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Muzakki Potentials' Role in Alleviating Poverty (Case Study of Aceh)

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Abstract

Zakat is an obligation in Islam which commands followers to donate a small amount of money to the poor, the needy and other particular recipients determined by the Qur'an. Since zakat is obligatory only for the rich, the system should be able to reduce inequality and poverty. Aceh has implemented a zakat management program since 2006; however, its impact has not been evident. This study aims to analyze the impact of potential muzakki on poverty reduction in Aceh and to identify the main factors contributing to its rise. By using socio-economic survey data from the BPS-Statistics of Aceh Province, the potential of muzakki numbers can be estimated. Consequently, its impact on poverty will be analyzed. The method used to identify the variables affecting the muzakki numbers is multiple linear regression with the stepwise selection method. The results show that potential muzakki in Aceh have reached 3 million people and is able to reduce the poverty rate by approximately 3.25 percent. Subsequently, the economic size and the average number of dependents are the significant variables whose impact increase the number of muzakki. To maximize these opportunities, data and program synchronization between the government and zakat institutions is suggested.

Keywords: Zakat Distribution, Muzakki, Poverty Reduction, Gross Domestic Regional Product, Number of Dependents.

JEL Classification: P36, D63, D31

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I. Introduction

1.1. Background

Islam is a religion whose blessings to the universe. Therefore, people who lack welfare and also live in difficulty must be considered by the religion. In Islam, there are a mechanism and a concept to achieve equity in life which consider both the rich and the poor. Those who have more assets are required to reserve a small proportion of their money to donate to certain people, which is known as zakat.

As stated in Qur'an Surah At-Taubah Verse 60, "Zakah expenditures are only for the poor and for the needy and for those employed to collect (zakat) 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) traveler - an obligation (imposed) by Allah. And Allah is Knowing and Wise." This surah determines the eight kinds of people who should receive zakat, giving first priority to the poor. Theoretically, if zakat can be implemented in regency to all people, equity in life will be able to be achieved.

Aceh is the only province in Indonesia that has implemented Islamic rule since it was given special autonomy in 2006. Since then, zakat and alms have been required to be paid by at least government officials, as listed in Qanun Aceh Number 10 of 2007 (Qanun, 2007). Baitul Mal was created to manage all funding related to zakat and alms; nevertheless, poverty in Aceh remains the worst on Sumatra Island.

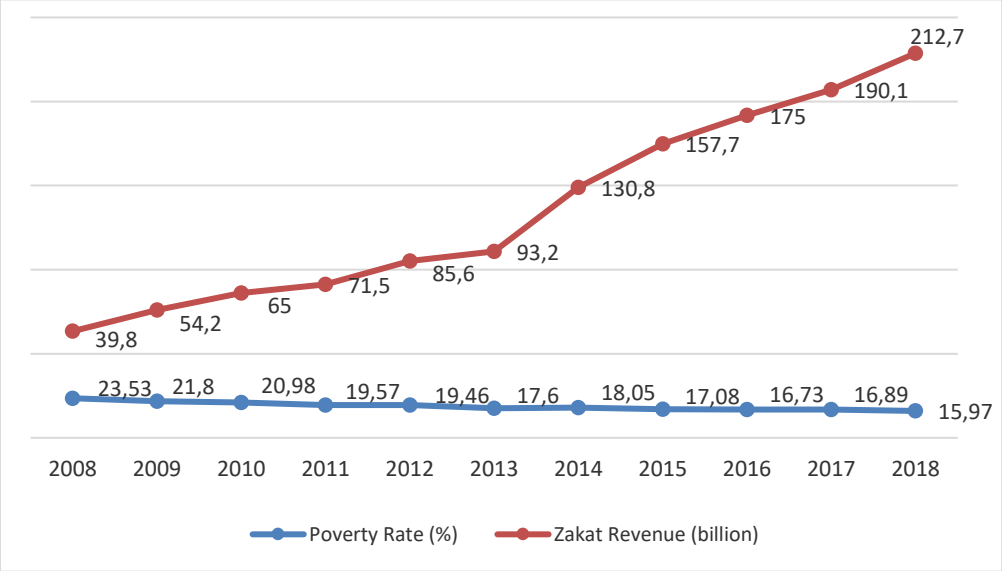


Figure 1. The Development of Zakat Revenue and Poverty in Aceh, 2008-2018
Source: BPS-Statistics of Aceh Province and Baitul Mal of Aceh

Figure 1 clearly shows that the revenue from zakat has increased five-fold since 2008, from 39.8 billion dollars to 212.7 billion dollars. Meanwhile, the poverty level has only fallen by 7.56 percent. Moreover, since 2017 Aceh has been the poorest province in Sumatra, according to the data provided by Statistics Indonesia. In other words, it can be concluded that there has been no significant improvement in the implementation of zakat in Aceh.

1.2. Objective

Based on the discussion above, this research will study the potential for muzakki in Aceh and analyze the performance of Baitul Mal in managing zakat. Furthermore, the factors contributing to the rise of muzakki in Aceh will also be identified. Subsequently, it will be possible to ascertain the causes of the present situation, as well as solutions to them. However, because of the limitations of the data, the scope and simulation of zakat will be limited to professional zakat only. It is hoped that the study will have a significant effect on the sustainability of zakat management in Aceh and make the province a role model for the implementation of effective zakat management in Indonesia.

II. Literature Review

2.1. Poverty and the Zakat Nexus

The World Bank (2009) defines poverty as the deprivation of welfare, meaning that the poor are people who lack well-being. In addition, the Government Planning and Development Agency (2004) states that the poor, both men and women, individuals or groups of people, are those not capable of fulfilling their basic needs in order to maintain and develop dignified lives. These definitions point to people who face difficulties in life and have low incomes.

The cut-off point for poverty is called the poverty line, which is a sum of money that determines whether people are poor or not. If their incomes are below the line, they are poor. This line allows analysis of the gap between the poor and the line, known as the poverty gap index. As recommended by the United Nations, the poverty gap index can be analyzed to establish the distance between the average income of the poor and the poverty line. Furthermore, the amount of money needed to lift the revenue of the poor to the line can also be identified.

