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An Indonesia Experience: Does Zakat Enhance Macroeconomic Variables?

Annisa Sasri Anindya, Laila Masruro Pimada
University of Brawijaya

ABSTRACT

Zakat is one of the duties that a Muslim must do. As a country with the largest Muslim population, Zakat potential in Indonesia reaches 327 T (trillion) every year. Seeing the enormous potential, this research will examine Zakat distribution through human development, unemployment, and poverty in Indonesia between 2011-2021. However, unfortunately, Indonesia's total collection of Zakat in 2021 only reached around 517,2 billion. With a total of 44 samples, the data were processed using Vector Auto-Regressive (VAR) with Vector Error Correction Model (VECM) estimation. In the short term, based on data processing results, Zakat's distribution does not affect human development, unemployment, and poverty. Nevertheless, in the long term, it is known that the distribution of Zakat affects human development, unemployment, and poverty. The results of this research are expected to be evaluation material for the government, Zakat management institutions, and Muslim society to pay more attention to the urgency of Zakat on human development, unemployment, and poverty.

Keywords: *human development, unemployment, poverty, Zakat distribution*

INTRODUCTION

Human development is a significant thing in a country's development. Adequate availability of human resources will help the country run management activities of resources to realize equitable and sustainable welfare. Without good human resources, the country's development is not running rapidly (Todaro & Smith, 2014). In 1990, UNDP introduced the Human Development Index to measure human development. This index is used to identify how excellent the society's capability is in accessing the result of a country's development.

Three indicators are found to determine HDI: health (rate of life expectancy), education (expectation and average length of schooling), and decent life standard (expense) (BPS, 2020). The better the health, education, and decent life, the better the quality of human development. Then, it can yield a good and quality work result. On the other hand, the worse the condition of labour, it will indicate the worse result of their work (Mahroji, 2019).

Unemployment is a problem that needs particular concern for all countries. The high unemployment rate severely impacts a country's economy (Franita, 2016). The lower level of expectancy and the average length of schooling will refer to the lower opportunity for an individual to get a job relating to human development.

Indonesia is a country that encounters the problem of unemployment. In 2021, the number of unemployed in Indonesia will reach 17.848.060 million people (BPS, 2020). The high unemployment rate will cause a country's low economic level. Due to the high unemployment rate, productivity and income are degraded. This condition raises a problem of poverty or other social problems (Prasetyoningrum & Sukmawati, 2018). Poverty is a problem that must be

encountered and solved by all countries, including Indonesia (Samsul Haidir, 2019). The poverty case might appear due to the inability to fulfil daily basic needs (BPS, 2020).

The government has exerted several attempts to relieve and solve poverty problems, for example, by protecting families from temporary poverty and empowering families with a chronic poverty level. Those attempts are then included in three programs: provision of basic needs, development of the social insurance system, and development of cultural business (DJPB KEMENKEU, 2021). In addition to government involvement, private parties or society also takes an essential role in relieving poverty. One institution that takes a role in human empowerment is the institution of amil Zakat. Amil Zakat institution is a social institution that collects, distributes, and empowers Zakat funds. The funds of Zakat will be distributed and empowered to mustahiq.

Indonesia is a country with the majority of Muslim population in the world. According to the data established by RISSC, about 231,06 million people, or 86,7% of the Muslim population in Indonesia (RISSC, 2020). Referring to this predominant Muslim population, Noor Achmad, head of the BAZNAS institution, has stated that the potential of Zakat in Indonesia has reached up to 327 trillion every year (BAZNAS, 2021).

Zakat can control consumption increase to realize equal distribution of PDB, which aims to reduce poverty and inequality problems in Indonesia (Azam et al., 2014). The economy in macroeconomic scope (using variables of economic growth and inflation) is significantly affected by Zakat (Ridwan et al., 2019).

It is not only function to express gratitude and purify property; another privilege of Zakat is also to affect the economy from the micro or macro scope. According to macro, Zakat includes fair and equitable distribution of assets. Thus, it can have a good effect on the economy of Indonesia (Strategic Center Study, 2019). In the concept of Islamic macro, it is underlined that property or wealth must be distributed evenly. The increase in PDB amount should not only be for upper-class society. However, the increase in PDB should be balanced with poverty alleviation.

Based on the studies conducted by Murniati & Beik (2014), Karuni (2020), Elfadhli (2015), and Sari et al. (2019), they have asserted in their research that Zakat can positively affect on human development index, unemployment, and poverty. In Bogor, the increase of the human development index is about 2% and can reduce poverty (Murniati & Beik, 2014). Next, the previous research by Elfadhli (2015), through the qualitative approach method, has written that managing and developing a productive Zakat fund can result in advantages that mustahiq benefits. Thus, it can increase the standard of living of mustahiq.

Previous research done by Sari et al. (2019) has mentioned that if the management of Zakat is performed maximally, it can accelerate the time in poverty alleviation. Without the role of Zakat, it takes about 6,9 years, while through Zakat management, it only takes about 3,3 years. Next, Ridwan et al. (2019) found that the distribution of Zakat can positively affect economic growth and inflation.

