Zakat and Income Inequality in Indonesia:
Panel Data Analysis in 34 Provinces

Zakat dan Ketimpangan Pendapatan di Indonesia:
Analisis Data Panel di 34 Provinsi

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ABSTRAK

Tujuan utama dari makalah ini untuk menguji secara empiris pengaruh zakat, Produk Domestik Regional Bruto (PDRB) perkapita, Upah Minimum Regional/Provinsi (UMP), dan inflasi terhadap tingkat gini rasio di 34 provinsi di Indonesia selama tahun 2018-2020. Temuan penelitian ini menunjukkan bahwa distribusi zakat yang diproksikan dengan Indeks Kesejahteraan BAZNAS serta tingkat inflasi secara statistik tidak berpengaruh signifikan terhadap tingkat ketimpangan pendapatan di Indonesia. Sementara itu, tingkat PDRB perkapita dan UMP memiliki arah hubungan negatif dan berpengaruh signifikan secara statistik terhadap tingkat ketimpangan pendapatan di Indonesia. Penelitian ini memberikan rekomendasi kepada pengelola zakat untuk menciptakan dan mengembangkan program zakat yang mampu memberdayakan perekonomian mustahik sehingga mampu mengurangi tingkat kesenjangan pendapatan dalam masyarakat. Selain itu, seluruh pemangku kepentingan (stakeholders) harus bersinergi dalam upaya meningkatkan realisasi pengumpulan dana zakat di lembaga dengan melalui peningkatan literasi dan kesadaran masyarakat guna mengoptimalisasikan peran zakat dalam peningkatan kesejahteraan masyarakat.

Kata kunci: Indeks Kesejahteraan BAZNAS, Ketimpangan Pendapatan, Makroekonomi, Zakat.

ABSTRACT

The main objective of this paper was to empirically examine the effect of zakat, Gross Regional Domestic Product (GRDP) percapita, Regional/Provincial Minimum Wage, and inflation on the gini ratio in 34 provinces in Indonesia during 2018-2020. The findings of this study indicate that the distribution of zakat, which is proxied by the BAZNAS Welfare Index, and the inflation rate has no statistically significant effect on the level of income inequality in Indonesia. Meanwhile, GRDP per capita and Regional/Provincial Minimum Wage levels have a negative and statistically significant relationship to the level of income inequality in Indonesia. In order to lessen the degree of income inequality in society, this study offers recommendations to zakat managers on how to design and develop zakat programs that can strengthen the mustahik's economy. In addition, all stakeholders must work together in an effort to increase the realization of zakat fund collection in institutions by increasing literacy and public awareness in order to maximize the contribution of zakat to raising the welfare of mankind.

Keywords: Baznas Welfare Index, Income Inequality, Macroeconomics, Zakat.
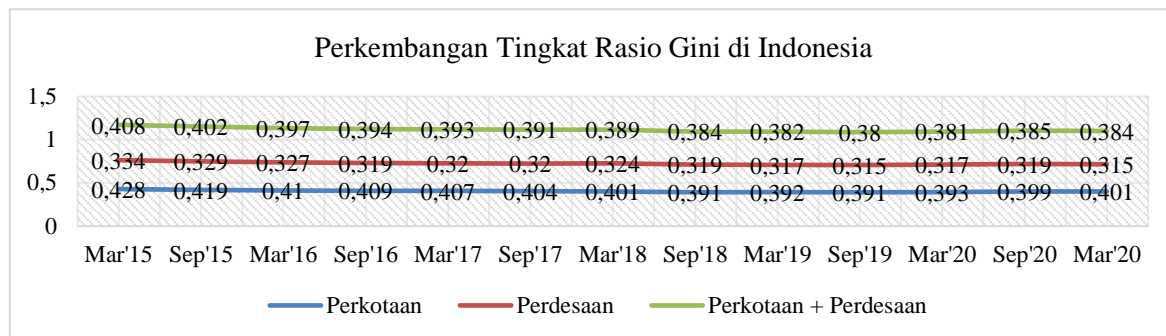
I. INTRODUCTION

Several indicators can be used to assess economic development in a region, one of which is economic growth (Mahfuzha et al., 2019). However, positive economic growth does not always guarantee the resolution of various problems that exist in the country, such as issues of justice and welfare. Development that only focuses on improving the economy alone will have the potential to create new problems in society, one of which is the problem of inequality (Sukwika, 2018). Income inequality in the economic field is a condition where there are significant differences in income

distribution between individuals, groups, populations, social classes, or countries (Carter & Howard, 2020).

Income inequality is a socio-economic problem that is still being faced by countries in the world today, including Indonesia (Afandi et al., 2017). Based on Statistics Indonesia's data for March 2021, the Gini ratio, which is an indicator of income inequality in Indonesia, is 0,384 in rural and urban areas, 0,315 in rural areas and 0,401 in urban areas (BPS, 2021c). Figure 1 shows the Gini ratio in Indonesia from March 2015 to March 2021.

