Impact Of Educational Spending, Health Spending And Open Unemployment On Poverty In Lampung Province (2010-2022)

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Abstrak

Penelitian ini bertujuannya guna menganalisis terkait pengaruhnya belanja pendidikan dan kesehatan, serta pengangguran (TPT) terhadap tingkat kemiskinannya Provinsi Lampung (2010-2022) menggunakan metode regresi data panel REM. Temuan penelitiannya memperlihatkan belanja pemerintah untuk pendidikan pengaruhnya negatif tak signifikan pada kemiskinan, yang disebabkan oleh alokasi anggaran yang belum terfokus pada peningkatan kualitas SDM. Sebaliknya, belanja sektor kesehatan menunjukkan pengaruh negatif dan signifikan, mencerminkan keberhasilan alokasi anggaran kesehatan dalam menurunkan kemiskinan, terutama setelah pandemi Covid-19. TPT pengaruhnya positif-signifikan, dimana peningkatan pengangguran berkontribusi pada meningkatnya kemiskinan. Lalu, ketiga variabel itu memberikan pengaruh signifikannya pada kemiskinan. Penelitian ini menekankan pentingnya optimalisasi alokasi anggaran pendidikan dan kesehatan serta pengembangan lapangan kerja untuk menurunkan tingkat kemiskinan di Provinsi Lampung.

Kata Kunci: *Kemiskinan, Belanja Pendidikan, Belanja Kesehatan, TPT.*

Abstract

This research aims to analyze the influence of education and health spending, as well as unemployment (TPT) on the poverty level of Lampung Province (2010-2022) using the REM panel data regression method. The research findings show that government spending on education has an insignificant negative effect on poverty, which is caused by budget allocations that have not focused on improving human resources's quality. In contrast, health sector spending shows a negative and significant influence, reflecting the success of health budget allocations in reducing poverty, especially after the Covid-19. TPT's effect is positive and significant, where increasing unemployment contributes to increasing poverty. Then, these three variables have a significant influence on poverty. This research emphasizes the importance of optimizing education and health budget allocations as well as developing employment opportunities to reduce poverty levels in Lampung Province.

Keyword: *Poverty, Education Expenditures, Health Expenditures, TPT.*

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INTRODUCTION

Poverty is a condition in which individuals are unable to meet their basic needs (Ayudia et al., 2024). Every country faces poverty, particularly developing nations. Reducing poverty and improving community welfare are top priorities (Pratama, 2019). BPS reported Indonesia's poverty rate at 9.54% in 2022, indicating that many people live below the poverty line. Poverty is not only about a lack of money but also the inability to access education, healthcare, and public services. The SDGs view poverty as a multidimensional issue related to aspects such as education, environment, and equality. The SDGs promote inclusive and quality education, which can increase job opportunities and income by 10% per year of additional education, as well as access to quality healthcare services, which support productivity and individual well-being.

When individuals or groups lack resources to meet their basic needs (food, shelter, education, and healthcare) they are considered to be in poverty. World Bank (2020), poverty is not only about low income, it also includes social aspects like access to education, community participation, and health issues. Factors such as low education, lack of assets, and health problems often make it difficult for the poor to lead decent lives. Poverty can be categorized into several theories, including monetary, non-monetary, multidimensional, and the poverty cycle. Monetary poverty is measured by income, such as the $1.90 per day poverty line (World Bank, 2000), while non-monetary poverty includes access to education, health, and basic infrastructure (Sen, 1999). Multidimensional poverty combines monetary and non-monetary aspects (Alkire & Foster, 2011). Since poverty is a complex issue, more accurate methods are needed to capture its diverse realities and complexities (Wandita et al., 2022). Multidimensional poverty provides an alternative approach to understanding poverty (Ratih et al., 2023). The poverty cycle theory (Sharp, 1996) explains that poverty arises from unequal resource distribution, low-quality human resources, and limited access to capital. Causes of poverty also involve economic factors, such as lack of employment opportunities and limited access to capital, as well as social factors like low education and limited healthcare facilities (Aziz & Hartono, 1997; Kuncoro, 1997).

The Indonesian government has several programs to address poverty, such as PKH, the Prosperous Family Card, KIS, and KIP (Danilia & Setianingsih, 2024). Local programs also exist, such as Raskin (Rice for Poor Households) (Emalia, 2013). However, poverty remains a challenge. According to Pratama (2019), 24% of Indonesia's population lives in extreme poverty, earning less than $1 per day. Lampung Province has a high poverty rate of 12.67% in 2022, exceeding the national average of 9.22%. Lampung ranks as the fourth poorest province in Indonesia, highlighting disparities in welfare across regions, which could hinder SDG achievements (Usman et al., 2023). Factors influencing poverty include education and healthcare spending, as well as open unemployment. Poverty in Lampung declined between 2010 and 2020, but the Covid-19 pandemic reversed this trend. Data from BPS Lampung (2022) shows that North Lampung Regency had the highest poverty rate in the province even before the pandemic.

