



## Government Expenditure on Education and Health: Islamic Economic Perspective on Poverty Alleviation in Lampung Province (2018-2022)

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### ABSTRACT

Difficulties in accessing education and health services are at the root of poverty. The purpose of this research is to determine the impact of expenditure on education and health on poverty in Lampung Province 2018-2022 while considering the perspectives of Islamic economics. The method in this research uses a quantitative. The results of this research show that if government spending in the education sector increases, the poverty rate will increase. If the health sector increases, the poverty rate will decrease. If both increase, poverty will be affected. Government spending in education and health is in line with the principles of Islamic economics Al-Adl (justice), which implement fair and trustworthy policies, such as the regional government in Lampung Province always increasing budget and service facilities so that poverty in Lampung Province can decrease every year.

## I. Introduction

The main fundamental development that is an indicator of the effectiveness of development programs is poverty reduction (Ferezagia, 2018). Poverty is a complex social problem, and many factors cause poverty, one of which is lack of income because it is difficult to get a job, get education and health services (Suparlan, 1993). Based on records from the Central Statistics Agency (BPS), the number of poor people in Indonesia, both in rural and urban areas, has decreased compared to September 2022.

The number of poor people in Indonesia in March 2023 is 25.90 million people, and the percentage of poor people in March 2023 is 9.36 per cent. From the decline in the number of poor people in Indonesia, the third highest contributor to the poverty rate in Indonesia is on the island of Sumatra, namely Lampung Province, with a total of 1,002.41 thousand poor people or around 11.44% of the total population of Lampung (BPS Lampung Province). The following data are presented on the condition of the poor population on the island of Sumatra.

**Table 1.** Comparison Percentage Amount Poor Population on Sumatra Island 2018-2022 (percent)

No	PROVINCE	YEAR				
		2018	2019	2020	2021	2022
1	Aceh	15.68	15.01	15.43	15.53	14.75
2	Bengkulu	15.41	14.91	15.30	14.43	14.34
3	South Sumatra	12.82	12.56	12.98	12.79	11.95
4	Lampung	13.01	12.30	12.76	11.67	11.44
5	North Sumatra	8.94	8.63	9.14	8.49	8.33
6	Jambi	7.85	7.51	7.97	7.67	7.70
7	Riau	7.21	6.90	7.04	7.00	6.84
8	West Sumatra	6.55	6.29	6.56	6.04	6.04
9	Kep. Riau	5.83	5.80	6.13	5.75	6.03
10	Kep. Bangka Belitung	4.77	4.50	4.89	4.67	4.61

Source: Central Statistics Agency, data processed in 2023

Based on Table 1.1 above, the percentage of poverty rate in Lampung Province occupies the 4th highest position on the island of Sumatra with a percentage of 11.44% in 2022. The percentage of poverty in Lampung Province has fluctuated; as seen in 2020, it increased by 0.46% from the previous year, which was 12.30%. Basically, the Provincial Government has gradually made many efforts to reduce the poverty rate. The government programs implemented include scholarship programs, semantics, house renovation and so on, with the hope of being able to overcome the problem of poverty and increase economic growth (Suharto, 2015)

Keynes held the view that relatively high government spending led to an increase in aggregate demand and, in turn, increased economic growth. Government spending or government spending is a fiscal policy carried out by the government aimed at supporting national economic activities in spurring growth, creating and expanding employment, improving the quality of services to the community and reducing poverty (Nenbee et al., 2021)

The Regional Budget (APBD) for Education plays an important role in poverty alleviation in the regions. The budget allocation of government expenditure in the field of education is a manifestation of government investment to improve the quality of human resources so as to reduce poverty in Indonesia (Susanti, Endah, Hidayat, 2020). Since 2009, the government has provided a budget of at least 20 per cent of the state budget and at least 20 per cent of the regional budget for the education sector and the health sector in Law Number 36 of 2009, which mandates an allocation of 10 per cent of the regional budget outside of salaries (mandatory spending). Below is data on government expenditure in the field of education in Lampung Province in 2019.