Although Indonesia has a high potential for Zakat, the collection of Zakat in Indonesia is still far from the potential. In 2021, the Zakat collection in Indonesia has only reached about 517,2 million (BAZNAS, 2021). One of the factors that might trigger an inequality between the potential and collection of Zakat funds is the lack of muzakki's trust in handing over Zakat funds

to the institution of Zakat management (Canggih et al., 2017). Muzakki prefers to give Zakat funds directly to mustahiq. Therefore, it is not recorded by related Zakat management institutions. Moreover, many muzakki do not fully understand how to pay Zakat, including calculation, scale (nishab), haul, or recipients of Zakat (Mubarok & Fanani, 2014).

This finding aligns with the data released by the Central Bureau of Statistics. In 2021, during the rise of Zakat distribution, the rate of the human development index in 2021 has declined. In 2021, when the distribution of Zakat increased by about 33% from the previous year, the unemployment and poor population were reduced. Unemployment in Indonesia has increased by about 6%, while people experiencing poverty have increased by about 0,13% (Central Bureau of Statistics, 2020).

This occurrence is because the distribution of Zakat funds for productive activities is still fewer than for consumptive activities. The contribution of Zakat funds to the economic distribution is only about 5,25%; education is 7,10%, and health is 14,12%. The distribution of Zakat funds is still focused on a lot of consumptive programs, approximately 23,62% for da'wah purposes through the muallaf center program and 49,90% for humanity and social purpose through disaster response program, provision of water sources, active service of BAZNAS, and other programs. The total consumptive Zakat distributed is about 73,53% (BAZNAS, 2021).

The distribution of consumptive Zakat funds only intends to improve mustahiq income to fulfil their daily needs. There has been an increase in mustahiq income; however, this situation only lasts for a short term. It will not automatically relieve mustahiq from poverty. Furthermore, the distribution of Zakat is productive, along with business assistance for mustahiq through good religious learning (Muhamad Ali et al., 2016). It differs from the productive distribution that is undoubtedly the intended utilization of mustahiq.

This research is aimed to identify the effects of Zakat distribution on macroeconomic variables such as human development, unemployment, and poverty both in a long-term and short-term period. The years of research are from 2011-2021 because, since 2011, the BAZNAS report relating to the management of Zakat funds has been published monthly and accessible for the public that previously used the annual period. This attempt is made to improve the transparency of Zakat management, which is expected to increase public trust in fulfilling Zakat obligations through the assistance of Zakat management institutions.

LITERATURE REVIEW

Economic development is an essential aspect of the development of a country. Economic development is a continuous growth process to fix and improve economic problems. Economic development is multidimensional, focused on the economy, and related to human social life. In addition, the economic development approach focused on the economy will increase absolute poverty and discrepancy in income distribution (Jajang et al., 2021).

In Islam, many concepts of economic development, one of them are derived from Ibnu Khaldun's thought. Ibnu Khaldun writes the development model in a model of hikammiyah or eight wise principles that consist of eight aspects: State (G), Institution (S), Human resource (N), Property (W), Justice (j), and Development (g). Human resource is one aspect that has a vital role in development. A civilization is considered advanced or backward according to society's

welfare. Human development can affect the alleviation of the poverty rate. The better quality of human resources will determine the more significant possibility of obtaining more wealth in order to be able to improve human well-being (Jajang et al., 2021).

Human Development

Human development is a process of skill development and individual capability to get a healthy life and productivity within the social life (Hassan et al., 2017). To measure public capability in accessing the result of development, including education, health, and income, Human Development Index is determined as an index with the following formula:

Murniati & Beik (2014) have shown that the increase of the Human Development Index of mustahiq is about 2% from the previous one of 47 turns into 49 in the index value. However, based on the Central Bureau of Statistics, when the Human Development Index value is below 50, the index value is categorized as a low Human Development Index value. The Human Development Index is calculated based on three categories: health (life expectancy), education (expectancy and average length of schooling), and standard of decent life (expense). Previous research done by Karuni (2020) has revealed that Zakat funds have a significant relation to the Human Development Index. Zakat can affect and contribute to the rate of life expectancy of about 72%, the average length of schooling of 89%, and the standard of a decent life of 52%.

Unemployment

Unemployment is a term given to labour forces that have not or are in the process of a job search. Unemployment appears due to an imbalance between the labour force and available employment. The number of work demands is fewer than the number of employment offers (Soleh, 2017). Two types of unemployment are open unemployment and disguised unemployment.

Managing the development of a productive Zakat fund can yield benefits and advantages used to fulfil the life needs of mustahiq. Further, Zakat assets can be used as a productive investment to decrease unemployment (Elfadhli, 2015).

Poverty

Poverty is when an individual cannot meet the minimum of life needs and achieve the minimum limit for the achievements set like consumption, freedom, suitable to a sure thing, life enjoyment, and other life purposes (Fauzi Hasim, 2015).

Based on the headcount ratio, poverty gap index, and income gap index, it is said that Zakat can reduce poverty. The increase in Mustahiq's income after receiving Zakat will encourage Mustahiq's ability to buy goods. When the management of Zakat is well-performed, the research result refers that only about 3,3 years needed to be free from poverty if it is compared to the absence of Zakat management, which will need time about 6,9 years (Sari et al., 2019; Ridwan et al., 2019).

