Analysis of the Effect of Zakat, Infaq and Shadakah (ZIS) Funds, GRDP and Regional Expenditure on Poverty in Nusa Tenggara Barat Province 2019-2022

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Abstract. Poverty is a significant issue in developing countries, including Indonesia. Nusa Tenggara Barat is among the ten provinces with the highest number of impoverished people. This study aims to analyze the effects of ZIS Funds (Zakat, Infaq, Shadakah), GRDP, and Regional Expenditure on poverty in the regencies and cities of Nusa Tenggara Barat Province from 2019 to 2022. The research employs a quantitative approach and utilizes secondary data in the form of panel data, which consists of both time series data and cross-sectional data from 2019 to 2022. Data for this research is obtained through documentation methods, specifically the archival method, which involves sourcing information from books, agencies, institutions, and relevant sources related to the research. The secondary data is sourced from the BPS web, Baznas Statistics, and DJPB Kemenkeu. Panel data regression analysis, using the Fixed Effect Model (FEM) estimation method, is applied to analyze the data, with the assistance of the Eviews 10 program. The results indicate that, partially, the distribution of ZIS Funds has a positive but insignificant effect on poverty. The GRDP at constant prices (ADHK) has a negative and significant effect on poverty, while Regional Expenditure has a positive but insignificant effect on poverty in the regencies and cities of Nusa Tenggara Barat Province from 2019 to 2022. Simultaneously, the distribution of ZIS Funds, ADHK GRDP, and Regional Expenditure has a significant effect on poverty in the regencies and cities of Nusa Tenggara Barat Province from 2019 to 2022.

Keywords: Poverty, ZIS Fund, ADHK GRDP, Regional Expenditure.

1. Introduction

Poverty is one of the most significant social problems being addressed by many countries, including Indonesia [1]. According to the World Bank, poverty is a condition when a person is unable to fulfill their basic needs, such as food, clothing, and shelter. Poverty is a term used to describe a group of people who are unable to meet their basic needs for food, shelter, or economic stability in an area [2]. Poverty also has a negative impact such as the emergence of crime, because people who are in poverty cannot carry out their various social lives properly, cannot get a good education, access to quality health, carry out religious obligations properly, and feel a decent life [3]. Poverty is also an enemy of the main objectives of regional autonomy. Where, the granting of broad autonomy to local governments is intended to accelerate the realization of community welfare through improved services, empowerment and community participation. This has brought consequences to local governments in regulating and managing their own regional interests according to their own initiatives, based on community aspirations and of course in accordance with applicable laws and regulations [4].

Based on data from the Central Statistics Agency (BPS) the number of poor people in NTB in 2019 amounted to 735,960 people then in 2020 it decreased to 713,890 people in September 2020 and increased again to 746,660 people in September 2021, but in 2022 the number of poor people decreased from 746,660 people to 731,940 people [5].
In 2023 NTB is still among the 10 provinces with the most poor people. One of the institutions that aims to prosper the community is Baznas, Baznas is a National Amil Zakat Agency that empowers zakat, infaq and sadaqah (ZIS) funds in Indonesia, which is responsible for helping mustahik improve their lives. Law Number 23 of 2011 concerning Zakat Management defines zakat as property that must be given by a Muslim or an organization to be given to those entitled according to Islamic law. Infak is something given by a person or an organization outside of zakat for the public interest, while sedekah is something given by a person or an organization outside of zakat for the public interest.

In the research of Suhairi et al. [6] zakat is one of the pillars of Islam and is also a mandatory instrument for Muslims in worshiping Allah SWT which affects the social and economic aspects of society. Zakat can be seen as one of the resources and sources of funding for matters covered by the 8 ashnaf, namely fakir, miskin, amil, muallaf, gharim, riqab, fisabilillah and ibnu sabil, as in the Al-Quran letter At-Taubah verse 60 [7]. In practice, it has been applied to activities in the form of social, economic, empowerment and advocacy programs. Therefore, zakat is seen as a resource and source of funding for program implementation that is intended to have a positive impact on the people who receive it, especially in relation to poverty alleviation. And NTB Province as a province with a majority of Muslims has the potential to optimize zakat funds to alleviate poverty in NTB Province.

