

Zakat Distribution and Macroeconomic Performance: Empirical Evidence of Indonesia

Muhtadi Ridwan^{#1}, Laila M. Pimada^{#2}, Nur asnawi^{#3}

^{1,3}State Islamic University Maulana Malik Ibrahim, Indonesia

²Brawijaya University, Indonesia

¹rid_one1905@yahoo.com

²masruopimada@gmail.com

³nurasnawi9@gmail.com

Abstract--- Indonesia has a big potential in collecting zakat funds. The demography of Indonesia which has majority Muslim community is a condition that giving big chance to develop and manage this zakat funds. Providing empirical evidence, this study is intended to examine the effects of zakat on macroeconomic performance in Indonesia. The analysis technique of vector auto regression was chosen to show the illustration of the dynamic relationship between each variable. Using a sample of data from 2011-2017, it was found that zakat has a significant positive effect on economic growth. On the other hand, zakat also has a significant positive effect on inflation. The results of this study are expected to be able to stimulate the seriousness of the government and society in maximizing the potential of zakat as an instrument of the economic development of Indonesia.

Keywords--- zakat; macroeconomic performance; economic growth; inflation

1. Introduction

Indonesia as a country with the largest Muslim population has a big potential in zakat funds collection. The National Zakat Amil Agency (BAZNAS) clearly reports through zakat statistics that the potential of zakat funds in Indonesia reaches 217 trillion Indonesia Rupiahs [1]. The magnitude of the potential of zakat is estimated to be able to contribute to the reduction of poverty and inequality [2]; [3]; [4]; [5]). This is caused by the distribution of zakat funds which must be distributed to 8 *asnafs* recipients of zakat (*mustahiq*). Some of the 8 *asnafs* are destitute and poor groups [6] as contained in the Qur'an Surah At Tawbah (9) verse 60 below:

﴿ إِنَّمَا الصَّدَقَتُ لِلْفُقَرَاءِ وَالْمَسْكِينِ وَالْعَمَلِينَ عَلَيْهَا وَالْمُؤَلَّفَةِ فُلُؤِهِمْ وَفِي الرِّقَابِ وَالْغُرَمِينَ وَفِي سَبِيلِ اللَّهِ وَأَبْنِ السَّبِيلِ فَرِيضَةً مِّنَ اللَّهِ وَاللَّهُ عَلِيمٌ حَكِيمٌ ﴾

Translation: "Zakah expenditures are only for the poor and for the needy and for those employed to collect (zakah) and for bringing hearts together (for Islam) and for freeing captives (or slaves) and for those in debt and for the cause of Allah and for the (stranded) traveller - an obligation (imposed) by Allah. And Allah is Knowing and Wise".

[policy through inflation stability [11].

Meanwhile, the causal relationship between poverty and economic growth [13] indicates that low poverty rate will lead to the acceleration of economic growth of a country. Therefore, it is seen that zakat has a very important role in accelerating economic growth in Indonesia. Even some studies [7]; [8]; Bahri [9]; Priyono [15]) propose zakat as part of the instrument of fiscal policy in order to achieve economic stability. In addition, zakat also contributes to monetary

The importance of the role of zakat on macroeconomic performance has been a strategic issue that needs to be studied continuously. This is based on the low interest of the Indonesian people in the realization of zakat which is only reached at 2.87% of the ideal total of zakat potential [10]. Meanwhile, the studies that related to zakat and macroeconomic performance in Indonesia are still dominated by qualitative methods. Therefore, this

study attempts to contribute some empirical evidences by using quantitative methods related to the relationship of zakat and macroeconomic performance in Indonesia.

2. Literature Review

2.1 The Concept of Zakah

Zakat is one of the five pillars of Islamic rules that must be fulfilled by a Muslim. The word zakat comes from the Arabic which means growing (*al-namaa*), developing (*al-ziyaadah*), and holy (*al-tahaara*) [12]. Thus, zakat can be defined as a compulsory or obligatory donation that attaches to the Muslims in order to purify the wealth. As an obligation, zakat is mentioned 30 times in the Qur'an verse with 3 of them are the commands of Allah SWT.