Zakat

Zakat is one of the pillars of Islam. Al-Qur'an mentions that one of the characteristics of a believer is the one who sets aside some assets to be paid for Zakat (QS. At-Taubah, 9: 71). In QS. At- Taubah verse 103, it is also written that Zakat is defined as a means for Muslim's self-purification from sin and dirt and to multiply merits and assets from what has been issued or paid (Tho'in, 2017). Zakat is categorized into two fiqh categories: fiqh ibadah and fiqh muamalah. Zakat payment can maintain the relationship with Allah and social relations in society (Karuni, 2020). Not

all people can receive Zakat since Zakat is only addressed to eight categories of recipients called mustahiq: fakir, poor, amil Zakat, muallaf, enslaved person, debtor (gharimin), fii sabilillah, and ibnu sabil.

Management of ZIS and Its Relation to Economy

BAZNAS has indicated that Indonesia has the potential to Zakat up to 233,78 trillion annually. However, in 2019, the national collection of Zakat funds through the assistance of LAZ has officially reached about 10 trillion or only 5,2% of the potential of Zakat (BAZNAS, 2019). Regarding the great potential of Zakat, good management of Zakat is valued to be a solution for improving public welfare and alleviating poverty problems (Fitri, 2017). One way is through distributing Zakat for productive purposes (Amsari, 2019).

Productive Zakat is a concept of giving Zakat with the purpose that the funds can result in a continuous advantage. Mustahiq will be directed to develop Zakat funds given, so it can create an attempt for the final goal of mustahiq to be able to fulfil the necessity of life or even be able to shift into muzakki (Widiastuti & Rosyidi, 2015). Zakat, with the purpose of productive distribution, is valued to be able to give a contribution to the increase in production output, which finally results in positive impacts on economic growth (Ridwan et al., 2019).

Research Hypotheses

This research is initiated from the idea that if the distribution of Zakat is performed optimally with the empowerment purpose of mustahiq can be a solution to solve economic problems that are related to human development, unemployment, and poverty. During 2011-2021, the distribution of Zakat has often increased, but the increase in the Human Development Index or unemployment and poverty does not balance it. Therefore, this research is aimed to identify the effects of Zakat distribution (X) on human development (Y1), unemployment (Y2), and poverty (Y3). Several previous types of research have been conducted and stated that Zakat's distribution could positively affect human development, unemployment, and poverty. Based on the previous research, the researchers formulated the following research hypotheses:

H1: Distribution of Zakat affects significantly on Human Development Index

Murniati & Beik (2014) asserted that Zakat could positively affect the Human Development Index. Through Zakat, the rate of the Human Development Index in Bogor has increased by about 2% from the previous period, 47% to 49%. This finding aligns with previous research by Karuni (2020), which empirically found that Zakat can positively affect human development. It means the Human Development Index rate will be directly affected during the change in Zakat. It is concluded that Zakat has a significant role in improving human development.

H2: Distribution of Zakat significantly affects unemployment

Referring to the unemployment case, Elfadhli (2015) has stated that optimal management of productive Zakat funds can be used as capital for mustahiq in running a business. This purpose will be well-implemented along with the support from government regulation containing the public obligation to pay Zakat. Thus, Zakat is valued to be able to solve unemployment problems. Hence, the research hypothesis is written as below:

H3: Distribution of Zakat significantly affects poverty

Preliminary research done by Sari et al. (2019) has mentioned that when the management of Zakat is performed maximally, it can accelerate the time needed to be free from poverty. To put it in detail, it needs about 6,9 years without the management of Zakat, but it only needs about 3,3 years through the management of Zakat in order to relieve poverty. In their research, Ridwan et al. (2019) mentioned that the distribution of Zakat can positively affect economic growth and inflation. As in line with the other research done by Murniati & Beik (2014) and Elfadhli (2015), Zakat can reduce the level of poverty through optimal management and development of productive Zakat funds by mustahiq, so mustahiq can get benefit and use their life necessities and improve their standard of life.

METHODOLOGY

Research Approach

A quantitative approach is used in this research since this approach method was selected. Since the data in this research were numerical data, it needed a method to process and analyze this type of data.

Operational Definition of Variables

Human Development Index, unemployment, and poverty as dependent variables and distribution of Zakat as an independent. The detailed variables can be seen in Table 1.

Research Sampling

The sample used in this research was a saturated sample which referred to the use of all population samples (Sugiyono, 2013). In this research, the population for each variable was quarterly data from 2011-2021 in approximately 44 data.

Table 1. Operational Definition

Variable	Definition	Unit	Data Form	Periode
Zakat distribution	A national accumulation of the number of Zakat funds distributed in all regions in Indonesia	Rupiah	Quarterly	January 2011 – December 2021
Human development index	An index that is functioned to measure Indonesian human development	Index number	Quarterly	January 2011 – December 2021
Unemployment	A data that refers to the number of unemployment in Indonesia based on the level of education accomplished	Million people	Quarterly	January 2011 – December 2021
Poverty	An accumulation of the number of poor population regionally (village and city area)	Million people	Quarterly	January 2011 – December 2021

Source: Researchers, 2022

Data Source

This research used secondary data accessed

online and collected from PPID BAZNAS and the Central Bureau of Statistics.