**Table 2.** Expenditure Government Lampung Province Education and Health Sector  
According to Functions in the Realization of the 2019 APBD

Name of Local Government	Educational Function	%	Health Functions	%
Lampung province	2,757,056,389,564	20%	550,208,465,493	9%
Regency. West Lampung	305,239,923,800	34%	166,975,801,838	18%
Regency. South Lampung	673,960,651,403	34%	338,767,508,268	19%
Regency. central Lampung	909,436,779,415	31%	239,027,304,337	21%
Regency. North Lampung	570,915,345,110	28%	207,197,889,052	24%
Regency. East Lampung	781,359,157,366	25%	233,287,339,511	22%
Regency. Tanggamus	536,185,971,728	49%	178,504,594,702	21%
Regency. Bone Onion	312,090,056,258	18%	164,155,901,442	17%
Way Kanan Regency	393,625,982,076	26%	168,085,784,345	13%
Bandar Lampung City	705,775,031,688	31%	298,887,529,066	16%
Metro City	200,414,283,279	28%	250,074,499,429	17%
Regency. Pesawaran	419,745,388,071	30%	130,323,845,741	16%
Regency. Pringsewu	408,681,063,412	20%	145,857,110,489	15%
Regency. Mesuji	209,149,321,266	24%	89,069,943,692	13%
Regency. Bone West Onion	256,549,319,581	28%	89,414,019,464	18%
Regency. West Coast	194,093,741,374	21%	77,032,971,186	44%

Source: Regional Office DJPb Lampung Province and Directorate General Republic of Indonesia Ministry of Finance 2023.

Of the 16 (sixteen) local governments in Lampung Province, there is 1 (one) local government that has very low allocation of funds for education affairs. The local government is on the West Coast. Then there is 1 ( ) local government that allocates funds for education matters below 20 percent. The local government is Onion Bone (18.10 per cent). The government needs to review the allocation of education funds in Tulang Bawang District and Pesisir Barat Regency, considering that the portion of the education budget in both regions is low and still below 20 per cent. Research conducted by Hidayat found that the variable Government expenditure in the education sector has a significant negative effect on poverty in Indonesia (Hidayat & Azhar, 2022)

The average health budget allocation in the Lampung Province area has been above 10 per cent of the APBD, only the Lampung Provincial Government, whose health budget allocation is still below 10 per cent. Then the lowest allocation of education funds is in the West Bawang Bone Regional Government. Research conducted by Septriani shows the results that the variable Health Function Expenditure has a negative and significant effect on poverty.

In essence, government expenditure is prioritized to protect and improve the quality of life of the community in an effort to fulfil regional obligations, which are manifested in the form of improving basic services, educational, health, social and decent public services and

considering the analysis of spending standards, price standards, performance benchmarks and minimum service standards set in accordance with laws and regulations. For this reason, the importance of the right allocation of funds can have a great influence in improving the standard of living of the community (Susanti, Endah, Hidayat, 2020)

Previous research discusses the analysis of government spending in the Health, Education, and infrastructure sectors on poverty levels in Indonesia. On the other hand, the costs incurred by the government for education, health and infrastructure development against poverty both nationally and provincially continue to increase every year. Therefore, it is necessary to conduct an in-depth study regarding which aspects are influential and which aspects are not too influential in poverty alleviation in Lampung Province. It is necessary so that the government can focus more on being able to optimize further aspects that are influential in the context of poverty alleviation in Lampung Province.

The role of the government in fiscal policy in reducing poverty is important to be investigated further, especially in reducing poverty in the last five years, according to fluctuations in the table at the level of poor people (2018-2022). It is very much in line with the concept of Islamic economics, namely the creation of social justice and public welfare is the responsibility of the government, namely the state's obligation to the rights of its people is to serve and take care of the affairs of the people. It is explained in Surah An-Nisa [4] verse 58:

*"Indeed Allah has commanded You convey mandate to those who are entitled accept it, and (order you) if set law between man so You set with fair. Indeed, Allah gives the best teaching to you. Indeed, Allah is All-Hearing the All-Seeing." (QS An-Nisa [4]: 58)*

From the quotation of the verse above, it can be concluded that there is a relationship between government policies and the welfare of its people where the country needs the role of a trusted leader in implementing policies. The role of a leader is very important in an existing organization; a leader who has strong charisma to develop his region. Moreover, currently local governments are given leeway to independently allocate regional revenues so that development is more in line with the goals of regional autonomy. This study aims to analyze the Effect of Government Expenditure on Education and Health on Poverty Alleviation in Lampung Province from an Islamic Economic Perspective for the 2018-2022 Period.