Based on Government Regulation of the Republic of Indonesia number 14 of 2014 concerning the implementation of law number 23 of 2011 concerning the management of zakat [8]. Regional Regulation of Nusa Tenggara Barat Province Number 9 of 2015 concerning the organization and management of zakat infak sedekah. And Pergub number 15 of 2016 article 11 paragraph 1 concerning zakat money or assets that must be zakah which has reached the nishab equivalent to 85 grams of gold with a zakat rate of 2.5 percent that has reached haul and nishab. It can be concluded that the support of the government through its policies regulated in the Law, Regional Regulation to Pergup can help Baznas to optimize the collection of ZIS funds, then with maximum ZIS funds it will optimally reduce poverty. The following is data on the realization of the distribution of ZIS funds in the Regency/City of NTB Province in 2020-2022 [9].

In 2020, Sumbawa Regency saw a rapid increase in ZIS distribution, accompanied by four other districts/cities. Conversely, the rest experienced a decrease, with Dompu Regency witnessing the highest decline at 29.28 percent [10]. In 2021, seven districts/cities, namely Central Lombok Regency, East Lombok Regency, Sumbawa Regency, Bima Regency, North Lombok Regency, Mataram City, and Bima City, saw increases in ZIS distribution. However, three districts—Lombok Timur Regency, Dompu Regency, and West Sumbawa Regency—experienced declines. In 2022, ZIS distribution decreased in six districts/cities while increasing in four others. On average, the ZIS funds distributed by Baznas in the regencies/cities of NTB Province from 2020-2022 increased by 60.35 percent. Dahlan [11], indicates that the ZIS variable has a negative and significant effect on the poverty rate in the regencies/cities of Aceh Province [12]. Similarly Mulyawisdawati and Nugrahani [13], found that the distribution of ZIS funds has a negative and significant effect on the poverty rate. Additionally Aprilia et al. [14], concluded that zakat funds and economic growth significantly negatively impact poverty levels. These studies collectively suggest that ZIS distribution has the potential to reduce poverty.

Besides ZIS distribution, the decline in poverty levels can also be influenced by the Gross Regional Domestic Product (GRDP) of a region. GRDP reflects a region’s ability to
manage its natural resources. Therefore, the GRDP amount produced by each region depends on its natural resource potential and production factors. Limitations in these factors lead to varying GRDP levels across regions [15]. According to the Central Bureau of Statistics, GRDP is the sum of production factors from all economic sectors in a region. A higher GRDP value indicates greater regional revenue. One indicator of population welfare in an area is GRDP per capita, which allows people to fulfill their needs, especially basic ones [16]. Therefore, a higher GRDP per capita correlates with a more prosperous population and a reduction in poverty.

Research by Arkaanjani [17], shows that national and regional economic growth/GRDP significantly affects poverty negatively across all provinces from 2013-2015. Suhartini et al. [18] also found that GRDP negatively and significantly impacts poverty in the regencies/cities of Bengkulu Province from 2012-2016. Similarly Syafiuddin et al. [19], concluded that GRDP negatively and significantly affects the poverty rate in NTB Province. These studies suggest that GRDP growth effectively reduces poverty. Based on the data, it can be concluded that in the past year, the average poverty rate has decreased compared to the previous year. Meanwhile, GRDP and regional expenditure in all districts and cities in NTB Province have generally increased, with ZIS fund distribution rising in some districts and cities while decreasing in others.