Perkembangan Tingkat Rasio Gini di Indonesia

	Mar'15	Sep'15	Mar'16	Sep'16	Mar'17	Sep'17	Mar'18	Sep'18	Mar'19	Sep'19	Mar'20	Sep'20	Mar'20
Perkotaan + Perdesaan	0,408	0,402	0,397	0,394	0,393	0,391	0,389	0,384	0,382	0,38	0,381	0,385	0,384
Perdesaan	0,334	0,329	0,327	0,319	0,32	0,32	0,324	0,319	0,317	0,315	0,317	0,319	0,315
Perkotaan	0,428	0,419	0,41	0,409	0,407	0,404	0,401	0,391	0,392	0,391	0,393	0,399	0,401

Source: Statistics Indonesia (2021c)

Figure 1.
Indonesia's Gini ratio (2015 - 2021)

Based on Figure 1, it is shown that the level of the gini ratio in Indonesia nationally experienced a downward trend from March 2015 to September 2019. Then in March 2020, Indonesia's national gini ratio increased until September 2020 and then decreased by 0.001 in March 2021. The COVID-19 pandemic in Indonesia, which has been going on since March 2020, has been one of the driving factors driving the increase in the Gini ratio in Indonesia (BPS, 2021d). The problem of inequality needs to be given special attention, because the problem of inequality can be one of the factors causing other problems in society, such as poverty, crime, unemployment, and so on. The research findings of Kousar et al. (2019) showed that both in the short and long term income inequality is a major contributor to poverty problems. So that a growth policy that is pro-poor is needed and a rationalization of income distribution in a country that is sustainable in the long term. Furthermore, according to Hendri (2014) in his research which examined the relationship between income disparity and property crime in Indonesia, based on data collected from 33 provinces between 2007 and 2011, it resulted in findings stating that there is a direction of positive relationship and a significant influence between the level of income inequality. and the frequency of crime in society. In addition, income inequality can also affect the unemployment rate for women and economic growth in a region (Asongu & Odhiambo, 2019; Rahmadi & Parmadi 2019).

Seeing problems related to income inequality in society resulting from the inequality of income distribution in society, Islam exists as a religion of rahmatan lil 'alamin (رَحْمَةً لِّلْعٰلَمِيْن) providing a solution to solving the problem of income inequality by providing assistance in terms of fulfilling the necessities of life by distributing wealth and income (Saripudin et al., 2020). The system of distribution of wealth and income in the Islamic economy is reflected in Allah SWT's command to His people to carry out zakat worship. According to Islamic law, zakat is an order from the Qur'an to give a portion of one's wealth to a group entitled to receive it based on sharia (Ahmad & Mahmood, 2009). The payment of zakat has many resulting impacts on individuals and society. According to Abdelbaki (2013), zakat is able to cleanse the heart of someone who pays zakat, eliminate grudges and hatred in the hearts of people who receive zakat, create security and peace in society, multiply the wealth and rewards of someone who pays zakat, and is able to solve various other social problems. . One of the zakat orders in the Qur'an is contained in the letter At-Taubah verse 103 which reads:

خُذْ مِنْ اَمْوَالِهِمْ صَدَقَةً تُطَهِّرُهُمْ وَتُزَكِّيْهِمْ بِهَا وَصَلِّ عَلَيْهِمْۗ اِنَّ صَلٰوتَكَ سَكَنٌ لَّهُمْۗ وَاللّٰهُ سَمِيْعٌ عَلِيْم

Meaning: "Take zakat from their property, to clean and purify them, and pray for them. Truly your prayer (grow) peace of mind for them. Allah is All-Hearing, All-Knowing."

Indonesia with the largest Muslim population in the world (World Population Review, 2021) as well as the most generous country according to the Charities Aid Foundation (2021), has great

potential in collecting zakat funds. According to data from the BAZNAS Strategic Studies Center (2021), Indonesia has the potential to collect zakat of IDR 32,6 trillion in 2020. However, the actual collection of zakat, infaq, and alms funds is only IDR 12,4 trillion, with IDR 11,5 trillion channeled to mustahik. Whereas in the macro economy, zakat funds play an important role in the economy and can be used as an instrument in solving problems that exist in society(Iqbal, 2020).

The Indonesian government established an official institution that was given authority with the aim of increasing the distribution and use of zakat to overcome problems that carry out zakat management practices in Indonesia nationally, namely the National Zakat Amil Agency (BAZNAS). BAZNAS poverty, improve welfare, and moderate social inequality that occurs in society (BAZNAS Strategic Study Center, 2021). Besides BAZNAS, there are several institutions that help manage zakat in Indonesia, including LAZ and UPZ. The two institutions have the same goal, namely alleviating poverty through the distribution of Zakat, Infaq, and Sadaqah (ZIS), both consumptive and productive. Consumptive zakat is given to mustahik who are very old, unable to work and rely on other people's sustenance for their daily needs. Meanwhile, productive zakat given to mustahik Zakat, Infak, and Sadaqah (ZIS) is converted into an empowerment program to increase the added value, expertise, and independence of mustahik (Abdussalam, (Pusat Kajian Strategies, BAZNAS, 2019).

In solving the problem of income inequality that occurs in society, other variables that can also affect the level of inequality in society in a country are macroeconomic variables, such as Gross Regional Domestic Product (GRDP), inflation rate, minimum wage, and so on. According to the results of Deyshappriya's research (2017), it is stated that there is an inverse U-shaped (parabola) relationship between Gross Domestic Product (GDP) and the level of income inequality in Asian countries. Ha, Le, & Trung-Kien (2019) stated that there is a negative relationship with the significance of per capita income (GRDPpc) on income inequality in Vietnam's provinces, which means that higher per capita income contributes to reducing income inequality. Furthermore, Monnin (2014) stated that the inflation rate in 10 Organization of Economic Co-operation and Development (OECD) countries, namely Australia, Canada, Denmark, France, Japan, New Zealand, Norway, Sweden, United Kingdom and the United States during the 1970-2010 period has a significant and robust negative relationship to income inequality, and there is also a U-shaped relationship between inflation and income inequality in the long run.