Data Collection Method

A secondary data type was used in this research. This secondary data was indirectly obtained through several kinds of media like statistical reports, financial reports, journals, preliminary studies, etc. (Sugioyono, 2013). This research collected data from officials of information and documentation management (PPID) of BAZNAS and the Central Bureau of Statistics. All those data were taken from each institution's official website, which was available as financial and statistical reports.

Analysis Method

This research chose the analysis method of Vector Autoregressive (VAR) or Vector Error Correction Model (VECM). VAR/VECM method was used to analyze the time series data type (Febriyanti et al., 2021). Moreover, VAR/VECM methods were used to find the behaviour of each independent variable in affecting dependent variables both in the short term and long term (Wardhono et al., 2015).

This research aimed to identify the effects of Zakat distribution on human development, unemployment, and poverty in the short or long term. Thus, this research exerted the VECM method. Before the implementation of the VECM estimation test, it required several testing steps: stationary test, lag optimum test, cointegration test, Impulse Response Function (IRF) analysis, and Variance Decomposition (VD) with the following modelling method:

$$\Delta Yt = \alpha et\text{-}1 + \beta 2\Delta Xt\text{-}1 + \beta 2\Delta Xt\text{-}2 + \ldots + \beta t\Delta Xt\text{-}p+1 + \varepsilon t$$

Description:

ΔYt = vector of the first derivative of the dependent variable

$\Delta Xt\text{-}1$ = vector of the first derivative of variable X with lag 1

$et\text{-}1$ = error acquired from regression equation between variable Y and X on lag 1

εt = residual vector

α = cointegration coefficient matrix

βt = coefficient matrix of the first variable X \ with t value= 1,2, …

RESULT

Stationary Test

This test was done to identify whether the data used were stationary. Within VAR/VECM analysis, the data must pass a stationary test. ADF (Augmented Dickey-Fuller) test was exerted in this research and referred to in Table 2.

Table 2. Stationary Test

Variable	Sig. Level	Sig.1st Diff.	Explanation
HDI	0.2760	0.0000	Stationer
Unemployment	0,1888	0,0149	Stationer
Poverty	0,0001	0,0000	Stationer
Zakat Distribution	0.9945	0,0000	Stationer

Processed with a critical test value of 5%

Source: Eviews Student, 2022 (data processed)

The research data was included in stationary when the value was below the test critical value with a level of 1% or 5%, or 10%. Table 2 refers to the result of a stationary test with a critical test value of 5%. The poverty variable with the value of 0,0001 was claimed to be stationary since the ADF probability value was below 0,05. Thus, this value rejected H0. Unemployment and Zakat distribution was still not stationary for the Human Development Index variable. Since those variables were not stationary in the level requested, we needed to continue the stationary test in the first difference level.

On the first difference level, all

variables were passed in a stationary test with ADF probability value for the variables below 0,05. Thus, H0 was disapproved. Although all variables passed on the first difference level, a cointegration test is still required to determine the proper analysis method.

Determination of Lag Optimum

The lag optimum determination test was a test that was conducted to identify the appropriate number of lags to observe (Wardhono et al., 2015). Table 3 indicates the result of optimal lag using FPE, AIC, SC, and HQ criteria.

In this research, lag testing was exerted with a lag estimation of 0-6. The lag optimum was determined according to the smallest AIC value, based on Table 3, which indicated that the smallest AIC value was at lag 6 with a value of 15.34789. Therefore, the length of lag optimum in this research was at lag 6.

Table 3. Lag Optimal Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-511.7063	NA	7209995	27.14244	27.31482	27.20377
1	-372.8805	241.1186	11299.92	20.67792	21.53981	20.98457
2	-337.4252	23.58970	11989.06	20.70659	22.25798	21.25856
3	-335.7265	28.55091	9605.637	20.40666	22.64756	21.20395
4	-309.9991	23.43554	6737.714	19.89469	22.82511	20.93731
5	-297.3885	11.28311	10698.05	20.07308	23.69301	21.36102
6	-191.6099	72.37489*	155.3938*	***15.34789****	19.65732*	16.88115*

Source: Eviews Student, 2022 (data processed)

Cointegration test

A cointegration test was conducted to examine cointegration among the variables used in this research. The type of cointegration test was also aimed to determine the type of estimation that would be used. When cointegration occurred, the estimation would use the VECM method. Reversely, when cointegration did not occur, the estimation would use the VAR method.

Data might contain cointegration when trace statistics and max-eigen statistics values are more significant than critical values. Referring from table 4 stated that based on rank trace and maximum eigenvalue, the trace statistics and max-eigen statistics value were higher than the critical value on the first two levels. This finding has indicated that it contained about three cointegrations. Therefore, this research will be continued by using the VECM estimation model.

Result of VECM Interpretation

VECM analysis in this research was given on variables of Zakat receipt, economic growth, inflation, exchange rate, and money supply. In summary, the short-term VECM analysis in this research is explained in Table 5.