In light of this context, this study aims to analyze the effect of ZIS Funds, ADHK GRDP, and Regional Expenditure on poverty levels in the regencies and cities of NTB Province. Specifically, the objective of this research is to examine the impact of ZIS Funds, GRDP, and Regional Expenditure on the poverty levels in the regencies and cities of Nusa Tenggara Barat Province from 2019 to 2022. By elucidating these relationships, the study aims to offer valuable insights into effective strategies for poverty alleviation.

2. Methods

This research uses a causal associative research method with a quantitative approach. This approach aims to identify the relationship between two or more variables using quantitative data that is measured empirically. The research location was carried out in the Regency/City area of Nusa Tenggara Barat Province, with the implementation period from the end of 2023 to the beginning of 2024, using data from 2019 to 2022. The data collection method used is the documentation or archive method, where secondary data is obtained from sources such as the Central Statistics Agency (BPS), Baznas Statistics, and djpb Ministry of Finance. The data collected includes independent variables, namely ZIS (Zakat, Infaq, and Shadaqah) Funds, ADHK GRDP, and Regional Expenditure, as well as the dependent variable, namely the poverty rate.

The dependent variable is the poverty rate, while the independent variables include ZIS Funds, ADHK GRDP, and Regional Expenditure. The operational definition of each variable has been determined, such as ZIS Funds which are funds collected from zakat, infaq, and alms, ADHK GRDP which is the total value of goods and services produced by all regional economic units, and Regional Expenditure which is the realization of regional expenditure budgets. Data retrieval and collection procedures were carried out by downloading data from relevant sources and making a list of research variable tables to fill in the data according to the variable column. Data analysis was conducted using panel data regression analysis, which is a combination of time series and cross section data. The regression equation used is adjusted to the unit of each variable and converted into a logarithmic model. Furthermore, the panel data regression estimation method includes three methods, namely the Pooled Least Square Model (Common Effect Model), Fixed Effect Model, and Random Effect Model. Model specification testing is carried out
through the Chow test to compare the common effect model with the fixed effect, the Hausman test to compare the fixed effect with the random effect, and the Lagrange Multiplier test to determine the best function of the two models [20].

After that, classical assumption tests such as normality test, multicollinearity test, and heteroscedasticity test are conducted to ensure the quality of the regression model. Statistical testing of regression analysis includes testing the coefficient of determination (Adjusted R²) to measure the ability of the model to explain the dependent variable, F test to test the effect of independent variables together, and t test to test the effect of independent variables individually. Based on the existing theory regarding the relationship between poverty, ZIS Funds, GRDP and Regional Expenditure, it is then developed into a theoretical conceptual framework shown as follows.

Based on the conceptual framework above, researchers will examine how much the influence of the ZIS Fund variable, GRDP at Constant Prices and Regional Expenditure on Regency/City Poverty in NTB Province in 2019-2022 partially and simultaneously. Hypothesis is a temporary statement that is still weakly true, then it needs to be tested for truth. It is said to be temporary because of the answer given new based on empirical facts obtained through data collection. Hypotheses can also be stated as theoretical answers regarding the formulation of the research problem, there is no empirical answer with data (Sugiyono, 2019). The hypotheses formulated in this research are as follows:

**H1:** ZIS funds have a significant effect on the poverty rate in the Regency / City of NTB Province.

**H2:** GRDP has a significant effect on the poverty rate in the Regency/City of NTB Province.

**H3:** Regional Expenditure has a significant effect on the poverty rate in the Regency/City of NTB Province.

**H4:** ZIS Funds, GRDP and Regional Expenditure have a significant effect on the poverty rate in the Regency / City of NTB Province.