According to Abdelbaki (2013) who conducted research on the impact of zakat on poverty and income distribution in Bahrain, he stated that zakat in Islamic economics is a fiscal policy capable of creating the desired justice in income distribution and eliminating poverty in a country. The results of this study are in line with Fadila's research (2019) who conducted research on the relationship between the distribution of zakat and the gini ratio in Indonesia, which resulted in the finding that there is a negative and significant correlation between the distribution of zakat and the gini ratio in Indonesia based on the results of Pearson's correlation analysis, which means that if distribution of zakat has increased, the gini ratio has decreased and vice versa. This is also in line with the findings of Darsono et al. (2019) who conducted research to analyze the effect of productive zakat on reducing income inequality among mustahik in the city of Yogyakarta. The results of this study indicate that the distribution of productive zakat reduces income inequality among mustahik as indicated by the decreasing area on the Lorenz curve. Furthermore, Afandi et al. (2021) who conducted research to find out the role of zakat as an instrument in efforts to reduce income inequality in the Muslim community of Selangor. The research was conducted by distributing structured questionnaires to zakat recipients in four areas in the Selangor district, namely Kuala Selangor, Petaling, Hulu Langat, and Klang. The findings of this study state that by using the Lorenz Curve and the Gini coefficient as a measure of income inequality in society, zakat is proven to be able to play a role in significantly reducing the level of income inequality. The findings also reveal that zakat institutions must immediately take policy action in order to improve their distribution channels to beneficiaries. Based on the results of these previous studies, it was concluded that zakat funds can be used as an instrument in solving inequality problems that occur in society. In order to maximize the management of zakat funds in Indonesia, special attention must be given to all stakeholders.

This research is a development of Abdelbaki's research (2013), Darsono et al. (2019), Fadila (2019), and Afandi et al. (2021) where these studies were still limited to a separate discussion regarding the effect of zakat and macroeconomic variables on income inequality. Therefore, this research was

conducted to bridge the gap in this research by analyzing the effect of zakat distribution and macroeconomic variables on the Gini ratio in 34 provinces in Indonesia in the 2018-2020 period in an empirical model. In this study, different proxies are used to measure the distribution of zakat and the inflation rate. The distribution of zakat is proxied using the BAZNAS Welfare Index, while inflation in this study is proxied by calculating the GRDP deflator of each province in Indonesia.

Based on the background that has been described, the researcher is interested in looking further at the relationship between macroeconomic factors and the distribution of zakat as measured by the BAZNAS Welfare Index on the Gini ratio in Indonesia from 2018 to 2020. The formulation of the problem in this study is: "How does the distribution affect zakat funds, minimum wage rates, inflation, and GRDP per capita to the Gini ratio in Indonesia?". Based on the formulation of the problem, the purpose of this study was to determine the partial and simultaneous effect of zakat distribution and macroeconomic variables on income inequality in Indonesia.

The findings in this study contributed to providing input to zakat management institutions to develop innovative zakat programs in empowering the mustahik economy, thereby reducing economic inequality in society. Second, the findings of this study can be used as material for consideration in formulating policies to resolve the problem of income inequality in Indonesia through zakat instruments and macroeconomic variables and can be used as considerations in formulating policies aimed at optimizing the management of zakat in Indonesia. Third, the findings of this study also contributed to increase knowledge about the relationship between the distribution of zakat funds which is proxied by the BAZNAS Welfare Index, GRDP per capita, Regional/Provincial Minimum Wage levels, and the level of inflation to solving the problem of income inequality in society which is proxied by the Gini ratio.

II.   LITERATURE REVIEW

Zakat

One of the fiscal instruments in Islam that can be used to help solve socio-economic problems in society by distributing wealth and income and helping people meet their basic needs is zakat (Saripudin et al., 2020). Zakat is also an instrument for community welfare development through income distribution (Ratnasari & Rosyidi, 2019). Based on the term, zakat has the meaning of removing a portion of assets according to the levels, haul, and terms and pillars that have been determined according to the Shari'a to be given to those who are entitled to these assets (mustahiq) (Ministry of Religion of the Republic of Indonesia, 2013; Nabila & Herianingrum, 2020) . The word zakat is listed in several verses of the Qur'an and is often mentioned sequentially with the prayer command, as in QS. Al-Baqarah Verse 43:

<div dir="rtl">وَاَقِيْمُوا الصَّلٰوةَ وَاٰتُوا الزَّكٰوةَ وَارْكَعُوْا مَعَ الرَّاكِعِيْن</div>

Meaning: "And pray, pay zakat, and bow with those who bow."

Based on this verse, it can be understood that the command to pay zakat is as important as the order to establish prayer for Muslims. Zakat as the third pillar of Islam that is ordered to Muslims, apart from aiming at the dimension of worship to Allah SWT, also plays an important role in the socio-economic dimension of social life (Halimatussa'idah & Prasetyo, 2021; Iqbal, 2020; Nabila & Herianingrum, 2020). According to Hafidhuddin (2002), zakat is a form of worship in the form of assets that provide benefits and wisdom to many parties, both muzaki or people who issue zakat, recipients of zakat assets (mustahiq), assets issued for zakat, and also to the people in general. The wisdom and benefits of zakat include: (1) zakat is a form of one's faith and gratitude to Allah SWT, increases a sense of solidarity, eliminates miserliness and greed, and can also give one's life peace; (2) zakat is useful for helping mustahik; (3) is a joint charity pillar (jama'i) for muzaki; (4) sources of funds for social, religious, health, and education infrastructure development; (5) requires proper business ethics; and (6) income distribution instruments.