Zakat literally means to grow, develop, fertilize and increase (HR. Tirmidzi). It can also be defined as cleaning and purifying according to Qur'an Surah Taubah Verse 10. In relation to such terms, zakat is the amount of money

which must be delivered to certain people when it has fulfilled all the requirements specified by Islamic rules. There are eight kinds of people who must receive it, including the poor. In summary, zakat has the capability to help the poor out of poverty because of the obligation to deliver it.

Professional zakat is one of the zakat mal, which has become a popular topic of discussion. This kind of zakat can be implemented to all people who work, and the required amount which must be possessed in order to become muzakki (zakat payers) is not high compared to other kinds of zakat. Professional zakat is analogized to agricultural zakat, so payment is made when revenue has been received. However, nisab (the limit of money possessed for zakat payment to be required) follows the rule of zakat mal, which is 7.84 grams of gold, as stated in Qanun Aceh Number 10 of 2007. The proportion of money that must be paid is only 2.5 percent of total income.

2.2. Factors Affecting the Number of Muzakki

A study of the factors contributing to the welfare of muzakki and zakat spending found that marital status, education, income, and religious values were the main factors affecting zakat spending. On the other hand, the welfare of muzakki was affected by age, education, the number of dependents, income and religious values (Asdiansyuri, 2016). One of the indicators which can describe education level and income at the same time is the Human Development Index (HDI). This also indicates the quality of a human being. The good quality of individuals will ensure that they have a good understanding of knowledge. As the understanding of religion is one of the significant factors affecting the amount of muzakki (Majid, 2017), HDI is a perfect indicator for further analysis. Based on this, the proposed hypothesis of this study is that the higher HDI, the higher the potential of individuals to be eligible as muzakki.

Another variable which describes income and education is the education level of workers. To be eligible to become muzakki, people must work, because if they do not, they will not have an income. Highly educated people tend to secure jobs with high salaries. Data from the BPS-Statistics of Indonesia (2019) show that average net income tends to rise in line with the level of education in employment status. Therefore, the number of workers with a high level of education will definitely affect the total number of muzakki in a positive direction. High education level in this study refers to the last education obtained by people above senior high school, such as Diploma, Bachelor, Master or Doctor.

The average number of dependents is defined as total household members, and is a component which has an impact on the rise in muzakki numbers. The

higher the number of dependents in a household, the higher its needs. This will affect the welfare of the households, as more income will be used to cover expenditure. Ultimately, the number of muzakki could be reduced (Asdiansyuri, 2016).

The economic climate of a county will affect society, including income. In line with this, the influence of macroeconomic variables such as the inflation rate will affect the quality of life. Moreover, instability in macroeconomic performance will influence people's allocation of funds, including payment of zakat or alms, or other social funds (Saadillah et al., 2019). Therefore, the stability of the economy must be maintained or even improved to attract a rise in muzakki. The main indicator to describe the economic situation is gross domestic regional product (GRDP). Hence, a rise in GRDP will improve the number of muzakki.

To summarize, there are at least four variables that affect the number of muzakki: the Human Development Index (HDI); the total number of dependents; workers with a high level of education; and GRDP. All these have a positive impact on the number of muzakki, apart from the number of dependents, which has a negative effect.

2.3. Previous Studies

Research on zakat and poverty has been conducted by many practitioners, academicians, and even the government, with many variations in their findings. Some studies have found a significant effect of zakat on poverty, while others have found the opposite. This section will summarize these works by underlining the three main studies related to this research.

The research conducted by Beik (2009) studied the impact of zakat distribution on poverty. He used the study case approach to examine the effectiveness of zakat distribution at the Dompet Dhuafa Institution, specifically in a program called "Layanan Kesehatan Cuma-Cuma". To analyze the effect, various supporting indexes were employed, namely the headcount ratio, poverty gap index, income gap index, Sen index and Foster, Greer and Thorbecke Index (FGT Index). The results showed that zakat was able to reduce poverty because all the indicators used were reduced. The headcount ratio fell by 10 percent, as did the poverty gap and poverty severity. This finding undeniably proved that zakat was a potential instrument to reduce poverty at the micro level.

Another study by Musrizal (2017) was conducted in Aceh Utara from 2011 to 2017 and concluded that zakat revenue had a positive impact on poverty. By using data from BPS-Statistics, the researcher regressed zakat revenue with

the poverty rate and found that zakat did have an effect on poverty. The poverty rate, which can be explained by the zakat revenue variable, reached 52.2 percent, which means that the effect of zakat was significant at the regency level.

On the contrary, Mubarokah, Beik, and Irawan (2018) studied the impact of zakat on the poverty and welfare of zakat recipients by using the Islamic Poverty Index. The findings of the research show that zakat was able to improve the welfare of people who were poor materially, but not of those in absolute poverty. Similarly, Khasandy and Badrudin (2019) built a model to describe the influence of zakat on economic growth and society welfare using the partial least squares method with the Human Development Index, percentage of poor people and the GINI Index as variables. The research indicated that zakat did not have a positive impact on economic growth and welfare because of the small amount of zakat collected by BAZNAS. The findings tend to prove that at the national level zakat is not sufficiently effective to have a positive impact.

In summary, zakat has the potential effect to improve the welfare of people at the micro level. This notion is strengthened by the positive results of the ability of zakat to eliminate poverty displayed by the research in the form of case studies and also at the regency level. Nevertheless, zakat is still not able to have a significant impact at the national level.

III. Methodology

This research uses two approaches: descriptive statistical analysis and inference statistical analysis. The first approach describes the performance of Baitul Mal as well as the role of muzakki. Data from a socio-economic survey conducted by BPS-Statistics of Aceh Province in 2018 and those from the Finance Report of Baitul Mal will be utilized. The second approach identifies the factors contributing to the rise of muzakki in Aceh. A linear regression model will be utilized to identify the most significant variables. All the data is from BPS-Statistics of Aceh Province, which comprises the socio-economic data, and the publication entitled, "Aceh in Figure 2019" (BPS-Statistics of Aceh Province, 2019).

The first analysis involved various steps. In order to analyze the relationship between muzakki and the poor, the first of these was to estimate the number of muzakki. To do this, the income prediction was measured by the expenditure approach because of the limitation of the income data. Because zakat payers are the ones whose income, the expenditure of households was divided into the number of working people in them. By assuming the price of

gold is stable at 640,000 rupiahs (as of 1 March 2018), the nisab will be 5,017,600 rupiahs. Therefore, muzakki have an estimated income above this level. After getting the sum of muzakki, the potential funding was calculated. Consequently, its connection with the poverty gap index was analyzed descriptively.