Estimation of VECM

Based on the result of VECM estimation, in a short-term period, HDI could significantly affect HDI value with a significance level of 1% at lag 1, 2, and 3. Meanwhile, at lag 4, HDI could affect HDI with a significance level of 10%. Unemployment could affect poverty variables with a significance level of

5% at lag 5 and a significance level of 10% at lag 4. Last, poverty could affect the poverty rate with a significance value of 1% at lag 3 and 4.

In significance levels of 1%, 5%, or 10%, the result of the VECM test did not mean that the distribution of Zakat could not affect HDI, unemployment, and poverty in a short-term period. In contrast, Zakat's distribution could simultaneously significantly affect the Human Development Index, unemployment, and poverty in the long term.

Impulse Response Function (IRF) Analysis

The Impulse Response Function (IRF) test aimed to know a variable's reaction to the other variables or the variable itself when the shock occurred. IRF test would reflect the time needed for a variable to solve the shock.

In the short term, the result of the VECM test has referred to no significant effect found between exogenous variables and endogenous variables. Meanwhile, significant effects were simultaneously found between exogenous and endogenous variables in the long term. Therefore, the result of IRF analysis was only displayed in the long-term period.

Table 4. Cointegration Test

Hypothesized No. of CE(s)	**Eigenvalue**	**Rank Trace**		**Maximum Eigenvalue**	
		Trace Statistic	**0,05 Critical Value**	**Max-Eigen statistics**	**0,05 Critical Value**
None	0.679226	86.11879	47.85613	42.06973	27.58434
At most 1	0.493448	44.04906	29.79707	25.16477	21.13162
At most 2	0.335953	18.88429	15.49471	15.14788	14.26460
At most 3	0.096053	3.736409	3.841465	3.736409	3.841465

Source: Eviews Student, 2022 (data processed)

Table 5. Estimation of VECM

Response Variabel	Coefficient and T-statistik
D(HDI) =	D(HDI) = - 0.102367228592*(HDI(-1) - 0.112000815613*ZAKAT(-1) [-4.08904]** - 158.72173304) + 0.0374966965851*(UNEMPLOYMENT(-1) + 0.308364190522*ZAKAT(-1) [3.38938]** - 2384.95164914) - 0.149018003217*(POVERTY(-1) + 0.170399449863*ZAKAT(-1) [3.46945]** - 2187.37276535) - 0.830578455393*D(HDI(-1)) [-2.89652]*** - 0.779039243224*D(HDI(-2)) [-2.80197]*** - 0.805562493043*D(HDI(-3)) [-3.11656]*** - 0.441610630599*D(HDI(-4)) [-1.84131]* - 0.0252187136035*D(HDI(-5)) [-1.01684] - 0.0200050334157*D(HDI(-6)) [-1.02506] + 0.10414250175*D(UNEMPLOYMENT(-1)) [0.77454] + 0.142652090408*D(UNEMPLOYMENT(-2)) [1.24139] + 0.212777766755*D(UNEMPLOYMENT(-3)) [1.86204]* - 0.00187495463253*D(UNEMPLOYMENT(-4)) [-0.01650] - 0.100736986218*D(UNEMPLOYMENT(-5)) [-0.82728] + 0.0542628506484*D(UNEMPLOYMENT(-6)) [0.40564]- 0.0306948296546*D(POVERTY(-1)) [-0.79695] + 0.0189176019162*D(POVERTY(-2)) [0.88423] + 0.0223337691251*D(POVERTY(-3)) [1.71689]* + 0.0193094214688*D(POVERTY(-4)) [0.88096] - 0.0101289857536*D(POVERTY(-5)) [-0.55973] - 0.00244925479691*D(POVERTY(-6)) [-0.15459] + 0.0033000007447*D(ZAKAT(-1)) [0.82512] + 0.00377992304113*D(ZAKAT(-2)) [1.01572] + 0.00360993283449*D(ZAKAT(-3)) [1.07094] + 0.00400637356107*D(ZAKAT(-4)) [1.19272] + 0.00342524706634*D(ZAKAT(-5)) [1.31872] + 0.00229427342518*D(ZAKAT(-6)) [0.94074] + 1.25820239852
D(UNEMPLOYMENT) =	D(UNEMPLOYMENT) = - 0.0799645435394*(HDI(-1) - 0.112000815613*ZAKAT(-1) [-4.08904]** - 158.72173304) - 0.255688232593*(UNEMPLOYMENT(-1) + 0.308364190522*ZAKAT(-1) [3.38938]** - 2384.95164914) + 0.409052773218*(POVERTY(-1) + 0.170399449863*ZAKAT(-1) [3.46945]** - 2187.37276535) - 0.0833464341366*D(HDI(-1)) [-0.14256] - 0.252951338345*D(HDI(-2)) [-0.44623] + 0.00755925759514*D(HDI(-3)) [0.01434] + 0.0307841809642*D(HDI(-4)) [-.06296] + 0.0742339759024*D(HDI(-5)) [1.46808] + 0.051381266961*D(HDI(-6)) [1.29132] + 0.258313567859*D(UNEMPLOYMENT(-1)) [0.94228] + 0.215192283535*D(UNEMPLOYMENT(-2)) [0.91849] - 0.00541819639824*D(UNEMPLOYMENT(-3)) [-0.02326] - 0.0109864069223*D(UNEMPLOYMENT(-4)) [-0.04742] + 0.341404917891*D(UNEMPLOYMENT(-5)) [1.37515] + 0.0266085477091*D(UNEMPLOYMENT(-6)) [0.09756] + 0.133659814335*D(POVERTY(-1)) [1.70209]* + 0.0206805460191*D(POVERTY(-2)) [0.47411] - 0.0284208558882*D(POVERTY(-3)) [-1.07160] - 0.0792669074524*D(POVERTY(-4)) [-1.77378]* + 0.0767422674436*D(POVERTY(-5)) [2.08001]** - 0.00901007706621*D(POVERTY(-6)) [-0.27893] - 0.00322284060501*D(ZAKAT(-1)) [-0.39524] + 0.00298613990858*D(ZAKAT(-2)) [0.39357] + 0.00566031633079*D(ZAKAT(-3)) [0.82361] + 0.00259454088696*D(ZAKAT(-4)) [0.37885] + 0.00805405606319*D(ZAKAT(-5)) [1.52088] + 0.00317480361581*D(ZAKAT(-6)) [0.63850] - 1.5943594537
D(POVERTY) =	D(POVERTY) = 0.306292113106*(HDI(-1) - 0.112000815613*ZAKAT(-1) [-4.08904]** - 158.72173304) +