The managing institution must immediately distribute the zakat funds that have been collected to mustahik, based on the priority scale. Zakat fund distribution activities cannot be separated from collection and management activities. If the collection is not optimal, it is possible that the institution will not receive zakat funds and there are no funds that can be distributed to mustahik. Thus, the

distribution of zakat is very dependent on zakat associated with the availability of funds, distribution channels, mustahik locations, distribution areas, and amil locations (Kamaludin Yusup et al., 2021). In terms of distribution, the distribution of zakat from muzakki to mustahik can be proxied by using several calculation proxies, one of which is based on real data on the distribution of zakat funds in zakat institutions or by using an index. As a government-appointed institution that takes responsibility for managing zakat nationally in Indonesia, BAZNAS has established several indexes related to zakat management, one of which is the BAZNAS Welfare Index. The BAZNAS Welfare Index is an index developed by the BAZNAS Strategic Studies Center which is used to assess the impact of poverty alleviation programs on the welfare of beneficiaries according to *Maqashid Syariah*. The BAZNAS Welfare Index is built by combining three different indexes. The BAZNAS Welfare Index was officially released by the BAZNAS Strategic Studies Center on October 17 2019. However, since 2016 the BAZNAS Strategic Studies Center has compiled and used the BAZNAS Welfare Index as a measuring tool to find out the extent of the influence of zakat distribution that has been carried out by the institution to mustahik (Pusat Kajian Strategis BAZNAS, 2021).

Income Inequality

Income inequality in the economic field is a condition where there are significant differences in income distribution between individuals, groups, populations, social classes, or countries (Carter & Howard, 2020). The problem of inequality or disparity in income distribution often occurs in several countries of the world, especially developing countries like Indonesia. The problem of income inequality that occurs in society if it is not resolved immediately will have an impact on the emergence of new problems that can have an adverse impact on the socio-political conditions in a country. Based on previous research, income inequality is a factor causing other problems that occur in society, such as increasing poverty, crime, unemployment rates for women and economic growth in a region, as well as other problems (Hendri, 2014; Asongu & Odhiambo, 2019; Kousar dkk., 2019; Rahmadi & Parmadi, 2019).

Kousar et al. (2019) in his research stated that in the long and short term, income inequality has a positive direction and a significant influence on the level of poverty in society. That is, the higher the level of income inequality that occurs in a society will have an impact on the higher the level of poverty in that community, so a growth policy that is pro-poor is needed and rationalization of income distribution in a country is needed. Furthermore, Hendri (2014) in his research which examined the relationship between property crime and income in Indonesia based on socio-economic data collected from 34 provinces between 2007 and 2011, produced findings that stated that there was a direction of positive relationship and a significant influence between the level of income inequality and crime frequency in society.

One indicator that can be used as a tool to measure the level of income inequality between residents is the Gini ratio. The Gini ratio is an indicator that shows the overall level of expenditure in society which can be used to measure the income/expenditure of the population in an area (BPS, 2021). A lower Gini ratio value indicates a higher level of income inequality in an area. The Gini ratio is calculated by comparing the cumulative percentage of the population with the cumulative percentage of each household's income on a scale of 0 to 1 (OECD, 2021). The Gini ratio is mathematically defined based on the Lorenz curve, which describes the proportion of income of the total population (y axis) obtained cumulatively from the bottom x% of the population (Ramzai, 2020).

In terms of the problem of income inequality, Islam exists as a religion of rahmatan lil al-amin (رَحْمَةً لِّلْعٰلَمِيْن) with the teachings of income distribution as a solution to minimize the level of income inequality that occurs in society (Kalsum, 2018). In the teachings of Islam, ownership or control of assets by one person or a group of people in society is a prohibited act, this is in accordance with the word of Allah SWT in QS. Al-Hashr verse 7 follows:

مَآ اَفَآءَ اللّٰهُ عَلٰى رَسُوْلِهٖ مِنْ اَهْلِ الْقُرٰى فَلِلّٰهِ وَلِلرَّسُوْلِ وَلِذِى الْقُرْبٰى وَالْيَتٰمٰى وَالْمَسٰكِيْنِ وَابْنِ السَّبِيْلِۙ كَيْ لَا يَكُوْنَ دُوْلَةً ۢ بَيْنَ الْاَغْنِيَآءِ مِنْكُمْۗ وَمَآ اٰتٰىكُمُ الرَّسُوْلُ فَخُذُوْهُ وَمَا نَهٰىكُمْ عَنْهُ فَانْتَهُوْاۚ وَاتَّقُوا اللّٰهَ ۗاِنَّ اللّٰهَ شَدِيْدُ الْعِقَاب

Meaning: "Anything (wealth obtained without war) that Allah bestowed on His Messenger from residents of several countries is for Allah, the Messenger, relatives (Rasul), orphans, the poor, and people on the way. (Thus) so that the wealth does not circulate only among the rich among you. What

the Prophet gave you, accept it. What he forbids you leave. Fear Allah. Verily, Allah is severe in punishment."

In this verse it is explained that zakat is an instrument to prevent the accumulation of wealth in a group of people by distributing some of the assets if they have passed the nishab (Hafidhuddin, 2002: 14). Income distribution in Islam is carried out through the provision of assistance in terms of fulfilling basic life needs, one of which is through the order of zakat (Saripudin et al., 2020). Zakat has an important role in solving the problem of income inequality in society, because zakat trains a person's sense of responsibility and awareness of other people in need (Lahjouji & Rouggani, 2016).

Hypothesis Development

Zakat, infaq, alms are teachings in Islam that have two-dimensional objectives in them, namely the divine dimension and the human or social dimension (Syafiq, 2016). This means zakat, infaq, and alms are included in Islamic philanthropic instruments which in social life can play a role in improving people's welfare if managed properly. According to some previous research conducted by Abdelbaki (2013), Darsono et al. (2019), Fadila (2019), and Afandi et al. (2021) stated that the amount of income inequality in society has decreased significantly due to the distribution of Zakat, Infaq, and Sadaqah (ZIS) funds to mustahik. Different results were found by Senadjki et al. (2015) which stated that in 14 states of Malaysia, zakat does not have a significant impact on the level of income inequality. Based on previous research, the research hypothesis is:

H1: The distribution of zakat funds has a negative and significant relationship to the level of income inequality in Indonesia.