The proposed model in this study has four variables: the Human Development Index, Gross Domestic Regional Product (in natural logarithm format), the average number of dependents, and workers educated above high school level. This is a linear log model; all of the chosen variables have an effect on the number of muzakki. The Human Development Index (HDI) and Gross Domestic Regional Product (GRDP) have a positive impact on the collection of zakat (Afifah, 2017). A higher level of GRDP means that economy activities produce more income, so when people's income reaches nisab, they will become muzakki. In addition, HDI describes the quality of people from three aspects, namely education, health and income per capita. Huda et al. (2013) found that age, education and job affected the understanding of muzakki in paying zakat. Therefore, an increase in these three aspects is bound to raise the capacity of individuals, so they will have a greater tendency to become muzakki when the HDI is high. Other studies show that education and income are factors which affect people's propensity to pay zakat and become muzakki. Nasution (2017) concluded that income is the main factor affecting zakat payment, together with education and awareness factors. Consequently, highly educated workers can describe the income and education factors, so this variable was chosen. The last variable, number of dependents, also affects the number of muzakki, as more dependents will lead to greater expenditure in the family, meaning people will no longer become muzakki (Asdiansyuri, 2016). All of these are reasons why the four variables were chosen.

As the goal of the study is to identify the most significant variables, all of them were selected by using the stepwise selection method. This method helped to develop the best model by combining the forward elimination method (entering variables one by one then choosing the best) and the backward elimination method (entering all the variables, then excluding them one by one until finding the best) (Draper & Smith, 1998). Eventually, only significant variables will remain. By referring to it, the proposed model is as follows:

$$Y = a + b_1X_1 + \ln b_2\, X_2 + b_3X_3 + b_4X_4 + \in$$

Notes:

Y	= Number of Muzakki	X_3	= Average Number of Dependents
X_1	= Human Development Index	X_4	= Workers with High Level of Education
X_2	= Gross Domestic Regional Product	€	= Error Term

To establish the unbiased estimators of the proposed model, the model must fulfil all the multiple linear regression assumptions: the error term must have a normal distribution and constant variance (homoscedasticity); there should be no autocorrelation in the error of independent variables; and there should be no multicollinearity between the independent variables. To ascertain whether these assumptions are fulfilled, different approaches are used. A histogram can be used to identify the normality of the data by studying the chart. Another way is by conducting the Kolmogorov Smirnov Test, which is used to determine whether a series of data follows a particular distribution; in this case, normal distribution. The White test can also be conducted by regressing the quadratic error with the independent variables, quadratic being utilized to detect heteroscedasticity problems. Autocorrelation can be detected by counting the Durbin Watson values (d values). If the result is dU < d < 4 – dU, then autocorrelation does not occur. Finally, multicollinearity is detected by observing the value of the Variance Inflation Factor (VIF). Multicollinearity will not take place if the value is below 5 (Pratama, 2013).

IV. Results and Analysis

4.1. Zakat and the Poverty Reduction Nexus

The identification of households which became the sample in the socio-economic survey conducted by BPS-Statistics of Aceh Province in March 2018 shows that there were 3,191,972 individuals whose estimated incomes were above the nisab level. In other words, the number of potential zakat payers in Aceh is high, because this figure represents more than half of the population, 60.72 percent. The detailed muzakki numbers for each regency and municipality, together with the potential zakat revenue in Aceh, are shown in Table 1.

Table 1. Estimation of Number of Muzakki and Potential Zakat Revenue in Aceh Province, 2018

Regency/Municipality	Number of Muzakki	Potential Zakat Revenue (Rupiahs)
Simeulue	40,921	2,176,957,364
Aceh Singkil	72,023	5,775,947,096
Aceh Selatan	109,180	6,704,544,041
Aceh Tenggara	128,773	8,093,121,378
Aceh Timur	264,093	14,759,893,084
Aceh Tengah	145,620	9,444,749,647
Aceh Barat	139,985	9,470,345,211
Aceh Besar	295,234	23,769,918,145
Pidie	265,593	14,659,565,432
Bireuen	300,080	17,309,303,264
Aceh Utara	277,151	16,266,535,196
Aceh Barat Daya	78,897	4,082,888,180
Gayo Lues	64,103	4,051,777,443
Aceh Tamiang	141,409	8,530,043,791
Nagan Raya	78,136	4,809,537,942
Aceh Jaya	54,335	3,186,767,992
Bener Meriah	100,026	5,647,101,757
Pidie Jaya	105,990	7,041,378,883
Banda Aceh	203,608	28,605,165,673
Sabang	25,270	1,836,147,280
Langsa	123,074	11,735,631,323
Lhokseumawe	140,278	11,492,237,902
Subulussalam	38,193	2,282,033,532
ACEH	**3,191,972**	**221,731,591,556**

Source: Processed data

The amount of money earned by the muzakki which makes them liable to pay professional zakat is 221 billion rupiahs. This funding is twice as high as the total zakat revenue collected by Baitul Mal in 2018, even though the zakat collected in Baitul Mal was of various types. Therefore, potential zakat, especially the professional form, is still high, so the government must continue to work hard to achieve its maximum potential in Aceh.

Turning to the poverty situation in Aceh, the data from BPS-Statistics of Aceh Province show that 15.97 percent of people in the region are poor. This means that approximately 839.49 thousand people lack welfare. The gap between the average income of the poor and the poverty line, as shown by the poverty gap index, is 2.85. By using a poverty line set at 454,740 rupiahs, around 1.087 trillion rupiahs would be needed to lift all the poor above the line, or

1,296,009 rupiahs per person. This could be achieved if the assumption of perfect distribution is fulfilled. As zakat must be delivered to the poor, the flow of money from it is more near to this assumption, so the level of success of lifting the poor out of poverty is extremely high.