	0.284684281731*(UNEMPLOYMENT(-1) + 0.308364190522*ZAKAT(-1) [3.38938]** - 2384.95164914) - 0.378037704945*(POVERTY(-1) + 0.170399449863*ZAKAT(-1) [3.46945]** - 2187.37276535) - 0.221973501737*D(HDI(-1)) [-0.34898] - 0.302928240147*D(HDI(-2)) [-0.49118] - 0.249331292443*D(HDI(-3)) [-0.43486] + 0.0135739479244*D(HDI(-4)) [0.02551] - 0.0511555934339*D(HDI(-5)) [-0.92986] + 0.0507021624931*D(HDI(-6)) [1.17121] + 0.107708618822*D(UNEMPLOYMENT(-1)) [0.36113] + 0.0803578128889*D(UNEMPLOYMENT(-2)) [0.31525] - 0.137636827851*D(UNEMPLOYMENT(-3)) [-0.54300] - 0.384360657092*D(UNEMPLOYMENT(-4)) [-1.52476] - 0.251938727807*D(UNEMPLOYMENT(-5)) [-0.93273] - 0.253202249267*D(UNEMPLOYMENT(-6)) [-0.85331] + 0.0340521290368*D(POVERTY(-1)) [0.39857] + 0.0169312893681*D(POVERTY(-2)) [0.35677] + 0.0753058363838*D(POVERTY(-3)) [2.60979]*** - 0.153173596408*D(POVERTY(-4)) [-3.15044]*** - 0.00181452401797*D(POVERTY(-5)) [-0.04520] - 0.0268310132794*D(POVERTY(-6)) [-0.76346] + 0.0122278061013*D(ZAKAT(-1)) [1.3832] + 0.0116946120283*D(ZAKAT(-2)) [1.41670] + 0.0113953645932*D(ZAKAT(-3)) [1.52402] + 0.00925112998055*D(ZAKAT(-4)) [1.24159] + 0.00349265024646*D(ZAKAT(-5)) [0.60620] - 0.00112669010703*D(ZAKAT(-6)) [-0.20827] + 1.09565345278

[ ] t-stat, *** 1% sig level, **5% sig level, * 10% sig level

Source: Eviews Student, 2022 (data processed)

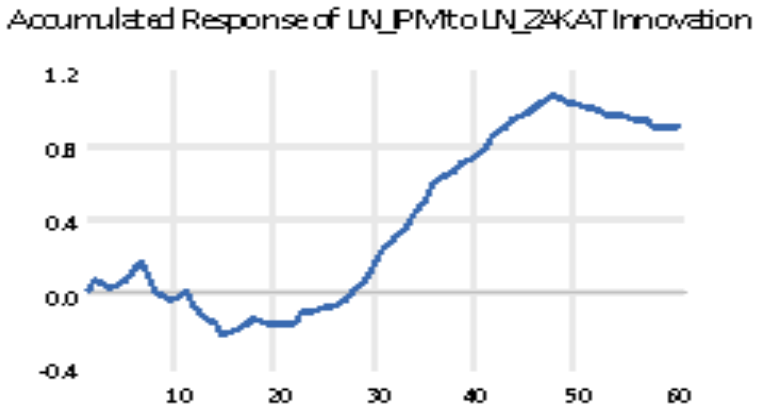

Figure 1. IRF HDI and Zakat Distribution

Source: Eviews Student, 2022 (data processed)