## 2. Literature Review

### Poverty Theory

According to Suharto, in understanding poverty, there are two paradigms or grand theories, namely the Neo-liberal and Social Democratic paradigms. In Social Democratic theory, poverty is not an individual problem but a structural one. Poverty is caused by injustice

and income inequality in society due to limited access of certain groups to various sources of society (Septriani, 2023)

#### Poverty Theory in Islamic Economics

Ibn Hazm warns that poverty always grows in situations where the level of consumption or needs is higher than income to meet needs. It occurs due to the rapidly increasing population rate (due to birth). The wide gap between the rich and the poor can add to difficulties when the situation of the rich affects administrative structures, tastes and other influences such as rising price levels in economic activity (Nur Chamid, 2010)

#### Theory of Government Spending

Keynes's Theory of Government Spending in the modern economy, there has been a fundamental change regarding the role of government in improving people's welfare. The role of government in the economy began to be considered important after Keynes included sector 19 government in his macroeconomic analysis. According to Nenbee et al., government spending serves as a counterweight (Surjaningsih et al., 2012)

#### The Theory of Government Expenditure Reviewed in the Perspective of Islamic Economics

The government in Islam is a representative of the community who is entrusted with the trust. Trust to manage and hold property. The ownership of the property is only as "spending money" In fact, the entire property, in general, is the property of the community, which must be used for the benefit or benefit of the community (Djamil, 2013)

### 3. Research Method

This research is quantitative. Aims to test the correctness of hypotheses that have been made. In quantitative methods, researchers conduct studies based on theoretical paradigms towards research results, either accepting or rejecting hypotheses. This study uses secondary data, namely in the form of panel data consisting of a combination of time series and cross-section data (Sujarweni & Wiratna, 2019)

The data collected are data on government expenditure in the field of education, government expenditure in the health sector, and poverty in districts/cities in Lampung Province during the 2018-2022 period. The data is sourced from DGT (Directorate General of Financial Balance) and BPS (Central Statistics Agency) of Lampung Province as well as data from journals, articles, the Qur'an and Al-Hadith. Furthermore, the method used in this study is panel data regression analysis. The panel data regression model in this study can be expressed in the following equation (sugiyono, dr, 2015)

$$y_{it} = \alpha_1 + \beta_1x_1 + \beta_2x_2 + \dots + \epsilon_{it}$$

Information:

Y: Poverty

X<sub>1</sub>: Education Expenditure

X<sub>2</sub>: Health Expenditure

$\alpha$ : constants

$\beta_1, \beta_2$ : coefficient Education expenditure and Health expenditure

$\epsilon$ : error term

According to Damador, there are several models on the data panel, namely the common effect model, fixed effect model and random effect model. In determining the right model, the best model of the three models is tested. Furthermore, in determining the best model between the common effect model, fixed effect model, and random effect model, the Chow test, Hausman test and Lagrange multiplier test are carried out (Rizal & Yantieka, 2022)

#### 4. Result

In determining the best model between the common effect model, fixed effect model and random effect model, several tests were carried out consisting of the Chow test, Hausman test, and Lagrange multiplier test. Chow test This Chow test is used to select the best model between the common effect model and the most appropriate fixed effect model. The results of the Chow test can be seen based on the following table:

Table 3. Chow Test Results

Effects Test	Statistics	df	Prob.
Cross-section F	193.242878	(15.62)	0.0000
Chi-square cross-section	309.282194	15	0.0000

Source: Eviews 10 Output (2023)

From the above results, it is known that the value of Prob.  $0.0000 < 0.05$ . So the results of the Chow Test state that the right model is the Fixed Effect Model (FEM). For that, further testing, namely the Hausman test, is needed to choose the best model between fixed effect models and random effect models. Based on the results of the Hausman test with an alpha confidence level of 5% (0.05), the following results were obtained:

Table 4. Hausman Test Results

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-section	3.370921	2	0.1854

Source: Eviews 10 Output (2023)

Based on the results of the Hausman test, the best model was obtained, namely the random effect model. It is because the random cross-section value is greater than 5%, so H0 is accepted, and H1 is rejected. Due to the inconsistency of results between the Chow Test and the Hausman Test, one more test is needed, the Lagrange Multiplier Breusch Pagan Test, with the following output:

**Table 5.** Lagrange Multiplier (LM) Test Results

Null (no rand. effect) Alternatives	Cross-	Period	Both
	section One-sided	One-sided	
Breusch-Pagan	149.5579 (0.0000)	1.608764 (0.2047)	151.1667 (0.0000)

Source: Eviews 10 Output (2023)

The P value is indicated by the number in parentheses, which is 0.000, where the value is less than 0.05, so this LM Test shows that accepting H1 means the best estimation method is the Random Effect Model (REM).

**Table 6.** Estimation Results in Random Effect Model Panel Data Regression

Variables	Coefficient	Std. Error	t- Statistics	Prob.
C	39.58412	16.0897	2.460215	0.0161
LOG(X1)	0.451702	0.663122	0.681174	0.4978
LOG(X2)	-1.5246	0.313853	-4.85768	0
R-squared	0.249341	Mean dependent var		0.804846
Adjusted R-squared	0.229844	SD dependent var		0.563149
SE of regression	0.494212	Sum squared resid		18.80687
F-statistic	12.7883	Durbin-Watson stat		1.553004
Prob(F-statistic)	0.000016			

Source: Eviews 10 Output (2023)

Table 6 obtained equality as follows:

$$Y = 39.5841244302 + 0.451701881097 * LOG (X1) it -1.52459713907 * LOG (X2) it + eit$$

## 5. Discussion

The selection and validation of an appropriate econometric model are critical in ensuring the accuracy and reliability of the research findings. In this study, the process of determining the best model among the Common Effect Model, Fixed Effect Model (FEM), and Random Effect Model (REM) was systematically carried out using a series of diagnostic tests: the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test. Each of these tests plays a

specific role in evaluating the assumptions underlying the panel data and the suitability of the respective models.

#### **Chow Test: Evaluating Fixed vs. Common Effects**

The Chow Test was conducted to compare the Common Effect Model and the Fixed Effect Model. The test aims to determine whether the individual-specific effects should be considered or whether a single coefficient can represent all cross-sections in the dataset. The results of the Chow Test indicated a highly significant F-statistic with a probability value of 0.0000, which is well below the 5% significance threshold. This result strongly rejects the null hypothesis that the Common Effect Model is adequate, thereby confirming that the Fixed Effect Model is more appropriate. The significance of the Chow Test suggests that there are indeed individual-specific characteristics that vary across entities and need to be accounted for, validating the need for a model that can capture these fixed effects.

#### **Hausman Test: Fixed Effects vs. Random Effects**

Following the Chow Test, the Hausman Test was employed to determine whether the Fixed Effect Model or the Random Effect Model was more suitable. The Hausman Test checks for the correlation between the regressors and the individual effects. The results indicated a non-significant Chi-square statistic (Prob. 0.1854 > 0.05), leading to the acceptance of the null hypothesis that the Random Effect Model is consistent and should be preferred. This outcome implies that the individual effects are not correlated with the regressors, which is a key assumption for the Random Effect Model. The decision to favour the Random Effect Model based on the Hausman Test suggests that the variations across entities are more likely to be random rather than fixed and correlated with the independent variables.

#### **Lagrange Multiplier (LM) Test: Confirming Random Effects**

Given the discrepancy between the Chow Test (favouring Fixed Effects) and the Hausman Test (favouring Random Effects), the Lagrange Multiplier (LM) Test was conducted as a final arbiter. The LM Test specifically tests whether the Random Effects Model is superior to the Common Effect Model, effectively reconciling the results of the previous tests. The LM Test produced a significant Breusch-Pagan statistic (P-value of 0.0000), strongly indicating that the Random Effect Model is indeed the most appropriate. This test result confirms that the Random Effect Model not only captures the necessary variability across entities but also provides the most efficient and unbiased estimates, aligning with the outcomes of the Hausman Test.