To calculate the number of people who would be able to rise above the poverty line because of zakat revenue, a simulation must be run. If all the zakat professional revenue earned from the potential muzakki in Aceh were dedicated to the poor, it would cover approximately 171,000 people. So the poor people will be 668.4 people, or 12.72 percent. Therefore, the poverty rate would be reduced by 3.25 percent. If this could be implemented, Aceh's poverty rate ranking on Sumatra Island would be improved to two levels higher than Bengkulu and Lampung. These figures only refer to professional zakat, so other sources of zakat could be distributed to other categories. To put this into practice, the cooperation between Baitul Mal and the Government Planning and Development Agency and also other related institutions must be braided well.

According to Figure 2, the main recipients of zakat in 2017 were stranded travelers, who received around 31.52 percent of the total amount, followed by the poor and the needy, at 31.28 and 26.84 respectively. However, the total zakat received by the poor and the needy was 58.12 percent, or more than half. The meaning of the needy itself when it is separated from the poor has included the meaning of the poor (Chaniago, 2015). In relation to this, it is relevant to focus on the distribution of professional zakat only for the poor. The characteristic of this zakat is that it must be paid when income is received to ensure the sustainability of the revenue given to the

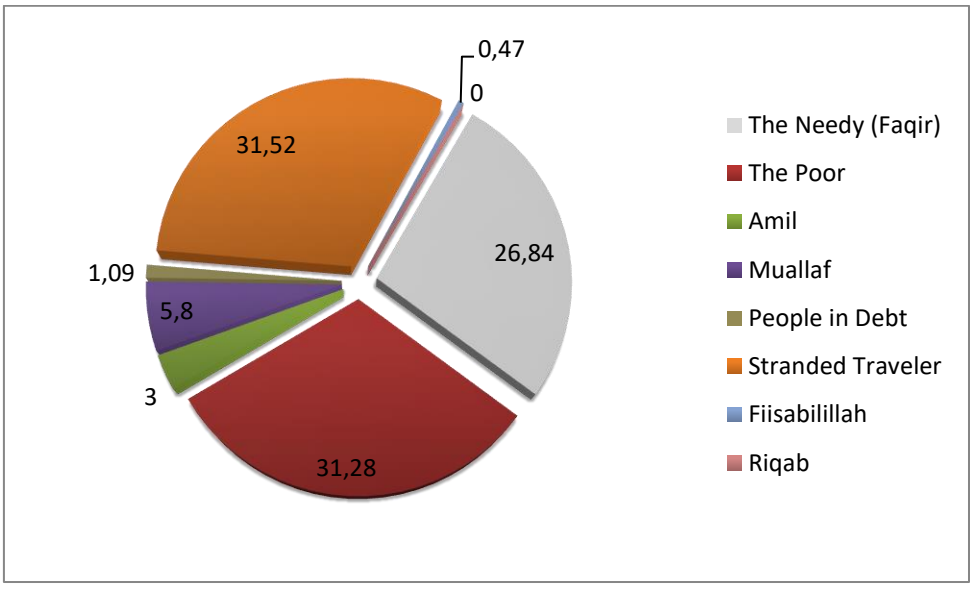


Figure 2. Percentage of Zakat Revenue by Recipients in 2017
Source: Yearly Report of Baitul Mal Aceh 2017 (Aceh, 2018)

poor. As the poor usually have a low income, this sustainability will greatly help them rise above the poverty line and reach stability in their expenditure.

The fact that the largest percentage of zakat recipients are the poor is proof that the zakat management in Aceh Baitul mall is supporting the government in eliminating poverty. However, the insignificance of the poverty reduction may be caused by the weakness of the data, so distribution of funding is worse. Hence, cooperation between the government agencies in strengthening the data, especially on those who have the right to receive funds, must be improved. Moreover, the synergy of all the poverty alleviation programs run by agencies with Baitul Mal must also be ensured to avoid overlapping. These approaches should improve the significance of zakat in poverty alleviation.

4.2. Analysis of Number of Muzakki, Zakat Revenue and Poor People

Creating scatter diagrams of the number of muzakki (vertical axis) and poor people (horizontal axis) results in four quadrants. The first of these is regencies or municipalities with a high number of muzakki and low level poverty. Second, there are regions with many muzakki but also many poor people. The third quadrant represents regions with a low number of muzakki and a high poverty rate, while the fourth comprises regions with a low poverty level but just a few muzakki. They also will be available if we change the number of muzakki with the potential zakat revenue. This section will discuss the results of the scatter diagrams, which are represented in maps.

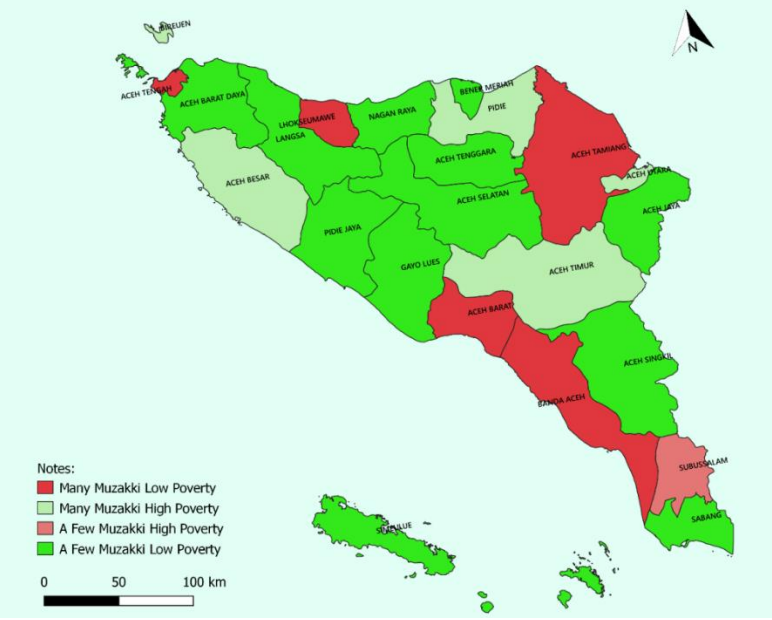


Figure 3. Results of the Quadrant Analysis Comparing Number of Muzakki and Poverty Level
Source: Processed data

From Figure 3, it can be noted that almost all regencies and municipalities in Aceh have a small number of muzakki, but also a low level of poverty. The regions in this group may not have too many concerns as poverty is at a low level. On the contrary, high levels of poverty together with large numbers of muzakki mean improvements need to be made, specifically in the way the government manages zakat. The regions in this group are Aceh Timur, Aceh Besar, and Pidie. The zakat management in these regencies needs to be examined and evaluated. The government also must utilize the potential of muzakki as well as persuading people to pay zakat so that the mechanism of zakat in solving poverty can be implemented. To clarify, these three regencies have all they need to have a significant impact on reducing poverty.