The minimum wage is an economic instrument that is able to play a role in increasing income while at the same time being able to reduce the level of inequality and poverty that occurs in society (Sungkar et al., 2015). Meanwhile, the Regional/Provincial Minimum Wage (UMP) is the minimum wage limit given by employers to workers in each province. Based on the findings of previous studies by Chun & Khor (2010), Lin & Yun (2016), and Anshari, Azhar, & Ariusni (2019), it showed that an increase in the minimum wage has a negative relationship and has a significant impact on the level of income inequality in a region. Different results were found by Sungkar et al. (2015) and Suryani & Woyanti (2021) which stated that the minimum wage has a positive relationship and has a significant effect on the level of income inequality in Indonesia, which means that the higher the minimum wage has an effect on increasing income inequality. Based on previous research, the research hypothesis is:

H2: Regional/Provincial Minimum Wage Levels have a negative and significant relationship to the level of income inequality in Indonesia.

The net economic value of an area resulting from economic activities over a certain period of time is known as the Gross Regional Domestic Product (GRDP) (Munandar & Wardoyo, 2015). Based on previous research by Saputri, (2017); Ha et al. (2019); Untari, Priyarsono, & Novianti (2019); and Yuliani et al. (2021) showed the results that GRDP per capita has a negative relationship and significantly impacts the level of income inequality in a region , which means that a higher level of GRDP per capita can contribute to reducing income inequality in that region. In contrast to these findings, Alamanda (2021) in her research stated that GDP growth has a positive correlation with the Gini Index, which means that the higher the economic growth in a region, the greater the income disparity that occurs between rich and poor people. Based on previous research, the research hypothesis is:

H3: The level of per capita GRDP has a negative and significant relationship to the level of income inequality in Indonesia.

Inflation is a general term that refers to a continuous increase in the price of goods and/or services within a certain period (Karim, 2015: 135). According to the findings of a previous study by Deyshappriya (2017) who examined macroeconomic factors in 33 Asian countries for income inequality using the dynamic panel data analysis method, stated that higher inflation had an effect on increasing inequality in Asian countries. Rising inflation reduces the purchasing power of the poor and widens the gap between the rich and the poor. In contrast to these findings, Bucevska (2019) and Siami-Namini & Hudson (2019) state that inflation does not have a significant effect on the level of income inequality in a region. Based on previous research, the research hypothesis is:

H4: The inflation rate has a positive and significant relationship to the level of income inequality in Indonesia.

H5: the variables of Zakat, regional/provincial minimum wages, GRDP per capita, and the inflation rate simultaneously affect the level of income inequality in Indonesia.

III.   RESEARCH METHOD

Research Approach

This study adopted a quantitative methodology, which is a methodology that has clear research objectives and directions and aims to develop or assemble a theory from the information that is already available (Kurniawan & Puspitaningtyas, 2016: 20). According to Siyoto & Sodik (2015: 17) it is stated that in quantitative research the topic of research problems has a broader scope and has a complex range of variations carried out in a structured, systematic, and planned manner which aims to test the relationship of two variables and hypotheses that have been determined by researcher.

To understand how zakat and macroeconomic variables influence the level of income inequality in 34 provinces in Indonesia between 2018 and 2020, this study examined this relationship empirically. The distribution of zakat funds was proxied by the BAZNAS Welfare Index from 34 provinces in Indonesia. Meanwhile, the macroeconomic variables used in this study were per capita Gross Regional Domestic Product (GRDP), Regional/Provincial Minimum Wage, and the inflation rate. Furthermore, the Gini ratio index in each province was used as a proxy for measuring the level of income inequality in this study. Based on the research variables that have been described, the regression model in this study can be formulated as follows:

$$GINI_{it} = \beta_{0i} + \beta_{1}IKB_{it} + \beta_{2}UMP_{it} + \beta_{3}PDRB_{it} + \beta_{3}INF_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots(1)$$

Description:

$GINI_{it}$ = Gini Ratio Index; β_{0i} = constant; IKB_{it} = BAZNAS Welfare Index; $PDRB_{it}$ = Total Gross Regional Domestic Product per capita; INF_{t} = Level of Inflation; UMP_{t} = Regional/Provincial Minimum Wage Levels; ε_{it} = *Standard error;* $_{i}$ = Region (Province)

Operational Definition

Sarwono (2006: 67) defines the operational definition as a guideline for measuring each research variable. The operational definition of variables needs to be done to make it easier for researchers to find relationships between variables and measurements of each research variable used (Sarwono, 2006: 67). According to Syahrum & Salim (2016: 109-110) the operational definition has two main functions. First, making variables into empirical and measurable forms. Second, it provides limitations on variables so that they have definite and fixed criteria. Table 1 details the operational definitions of the research variables:

Table 1.
Operational Definition

Dependent variable	Proxy	Description
Gini	Gini ratio	The Gini ratio measures the degree of income inequality in a given society. This study used the average rural and urban Gini ratio index obtained from BPS publications. More detailed Gini ratio data in this study were obtained from the following calculations. $$Gini\ Avarage = \frac{Gini\ SMT\ 1 + Gini\ SMT\ 2}{2}$$
Independent Variable	Proxy	Description
Zakat	BAZNAS Welfare Index	The index used to assess the impact of the zakat program on the welfare of zakat recipients (mustahik). BAZNAS Prosperity Index data in this study were collected from publications by the BAZNAS Strategic Studies Center.
Provincial Minimum Wage (Ump)	Ln Regional/Provincial Minimum Wage	Regional/Provincial Minimum Wage (UMP) is the minimum wage limit given by employers to workers in each province. In this study, regional/provincial minimum wage data were obtained from BPS publications. In the process of data processing, regional/provincial minimum

			wages are converted into natural logarithmic form (Ln) to interpret the data in percentage form.
GRDP	LN GRDP per capita constant 2010 (business sector)		An indicator which is the quotient of the GRDP value with the number of residents in a region during a certain period of time. In this study, 2010 constant GRDP per capita data were obtained from BPS publications. In the data processing process, per capita GRDP data is converted into natural logarithm (Ln) so that the data can be interpreted in percentage form.
Inflation	Inflation Rate		The percentage increase in price from one year to the next. The difference between the GDP deflator for each province in year t and year t-1 is used to calculate inflation in this study. GRDP deflator is obtained from the following calculations. $GRDP\ Def = \frac{GRDP\ Nominal}{GRDP\ Real} X\ 100$ Furthermore, inflation Rate obtained from: $$Inflation\ (t) = \frac{GRDP\ Def(t) - GRDP\ Def(t-1)}{GRDP\ Def(t-1)} X\ 100$$ Source : (Mankiw, 2010: 205-206)