### 3. Result and Discussion

#### 3.1 Model Specification Test

This study uses a panel data regression approach, namely data consisting of a combination of time-series and cross-section data or also known as pooled data. Panel data uses three model approaches, namely Common Effect (Pooled Least Square), Fixed Effect, and Random Effect. In determining the best model of panel data regression, several tests are required first. The tests used are the Chow test and the Hausman test. From the results of panel data regression testing in this study, the following results were found:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Effect Test</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow</td>
<td>Prob. Cross-section F 0.000 &lt; 0.05</td>
<td>FEM</td>
</tr>
<tr>
<td>Hausman</td>
<td>Prob cross-section random 0.000 &gt; 0.05</td>
<td>FEM</td>
</tr>
</tbody>
</table>
Based on the results of the chow test output above, the prob. cross-section Chi-Square value is 0.0000 <0.05, which means H0 is rejected, H1 is accepted. Therefore, the selection of the estimation model with the chow test approach chooses the fixed effect. Furthermore, the hausman test results above show a prob. value. cross-section random of 0.000> 0.05 which means H1 is rejected and H0 is accepted. Therefore, the selection of the estimation model with the hausman test approach chooses Fixed effect over Random effect. The Langrage Multiplier test in this study was not carried out because it had obtained Fixed Effect results based on the Hausman test.

3.2 Classical Assumption Test Results

Based on the results of the model specification test, the right model is the fixed effect model, so the classic assumption test tested is the multicollinearity and Heteroscedasticity test. The multicollinearity test is conducted to test whether there is a correlation between the independent variables in the regression model. Between independent variables in the regression model.

<table>
<thead>
<tr>
<th>Var</th>
<th>Correlation</th>
<th>Prob Heteroscedasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log X1</td>
<td>-0.152349</td>
<td>0.000000</td>
</tr>
<tr>
<td>Log X2</td>
<td>0.000000</td>
<td>-0.413256</td>
</tr>
<tr>
<td>Log X3</td>
<td>0.364008</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Based on table 2. It is known that the Pair Wise Correlation test results show that there is no Correlation value between variables greater than 0.80. Where the Correlation value of ZIS Fund (X1) with GRDP (X2) = 0.152, the Correlation value of ZIS Fund (X1) with Regional Expenditure (X3) = 0.346 and the Correlation value of GRDP (X2) with Regional Expenditure (X3) = -0.413. Thus this regression model is proven not to have multicollinearity problems. Based on the output table above, it can be seen that the Prob value of X1=0.8082, X2=0.4191 and X3=0.3612 is greater than 0.05, meaning that there are no symptoms of heteroscedasticity in the regression model.

3.3 Panel Data Regression Results

Based on the results of the model testing above, this study uses the Fixed effect model approach. The following are the results of calculations with the Random effect model approach using Eviews 10 software:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>3.910582</td>
<td>0.829986</td>
<td>4.711624</td>
<td>0.0001</td>
</tr>
<tr>
<td>LOG X1</td>
<td>0.002892</td>
<td>0.011147</td>
<td>0.259409</td>
<td>0.7973</td>
</tr>
<tr>
<td>LOG X2</td>
<td>-0.172333</td>
<td>0.082402</td>
<td>2.091362</td>
<td>0.0460</td>
</tr>
<tr>
<td>LOG X3</td>
<td>0.008826</td>
<td>0.094863</td>
<td>0.093038</td>
<td>0.9266</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.998703</td>
<td>0.998127</td>
<td>0.014299</td>
<td>0.000000</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.998627</td>
<td>0.98127</td>
<td>0.005250</td>
<td>-5.400319</td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.034299</td>
<td>0.012499</td>
<td>0.005520</td>
<td>-4.500319</td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>121.0064</td>
<td>121.0064</td>
<td>1732.875</td>
<td>4.752250</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>5.500000</td>
<td>5.500000</td>
<td>1732.875</td>
<td>4.752250</td>
</tr>
<tr>
<td>F-statistic</td>
<td>1732.875</td>
<td>1732.875</td>
<td>1732.875</td>
<td>4.752250</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Based on Table 3, it can be seen that the research results of the model obtained are as follows:

\[ Y = 3.910582 + 0.002892 \text{LOG}(X1)it - 0.172333 \text{LOG}(X2)it + 0.008826 \text{LOG}(X3)it + \epsilon it \]

