

The Synergy of Zakat, Economy and Education: Dissecting the Determinants of Poverty Level in Aceh

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Abstract. Aceh is a province in Indonesia with a Muslim-majority region and applies special autonomy and qanun, but there is a paradoxical phenomenon in this region where a significant increase in zakat distribution, economic growth, and education is actually followed by an increase in the number of poor people. This study aims to test and analyze the effect of zakat, economic growth and education on poverty rates in 23 districts / cities of Aceh Province in 2011-2021. The research method used in this study is using a descriptive quantitative approach using secondary data. The analysis technique uses panel data regression which includes cross section data (23 districts / cities) and time series data (2011-2021). Data obtained from the official websites of Baitul Mal Aceh and the Central Bureau of Statistics of Aceh Province. The results showed that zakat and education partially had a significant negative effect on the poverty rate in Aceh, this identified that zakat and education succeeded in reducing poverty in Aceh. However, it is different with economic growth where the results show that partially economic growth has a positive but insignificant effect on the poverty rate. This indicates that an increase in economic growth causes an increase in the poverty rate in Aceh. Simultaneously, zakat, economic growth and education variables together have a significant effect on poverty reduction in Aceh.

Keywords: poverty, education, economic growth, zakat

Abstrak. Aceh merupakan provinsi di Indonesia dengan daerah yang penduduknya mayoritas Muslim dan menerapkan otonomi khusus serta qanun, namun terjadi fenomena paradoks di wilayah ini dimana peningkatan signifikan dalam penyaluran zakat, pertumbuhan ekonomi, dan pendidikan justru diikuti dengan peningkatan jumlah penduduk miskin. Penelitian ini bertujuan untuk menguji dan menganalisis pengaruh zakat, pertumbuhan ekonomi dan pendidikan terhadap tingkat kemiskinan di 23 kabupaten/kota Provinsi Aceh pada tahun 2011-2021. Metode penelitian yang digunakan pada penelitian ini yakni menggunakan pendekatan kuantitatif deskriptif dengan menggunakan data sekunder. Teknik analisis yakni menggunakan regresi data panel yang meliputi data cross section (23 kabupaten/kota) dan data time series (tahun 2011-2021). Data diperoleh dari website-website resmi Baitul Mal Aceh dan Badan Pusat Statistik Provinsi Aceh. Hasil penelitian menunjukkan bahwa zakat dan pendidikan secara parsial berpengaruh negatif signifikan terhadap tingkat kemiskinan di Aceh, hal ini mengidentifikasikan bahwa zakat dan pendidikan berhasil menurunkan kemiskinan di Aceh. Namun berbeda dengan pertumbuhan ekonomi yang dimana hasil menunjukkan bahwa secara parsial pertumbuhan ekonomi berpengaruh positif namun tidak signifikan terhadap tingkat kemiskinan. Hal ini menandakan bahwa kenaikan pertumbuhan ekonomi menyebabkan kenaikan pada tingkat kemiskinan di Aceh. Secara simultan variabel zakat, pertumbuhan ekonomi dan pendidikan secara bersama-sama memberikan pengaruh yang signifikan terhadap penurunan kemiskinan di Aceh.

Kata Kunci: kemiskinan, pendidikan, pertumbuhan ekonomi, zakat

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Introduction

Islam offers comprehensive solutions for various aspects of human life, including economic issues such as poverty alleviation. Despite having Muslim-majority populations, many countries have not fully implemented Islamic economic paradigms to address poverty effectively. Aceh, as Indonesia's only province with special autonomy to implement sharia principles, presents a unique case study for examining Islamic economic instruments. Despite implementing dual economic systems—conventional and sharia—and having significant natural resources and special autonomy funds, Aceh continues to face serious poverty challenges with rates reaching 15.11% in 2022, the highest in Sumatra (BPS, 2024).

In Islamic perspective, poverty is not merely an economic problem but directly threatens the fulfillment of Maqashid Shariah (the objectives of Islamic law). Poverty potentially disrupts the five fundamental protections: religion (hifzh ad-din), life (hifzh an-nafs), intellect (hifzh al-'aql), lineage (hifzh an-nasl), and wealth (hifzh al-mal). Despite substantial zakat distribution through Baitul Mal Aceh, which increased 25-fold from 6.36 billion rupiah in 2011 to 92.44 billion rupiah in 2021, poverty rates have not decreased proportionally. Similarly, economic growth showed positive trends before the pandemic, reaching 4.61% in 2018 before contracting to -0.37% in 2020 and recovering to 2.81% in 2021, yet poverty remained persistently high (BPS, 2024).