Nurkse's poverty cycle theory (in Kuncoro, 1997) suggests that poverty reduces productivity, leading to low income. Low income makes it difficult for people to invest in education and capital. Poverty factors include income, education, and consumption. The education sector is crusial in alleviating poverty, and the Indonesian government has allocated at least 20% of its national and regional budgets to education, as mandated by the 1945 Constitution. In Lampung Province, the 2019 education budget allocation reached 22.02% of total budgets. However, Palenewen et al. (2018) found that education spending has not effectively reduced poverty rates. Moreover, if the spending relies on debt but is poorly managed, it does not significantly impact the economy (Annisa et al., 2022).

Government spending on education includes routine and development expenditures covering primary, secondary, and non-formal education. Education is a human capital investment that boosts productivity, economic growth, and income equality. The government allocates at least 20% of the national and regional budgets for education, Law No. 20 (2003). Through education, the government aims to reduce poverty by improving skills, social mobility, and overall community welfare. Health is also critical to societal well-being, and the government must provide equitable and affordable quality healthcare services. Education and healthcare help build skilled and healthy human resources. Investments in these sectors can break the poverty cycle, for example, through school funding and training programs to create skilled workers, as well as improving infrastructure and healthcare services for better access. In Lampung, the 2019 health budget allocation was IDR 383 billion (3.3% of the total budget), still below the 5% target set by the Health Law.

Unemployment is closely linked to poverty, as it reduces income and lowers welfare. The Open Unemployment Rate (TPT) reflects economic conditions and the effectiveness of labor policies. Keynes (1936) recommended government intervention through fiscal policies to reduce unemployment, while Todaro (2003) argued that unemployment increases poverty by creating poor living conditions, such as low income, inadequate housing, and limited education. In Lampung, West Lampung Regency has the lowest unemployment rate despite fluctuations, while other areas have the highest rates. To address unemployment, the government must expand job opportunities, develop productive sectors, and implement physical and economic projects that positively impact communities, thereby reducing poverty and improving welfare.

This research highlights the importance of improving government spending efficiency in addressing poverty in Lampung. Optimizing the education and health sectors, as well as addressing unemployment, can help build sustainable and effective community welfare. By understanding these factors, policymakers can design more targeted strategies, positively impacting the economy and people's quality of life.

METODOLOGI
Research Design
This research is descriptive quantitative with panel data from BPS and DJPK Ministry of Finance, covering 14 districts/cities in Lampung (2010–2022). The independent

variables are spending in the education and health sectors, as well as the open unemployment rate (TPT), while the dependent variable is the poverty rate. Lampung Province was chosen because it occupies the 4th poorest position in Indonesia, with the main problems being low education, health facilities and job opportunities. The focus of this research aims to support efforts to eradicate poverty in Lampung.

Table 1. Operational Definitions

Variable	Definitions	Formula
Poverty (Y)	The poverty level has three indicators: P0 (percentage of population below the poverty line), P1 (average unequal expenditure of poor people on the poverty line), and P2 (distribution of expenditure among poor people). This research uses P0 as a poverty proxy with data from BPS in percent (%).	$$P\alpha = \frac{1}{n}\sum_{i-1}^{q}\left[\frac{z-yi}{z}\right]^{\alpha}$$ Detail: $\alpha = 0$ z = poverty line. yi = Mean monthly per capita expenditure q = Number of poor people n = Resident population
Education Spending (X1)	Human Capital Theory by Gary Becker states that education increases individual productivity, supports increased income, and reduces poverty. In accordance with Law no. 20 (2003), the government allocates a minimum of 20% of the APBN/APBD for education, excluding salaries and official education funds. This variable is measured in billions of rupiah (Rp).	$$EDU\ EX) = \frac{Realization}{Total\ Regional\ Expend.}\ x\ 100\%$$ Detail: EDU EX = Education Expenditure Realization = Realized education funds Total Regional Expenditure = All funds spent
Health Spending (X2)	Government spending on health sector plays crusial role in reducing poverty by increasing labor productivity and reducing the economic burden due to disease (Health-LED). In accordance with Law no. 17 of 2023, a minimum of 5% of the APBN and 10% of the APBD is allocated to the health sector, excluding salaries. This variable is measured in billions of rupiah (Rp).	$$HLT\ EX = \frac{Realization}{Total\ Regional\ Expend.}\ x\ 100\%$$ Detail: HTL EX = Health Shopping Realization = Realized health funds Total Regional Expenditure = All funds spent
Open Unemployment Rate (X3)	TPT is the percentage of the population who are in the labor force but do not have a job and are actively looking for one. High TPT increases poverty by reducing household income and purchasing	$$TPT = \frac{Unemployment}{Labor\ Force}\ x\ 100\%$$ Detail: TPT = Open Unemployment Rate Number = Number of people not

Variable	Definitions	Formula
	power (Keynesian theory). This variable is measured in percent (%).	working Labor Force = Population ≥ 15 years of age who are working

