows that the p-value < alpha is 0.000 < 0.05 or t-count > t-table is 6.41 > 1.833. This means that ZIS has a significant effect on income inequality partially.
b. The t-test result for the CPI variable shows that the p-value < alpha is 0.039 < 0.05 or t-count > t-table is 2.47 > 1.833. This means that corruption has a significant effect on income inequality partially.
c. The t-test result for the Education variable shows that the p-value > alpha is 0.127 > 0.05 or t-count < t-table is 1.70 < 1.833. This means that the level of education has no significant effect on income inequality partially.

4.5. Discussion

4.5.1. Impact of Zakat, Infaq, and Alms (ZIS) on Income Inequality

Based on Stata output after managing the 2011-2022 period data displayed in the t test and also multiple linear regression, it shows that the ZIS variable has a negative and significant Impact on income inequality, where each increase in ZIS by one unit will reduce income inequality by 1.3%, ceteris paribus. This is in line with research conducted by Amani and M.Shabri entitled "Analysis of the Impact of ZIS, Inflation, and Economic Growth on Income Inequality and Poverty in Indonesia" in 2022.

4.5.2. Impact of Corruption on Income Inequality

Based on the results we obtained after processing the data for the period 2011-2022, we found that corruption has a negative and significant Impact on income inequality and an inverse relationship where every increase in the *Corruption Perception Index* by one unit will reduce income inequality by 0.002, ceteris paribus. This is in line with research conducted by Mulyani and Karimi entitled "The Impact of Foreign Investment (FDI), *corruption perception index* (CPI), and Unemployment on Income Inequality in Indonesia" in 2023.

4.5.3. Impact of Education on Income Inequality

Based on our results after processing the data for the period 2011-2022, we found that the education variable has a positive and insignificant Impact on income inequality. Where every increase in education by one unit will increase income inequality by 17%, ceteris paribus. This is in line with research conducted by Anshari, Zul Azhar and Ariusni entitled "Analysis of the Impact of Education, Provincial Minimum Wage and Capital Expenditure on Income Inequality in All Provinces in Indonesia" in 2018.

4.5.4. Impact of Zakat, Infaq, and Sadaqah (ZIS), Corruption, and Education Together on Income Inequality

Based on the results we presented about the Impact of ZIS, corruption and education variables on income inequality in the period 2011-2022, ZIS and corruption variables have a negative and significant Impact on income inequality, while the education variable has a positive and insignificant Impact, which means that the first and second hypotheses are accepted, while the third and fourth hypotheses are rejected. In this case it can be said that the ZIS and corruption variables contribute jointly, and have a real Impact on income inequality. Both variables can be used to estimate or predict the income inequality variable.

CONCLUSIONS, RESEARCH LIMITATIONS, AND SUGGESTIONS

5.1. Conclusion

It can be concluded from this study that the test results conducted from the first independent variable, ZIS, show the result that ZIS has a negative and significant effect on income inequality. For the second independent variable, Corruption, the results show that Corruption has a negative and significant effect on income inequality. For the third independent variable, Education, the results show that Education has a positive and insignificant effect on income inequality.

If we look back at the hypotheses set, only two hypotheses are fulfilled, namely the first hypothesis, which states that there is a negative and significant effect of ZIS on income inequality and the second hypothesis, which states that there is a negative and significant effect of corruption on income inequality. While the third hypothesis, which states that there is a negative and significant effect of education on income inequality and the fourth hypothesis, which states that there is a simultaneous effect of ZIS, Corruption and Education variables on Income Inequality, are rejected by the research results.

5.2. Research Limitations

In the research conducted, a perceived limitation of the research was that access to the research data was relatively difficult to obtain due to the lack of updates by government websites and also institutions responsible for the accessibility of the required data.

5.3. Suggestion

Based on the research results, there are theoretical and practical suggestions, including: Theoretically, for further research, it is expected to use more diverse and more conical variables that affect income inequality which is a problem in Indonesia. In addition, it is expected to increase the range of research periods in order to be able to make more in-depth results discussing the influence on income inequality.

Practically, for ZIS institutions, it is expected to be a motivation in maximizing the management of ZIS and other Islamic social funds in realizing existing potential. For KPK institutions, it is expected to maximize efforts in solving corruption to its roots and for educational institutions, it is expected to maximize the development of innovative education and support the sustainability of society. For the community, it is expected to be able to increase awareness of the contributions and impacts provided by ZIS, corruption and education in everyday life. For the government, the research results are expected to be a reference in maximizing the potential of ZIS, eradicating corruption and also developing education through policies or actions that can directly reduce or overcome current problems.

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Cupian
Padjadjaran University, Indonesia

Verina Araminda Prinary
Padjadjaran University, Indonesia

Ramadhansyah Rayyan Effendy
Padjadjaran University, Indonesia

Nabela Hapsari
Padjadjaran University, Indonesia