In the implementation of zakat expenditure by a Muslim there are some conditions that must be fulfilled i.e. *nishab* and *haul* [13]. *Nishab* is the minimum amount of property that fulfills zakat obligations while the *haul* is the distance of time to pay zakat in a year. The other conditions fulfilled by a payer of zakat (*muzakki*) are: Islam and independence [14]. Zakat is paid for various kinds of goods, Al-Qaradawi [4] describes: zakat of assets, gold and silver, agricultural, cattle, honey and animal products, mineral and seafood products, business inventories, income, and discovery things.

Zakat collected from *muzakki* must be distributed to the prescribed recipients (*mustahiq*). The *mustahiq* consists of (Surah At Tawba: 9): the poor and for the needy, people who has converted to Islam (*muallaf*) and for those employed to collect (zakah) and for bringing hearts together (for Islam) and for freeing captives (or slaves) and for those in debt and for the cause of Allah, people who war on the path of God (*fi sabilillah*) and for the (stranded) traveller. Meanwhile, zakat must not be distributed to rich people, people who are able to earn and have no shortage, non-Muslims, zakat-payers, descendants of the Prophet Muhammad. [4].

2.2 Zakah and Economic Growth

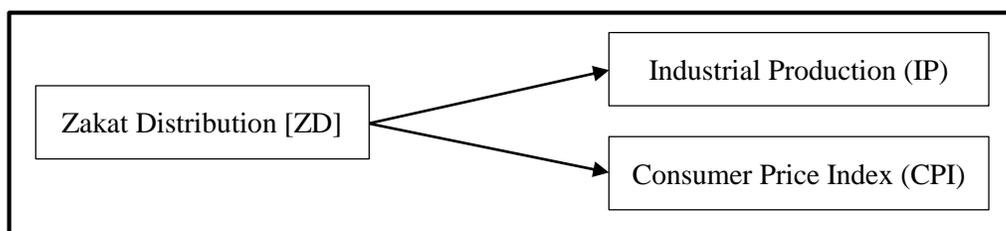


Figure 1. Research Framework

The concept of zakat is based on the redistribution of assets, namely the transfer from people who have excess assets to those needy. This makes zakat can be named as social insurance [4]. The intended redistribution of assets is not only about consumptive money, but also distribution for productive purposes such as zakat which is made in the form of working capital, skills training and production tools for *mustahiq* [16].

Based on the purpose of the zakat distribution, zakat is expected to reduce poverty, increase purchasing power, and increase production capacity of *mustahiq*. Qualitatively, the role of zakat has been elaborated through studies conducted by [18]; [21]; Sarea [17] [22]; [8]. Meanwhile, quantitatively, Azam et al. [7] suggested that zakat affects economic growth in Pakistan at both the micro and macro levels.

2.3 Zakah and Inflation

[19] proved that zakat can affect inflation through decreasing the Marginal Propensity to Consume (MPC) of zakat payers (*muzakki*). However, if *muzakki* continue to consume excessively, especially on luxury goods, the ability of zakat to stabilize inflation will decrease. Meanwhile, Sarea [17] explained that zakat able to contribute to the reduction of inflation through money demand and supply in monetary policy.

2.4 Hypotheses and Research Framework

In this study, three variables were used, namely: 1) Distribution of zakat; 2) Economic growth proxied by Industrial Production (IP); 3) Inflation proxied by the Consumer Price Index (CPI). Based on the literature review, the hypotheses and framework that will be tested in this study:

H1: Zakat distribution has a significant effect on economic growth

H2: Distribution of zakat has a significant effect on inflation

3. Research Methodology

This study was using a quantitative approach. The quantitative approach was chosen for the purpose getting results that can be generalized with the support of statistical tools [20]. The population used was data on zakat and macroeconomic distribution from 2011 to 2018, while the saturated sampling technique was chosen as the research sampling method. Therefore the number of observation data used in this study is 84 observation data. Related to the types and sources of data used secondary data that obtained from the official BAZNAS website and the Global Economic Indicator from the World Bank.