Source: Data processed by author (2021)

Data Types and Sources

This study used panel data which includes cross-sectional and time-series data, which consists of zakat distribution data and macroeconomic variables as well as gini ratios from 34 provinces in Indonesia from 2018 to 2020. In this study, BAZNAS Welfare Index data from BAZNAS publications (https://www.puskasbaznas.com). GRDP per capita, minimum wage, and gini ratio are obtained from BPS publications (https://www.bps.go.id/). Meanwhile, for inflation rate data obtained from calculations carried out by researchers using the GRDP deflator.

Analysis Model

In this study, panel data regression analysis was used as an analytical tool to see how the independent variables affect the dependent variable from time to time (Srihardianti et al., 2016). In estimating the panel data regression model, there are three possible models, namely Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) (Gujarati & Porter, 2015: 593-594).

In panel data regression, there is a panel data regression estimation model selection technique performed statistically with the aim of obtaining the best estimation model (Caraka, 2017: 10). The Housman test was used in selecting the panel data regression estimation model. In addition, three statistical tests were used to test hypotheses in research, namely partial test (t test), simultaneous test (F test), and taking into account the value of the coefficient of determination (R^2) to assess the accuracy of the independent variables.

IV. RESULTS AND DISCUSSION

Statistics Description

The mean, median, maximum, minimum, and standard deviation of each variable were included in the statistical descriptions of the variables in this study. Statistical descriptions in this study are explained in detail in Table 2.

Table 2.
Variable Statistical Description

	GINI	IKB	LN_UMP	LN_PDRBPERKAPITA	INFLASI
Mean	0.3517	0.5927	14.6945	4.5525	2.1317
Median	0.3425	0.6050	14.7147	4.5372	2.4168
Max.	0.4355	0.9500	15.2686	5.2403	6.8010
Min.	0.2595	0.2100	14.1899	4.0889	-4.2607
Std. Dev.	0.0360	0.1676	0.2192	0.2340	1.9323
Obs.	102	102	102	102	102

Source: data Processed by the peneliti (Eviews 10)

Table 2 shows that the average value of the gini ratio in Indonesia during 2018-2020 was 0.3517 and the median value was 0.3425. The maximum Gini ratio level is 0.4355, namely the Gini ratio level for the Province of the Special Region of Yogyakarta in 2020. Meanwhile, the minimum Gini ratio level is 0.2595, namely the Gini ratio level for the Bangka Belitung Islands Province in 2020.

The distribution of zakat in this study was proxied through the BAZNAS Welfare Index. The average value of the BAZNAS Welfare Index in Indonesia during 2018-2020 is 0.5927 and the median value is 0.6050. The maximum BAZNAS Welfare Index value is 0.9500, namely the West Nusa Tenggara Province BAZNAS Welfare Index value in 2018. Meanwhile, the minimum BAZNAS Welfare Index value is 0.2100, namely West Sulawesi Province BAZNAS Welfare Index in 2020.

The minimum wage rate in this study was proxied through the natural logarithm (Ln) of regional/provincial minimum wages. The average value of the minimum wage in Indonesia during 2018-2020 is 14.6945 and the median value is 14.7147. The highest minimum wage rate is 15.2686, which is the Gini ratio level for DKI Jakarta Province in 2020. Meanwhile, the lowest minimum wage rate is 14.1899, which is the Gini ratio level for the Special Region of Yogyakarta Province in 2018.

The inflation rate in this study was obtained from the difference between the GDP deflator for each province in year t and year t-1. The average inflation rate in Indonesia during 2018-2020 was 2.1317 and the median value was 2.4168. The maximum inflation rate is 6.8010, namely inflation in Papua Province in 2019. Meanwhile, minimum inflation is -4.2607, namely inflation in Jambi Province in 2020.

The level of Gross Regional Domestic Product (GDP) per capita in this study is proxied through the natural logarithm (Ln) of GRDP per capita. The average GRDP per capita level in Indonesia during 2018-2020 is 4.5525 and the median value is 4.5372. The maximum GRDP per capita level is 5.2403, namely the PDRB per capita for DKI Jakarta Province in 2019. Meanwhile, the minimum GRDP per capita is 4.0889, namely the GRDP per capita for East Nusa Tenggara Province in 2018.

Panel Data Regression Analysis

Based on the Hausman test results, it was found that the panel data regression in this study used the Fixed Effect Model (FEM) as the best model. Table 3 presents the results of the panel regression analysis in this study.

Table 3.
Regression Results

Independent Variables	Coefficient	t-Statistic	Prob.	Conclusion
C	1.7059	6.4821	0.0000	-
IKB	-0.0076	-1.4249	0.1590	Not Significant
LN_UMP	-0.0603	-4.2391	0.0001	Significant
LN_PDRBPERKAPITA	-0.1018	-2.2119	0.0305	Significant
INFLATION	0.0001	0.3192	0.7506	Not Significant

Source: data processed by Author (Eviews 10)

Based on the results of the panel data regression test with FEM above, the panel data regression equation in this study is obtained as follows.

$$\text{GINI} = 1.7059 - 0.0076 \, IKB_{it} - 0.0603 \, UMP_{it} - 0.1018 \, PDRB_{it} + 0.0001 \, INF_{it} \dots\dots\dots\dots\dots\dots\dots (2)$$

The partial effect of each independent variable on the dependent variable is shown in Table 3. The findings of the t test in this study are described below.