#### **Interpretation of the Random Effect Model:**

The selected Random Effect Model was then analyzed for its implications. The constant term (C) was found to be statistically significant, with a coefficient of 39.58412 and a p-value of 0.0161. This indicates a substantial baseline level of the dependent variable in the absence of the independent variables, reflecting the inherent characteristics of the entities being studied.

#### **Impact of Independent Variables:**

LOG(X1): The coefficient for LOG(X1) is positive (0.451702), suggesting that an increase in LOG(X1) would lead to an increase in the dependent variable. However, the p-value of 0.4978 indicates that this effect is not statistically significant, implying that LOG(X1) may not have a meaningful impact within the context of this model. This lack of significance suggests that the variable may not be a strong predictor of the outcome, or there may be other confounding factors at play that diminish its apparent effect.



LOG(X2): In contrast, LOG(X2) shows a significant negative relationship with the dependent variable, as indicated by its coefficient of -1.5246 and a p-value of 0.0000. This result is highly statistically significant and implies that increases in LOG(X2) are associated with decreases in the dependent variable. The magnitude of this effect suggests a strong inverse relationship, highlighting LOG(X2) as a critical factor influencing the outcome. The negative sign may reflect economic, operational, or policy-related factors that inversely impact the dependent variable.

#### **Model Fit and Diagnostic Measures:**

The overall fit of the model, as measured by the R-squared value of 0.249341, indicates that approximately 24.93% of the variation in the dependent variable is explained by the model. While this R-squared value might appear modest, it is not uncommon in models dealing with complex, multi-factorial datasets where not all variability can be captured by the included variables. The adjusted R-squared value, which accounts for the number of predictors, is slightly lower but still suggests a moderate explanatory power.

The model's statistical significance is further confirmed by the F-statistic of 12.7883 and a corresponding p-value of 0.000016, which indicates that the model as a whole is highly significant. This significance supports the conclusion that the selected independent variables, despite the mixed significance of individual coefficients, together provide a meaningful explanation of the variability in the dependent variable.

#### **Conclusion and Implications:**

The discussion highlights the importance of rigorous model selection procedures in panel data analysis. The combination of the Chow Test, Hausman Test, and Lagrange Multiplier Test provides a robust framework for identifying the most appropriate model. In this study, the Random Effect Model emerged as the best fit, offering both consistency and efficiency in the estimation process.

The findings underscore the importance of considering both fixed and random effects when analyzing panel data, as different tests may lead to different model preferences. The significant impact of LOG(X2) on the dependent variable suggests a critical area for further investigation, particularly to understand the underlying reasons for this strong inverse relationship. Meanwhile, the non-significant result for LOG(X1) may prompt a reevaluation of its role or the inclusion of additional variables to capture its effect more accurately.

Finally, the study illustrates the need for careful interpretation of econometric results, where statistical significance and model fit must be balanced against theoretical expectations and practical relevance. The adoption of the Random Effect Model in this context not only provides a more nuanced understanding of the data but also sets the stage for future research that can build on these findings to explore deeper insights into the factors driving the dependent variable.

## **6. Conclusion**

After obtaining the results of the study, it was concluded that the variable government expenditure in the field of education had a positive insignificant effect on poverty in Lampung Province in 2018-2022, the variable government expenditure in the health sector had a significant negative effect on poverty in Lampung Province in 2018-2022. Furthermore, the variable of government expenditure in the field of Education and Health simultaneously (simultaneously) has a significant effect on poverty in Lampung Province in 2018-2022 and is able to affect poverty problems in Lampung Province by 24.93% in 2018-2022 based on the results of the coefficient of determination test.

Government Expenditure in the Education and Health Sector from the perspective of the Islamic Economy has the principle of Al-Adl (justice) carried out fair. Amanah government policies, such as the Regional Government in Lampung Province, strive always to apply the principle of Al-Adl (justice) namely by always increasing the budget capacity of government expenditures and health service facilities so that poverty in Lampung Province can decrease every year. The management of the government expenditure budget in the field of education must always be reviewed by each local government in order to create a reduction in poverty in Lampung Province every year.

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