Furthermore, the research objectives can be fulfilled accordingly used Vector Autoregression (VAR) with the support of Eviews 10 software as a data analysis tool. VAR itself is used to project variables system

that has time series characteristic and produce dynamic analysis [18]. In addition, the data stationary test, optimal lag test, and cointegration test will be conducted first before displaying Impulse Response (IR) as an explanatory instrument of research data analysis result.

4. Result Analysis

Vector Auto regression (VAR) was chosen as a data analysis technique for the dynamic relationship among research variables. It is important to examine a number of variable data tests determined in this study, before getting an overview of the relationship of zakat and macroeconomic performance. Stationery tested using the Augmented Dickey-Fuller (ADF) test is a test of the research data for the regression results obtained will not be spurious. The stationery test results as shown in table 1.

Table 1. Stasioneritas Tests Result

No	Variables of Study	Probability of Augmented Dickey-Fuller Test	
		Level	1 st Difference
1	Zakat Distribution (ZD)	0.000	0.000
2	Industrial Production (IP)	0.811	0.000
3	Consumer Price Index (CPI)	0.943	0.000

Source: Eviews 10, data processed

Based on table 1, the variable data used in this study has been stated to be stationary, namely the probability value that is less than the 5% significance level. After the stationary test, an optimal lag test is performed. This test must be done in order to get the right lag in this study. The lag test itself aims to see

how long a variable is affected by its past variables or other endogenous variables. The following are the results of the optimal lag test based on the criteria of Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan Quinn (HQ).

Table 2. Lag Optimal Tests

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-244.1479	NA	0.104694	6.256909	6.346888	6.292958
1	52.27770	562.8334	7.24e-05	-1.019689	-0.659773*	-0.875495
2	67.49016	27.72903*	6.19e-05*	-1.176966*	-0.547113	-0.924628*
3	73.61008	10.69050	6.68e-05	-1.104053	-0.204262	-0.743569
4	81.45097	13.10122	6.91e-05	-1.074708	0.095019	-0.606079
5	85.94235	7.163465	7.81e-05	-0.960566	0.479099	-0.383792

Notes: * Indicates lag order selected by the criterion

LR: Sequential modified LR test statistic (each test at 5% level), FPE: Final Prediction Error, AIC: Akaike Information Criterion, SC: Schwarz Information Criterion; HQ: Hanan-Quinn Information Criterion

Source: Eviews 10, data processed

According to table 2 the most optimal lag in this study is the second lag as there are many asterisks (*) in the lag. After the optimal lag test is carried out, the next step that must be fulfilled is the cointegration test. Cointegration tests are important when the research variable data are not stationary on the data level but they are stationary in the 1st difference data.

Cointegration test is intended to see long-term relationships between variables. Cointegration test results using Johansen co-integration test method is shown in table 3.

Table 3. Cointegration Tests

Hypothesized No. Of CE(s)	Cointegration Rank Test (Trace and Maximum Eigenvalue)			
	Trace Statistic	Critical Value	Max-Eigen Statistic	Critical Value
None	46.80410	42.91525	33.93399	25.82321
At most 1	12.87011	25.87211	10.84633	19.38704
At most 2	2.023781	12.51798	2.023781	12.51798

Notes: Trace test and Max-eigenvalue test indicate 1 cointegrating eqn(s) at the 0.05 level
 Source: Eviews 10, data processed

In table 3 reveals that the variables in this study have a long-term or cointegrated relationship. This is shown from the trace statistic and max-eigen statistic values that exceed the value of the critical value. Because there is a cointegration between the are contained in table 4.

variables, the VAR used must be VAR which is more or less known as the Vector Error Correction Model (VECM). By using optimal lag 2, the VECM estimation results obtained

Table 4. The Estimation of Vector Error Correction Model (VECM)