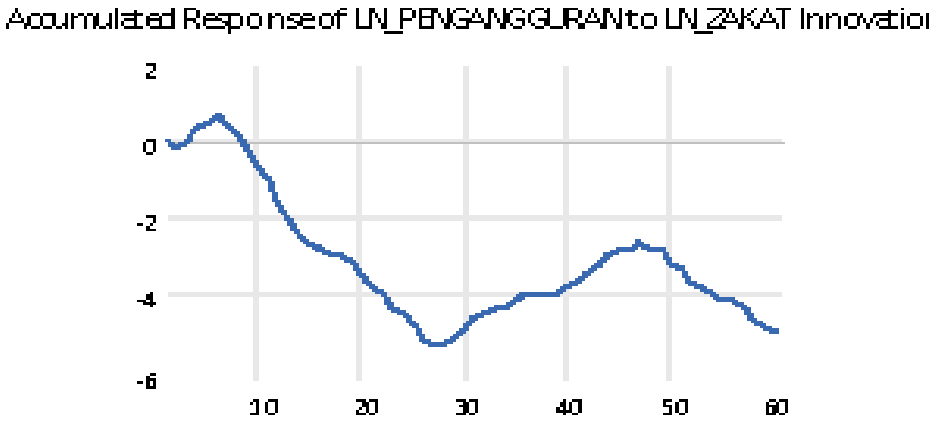

Figure 2. IRF Unemployment and Zakat Distribution

Source: Eviews Student, 2022 (data processed)

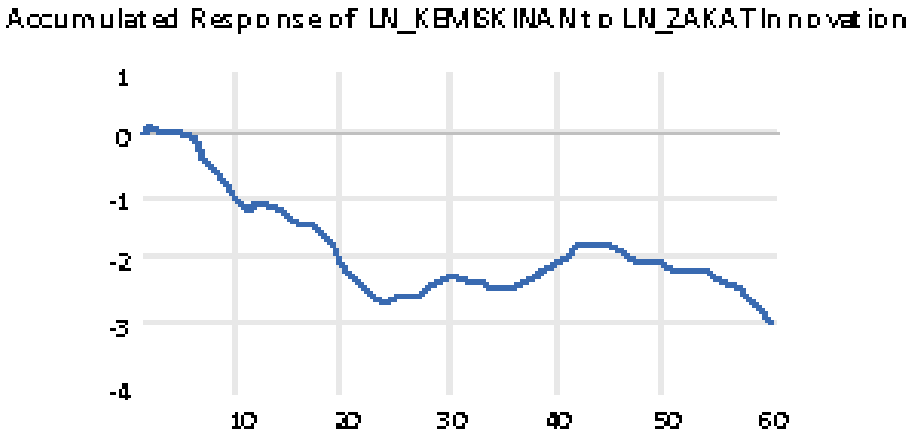

Figure 3: IRF Poverty and Zakat Distribution

Source: Eviews Student, 2022 (data processed)

Based on the result of the IRF test for the HDI variable, it said that the IRF line was above the normal line. Hence, the relation between Zakat distribution and Human Development Index was positive (figure 1). The IRF line was below the normal line for poverty and unemployment variables, so the relation between Zakat distribution and poverty and unemployment was negative (Figures 2 and 3).

Variance Decomposition (VD) Analysis

Variance Decomposition (VD) test in the VECM method was conducted to identify the effects of each shock in every variable in VECM.

Based on the Variance Decomposition (VD) test result, it said that for the Human Development Index variable, poverty and unemployment in the first period were most strongly affected by their variables. Further, in the following periods, unemployment was the variable with the most effects on the Human Development Index. The unemployment variable was most affected by poverty. On the contrary, the poverty variable was most dominantly affected by unemployment.

Table 6. Variance Decomposition HDI

Period	SE.	HDI	Unemployment	Poverty	Zakat
1	0.292591	100.0000	0.000000	0.000000	0.000000
2	0.307905	90.34038	2.330189	5.838932	1.490502
3	0.322133	82.77283	10.34926	5.365438	1.512481
4	0.350471	70.47399	22.05363	6.179324	1.293053
5	0.386727	70.18497	19.52642	9.054898	1.233716
6	0.420586	70.49671	17.0177	8.429557	4.001968

Source: Eviews Student, 2022 (processed data)

Table 7: Variance Decomposition Unemployment

Period	SE.	HDI	Unemployment	Poverty	Zakat
1	0.582081	1.848822	98.15118	0.000000	0.000000
2	0.968700	3.067067	87.90638	6.395890	2.630663
3	1.388482	3.883130	77.62486	16.36784	2.124171
4	1.900351	4.593553	71.44393	20.92239	3.040121
5	2.353398	5.386437	68.59608	23.51279	2.504689
6	2.800691	6.548391	66.58668	24.80549	2.059447

Source: Eviews Student, 2022 (processed data)

Table 8: Variance Decomposition Poverty

Period	SE.	HDI	Unemployment	Poverty	Zakat

1	0.640926	12.69699	19.29885	68.00416	0.000000
2	0.876717	12.68256	31.87506	54.89596	0.546424
3	1.107214	10.10810	46.81642	42.51871	0.556779
4	1.339290	9.736788	49.71237	40.16923	0.381614
5	1.453489	10.87423	49.63803	39.15054	0.337202
6	1.513412	11.51584	49.447422	37.87926	1.130677

Source: Eviews Student, 2022 (processed data)

The Effects of Zakat Distribution on Human Development

Based on the result of VECM estimation, the distribution of Zakat in a short-term period did not significantly affect human development, as presented in the Human Development Index. The Human Development Index value was established based on health, education, and expense criteria. The higher level of public capability in accessing those three criteria would determine a country's higher value of the Human Development Index. The distribution of Zakat funds was divided into two benefits: consumptive and productive. Productive distribution was divided into economic, educational, and health programs. Those three programs were interrelated with three criteria to calculate Human Development Index value. If the Zakat fund given to be utilized was well-managed, the outcome could be benefitted by mustahiq to improve the standard of life.