In the other two quadrants, there are two quadrants more, one is a group which has the possibility of sharing their zakat funding with other regencies, while the other is a group of regencies which are needed to help in eliminating poverty. Subulussalam, as the poorest region in Aceh, has a low number of muzakki. In other words, if this city struggles to maximize its zakat potential, it will remain very hard to significantly alleviate poverty. That is why this regency needs more aid and transfer to eliminate poverty. On the other hand, Aceh Tengah, Lhoksemauwe, Aceh Tamiang, Aceh Barat and Banda Aceh have many muzakki but only a few poor people. This situation means all these regions have great

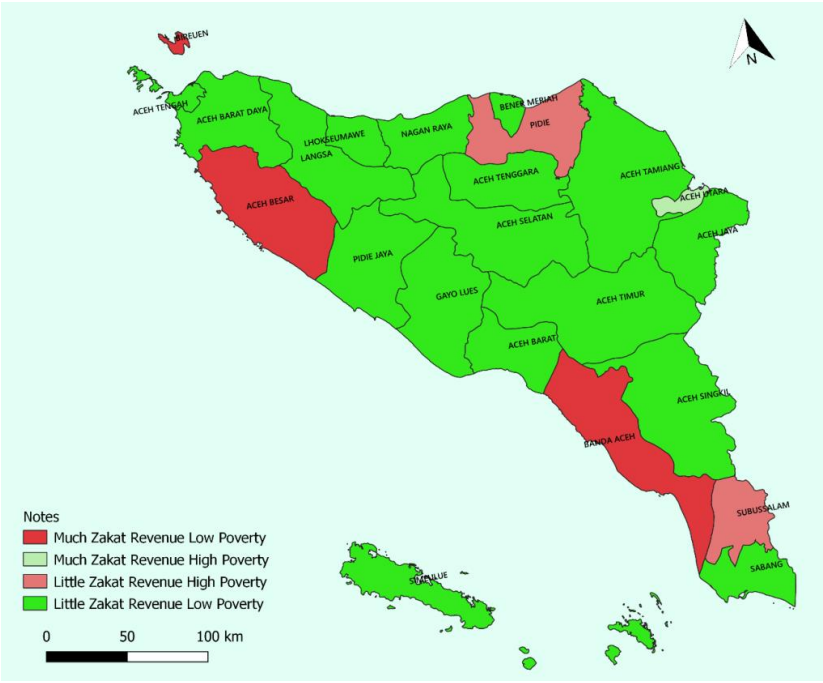


Figure 4. Results of the Quadrant Analysis of Potential Zakat Revenue and Poverty Level
Source: Processed data

potential to deliver their zakat funding to other regencies, specifically to help Subulussalam. In other words, these five regions have been ready to improve other things, not only poverty reduction.

A high number of muzakki does not always produce a large amount of zakat collected. Certain factors, such as purchase power, also affect the collection of zakat revenue. Figure 4 shows the regencies with potential zakat revenue and their poverty level. From this, it can be seen that there are only six regencies and municipalities in Aceh which are not included in the group with little potential zakat revenue and poor people. These conditions are very different to the previous map, which uses the variable of number of muzakki. This demonstrates that even if the number of muzakki in a region is high, the potential zakat which can be collected is not also necessarily high. Besides purchasing power, the economic level, income per capita and inflation are also variables which can affect this situation.

Subulussalam City, according to Figure 4, remains in the group with high poverty and little potential zakat revenue, which is is similar to the situation in Figure 3, So are Banda Aceh and Aceh Utara. Banda Aceh is also in the group with low poverty and high potential zakat revenue, while Aceh Utara is in the group with high poverty and high potential zakat revenue. On the contrary, Aceh Besar, Bireuen and Pidie have turned group when it comes to the potential zakat revenue which can be collected. Aceh Besar and Bireuen turn to the group which has the potential to share and help other regencies, such as Banda Aceh. This means that from the funding perspective, the amount of zakat which can be collected is high enough for both of the regencies to be able to have a significant impact on eliminating poverty in other regencies. At the same time, Pidie, which has many muzakki, as seen in Figure 3, tends to have low potential zakat revenue. This means that expenditure per capita there tends to be smooth and up to the nisab level of zakat, so muzakki numbers are high, but the potential zakat revenue is not high enough.

According to the discussion of all the variables, it can be concluded that not all regions with high numbers of muzakki provide bog amount of potential zakat revenue, because this is also determined by equality, economic size and income per capita. Nevertheless, regions with a high number of muzakki and a large amount of potential zakat revenue, such as Aceh Tengah, Lhoksemauwe, Aceh Tamiang, Aceh Barat, Aceh Besar, Bireuen and Banda Aceh, have great potential to improve the amount of zakat collected in order to alleviate poverty. On the contrary, Subulussalam and Pidie are regions face great difficulties in using the zakat instrument to eliminate poverty because of their low muzakki numbers and low potential zakat revenue.

4.3. Effect of GRDP and Average Number of Dependents on the Number of Muzakki

$$\check{Y} = -1{,}695.13 + 101.56 \ln X_2^* + 63.62 X_4^*$$

$$R^2 adj = 0.802 \quad Durbin\ Watson = 1.696 \quad F_{hit} = 45.630$$

The equation which resulted from the regression analysis indicates that only two variables remained: GRDP and Average Number of Dependents. This is the best equation because it has fulfilled all the regression assumptions. Normality is shown by the histogram and strengthened by the Kolmogorov Smirnov test, which produced results to accept the null hypothesis, meaning that data distribution was normal. Multicollinearity and autocorrelation also did not occur because the VIP value is lower than 5. In addition, the result of the Durbin Watson test is 1.696, a value which shows that at the 0.1 percent significance level there is neither positive nor negative autocorrelation. Since the value of the DW table is 1.535, the result of the counting Durbin Watson formula shows that the value is above the figure. Therefore, autocorrelation did not take place. Finally, homoscedasticity matter is seen by the graph consists of the predictor and the residual value, which did not show a particular pattern. Moreover, the result of the White test shows that the null hypothesis is accepted both in the overall and partial test, which demonstrates that that there is no heteroscedasticity.