Response Variable	Coefficient and t statistic
D(IP)	= - 0.00123350761658*(CPI(-1) [-1.45959]* - 37.3003467633*IP(-1) [-11.5234]*** - 15.1830837299*ZD(-1) [-6.23776]*** + 1458.45198843) + 0.0158554150948*D(CPI(-1)) [2.16196]** - 0.0015591637972*D(CPI(-2)) [-0.20755] - 0.220381440293*D(IP(-1)) [-1.82415]** - 0.227586159649*D(IP(-2)) [-2.00636]** - 0.0223981440158*D(ZD(-1)) [-2.33057]** + 7.27965440391e-05*D(ZD(-2)) [0.00983] + 0.00608360065332 [1.04171]
D(CPI)	= - 0.0163740131768*(CPI(-1) [-1.21630] - 37.3003467633*IP(-1) [-11.5234]*** - 15.1830837299*ZD(-1) [-6.23776]*** + 1458.45198843) + 0.277320559519*D(CPI(-1)) [2.37382]*** - 0.272432110888*D(CPI(-2)) [-2.27663]** - 1.58340682833*D(IP(-1)) [-0.82276] + 0.00652122754385*D(IP(-2)) [0.00361] - 0.332684172997*D(ZD(-1)) [-2.17309]** - 0.13035370173*D(ZD(-2)) [-1.10460] + 0.524580316634 [5.63892]***

[] t-stat, *** 1% sig level, ** 5% sig level, *10% sig level
 Source: Eviews 10 data processed

In table 4 is shown that the variable of zakat affects the economic growth and inflation variables in the 1st lag with a significance level of 5%. The influence can be seen from the results of t statistics that exceed the table value. After the VECM estimation results show

a significant effect, the Impulse Response Function (IRF) can be displayed to facilitate the interpretation of the VECM estimation results. IRF itself is an innovation accounting in VECM is shown in Figure 2 below.

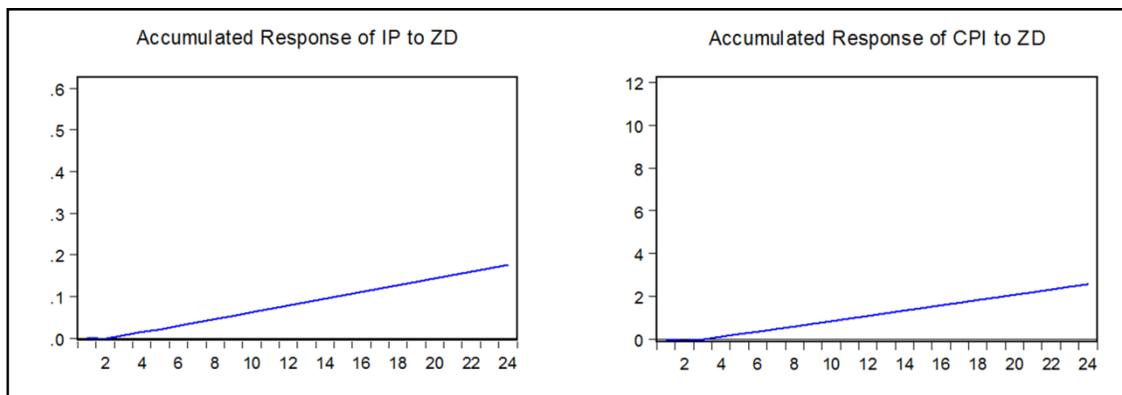


Figure 2. The Impulse Respon Function of IP and CPI to Zakah

Source: Eviews 10 data processed

The Impulse Response Function (IRF) above is useful to identify the response of the economic growth and inflation variables to the shock effect given by the zakat variable. As an explanation of the IRF image, table interpretations are also presented as shown in table 5. It is clear that both the economic growth and inflation experienced significant

increased started from the 3rd period after previously experiencing a slight decrease in the second period. Based on the results of the IRF, it can be explained that zakat has a significant positive effect on economic growth and inflation which will be discussed more detail in the following discussion.