Education, as measured by Mean Years of Schooling in Aceh, increased consistently but slowly from 8.32 years in 2011 to 9.37 years in 2021. Despite this positive trend, this achievement remains below the national target of 12 compulsory years of education, indicating significant challenges in Aceh's education sector. This slow improvement potentially affects poverty reduction efforts as residents with limited education face difficulties accessing better employment opportunities or increasing their productivity. While school participation rates in 2021 reached impressive figures (99.67% for elementary, 98.42% for junior high, and 83.10% for senior high school levels), the relatively

low Mean Years of Schooling raises important questions about the effectiveness of existing education policies and their impact on poverty reduction (BPS, 2024).

Previous studies have examined relationships between these variables and poverty reduction with varying results. Ridwanayati and Mafruhah (2023) and Muiz et al. (2023) combined zakat analysis with infaq and shadaqah, leaving zakat's specific impact on poverty unclear. Wahyudi et al. (2014) analyzed economic growth's effect on poverty in Aceh but only for the 2007-2012 period. Educational impacts on poverty showed inconsistent results in studies by Yuliana et al. (2020) and Muhaddisin and Sartiyah (2019) despite using similar research objects.

A significant research gap exists in comprehensively examining zakat, economic growth, and education effects on poverty levels in Aceh for the 2011-2021 period. Few studies present theoretical frameworks from both conventional and Islamic perspectives. The intriguing phenomenon observed in 2018 and 2021, where increased zakat distribution, economic growth, and education levels coincided with rising poverty rates, contradicts general economic theory that suggests these factors should reduce poverty. This paradox indicates potential structural constraints or policy implementation weaknesses requiring deeper analysis.

This study aims to address these research gaps by examining: (1) the influence of zakat on poverty levels in Aceh during 2011-2021; (2) the impact of economic growth on poverty levels during the same period; (3) the effect of education on poverty levels; and (4) the simultaneous influence of all three factors on poverty in Aceh. The findings will provide valuable insights for government agencies, zakat management institutions, and other stakeholders in designing more effective poverty reduction policies at provincial and other levels.

Literature Review

Poverty from an Islamic Economic Perspective

The Quran describes poverty using terms like *faqir* and *miskin*, with Imam Syafii distinguishing between those who have no means (*fakir*) and those with insufficient means (*miskin*). Islamic economics offers a more comprehensive concept of poverty than conventional economics, encompassing both worldly and spiritual aspects (Iqbal & Burhan, 2017).

Irfan Ul-Haq (1996) identified nine main causes of poverty according to the Quran, including disobedience to religious teachings, human actions, indifference of the wealthy, making wealth a life goal, discrimination in resource allocation, laziness, power concentration, exploitation, and natural disasters. Islam views both poverty and wealth as tests, neither determining one's nobility or humiliation.

Zakat in Poverty Alleviation

Zakat is an obligation for Muslims whose wealth reaches the *nisab* threshold (Al-Jaza'iri, 2017). Yusuf Qardhawi emphasizes that zakat redistributes wealth from the wealthy (*muzakki*) to those in need (*mustahiq*), advocating for both consumptive and productive distribution.

Kahf (1997) argues that zakat boosts the economy as recipients use it for basic needs, increasing demand for products and services. This structured implementation creates a multiplier effect in the economy by increasing money circulation (Anik & Prastiwi, 2019).

Economic Growth and Education in Addressing Poverty

Economic growth is crucial for poverty reduction as it increases productivity and creates jobs (Mankiw, 2007). However, Umer Chapra stresses that growth alone is insufficient without equitable income distribution. Muhammad Abdul Mannan (1984) adds that justice is more important than efficiency, especially for basic needs.

Education equips individuals with skills and knowledge, increasing workplace competitiveness and potentially generating higher income (Muhaddisin & Sartiyah, 2019). In Islam, education includes both religious and worldly knowledge beneficial for community welfare. Quality education opens better job opportunities, increases productivity, and creates new jobs, aligning

with Islamic empowerment principles where zakat supports both consumptive and productive needs, including education.

Previous Empirical Research

Studies on the impact of ZIS (Zakat, Infaq, and Shadaqah) on poverty show mixed results. Ridwanayati & Mafruhah (2023) found that ZIS has a significant negative effect on poverty in Indonesia, while Muiz et al. (2023) concluded that the effect was not very significant. Halimatussadiah & Sulastri (2022) identified zakat management has a positive but insignificant impact, while waqf has a significant positive effect in Cianjur. Komariyah & Kunaifi (2020) found productive zakat and shadaqah had no significant effect, while productive infaq had a significant impact in Pamekasan. Mustafid et al. (2023) revealed that zakat had a positive but insignificant effect, while infaq had a significant positive effect in Cirebon. Munandar et al. (2020) concluded that ZIS distribution is significantly related to the poverty rate. Sari et al. (2019) proved that zakat plays a crucial role in poverty reduction in West Sumatra. Muhaddisin & Sartiyah (2019) found that zakat has no significant effect on poverty in Aceh.