The overall test of the equation shows that the null hypothesis is rejected. Therefore, all the independent variables affect the dependent variables simultaneously at the 5 percent significant level. Partially, each variable also affects the number of muzakki at the 5 percent significance level. Moreover, GRDP is significant at the 1 percent significance level, and the value of the adjusted R2, which displays the proportion which can be explained by the variables, is very high, at 80.2 percent. This means that GRDP and the average number of dependents are capable of explaining the variance of the dependent variable at the level of approximately 80.2 percent. All these conditions show that this is the best equation to describe the effect of economic conditions and the number of household members on the number of muzakki.

Gross Domestic Regional Product, which describes the economic size in regency, had a significant impact on the number of muzakki. The economic situation will probably affect the capability of people to become muzakki and thus have the obligation to pay zakat. Fundamentally, GRDP is used to indicate the standard of living in a society. By dividing total GRDP by the total number of people in the regency, GRDP per capita will be able to estimate, which is an indicator of the standard of living. Therefore, if GRDP falls, the standard of

living will also fall, and the number of muzakki will be lower. Based on the equation, an increase of one million rupiahs in GRDP will raise the number of muzakki by 101 thousand. This high number suggests that the policy to protect and increase the economy in Aceh will help to increase the number of muzakki.

Turning to another significant variable, the number of dependents, this will affect the motivation of people to pay zakat, as found by Asdiansyuri (2016). However, the number of muzakki will increase if the number of household dependents also increases. This is because when a household adds members, its expenditure will also rise. Hence, those in work will need to improve their income to fulfil the need of all the household members. As professional zakat only considers the capability of people from the view of total income, this will undoubtedly make them eligible to become muzakki. Referring to the results of the regression, an increase in household members of 64 in a regency/municipality will increase the number of muzakki by 1,000.

4.4. Social Economic Policy Integration

The significance of the number of household members with regard to the number of muzakki benefits Indonesia in general, and Aceh specifically. This is because Aceh will have the demographic dividend, as shown by the dependency ratio of below 50, in 2020 (BPS-Statistics of Indonesia, 2018). The rise in the number of youths caused by this phenomenon will improve the quality of household members, so the potential to improve muzakki is high. Despite this fact, young people must work and not become unemployed so the potency can be empowered. Furthermore, GRDP also has a significant impact on the number of muzakki. Hence, the integration of social and economy policy must be put in place, not only to raise the number of muzakki, but also to bring Indonesia to gold Indonesia in 2045.

An example of a social-economic policy is suggested by Pratama and Rahadiana (2019) in their study on optimizing the demographic dividend. They evaluate the performance of the labor force and suggest the creation of the chance to develop micro and small enterprises to support the economy. This concept could be well implemented by the collaboration of the regional government and Baitul Mal. By implementing zakat productively, targeting the poor and the youth, poverty could vanish. The utilization of zakat productive for entrepreneurship has been proven to have a real impact, even if the funds used are low (Pratama, 2015). Moreover, the entrepreneurs who result from such programs may become muzakki. Therefore, developing micro

and small enterprises for the poor is a possible solution to raising the number of muzakki, eliminating poverty and improving economic growth.

V. Conclusion and Recommendations

5.1. Conclusion

The potential number of muzakki in Aceh is 3 million people, with potential funding as high as 221 million rupiahs. This amount of money is only from professional zakat and been twice times higher zakat collected by Baitul Mal Aceh. If these funds are delivered to the poor in a perfect way, they will be able to lower the poverty rate in the region by approximately 3.25 percent. With a percentage of around 12.72 percent, Aceh will be placed as the third poorest province on Sumatra Island, two places higher than before.

Aceh Tengah, Lhoksemauwe, Aceh Tamiang, Aceh Barat, Aceh Besar, Bireuen and Banda Aceh are regions which have a high number of muzzaki and a large amount of potential zakat revenue, as well as a low poverty level. The government must focus on improving zakat management in these regions so that they can be a prototype for reducing the number of poor people using the zakat instrument. Subsequently, the regions with a high poverty level and a low number of muzakki, or little potential zakat revenue, that is Subulussalam and Pidie, can count on zakat to alleviate their poverty with the support from other regencies or municipalities.

The variables which are significant in affecting the number of muzakki are GRDP and the average number of dependents. GRDP, which illustrates the economic situation, has a positive impact on the rise in the number of muzakki. 101 thousand people will become muzakki if GRDP increases by one million rupiahs. Similarly, the average number of dependents also has a positive direction, which is contrary to the proposed hypothesis. The reason for this is that the addition of household members will increase household expenditure, so the exisiting members must try to cover this extra spending. Because income is estimated from expenditure, this will influence the household members who work becoming muzakki. Around one thousand new muzakki will be created if the number of household members increases by around 64.

5.2. Recommendations

To maximize the utilization of zakat in alleviating poverty, the government must cooperate with zakat institutions, specifically on programs and data. The poverty reduction-related programs, whether run by zakat institutions or the government, must not overlap. They should complement each other so that they run effectively. This can start with the use of databases of poor people. If a household has been aided by the government, it should not also receive aid from zakat institutions. These institutions should cover the households which have not been included by the government. Such cooperation is bound to have a significant effect on poverty reduction.

Creating more chances for developing micro and small enterprises for the poor and young people is one solution for supporting the income of the poor sustainably. It will not only help the poor in the short term, but also mean they do not solely depend on aid. These are generally called productive zakat programs. If the data used is well targetted, it will significantly improve people's welfare and also economic growth.

Further studies which could be made relating to this research could focus on the national level, or more specifically on the regency level. It would be extremely beneficial if we could examine and assess zakat management in the regions with high muzakki numbers or high potential zakat revenue. By identifying regions with good zakat management, the prototype of a region which could be emulated in terms of of the utilization of zakat to eliminate poverty could actually be put into practice. In addition, at the national level, study could be made of whether the planning family policy interferes with zakat management, and whether GDP affects the collection of zakat revenue. The results of such studies would be very helpful in formulating zakat policies in Indonesia.

References

Aceh, B. M. (2018). *Yearly Report of Baitul Mal Aceh in 2017*. *1*(4), 53.