Tabel 5. IRF Economic Growth (IP) and Inflation (CPI) on Zakat (ZD)

Period	Response of IP to ZD	Period	Response of IP to ZD	Period	Response of CPI to ZD	Period	Response of CPI to ZD
1	0.000000	13	0.086404	1	0.000000	13	1.222842
2	-0.001655	14	0.094568	2	-0.037916	14	1.346237
3	0.006569	15	0.102712	3	0.007389	15	1.469404
4	0.014693	16	0.110879	4	0.135199	16	1.592542
5	0.021116	17	0.119045	5	0.254599	17	1.715794
6	0.029360	18	0.127203	6	0.364030	18	1.839020
7	0.037814	19	0.135364	7	0.484969	19	1.962212
8	0.045572	20	0.143528	8	0.608764	20	2.085428
9	0.053674	21	0.151689	9	0.730415	21	2.208648
10	0.061991	22	0.159850	10	0.853429	22	2.331857
11	0.070094	23	0.168012	11	0.976934	23	2.455069
12	0.078203	24	0.176174	12	1.099738	24	2.578285

Source: Eviews 10, data processed

4.1 The Influence of Zakat on Economic Growth

Economic growth is a condition of economic change could be observed in terms of production and consumption in the aggregate of a country. Based on the results of the VAR analysis, zakat significantly effects on economic growth. The results of this study are in line with the study conducted by Azam et al., [7]. The accumulation of the dynamic impact of zakat on economic growth shows a positive direction. This means that the more zakat distributed to *mustahiq* will further increase Indonesia's economic growth. Meanwhile, economic growth proxied of Industrial Production in this study is economic growth observed from the production side.

Zakat distributed in terms of increasing productivity must contribute to increasing production outputs included in an industry in Industrial Production components. If it is observed in more detail the positive movements produced by the IRF (table 5) tend to be small. This is caused by the distribution of zakat which is only channeled to the needy and the poor who incidentally start small-scale productivity. In addition, based on the financial statements released by BAZNAS, zakat distribution is not only in the productive sector, but also in the consumptive field.

4.2 The Influence of Zakah on Inflation

Inflation is an increase in the prices of goods in general. Based on the results of the VAR analysis, zakat significantly affects inflation. Positive trend of accumulated dynamic movements of inflation due to changes in zakat could be observed in the results of the IRF (figure 2). That is, the higher the distribution of zakat by BAZNAS will also increase inflation. This study contradicts the results of study conducted by Erlando and Kafabih (2019) that zakat can stabilize inflation.

Distribution of consumptive zakat funds will cause an increase in people's purchasing power for an item. The positive zakat on inflation can be explained by the increasing price of goods which is *mustahiq* consumed even though the purchasing power owned has increased. This could also be influenced by the lack of ability of producers to fulfill for the goods demand of *mustahiq*. In addition, the greater portion of funds channeled to consumptive rather than productive purposes also explains why zakat has a greater positive impact on inflation than zakat on economic growth (see Table 5).

5. Conclusion

Zakat is an obligation for a Muslim who has great potential funds if it is observed through Indonesian society. The important role of zakat for the economy has been described in many literatures. As the

purpose of this study proven empirically that zakat has effect on macroeconomic performance in Indonesia. Zakat is significantly affecting economic growth and inflation positively. The results of this study are expected to contribute for the increase of zakat funds realization since the role of zakat is proven can affect Indonesia's economic growth. This study suggests the government to continuously in improving the zakat system in Indonesia while considering fiscal and monetary policies related to zakat funds such as taxation policies and the money supply.