1. The BAZNAS Welfare Index variable has a probability value greater than a significance value of 5%, which is equal to 0.1590. Meanwhile, the coefficient value of the BAZNAS Welfare Index is -0.0076. This means that the BAZNAS Welfare Index variable statistically has a negative relationship but has no significant effect on the gini ratio.

2. The Regional/Provincial Minimum Wage (UMP) variable has a probability value that is smaller than a significance value of 5%, which is equal to 0.0001. Meanwhile, the coefficient value of UMP is -0.0603. This means that the UMP variable statistically has a negative and significant relationship to the gini ratio.

3. The Gross Regional Domestic Product per capita (GRDP) variable has a probability value that is smaller than the 5% significance value, which is equal to 0.0305. Meanwhile, the coefficient value of GRDP per capita is -0.0442. This means that the GRDP per capita variable statistically has a

negative and significant relationship to the Gini ratio..

4.   The inflation variable has a probability value that is greater than the 5% significance value, which is 0.7506. Meanwhile, the coefficient value of inflation is 0.0001. This means that the inflation variable statistically has a positive direction and has no significant effect on the Gini ratio.

In this study, the F test was used to determine whether the independent variables simultaneously affect the dependent variable. The results of the F test of this study are presented in Table 4 as follows.

Table 4.
F test result

	Value
F-statistic	145.6799
Prob. (F-statistic)	0.0000

Source: data processed by researcher (Eviews 10)

Based on Table 4 it is explained that the Prob(F-statistic) value is 0.0000, where the value is smaller than the 5% significance value. This means that the BAZNAS Welfare Index, Regional/Provincial Minimum Wage, GRDP per capita, and inflation statistically simultaneously (simultaneously) affect the gini ratio. Furthermore, to determine the accuracy of the independent variables in this study used the coefficient of determination (R2). Table 5 below is the value of the coefficient of determination in this study.

Table 5.
R-square (R2) Value

	Value
R-squared	0.9882
Adj. R-squared	0.9814

Source : data Processed by researcher (Eviews 10)

The R-square value (R2) in the panel regression model of this study is 0.9882. Thus, variations in the BAZNAS Welfare Index, Regional/Provincial Minimum Wage, GRDP per capita, and inflation can explain the variation in the Gini ratio of 98.8%.

Results Interpretation

The probability value of the BAZNAS Welfare Index variable in Table 3 shows a value of 0.1590, where the value is greater than the 5% significance value. This means that the BAZNAS Welfare Index variable statistically has a negative direction but does not have a significant effect on the Gini ratio. This finding rejects the first hypothesis which stated that the distribution of zakat funds has a negative and significant relationship to the level of income inequality in Indonesia. According to Fadila (2019), zakat distribution has a negative and significant relationship to the Gini ratio, so that zakat distribution can be a solution for equal distribution of income and reducing economic disparities between community groups. Furthermore, according to Abdelbaki (2013), the distribution of wealth and income can be made more equitable through zakat, which also helps reduce poverty in Muslim societies. The same argument was also mentioned by Darsono et al. (2019) and Afandi et al. (2021) who found that income inequality can be reduced through the distribution of productive zakat which is distributed to mustahik as indicated by the decrease in the area on the Lorenz curve. However, the results of this study indicate that the distribution of zakat proxied by the BAZNAS Welfare Index has a negative and insignificant relationship to the level of income inequality in Indonesian society, in contrast to the findings of several previous studies.

The findings in this study are in line with the results of previous research by Senadjki, Nachef, and Rusli (2015) which stated that the collection and distribution of zakat is not able to have a significant effect on the level of income inequality. The reason why zakat has not been able to significantly influence the level of income inequality in Indonesian society according to the findings of this study can occur for two reasons. First, the realization of collecting zakat funds in Indonesia is still not optimal and far from the collection potential that is owned, so that the funds distributed to zakat recipients (muzaki) are few and have not been able to overcome the problem of income inequality between the poor and the rich. Based on data from the BAZNAS Strategic Studies Center (2021), in 2020 Indonesia has the potential to collect zakat of IDR 327.6 trillion. However, in the realization of collecting Zakat, Infak, and Alms (ZIS) funds in 2020 it only reached Rp. 12.4 trillion or the equivalent of 3.78% of the potential fundraising owned, with a total distribution of zakat funds to muzakis of Rp. 11.5 trillion .

One of the reasons for the suboptimal collection of zakat funds in Indonesian zakat management institutions is that there are still many muzaki in Indonesia, particularly in Java, Kalimantan, Sumatra and Sulawesi who choose to pay their zakat to mustahik directly without going through amil institutions (BAZNAS Strategic Studies Center, 2021). This then has an impact on the less than optimal role of zakat in reducing poverty and income inequality in society, because most productive zakat utilization programs are only available at zakat management institutions. Meanwhile, most of the distribution of zakat directly from muzaki to mustahik is consumptive. This is in accordance with the opinion of Hudaefi et al. (2021) which stated that the distribution of zakat through zakat management institutions is better in terms of achieving common interests compared to distributing zakat to mustahik directly. Furthermore, the fact that existing management institutions have not been able to distribute zakat funds to every mustahik in Indonesia is another factor that causes the distribution of zakat to have no significant effect on the level of income inequality in Indonesia. This is evident from the data from the BAZNAS Strategic Studies Center (2021) which showed that the distribution of zakat, infaq, alms funds by regional BAZNAS and LAZ is only able to reach 285,063 mustahik or 44% of the total mustahik.