Afifah, N. (2017). Pengaruh Produk Domestik Bruto dan Indeks Pembangunan Manusia terhadap Jumlah Pemghimpunan Dana Zakat, Infak dan Shadaqah (ZIS) di Indonesia Tahun 2010-2015 (Effect of Gross Domestic Product and Human Development Index on the Amount of Zakat, Infaq and Sadaqah Fund Collection (ZIS) in Indonesia 2010-2015). [Institut Agama Islam Negeri Tulungagung]. In IAIN Tulung Agung. https://doi.org/10.1017/CBO9781107415324.004

Asdiansyuri, U. (2016). Influence Analysis Expenditure Zakat , Infak Welfare and Charity Against Muzakki (Studies In Baznas In West Lombok Regency). *International Journal of Social and Local Economic Governance*, *2*(1), 23–31. https://doi.org/10.21776/ub.ijleg.2016.002.01.3

Beik, I. (2009). Analisis Peran Zakat Dalam Mengurangi Kemiskinan: Studi Kasus Dompet Dhuafa Republika (Analysis of the Role of Zakat in Reducing Poverty: Case Study of Dompet Dhuafa Republika). Pemikiran Dan Gagasan, 2(January 2009), 45–53. https://scholar.google.co.id/citations?user=osWmFrQAAAAJ&hl=en#d=gs_md_cita-d&u=%2Fcitations%3Fview_op%3Dview_citation%26hl%3Den%26user%3DosWmFrQAAAAJ%26citation_for_view%3DosWmFrQAAAAJ%3A9yKSN-GCB0IC%26tzom%3D-480

BPS-Statistics of Aceh Province. (2019). *Aceh Province in Figures 2019*. BPS-Statistics of Aceh Province.

BPS-Statistics of Indonesia. (2018). *Indonesia Population Projection 2015-2045 by The Result of SUPAS 2015*. BPS-Statistics of Indonesia.

BPS-Statistics of Indonesia. (2019). *Income Statistics August 2019* (Sub-directorate of Statistical Wages and Income (ed.)). BPS-Statistics of Indonesia.

Chaniago, S. A. (2015). Pemberdayaan Zakat Dalam Mengentaskan Kemiskinan. *Jurnal Hukum Islam*, *13*(1), 47. https://doi.org/10.28918/jhi.v13i1.495

Draper, N. R., & Smith, H. (1998). *Applied Regression Analysis Third Edition* (3rd ed.). New York: John Wiley & Sons, Inc.

Huda, N., Anwari, B., & Kasman. (2013). *Pengaruh Tingkat Pendidikan, Umur, Jenis Pekerjaan dan Pendapatan Terhadap Pemahaman Zakat Profesi studi Kasus Masjid AL-ABRAAR Pejompogan*. *12*(1), 24–39.

Khasandy, E. A., & Badrudin, R. (2019). The Influence of Zakat on Economic Growth and Welfare Society in Indonesia. *Integrated Journal of Business*

and Economics, *3*(1), 65 . https://doi.org/10.33019/ijbe.v3i1.89

Majid, M. S. A. (2017). The Motivation of Muzakki to Pay Zakah: Study at The Baitul Mal Aceh. *Signifikan: Jurnal Ilmu Ekonomi*, *6*(1), 159–176. https://doi.org/10.15408/sjie.v6i1.4302

Mubarokah, I., Beik, I. S., & Irawan, T. (2018). Dampak Zakat terhadap Kemiskinan dan Kesejahteraan Mustahik (Kasus : BAZNAS Provinsi Jawa Tengah). *Al-Muzara'ah*, *5*(1), 37–50. https://doi.org/10.29244/jam.5.1.37-50

Musrizal, (2017). Peranan Zakat Dalam Mengurangi Tingkat Kemiskinan di Aceh Utara. *Chemosphere*, *7*(1), 13–19. https://doi.org/10.1016/j.jenvman.2018.01.013

Nasution, E. Y. (2017). Pengaruh Pendidikan, Pendapatan dan Kesadaran Terhadap Minat Masyarakat Membayar Zakat di Badan Amil Zakat Nasional (BAZNAS): Studi Kasus Kota Medan. *Ekonomikawan: Jurnal Ilmu Ekonomi Dan Studi Pembangunan*, *17*(2), 147–158. https://doi.org/10.30596/ekonomikawan.v17i2.1797

Pratama, S. D. (2013). *Pengaruh degradasi lingkungan terhadap kemiskinan di indonesia tahun 2011*. Polytechnic Institute of Statistics.

Pratama, S. D., & Rahadiana, R. (2019). The Evaluation of Indonesian Labour Market in Optimizing Demographic Dividend in 2016. *JKAP (Jurnal Kebijakan Dan Administrasi Publik)*, *22*(2), 84. https://doi.org/10.22146/jkap.29739

Pratama, Y. C. D. Y. Q. (2015). Peran Zakat Dalam Penanggulangan Kemiskinan (Studi Kasus : Program Zakat Produktif Pada Badan Amil Zakat Nasional). *The Journal of Tauhidinomics*, *1*(1), 93–104.

Qanun. (2007). *Qanun Aceh No 10 Tahun 2007 Tentang Baitul Mal*. 1–33.

Saadillah, R., . K. (2019). Impact of Inflation, Interest Rate, and Industrial Production Index (IPI) on the Amount of Zakat in Central Baznas Period 2011-2017. *KnE Social Sciences*, *3*(13), 1371 . https://doi.org/10.18502/kss.v3i13.4291

World Bank. (2009). *Handbook on Poverty and Inequality*. World Bank.