Regarding other factors, economic growth shows inconsistent results. Wahyudi et al. (2014), Pangiuk (2018), and Asmananta et al. (2022) found that economic growth has no significant effect on poverty in Aceh, Jambi, and South Sumatra. Fadila & Marwan (2020) concluded that economic growth has a negative but insignificant effect in West Sumatra. Ishak et al. (2020) found a positive effect in Makassar. Ningsih & Andiny (2018) revealed that economic growth has no significant effect on poverty in Indonesia. For the education factor, Annisa & Anwar (2021) and Promise & Benard (2024) found a significant negative relationship with poverty, but Yuliana et al. (2020) found a positive correlation in Aceh. Agustina et al. (2018) concluded that unemployment rate and education have a significant positive effect on poverty, while population is not significant. Didu & Fauzi (2016) found that simultaneously population, education, and economic growth were significantly related to poverty in Lebak district.

Research Hypotheses

Based on theoretical foundations and previous research, this study proposes the following hypotheses: H1: Zakat has a negative effect on poverty levels in Aceh Province. H2: Economic growth has a negative effect on poverty levels in Aceh Province. H3: Education has a negative effect on poverty levels in Aceh Province. H4: Zakat, economic growth, and education simultaneously have a negative effect on poverty levels in Aceh Province.

Method

This study employs a quantitative descriptive approach. The research encompasses 23 districts/cities in Aceh Province over the period 2011-2021. Secondary data in the form of panel data is used, combining cross-sectional data (23 districts/cities) with time series data (2011 to 2021). The data was obtained from the Baitul Mal of Aceh Province and the Central Bureau of Statistics (BPS) of Aceh Province, covering zakat distribution, economic growth, education, and poverty levels across all 23 districts and cities in Aceh from 2011 to 2021. The study examines poverty rate as the dependent variable, while zakat, economic growth, and education serve as independent variables. The research utilizes panel data regression model testing with the assistance of Eviews 12 software for statistical analysis.

Results and Discussion

Results

In selecting the panel data regression model in this study, there are several models, namely Fixed Effect, Common Effect, and Random Effect, so the Chow Test and Hausman Test and Lagrange Multiplier Test will be carried out to see which model is the best in this study. The following are the results of the Chow Test, Hausman Test and Lagrange Multiplier Test:

Tabel 1. Chow Test, Hausman Test and LM Test Results

	Prob.	Result
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Chow Test	0,0000	FEM
Hausman Test	0,3938	REM
Lagrange Multiplier Test	0,0000	REM

Source: Data processed (2025)

The Cross-Section Chi-square probability value is 0,0000, less than 0,05. Therefore, the Fixed Effect Model (FEM) is the chosen method, and the test continues with the Hausman Test. In the Hausman Test results, the Prob. value at Cross-section random is $0,3938 > 0.05$, so the Random Effect Model (REM) method is chosen.

Furthermore, the regression model is tested using the classical assumption test which consists of normality test, multicollinearity test and heteroscedasticity test. From the classical assumption test, the following results were obtained:

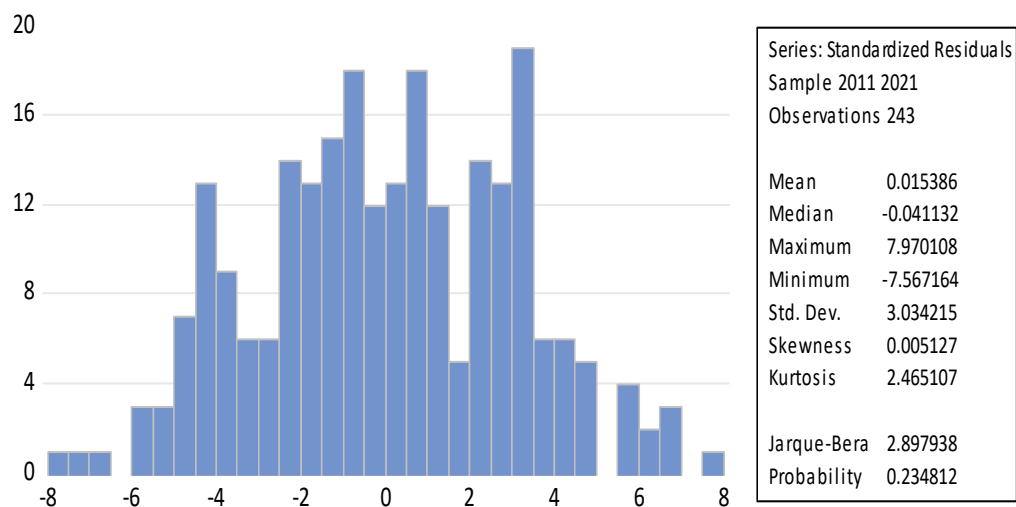


Figure 1. Normality Test Results

Based on Figure 1, the results of the normality test using Jarque-Bera are valued at 2,897938 with a significance (Prob.) of $0,234812 > 0,05$. So the test results show that the data contained in the regression model in this study are normally distributed.

Table 2. Multicollinearity Test Results

	ZD	EG	EDU	Result
ZD	1,000000	-0,032903	0,479940	No Multicollinearity

EG	-0,032903	1,000000	-0,035555	No Multicollinearity
EDU	0,479940	-0,035555	1,000000	No Multicollinearity

Source: Data processed (2025)

Based on the results of the multicollinearity test, it can be seen that all correlation coefficients are less than 0.85 in the multicollinearity results, so it can be concluded that in this study there are no symptoms of multicollinearity.

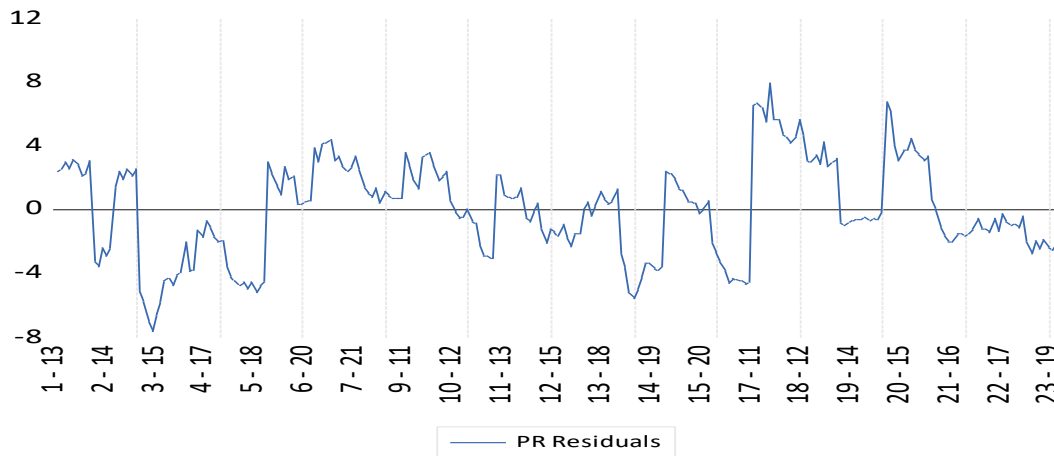


Figure 2. Heteroscedasticity Test Results

Based on Figure 2, it can be seen that the residual graph (blue color) does not cross the limit (500 and -500) and even very far to reach this number, this can mean that the residual variance is the same. Therefore it can be concluded that in this study there are no symptoms of heteroscedasticity.

Table 3. Analysis Result

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	38,10944	1,609349	23,68004	0,0000
ZD	-0,000000000000610	0,000000000000306	-1,995165	0,0472
EG	0,039173	0,027362	1.431658	0,1535
EDU	-2,336501	0,173589	-13,45998	0,0000
F-statistic	101,4334	Adjusted R-squared	0,554574	
Prob(F-statistic)	0,000000			

Source: Data processed (2025)

The results of the panel data regression equation are as follows:

$$POV_{it} = \alpha - \beta_1 ZD_{it} - \beta_2 EG_{it} - \beta_3 EDU_{it} - e_{it}$$

$$POV_{it} = 38.1094376693 - 0.0000000000610014696178 * ZD_{it} + 0.0391725154808 * EG_{it} - 2.33650078046 * EDU_{it} + e_{it}$$

From the results of the above analysis, the following is the interpretation of the regression coefficients of the above equation:

1. The constant value of 38,1094376693 indicates that if all variables of zakat (ZD), economic growth (EG) and education (EDU) are zero, then the poverty rate (POV) is 38,11%.
2. The regression coefficient value of the zakat variable (ZD) is negative by 0,0610014696178, it means that if zakat (ZD) increases by 1 billion rupiah, then the poverty rate (POV) will decrease by 0,0610014696178 percent.
3. The regression coefficient value of the economic growth variable (EG) is positive by 0,0391725154808, it means that if economic growth (EG) increases by 1 percent, the poverty rate (POV) will increase by 0,0391725154808 percent.
4. The value of the regression coefficient of the education variable (EDU) is negative by 2,33650078046, which means that if education (EDU) increases by 1 year, the poverty rate (POV) will decrease by 2,33650078046 percent.