Reference

- [1] Ok, S., Suy, R., Chhay, L., & Choun, C. *Customer Satisfaction and Service Quality in the Marketing Practice: Study on Literature Review*. Asian Themes in Social Sciences Research, 1(1), 21-27, 2018.
- [2] Ahmed, H., *Role of Zakah and Awqaf in Poverty Alleviation*. Jeddah: Islamic Development Bank, 2004.
- [3] _____, *Zakah, macroeconomic policies, and poverty alleviation: Lessons from simulations on Bangladesh*. Journal of Islamic Economics, Banking and Finance, 4(2), pp.81-105, 2008.
- [4] Al Qaradawi, Y. *Fiqh al Zakah (Vol. 1)*. Jeddah: King Abdulaziz University, 2000.
- [5] _____. *Fiqh al Zakah (Vol. 2)*. Jeddah: King Abdulaziz University, 2000.
- [6] Muhammad Adnan Hye, Q., & Dolgopolova, I. *Economics, finance and development in China: Johansen-Juselius co-integration approach*. Chinese Management Studies, 5(3), 311-324, 2011.
- [7] Azam, M., Nasir, I., Muhammad, T. *Zakat and Economic Development: Micro and Macro Level Evidence from Pakistan*. Bulletin of Business and Economics, 3(2), 85-95, 2014.
- [8] Obialor, M. C. *Effect of Government Human Capital Investment on Economic Growth in Sub-Saharan Africa: Evidence from Nigeria, South Africa and Ghana (1980-2013)*. International Journal of Asian Social Science, 7(4), 328-339, 2017.
- [9] Bahri, A. *Zakat sebagai Instrumen Pembangunan Ekonomi Kesejahteraan Ummat*. Li Falah: Jurnal Studi Ekonomi dan Bisnis Islam, 1(2), 74-89, 2016.
- [10] Muhammad Adnan Hye, Q., & Wizarat, S. *Impact of financial liberalization on agricultural growth: a case study of Pakistan*. China Agricultural Economic Review, 3(2), 191-209, 2011.
- [11] Erlando, A. and An'im, K. *How Zakat Can Affect Inflation in Indonesia through Modified Keynesian Consumption*. International Conference on Islamic Finance, Economics, and Business. KnE Social Sciences, p.112-125, 2018.
- [12] Mujtaba, M., Jamal, S., & Shaikh, Y. *Development without Human Resource Development (HRD): Analysis of HRD Policy of Pakistan*. Asian Themes in Social Sciences Research, 2(1), 9-15, 2018.
- [13] Lopez, J. H. *Poverty Reduction and Growth: Virtuous and Vicious Circle, Chapter 6*. Washington: The World Bank, 2006.
- [14] Mujtaba, M., Jamal, S., Qureshi, J. A., & Shaikh, Y. *Human Capital is a Competitive Advantage of Businesses: Analysis of Automobile Firms of Pakistan*. Asian Themes in Social Sciences Research, 2(1), 16-22, 2018.
- [15] Priyono, S. *Zakat Sebagai Instrumen Dalam Kebijakan Fiskal*. Al-Mashlahah: Jurnal Hukum Islam dan Pranata Sosial Islam, 1(2), 2017.
- [16] Nyarko, I. K., Agbemava, E., & Bediako, A. K. *Effectiveness and usefulness of personal tax reliefs: A study of Ghana revenue authority's domestic tax division*. Asian Journal of Economics and Empirical Research, 3(1), 59-70, 2016.
- [17] Sarea, A. *Zakat as a Benchmark to Evaluate Economics Growth: AN Alternative Approach*. International Journal of Business and Social Science, Vol. 3, No. 18, p. 242-245, 2012.
- [18] Tanjung, H. dan Devi, A. *Metodologi Penelitian Ekonomi Islam*. Jakarta: Gramata Publishing, 2013.
- [19] Mwanja, S. K., Evusa, Z., & Ndirangu, A. W. *Influence of Corporate Social Responsibility on Firm Performance among Companies Listed on the Nairobi Securities Exchange*. International Journal of Applied Economics, Finance and Accounting, 3(2), 56-63, 2018.
- [20] Yilmaz, K. *Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences*. European Journal of Education, 48(2), 311-325, 2013.
- [21] Njegovanovic, A. *Hilbert Space/Quantum Theory of the Financial Decision and Role of the Prefrontal Cortex with a View to Emotions*. International Journal of Social and Administrative Sciences, 3(1), 42-54, 2018.
- [22] Okon, E. O., & Monday, O. I. *Empirical and evidence-based investigation: External debt, poverty and economic growth nexus*. International Journal of Applied Economics, Finance and Accounting, 1(1), 37-47, 2018.