APPENDIX

Descriptive Statistics

	Mean	Std. Deviation	N
Muzakki	138.7814	86.99355	23
HDI	70.2830	4.69919	23
LN_GRDP	15.4801	.74454	23
Workers Above High School Level	6.4424	2.43769	23
Average Number of Dependents	4.1135	.29421	23

Correlations

		Muzakki	HDI	LN_GRDP	Workers Above High School	Average of Dependents
Pearson Correlation	Muzakki	1.000	.265	.880	-.058	.258
	HDI	.265	1.000	.408	.772	-.359
	LN_GRDP	.880	.408	1.000	-.035	.049
	Workers Above High School Level	-.058	.772	-.035	1.000	-.309
	Average Number of Dependents	.258	-.359	.049	-.309	
	Muzakki	.	.111	.000	.397	

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1452.534	187.822		-7.734	.000		
	LN_GRDP	102.798	12.120	.880	8.482	.000	1.000	1.000
2	(Constant)	-1695.130	202.290		-8.380	.000		
	LN_GRDP	101.563	11.091	.869	9.158	.000	.998	1.002
	Average of Dependents	63.624	28.066	.215	2.267	.035	.998	1.002

a. Dependent Variable: Muzakki

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	HDI	-.113[b]	-.992	.333	-.217	.833	1.200	.833
	Workers Above High School Level	-.027[b]	-.252	.804	-.056	.999	1.001	.999
	Average of Number of Dependents	.215[b]	2.267	.035	.452	.998	1.002	.998
2	HDI	-.018[c]	-.155	.879	-.035	.689	1.450	.689
	Workers Above High School Level	.044[c]	.429	.673	.098	.904	1.106	.903

a. Dependent Variable: Muzakki

b. Predictors in the Model: (Constant), LN_GRDP

c. Predictors in the Model: (Constant), LN_GRDP, Average of Dependents

Collinearity Diagnostics[a]

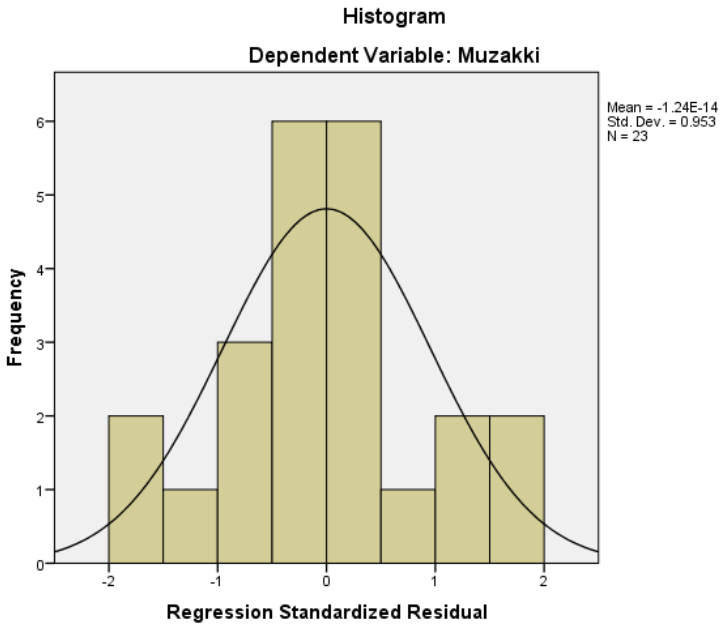
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	LN_GRDP	Average Number of Dependents
1	1	1.999	1.000	.00	.00	
	2	.001	42.541	1.00	1.00	
2	1	2.995	1.000	.00	.00	.00
	2	.004	28.742	.03	.18	.85
	3	.001	55.077	.97	.82	.15

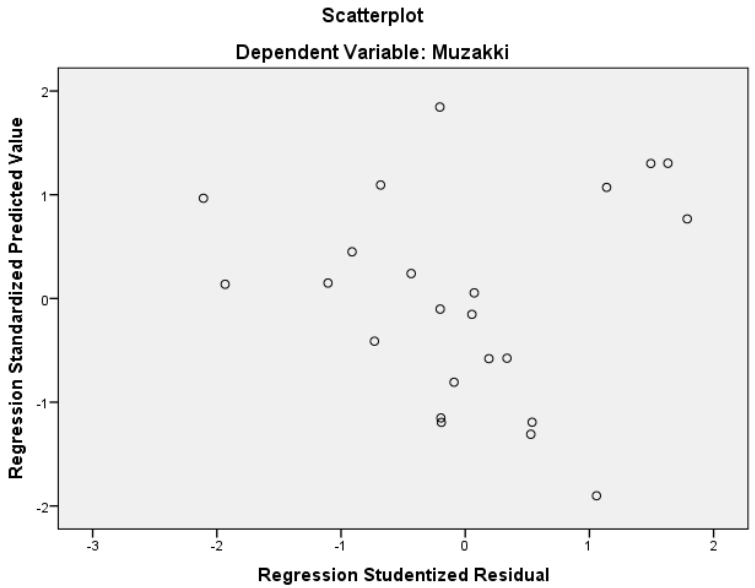
a. Dependent Variable: Muzakki

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-11.0530	284.2044	138.7814	78.78754	23
Std. Predicted Value	-1.902	1.846	.000	1.000	23
Standard Error of Predicted Value	8.112	22.661	13.476	3.770	23
Adjusted Predicted Value	-20.7677	286.0028	138.6823	79.96140	23
Residual	-74.66259	66.38995	.00000	36.88362	23
Std. Residual	-1.930	1.716	.000	.953	23
Stud. Residual	-2.109	1.787	.002	1.019	23
Deleted Residual	-89.12903	72.01669	.09911	42.17825	23
Stud. Deleted Residual	-2.331	1.901	-.003	1.071	23
Mahal. Distance	.011	6.593	1.913	1.608	23
Cook's Distance	.000	.287	.048	.070	23
Centered Leverage Value	.000	.300	.087	.073	23

a. Dependent Variable: Muzakki





One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		23
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	36.88362475
Most Extreme Differences	Absolute	.114
	Positive	.083
	Negative	-.114
Test Statistic		.114
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

WHITE TEST

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	X2, X4, X4^2, V2^2, X2*X4[b]	.	Enter

a. Dependent Variable: RES_Kuadrat
b. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19237756.994	5	3847551.399	1.345	.293[b]
	Residual	48614484.481	17	2859675.558		
	Total	67852241.475	22			

a. Dependent Variable: RES_Kuadrat
b. Predictors: (Constant), X2, X4, X4^2, V2^2, X2*X4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17124.025	201463.263		.085	.933
	X2	11401.524	22498.740	4.834	.507	.619
	X4	-54989.704	56570.255	-9.212	-.972	.345
	X2^2	-573.305	706.005	-7.514	-.812	.428
	X4^2	3589.068	5330.267	4.908	.673	.510
	X2*X4	1735.665	1579.679	5.586	1.099	.287

a. Dependent Variable: RES_Kuadrat

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