Furthermore, the Regional/Provincial Minimum Wage (UMP) has a probability value of 0.0001, where the value is smaller than the 5% significance value. Meanwhile, the coefficient value of UMP is -0.0603. This shows that there is an inverse relationship between the UMP and the Gini ratio, which means that an increase in the UMP in a province will have an impact on a decrease in the Gini ratio in that province. These findings are supported by previous research conducted by Chun & Khor (2010), Lin & Yun (2016), and Anshari, Azhar, & Ariusni (2019) which have proven that an increase in the minimum wage has a negative and significant relationship to the level of inequality income in an area. Thus, this finding accepts the second hypothesis which states that the UMP level has a negative and significant relationship to the level of income inequality in Indonesia.

Regional/Provincial Minimum Wage (UMP) is the minimum wage limit given by employers to workers in each province. The Governor determines the provincial minimum wage every year based on applicable regulations. The findings of this study state that the higher the value of the minimum wage set in a province has a significant effect on reducing the level of income inequality in the region. This is because the minimum wage is one of the macroeconomic tools aimed at increasing the welfare of workers as well as achieving equal distribution of income and social justice in society (Trimaya, 2014).

The third variable is the level of Gross Regional Domestic Product (GDP) per capita. In this study, GRDP per capita has a probability value of 0.0305, where the value is smaller than the 5% significance value. Meanwhile, the coefficient value of GRDP per capita is -0.1018. This shows that there is an inverse relationship between GRDP per capita and the Gini ratio, which means that the higher the GRDP per capita level of society in a province has an impact on reducing the Gini ratio in that province. These findings are supported by previous research conducted by Saputri, (2017); Ha et al. (2019); Untari, Priyarsono, & Novianti (2019); and Yuliani et al. (2021) showed the results that GRDP per capita has a negative relationship with the level of income inequality in a region. Based on these findings, this study accepts the third hypothesis which stated that the level of GRDP per capita has a negative and significant relationship to the level of income inequality in Indonesia.

GRDP per capita is the quotient of the GRDP value by the number of residents in an area per certain period (BPS, 2021b). GRDP per capita is one of the macroeconomic instruments that can play an important role in reducing the level of income inequality that occurs in a society. The findings of this study stated that the higher the net output value obtained from per capita economic activity in a region, it has a significant effect on reducing the level of income inequality in the region. The reason is that per capita GRDP is an indicator that can be used to assess the actual per capita economic growth rate of the population in an area (Logarithma, 2021), so that the higher the per capita GRDP in a region indicates the higher the welfare and income distribution of the people in the region.

The fourth variable, namely inflation. Based on Table 3, inflation has a probability value of 0.7506, where the value is greater than the 5% significance value. Meanwhile, the coefficient value of inflation is 0.0001. This shows that the inflation variable has a positive and insignificant relationship to the Gini ratio. That is, an increase in the inflation rate in a province can affect the level of income inequality in that province, but the change is not significant. Thus, this finding rejects the fourth

hypothesis which stated that the inflation rate has a positive and significant relationship to the level of income inequality in Indonesia. The results of this finding are supported by research by Bucevska (2019) which stated that the distribution of income in prospective EU member countries is not significantly affected by the inflation rate.

According to Mankiw (2010: 206) inflation is defined as an increase in the overall price level of an economy. In Islamic economics, inflation is classified into two types, namely natural inflation and human error inflation. A decrease in aggregate supply or an increase in aggregate demand are terms used by Al Maqrizi to define natural inflation. Meanwhile, human error inflation is caused by corruption, ineffective government, excessive taxes, and printing money to get excessive profits (Karim, 2015: 140-143). The findings in this study indicate that continuous price increases in the province of Indonesia are not able to have a significant effect on the level of income inequality between the rich and poor in the province. This can happen because based on the findings of Siami-Namini & Hudson (2019) it is stated that the inflation rate does not have a two-way relationship with income inequality in the short term in developed and developing countries. The results also confirm that the monetary authorities do not have the proper tools to address all changes in income inequality in the short term. However, over a long period of time, a higher inflation target could help reduce income inequality.

V.   CONCLUSION

Empirical analysis regarding the influence of zakat distribution and macroeconomic variables in this study shows several findings. First, the BAZNAS Welfare Index has no significant effect on the level of income inequality in Indonesia. This can happen because of two things, namely the realization of collecting zakat funds in Indonesia is still not optimal and far from the collection potential that is owned and the distribution of zakat funds by existing management institutions has not been able to reach all mustahik in Indonesia. Second, the inflation rate does not significantly affect the Gini ratio in Indonesia, this is because the inflation rate in Indonesia in the 2018-2020 period is classified as low inflation, so this does not have a significant effect on the level of public consumption in Indonesia and also the level of income inequality. The next finding in this study is that the level of GRDP per capita and the minimum wage of each province in Indonesia has a negative and significant relationship to the level of income inequality. The latest findings in this study are the BAZNAS Welfare Index variable as an index that can be used as a measuring tool related to the extent to which the impact of the zakat program on the welfare of zakat recipients (mustahik) together with the Regional/Provincial Minimum Wage, GRDP per capita, and inflation is statistically significant to the Gini ratio variable.

Based on the findings of this study, several recommendations can be put forward. First, zakat managers must create a zakat program that is able to empower the mustahik's economy so that it can reduce the level of income inequality in society, one of which is through the development of the food industry which is expected to be able to meet food needs and absorb labor from the mustahik group. Second, all stakeholders must work together in an effort to increase the realization of zakat fund collection in institutions by increasing literacy and public awareness in order to optimize the role of zakat in improving people's welfare. Third, it is suggested that real zakat distribution data can be used in further research to produce more comprehensive findings.

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