The constant of 3.91082 indicates that if the independent variables, namely the Distribution of Zakat, Infaq and Shadakah (ZIS) Funds, Gross Regional Domestic Revenue...
(GRDP) and Regional Expenditure are zero, then the Poverty rate in the Regency / City of Nusa Tenggara Barat Province increases by 3.358430 people. then the interpretation of the above equation for each variable, among others:

1. The regression coefficient value of ZIS Fund (X1) is 0.002892, which means that every increase in the amount of distribution of ZIS funds (X1) by 1 thousand rupiah, the poverty rate increases by 0.002892 people, assuming other variables are constant (fixed). So, it can be concluded from these results that there is a positive influence between the variable ZIS Fund Distribution (X1) and Poverty (Y).

2. The regression coefficient value of GRDP is -0.172333, which means that every increase in the amount of GRDP (X2) by 1 thousand rupiah, the value of Poverty decreases by 0.172333 people with the assumption that other variables are constant (fixed). So, it can be concluded from these results that there is a negative influence between the GRDP variable (X2) and Poverty (Y).

3. The regression coefficient value of the realization of Regional Expenditure (X3) is 0.008826, which means that every increase in the amount of Regional Expenditure Realization (X3) by 1 thousand rupiah, the value of Poverty decreases by 0.008826 people, assuming other variables are constant (fixed). So, it can be concluded from these results that there is a positive influence between the variable Regional Expenditure (X3) and Poverty (Y).

3.4 Hypothesis Test Results

Hypothesis testing in this study has three stages, namely, determination test (R2), simultaneous test (F-test) and partial test (t-test). From the regression results, it is known that the R2 value is 0.9987, which means that the ZIS Fund, GRDP and Regional Expenditure variables simultaneously affect the poverty variable by 99.87 percent while the rest is explained by other variables outside the research variables that are not included in this research model. The significance value of F used in this study is 5% or 0.05 or 0.05. Based on the regression results in Table.4.7. It is known that the Prob (F-statistic) value is 0.00. Thus the probability value is smaller than 0.05, Ha is accepted and H0 is rejected. This means that the independent variables of ZIS Funds, GRDP and Regional Expenditure simultaneously affect the dependent variable Poverty.

Based on the results of data processing in table 3. it can be seen that:

1. The distribution of ZIS funds is known that the prob. value of 0.7973 is greater than 0.05. This means that H0 is accepted and Ha is rejected. This means that the distribution of ZIS funds has an insignificant effect on poverty.

2. ADHK GRDP is known that the prob. value of 0.0460 is smaller than 0.05. This means that H0 is rejected and Ha is accepted. This means that ADKH GRDP has a significant effect on poverty.

3. Regional Expenditure is known that the prob. value of 0.9266 is greater than 0.05. This means that H0 is accepted and Ha is rejected. This means that regional expenditure has an insignificant effect on poverty.

3.5 Discussion

3.5.1 The Effect of ZIS Funds on Poverty in Regencies / Cities of NTB Province in 2019-2022

Based on the analysis results, it is known that the prob. value of 0.7973 is greater than 0.05. This means that H0 is accepted and Ha is rejected. With the acceptance of H0, the Distribution of ZIS Funds has an insignificant effect on Poverty. This shows that although there is an increase in the Distribution of ZIS Funds, it does not have a significant effect on poverty. Each increase in the distribution of ZIS funds by 1 thousand rupiahs of
ZIS Fund Distribution will affect Poverty by 0.0029 people in the Regency / City of Nusa Tenggara Barat Province for the period 2019-2022. The research period used in this study is only 4 (four) years, namely the period 2019-2022, so that the data on the distribution of ZIS funds used is limited and affects the level of significance. The effect of the distribution of ZIS funds on poverty in the districts / cities of Nusa Tenggara Barat Province in 2019-2022 has a negative relationship, meaning that every increase in ZIS funds distributed can reduce poverty, but in this study it is not significant.