Based on Table 3. the t test results and research hypotheses that have been statistically tested are obtained. The results of this test show how the relationship between the variables being examined and the extent of its statistical significance and explain whether the proposed research hypothesis is accepted or rejected according to the empirical evidence obtained. Based on Table 3, the following is the interpretation of the research results:

H1: The Effect of Zakat on Poverty Level

Based on the analysis results, the zakat variable (ZD) has a probability value of 0,0472 which is smaller than the significance level of 0,05 ($0,0472 < 0,05$) with a t-count value of -1,995165 which is greater than the t-table of 1,969939 ($|-1,995165| > 1,969939$). This result shows that zakat has a negative and significant effect on the poverty rate (POV). Thus, H1 which states that zakat has an effect on poverty level can be accepted.

H2: The Effect of Economic Growth on Poverty Level

The test results show that the economic growth variable (EG) has a probability value of 0,1535 which is greater than the significance level of 0,05 ($0,1535 > 0,05$) with a t-count value of 1.431658 which is smaller than the t-table of 1,969939 ($1,431658 < 1,969939$). This result indicates that economic growth does not have a significant influence on the poverty rate (POV). Therefore, H2, which states that economic growth affects the poverty rate, is rejected.

H3: The Effect of Education on Poverty Level

The education variable (EDU) has a probability value of 0,0000 which is smaller than the significance level of 0,05 ($0,0000 < 0,05$) with a t-count value of -13,45998 which is greater than the t-table of 1,969939 ($-13,45998 > 1,969939$). This result shows that education has a negative and significant effect on the poverty rate (POV). Thus, H3, which states that education affects the poverty rate, is accepted.

Based on the test results in Table 3, the F-statistic value is 101,4334 with an F-statistic probability of 0,000000 which is smaller than the significance level of 0.05 ($0,000000 < 0,05$). This result shows that the variables of zakat (ZD), economic growth (EG), and education (EDU) together (simultaneously) have a significant effect on the poverty rate (POV). In other words, the estimated regression model is feasible and can be used to explain the effect of independent variables on the dependent variable.

Based on table 3, it is known that the coefficient of detemination (R^2) is 0,554574 or 55,46%, then it identifies that the variables of zakat (ZD), economic growth (EG), and education (EDU) are able to explain the poverty variable by 55,46%. Meanwhile, the remaining 44,54% is explained by other variables not examined in this study. These results fall into the moderate category, where this moderate Adjusted R-Square value provides a clear picture of the effectiveness of the model, while highlighting the importance of considering other variables that may contribute to the research results.

Discussion

The Effect of Zakat on Poverty in Aceh Province

The results of statistical analysis show that zakat distribution has a significant effect in reducing poverty levels in 23 districts/cities in Aceh Province during the 2011-2021 period. This is evidenced by the regression coefficient which is negative, indicating that every increase in zakat distribution contributes to a decrease in the poverty rate in the region. The success of zakat in reducing poverty in Aceh Province is supported by strong government regulations through Law No. 11/2006 on Aceh Government and Aceh Qanun No. 10/2018. In these regulations, zakat is recognized as local revenue, so that its management becomes more organized and transparent.

The zakat management system in Aceh is implemented through three levels of Baitul Mal as regulated in Qanun Aceh No. 10/2018 which has been amended by Qanun Aceh No. 3/2021, namely Baitul Mal Aceh (BMA), Baitul Mal Kabupaten/Kota (BMK), and Baitul Mal Gampong (BMG). BMG is a zakat management institution that is at the most basic level so that it has direct interaction with the local community, allowing rapid identification and response to various problems faced by residents (Saputra, 2024). Efforts to reduce poverty are implemented through comprehensive and structured programs, including assistance for the poor, health assistance for the poor, family-based zakat empowerment programs, economic assistance for muallaf, gharimin assistance for disaster victims, and fisabilillah programs for education development (BMA, 2024).

Based on data on the allocation of zakat distribution per asnaf BMA in 2021, the largest allocation of funds was given to the poor, reaching 50,10% of the total distribution. Furthermore, ibnu sabil received 21,95%, followed by the poor community at 13,98%. The allocation for fisabilillah is 4,67%, muallaf 4,31%, gharimin 4,25%, amil 0,74%, and there is no allocation for riqab (BMA, 2021). The largest allocation to the poor is based on the provisions of Islamic sharia contained in the Al-Quran surah At-Taubah verse 60, where the poor are mentioned as the first group entitled to receive zakat. This shows that poverty

alleviation is a top priority in the distribution of zakat, in line with the goal of creating welfare and social justice in society.