Zakat funds for utilization purposes, the proportion was smaller than distribution. The contribution of Zakat funds for productive distribution in 2020 has reached 26,47%. The distribution in the economic sector is only about 5,25%; the educational sector is 7,10%; and the health sector is 14,12%. The small amount of Zakat funds distributed for productive purposes was one of the reasons that the funds of Zakat could not affect human development. Further, the distribution of Zakat funds was still focused on many consumptive programs, approximately 23,62% for the da'wah sector with the muallaf center program and 49,90% for humanity and social sector with disaster response program, provision of water source, active service of BAZNAS and other programs with the total percentage of 73,53% (BAZNAS, 2021).

This finding aligned with previous research by Khasandy & Badrudin (2019), which asserted that Zakat did not affect economic growth and human welfare. The distribution of Zakat funds was considered ineffective and unable to balance the amount of Zakat funds collection (al Haq & Abd. Wahab, 2017). However, in the long-term period, the distribution of Zakat could simultaneously bring significant effects on human development in a positive direction. This result stated that human development would also increase with every increase in Zakat distribution. This statement aligned with preliminary research by Muurniati & Beik (2014) and Karuni (2020), which found that Zakat could affect human development. After Zakat was distributed, the increase in Human Development Index value appeared to be about 2%.

The Effects of Zakat Distribution and Unemployment

The result of VECM analysis in this research has denoted that within a short-term period, a significant relation was not found between Zakat distribution and the number of unemployed in Indonesia according to the educational degree. In contrast, within a long-term period, Zakat's distribution could significantly affect Indonesia's

unemployment rate in a negative direction. This result indicated that during the increase of Zakat distribution, the number of unemployment in Indonesia would also decrease.

In 2020, the distribution of Zakat funds for consumptive activities had a more significant proportion than that for productive activities. The distribution of consumptive Zakat funds was intended to improve the mustahiq's income to fulfil life necessities. It differed from the productive distribution that was undoubtedly intended to utilize mustahiq. This finding was in line with previous research by Zahra & Auwalin (2020), which asserted that within a short-term period, the distribution of Zakat funds positively relates to the unemployment variable. During the rise of Zakat funds by about 1%, unemployment would increase to 11,09%. Meanwhile, within a long-term period, during the rise of the Zakat fund by about 1%, unemployment would decrease up to 4,3%. This finding was in line with previous research done by Elfadhli (2015), which has written that the distribution of productive Zakat funds, supported by an obligation of Zakat payment established by the government, could help reduce the number of unemployment.

The Effects of Zakat Distribution and Poverty

The result of VECM estimation showed that the distribution of Zakat did not significantly affect the number of poor populations in Indonesia within a short-term period. The number of poor populations in Indonesia tended to fluctuate, while the number of Zakat distributions tended to be positive. Moreover, the decrease in Indonesia's poor population did not follow the Zakat distribution. In short, the rise of Zakat distribution was not followed by the decrease in Indonesia's poor population.

Like unemployment, the distribution of Zakat funds to mustahiq was still focused on the distribution in the consumptive sector. Indeed, the income of mustahiq increased, but this increase only lasted for a short-term period. It would not automatically relieve mustahiq from poverty. Furthermore, the distribution of Zakat in the productive sector was followed by a business assistance program for mustahiq through good religious learning (Muhamad Ali et al., 2016).

In this research, according to the result of running data that has been conducted, it indicated that there were six-time lags in this research. This factor has referred to the data process only for six months. With a time lag of five years, the distribution of Zakat would significantly affect poverty in a negative direction. It has been denoted that in a long-term period, the increase in Zakat distribution would be followed by a decrease in the poor population. This finding was in line with previous research done by Sari et al. (2019), which had written that when Zakat funds were well-managed, the duration needed by mustahiq to be free from poverty was about 3,3 years. Meanwhile, without good Zakat funds management, the time to be free from poverty was around 6,9 years.

CONCLUSION

Based on the result of VECM analysis, it stated that the variable of Zakat distribution did not result in significant effects on variables of human development, unemployment, and poverty in a short-term period. The distribution of Zakat funds was still dominated by consumptive distribution. Meanwhile, the Zakat distribution significantly affects variables of human development, unemployment, and poverty in the long term.

It requires the improvement of data distribution in the productive sector that should be balanced and followed by

empowerment and assistance programs for mustahiq or productive Zakat recipients. The institution of amil Zakat can cooperate with experts on human resource empowerment. This strategy is conducted within a long-term period to bring better income of mustahiq sourced from productive Zakat funds. Moreover, the funds of Zakat can also realize cooperation when Zakat functions as a source of funding for poverty alleviation programs managed by the government or other parties. However, it should consider the conditions of people included in mustahiq.

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Annisa Sasri Anindya

University of Brawijaya

annisaanindya97@gmail.com

Laila Masruro Pimada

University of Brawijaya