The results of this study can be influenced by the lack of understanding of the community, especially the Muslim community, about the management of ZIS funds managed by Baznas so that the lack of people who pay ZIS funds through BAZNAS institutions. The results of this study are in line with the results of Suhairi et al. [6], that ZIS funds have an insignificant negative effect on poverty.

3.5.2 The Effect of ADHK GRDP on Poverty in Regencies/Cities in NTB Province 2019-2022

Based on the analysis results, it is known that the prob. value of 0.0460 is smaller than 0.05. This means that H0 is rejected and Ha is accepted. With the acceptance of Ha then the amount of ADKH GRDP has a significant effect on Poverty. This shows that if there is an increase in ADHK GRDP, it can have a significant effect on poverty. Each ADHK GRDP growth of 1 thousand rupiah will affect Poverty by 0.1723 people in the Regency / City of Nusa Tenggara Barat Province for the 2019-2022 period. The research period used in this study was only 4 (four) years, namely the 2019-2022 period, so the ADKH GRDP data used was limited and affected the level of significance. The effect of ADHK GRDP on Poverty in the Regency/City of Nusa Tenggara Barat Province in 2019-2022 has a negative relationship, meaning that any growth in ADHK GRDP can reduce poverty. The results of this study are in line with the results of Syafiuddin et al. [19], that the GRDP variable has a significant negative effect on poverty, while the government expenditure variable has no negative effect on poverty, but together the GRDP and government expenditure variables have a positive effect on poverty in Papua.

3.5.3 The Effect of Regional Expenditure on Poverty in Regencies/Cities in NTB Province 2019-2022

Based on the analysis results, it is known that the value of prob. of 0.9266 is greater than 0.05. This means that H0 is accepted and Ha is rejected. By accepting H0, the amount of regional spending has an insignificant influence on poverty. This shows that although there has been an increase in regional spending, it does not have a significant impact on poverty. Every 1 thousand rupiah growth in regional spending will affect poverty by 0.0088 percent in the District/City of Nusa Tenggara Barat Province for the 2019-2022 period. The research period used in this research is only 4 (four) years, namely the 2019-2022 period, so the regional expenditure data used is limited and affects the level of significance. The influence of regional spending on poverty in the Regencies/Cities of Nusa Tenggara Barat Province in 2019-2022 has a negative relationship, meaning that any growth in regional spending can increase the poverty rate. However, in this study it was not significant.

The results of this study are in line with the results of research by Pertiwi and Purnomo [16], that regional expenditure has a partially negative and insignificant effect on economic growth and regional expenditure has a positive and insignificant effect on poverty levels in regencies/cities in NTB Province. In Suhartini et al. [18], the results of the study that the Government Expenditure Variable has an influence on Unemployment, the government expenditure variable has no effect on Poverty in Mataram City.
4. Conclusion
Based on the research findings, it can be concluded that the distribution of ZIS funds (X1) and regional expenditure (X3) did not have a significant partial effect on the poverty rate (Y) in the regencies and cities of Nusa Tenggara Barat Province during the 2019-2022 period. Conversely, ADKH GRDP (X2) exhibited a negative and significant effect on the poverty rate (Y) within the same timeframe. When considered simultaneously, the distribution of ZIS funds (X1), ADKH GRDP (X2), and regional expenditure (X3) collectively influenced the poverty rate (Y) in the regencies and cities of Nusa Tenggara Barat Province during the study period. These findings suggest that local governments should focus on maintaining and increasing local expenditure, particularly in areas related to infrastructure development such as roads, irrigation systems, and networks. Enhanced infrastructure can play a crucial role in stimulating economic growth, thereby contributing to poverty alleviation in the region.

5. Declaration
Author contributions and responsibilities - The authors made major contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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Competing interests - The authors declare no competing interests.

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Declaration of generative AI and AI-assisted technologies in the writing process - During the preparation of this work the author did not use AI to write, edit, or other things related to the manuscript.

6. References


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