Baitul Mal Aceh applies a system approach in the management of productive zakat which consists of several important elements, ranging from inputs in the form of government support and human resources, to throughput processes that include the collection and distribution of zakat, as well as the management of qardhul hasan refunds. This productive zakat program results in the distribution of business capital assistance in the form of cash and equipment, with outcomes in the form of increased business and income of mustahik. Assistance is provided in stages with a maximum nominal value of 10 million rupiah and a return period of one year. Through this program, mustahiks not only receive consumptive assistance, but also get the opportunity to develop economic independence (Akmal, 2023).

Analysis of the data for the period 2011-2021 shows a consistent decline in the overall poverty rate in Aceh Province. In 2011, there were still several regions with poverty rates above 23% such as Bener Meriah (25,5%), Pidie Jaya (25,43%), and Subulussalam (23,85%), but by 2021 the highest poverty rate had dropped to around 20% (BPS, 2024). This decrease in poverty rate goes hand in hand with the increase in the collection of zakat funds in most districts/cities in Aceh. The data shows a significant increase in the collection of zakat funds in some areas such as Aceh Besar which increased from IDR 5.4 billion to IDR 12.8 billion, North Aceh from IDR 4.7 billion to IDR 15.2 billion, and Bener Meriah from IDR 3 billion to IDR 5.9 billion.

The findings of this study are in line with the results of a study conducted by D. F. Sari et al. (2019) which shows the negative effect of zakat on poverty in Aceh is consistent with the results of research in West Sumatra. Research in West Sumatra proves that the zakat empowerment program by BAZNAS has succeeded in reducing the severity of poverty of farmer households by 83,3 percent and accelerating the time out of poverty from 6,9 years to 3,3 years. The success of zakat in reducing poverty in these two regions

shows how professional zakat management can be an effective instrument in poverty alleviation strategy in Indonesia.

The research result that shows that zakat has a negative effect on poverty in Aceh is in line with Kahf's (1997) theoretical perspective which states that zakat can improve the economy when distributed to the underprivileged. This increase in consumption creates a multiplier effect through increased demand that drives output growth and employment. This result also supports Chapra's perspective in Fajrina et al. (2020) who sees zakat as an autonomous social instrument that is fully supported by religious teachings to help fulfill people's basic needs, as well as Anik & Prastiwi's (2019) argument about the multiplier effect of zakat.

The negative effect of zakat on poverty in Aceh reinforces the Islamic view that zakat is one of the main solutions in overcoming poverty, where the Quran itself places the poor and needy as the main priority of zakat recipients as explained by Ali et al. (2016). This finding is also in line with Muhammad Baqir As-Sadr's perspective in Arif (2015) which emphasizes the strategic role of zakat in creating social balance and overcoming poverty when implemented in a structured manner. The success of zakat in alleviating poverty in Aceh confirms the Islamic view that poverty is not a destiny that cannot be changed, but a condition that can be overcome through Islamic economic instruments such as zakat.

The Effect of Economic Growth on Poverty in Aceh Province

The results reveal that economic growth in Aceh does not have a significant effect on the poverty rate, with a positive relationship direction indicating that an increase in economic growth is followed by an increase in the poverty rate. This finding suggests that economic growth in Aceh has not been of high quality and tends not to support pro-poor growth. This phenomenon reflects the complexity of structural problems in Aceh's economy, which can be seen from the dominance of the primary sector, where the contribution of the manufacturing sector only reached 4.68%, far below the Sumatra average of 20.50% (Azizah, 2023). The lack of downstream processing of products is a key

factor explaining the ineffectiveness of economic growth in reducing poverty, as many products are sold in raw form, resulting in added economic value not being enjoyed by the people of Aceh.

Some structural factors that hinder the effectiveness of economic growth in reducing poverty include: high dependence on the Aceh Revenue and Expenditure Budget (APBA) which is not followed by effective absorption (Sidiq, 2021); the phenomenon of economic leakage where dependence on products outside the region causes the flow of funds out of Aceh (Saptowalyono, 2023); investment problems related to inadequate infrastructure, corruption, and bureaucratic inefficiency; inter-regional inequality between urban and rural areas (Affan, 2015); high unemployment rates, especially among youth; low quality of human resources; suboptimal implementation of Aceh's privileges; and food security which is still vulnerable with dependence on food supplies outside the region (Sidiq, 2021).

An analysis of poverty and economic growth trends in 23 districts/municipalities in Aceh Province during the 2011-2021 period shows a diverse pattern. In 2011, the highest poverty rates were recorded in the districts of Bener Meriah and Pidie Jaya, reaching 25.5% and 25.43%, while the lowest poverty rate was in the city of Banda Aceh at 9.08% (BPS, 2024). In general, there was a gradual decline in poverty rates in most regions until 2019, albeit at a relatively slow pace. In terms of economic growth, the majority of districts/cities in Aceh showed positive growth in the range of 3-5% during the 2011-2019 period, with some significant exceptions such as negative growth in Lhokseumawe City and North Aceh District in 2015 due to declining oil and gas production.

2020 was a drastic turning point due to the COVID-19 pandemic, where almost all districts/cities experienced economic contraction. However, the poverty rate was relatively maintained with a modest increase, indicating the effectiveness of social protection programs during the pandemic. Entering 2021, there was an economic recovery in all districts/municipalities, but it has not fully impacted on poverty reduction, and some regions even experienced a

slight increase in poverty rates compared to 2020. Overall, the data shows that although there is a downward trend in poverty in the long term (2011-2021), the decline is not always in line with economic growth.

The findings of this study show that the 'trickle down effect' theory proposed by Arthur Lewis (1954) is not fully proven in Aceh. Although several districts/cities recorded positive economic growth in the range of 3-5% during 2011-2019, the 'trickle down' effect did not occur significantly, as seen from the relatively slow decline in poverty. This finding is more in line with Umer Chapra's thinking in the perspective of Islamic economics, which emphasizes that economic growth alone is not enough to alleviate poverty. Muhammad Abdul Mannan's view that prioritizes justice over efficiency is also reflected in the research findings, especially during the COVID-19 pandemic where the poverty rate was relatively maintained thanks to social protection programs.

The results of this study also show harmony with the research of Wahyudi et al. (2014) who analyzed the period 2007-2012, where economic growth did not have a significant effect on poverty reduction in Aceh. Interestingly, although the time span of the study is different (2011-2021), a similar pattern persists, indicating the existence of unresolved structural problems in Aceh's economy. If Wahyudi's research found that the high dependence on government spending in the formation of GRDP is one of the contributing factors, the 2011-2021 data in this study reinforces this finding. The problems of labor absorption and unequal income distribution are also confirmed in this study, as seen from the phenomenon where even when there was an economic recovery in 2021, the poverty rate in some areas actually increased, and the significant gap between urban and rural areas continued.

The Effect of Education on Poverty in Aceh Province

The results of the statistical analysis show that education has a negative and significant effect on the poverty rate in Aceh Province, which means that the higher the level of education, the lower the poverty rate. BPS Aceh data for 2021 supports this finding, with the average years of schooling of the Aceh population reaching 9.37 years. Nonetheless, there are still major challenges in

education equity, with 38.82 percent of the population aged 10 years and above still having a primary school education or less. This condition is strongly correlated with poverty levels, as groups with low education tend to be more vulnerable to poverty due to limited access to formal and productive employment (Nasution et al., 2022).

Trend analysis of BPS data (2024) reinforces the research findings, showing a consistent pattern where an increase in average years of schooling is inversely related to poverty rates in all districts/cities in Aceh. The city of Banda Aceh with the highest average years of schooling (increasing from 12.00 years in 2011 to 12.83 years in 2021) recorded the lowest poverty rate (decreasing from 9.08% to 7.61%). In contrast, Kabupaten Gayo Lues with the lowest average years of schooling recorded a higher poverty rate, although it decreased as the average years of schooling increased. A similar pattern is also seen in other districts/cities, where an increase in average years of schooling is consistently followed by a decrease in the poverty rate.

The Aceh Education Office's efforts to improve the quality of education have shown positive results, reflected in the high graduation rate of students to public universities which reached 41.86 percent of the total applicants through the invitation route in 2023. Strategic programs such as improving the quality of teachers, equalizing access to education to remote areas through the remote class system, and utilizing digital technology through the Meutuwah Nanggroe application reflect the government's commitment to improving the quality of human resources. However, challenges such as low levels of student discipline in remote areas and limited access still need to be overcome (Safrina, 2023).

This research provides an important perspective in understanding the role of education as a solution to break the vicious cycle of poverty proposed by Ragnar Nurkse. The results show that investment in education can be a turning point to break the cycle of poverty, in line with Becker's Human Capital Theory (1964) which asserts that increased productive capacity through education is positively correlated with increased income. This finding is also

consistent with several previous studies conducted by Asmananta et al. (2022), Muhaddisin & Sartiyah (2019), and Annisa & Anwar (2021).

In an Islamic perspective, education through the concept of *ta'dīb* which includes knowledge (*ilm*), teaching process (*ta'līm*), and nurturing (*tarbiyah*) is an important instrument in poverty alleviation. This is in line with the views of Yusuf Qardhawi who places improving the quality of the population, including through education, as one of the solutions to overcome poverty. Quality education, as defined in Law No. 20/2003, is the key to developing personal capacity that covers various aspects including skills that are useful for oneself and society.

Overall, this study provides strong empirical evidence on the strategic role of education in poverty alleviation in Aceh Province. The findings have important implications for policy-making, where investment in education needs to be prioritized with a focus on increasing access to education especially in areas with high poverty rates, and improving the quality of education to ensure graduates have competencies that match the needs of the job market. From an Islamic perspective, these efforts are in line with the concept of comprehensive development (*kaffah*), where education not only plays a role in improving material welfare but also character building and spiritual values that support sustainable development.

Effect of Zakat, Economic Growth, and Education on Poverty Level in Aceh Province

Based on the results of statistical analysis, it is found that the variables of zakat, economic growth, and education simultaneously have a significant influence on the poverty rate in Aceh Province. This finding indicates that the three variables together play an important role in poverty alleviation efforts in Aceh. This simultaneous effect can be explained through the linkages between the three variables in forming a comprehensive poverty alleviation system. Zakat acts as an income redistribution instrument that directly targets the poor, while economic growth creates employment opportunities and increases the general income of the community. On the other hand, education serves as a

catalyst that enables people to utilize the economic opportunities created and manage the resources obtained from zakat more productively.

The effectiveness of these three variables in reducing poverty level can be seen from the development pattern in Aceh Province during 2011-2021 period. Areas with good zakat management, stable economic growth, and adequate education levels tend to have lower poverty rates. Banda Aceh city is a concrete example, with the highest zakat collection, stable economic growth, and average years of schooling reaching 12.83 years, recording the lowest poverty rate in the province. This finding reinforces the concept of sustainable development in Islam that emphasizes the balance between spiritual (zakat), material (economic growth), and intellectual (education) aspects.

The results of this study are in line with the views of the Director of Poverty Alleviation and Community Empowerment of Bappenas who emphasizes the effectiveness of a multidimensional approach in poverty alleviation to produce targeted policies (Prakarsa, 2023). Poverty reduction can be achieved more significantly through a comprehensive strategy that integrates the optimization of zakat fund management, the implementation of policies that encourage economic growth, and the improvement of access and quality of education simultaneously. This integrated approach allows the creation of synergies between programs that strengthen each other in poverty alleviation efforts.

The implication of this finding is the need for better coordination between zakat management institutions, the government as an economic driver, and educational institutions in designing and implementing poverty alleviation programs. By combining these three variables in the poverty alleviation strategy, Aceh Province can effectively break the vicious cycle of poverty as stated by Ragnar Nurkse, creating a greater impact in reducing poverty levels than if each aspect runs independently.

Conclusion

This study aims to analyze the relationship between zakat, economic growth, and education on poverty rate in Aceh Province during 2011-2021 period. Based on the data analysis conducted, it is found that zakat has a significant influence on poverty reduction in Aceh. The optimal distribution of zakat is proven to be able to help mustahik fulfill their basic needs, although the unequal distribution is still a challenge in its implementation in various regions of Aceh.

In terms of economic growth, the results show a positive relationship with poverty alleviation, but the impact is not statistically significant. This finding indicates that economic growth in Aceh tends to be uneven and has not fully created inclusive opportunities for the poor. The characteristics of economic development that have not reached all levels of society, especially in rural and remote areas, are important factors in explaining this phenomenon.

Education has been shown to play an important role in reducing poverty in Aceh Province. Increasing the average years of schooling shows a negative and significant impact on poverty rates, as evidenced by the downward trend in poverty rates in areas with better access to education. Nevertheless, there is a gap in access and quality of education in remote areas that still needs to be improved to maximize the positive impact of education on poverty alleviation.

Simultaneously, zakat, economic growth, and education contribute to the change in poverty rate in Aceh Province. Areas with good zakat management, stable economic growth, and adequate education levels tend to have lower poverty rates. However, the effectiveness of these three variables in reducing poverty rates requires better policy synergy and implementation, especially in terms of coordination between zakat management institutions, government as the economic driver, and educational institutions. An integrated approach that integrates these three aspects can create a greater impact in poverty alleviation efforts in Aceh Province.

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