Analysis Method

A quantitative approach using the panel data, namely a combination cross-section and time-series data processed with Ordinary Least Square (OLS) is what is applied in this research. The advantage's this regression is to overcoming heterogeneity, providing more information, variation and efficiency, and making it easier to analyze the dynamics of change (Gujarati, 2007). Panel data is also effective for detecting impacts that are not visible in pure cross-section or time-series data. This estimation involves 3 main models: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). A number of tests to find the best are:

1. Chow Test: Comparison of CEM with FEM to determine whether individual effects need to be taken into account.

2. Hausman Test: Compares FEM or REM to identify whether individual effects are fixed or random.

3. Lagrange Multiplier (LM) Test: Compares CEM with REM to evaluate the presence of random effects.

The selected data was then tested for classical assumptions, namely: normality, multicollinearity, heteroscedasticity and autocorrelation.

Hyphotesis Test

T test: Tests the significance of the partial influence of each independent variable on the dependent variable.

f test: Tests the significance of the simultaneous influence of all independent variables on the dependent variable. For alpha=0.05.

RESULT AND DISCUSSION

Model Selection Test Results

Table 1. Chow Test Result

Effects Test	Statistic	d.f.	Prob.	Result
Cross-section F	123.740383	(13,165)	0.0000	FEM
Cross-section Chi-square	432.220019	13	0.0000	

Resource: Output Eviews13

Table 2. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Result
Cross-section random	6.924924	3	0.0903	REM

Resource: Output Eviews13

Table 3. LM Test Result

Null (no rand. effect) Alternative	Cross-Section One-Sided	Period One-Sided	Both	Keputusan
Breusch-Pagan	633.7073 (0.0000)	6.57E-05 (0.9935)	633.7074 (0.0000)	REM

Resource: Output Eviews13

According to the model selection results, the best model is REM. The following are the results of the REM regression estimation.

Table 4. REM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	65.37758	6.994666	9.346777	0
LNEDU_EX	-0.194696	0.307709	-0.632726	0.5277
LNHLT_EX	-1.890327	0.203538	-9.287328	0
UNEMP	0.244644	0.065711	3.723063	0.0003

Resource: Output Eviews13

Classical Assumption Test

Series: Standardized Residuals
Sample 2010 2022
Observations 182

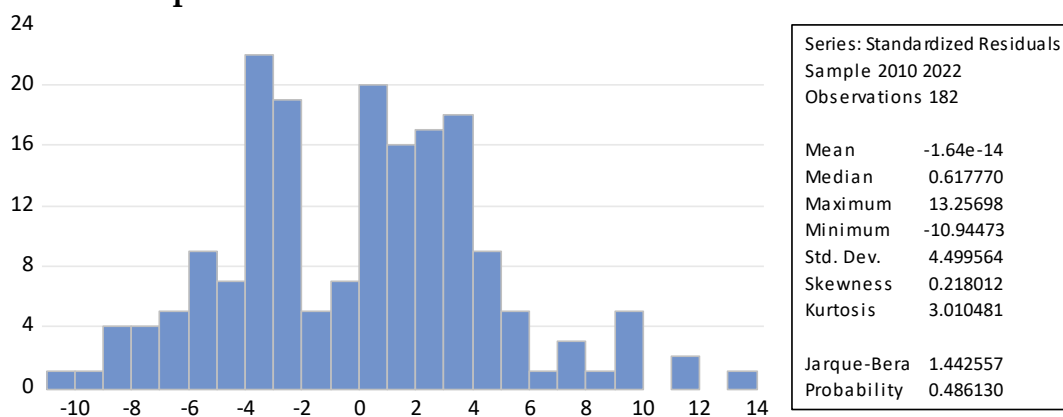|	
Mean	-1.64e-14
Median	0.617770
Maximum	13.25698
Minimum	-10.94473
Std. Dev.	4.499564
Skewness	0.218012
Kurtosis	3.010481
Jarque-Bera	1.442557
Probability	0.486130

Figure 1. Jarque-Bera Normality Test Results
Resource: Output Eviews13

According to Figure 1, you can see the value of Prob. 0.48 > 0.05, a sign that the data is normally distributed.

Table 5. Multicollinearity (Correlation) Test Results

	LNEDU_EX	LNHLT_EX	UNEMP
LNEDU_EX	1	0.606118	0.068887
LNHLT_EX	0.606118	1	0.028387
UNEMP	0.068887	0.028387	1

Resource: Output Eviews13

According to Table 5, it can be seen that the coef. is > 0.85, meaning there is no multicollinearity.

Table 6. Autocorrelation Test Results (DW Test)

Durbit-Watson stat	Position	Result
0.574738	Between -2 dan +2	No autokorelasi

Resource: Output Eviews13

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According to Table 6, you can see DW stat. 0.57 is between -2 to +2, there is no autocorrelation.

Table 7. Heteroscedasticity Test Results (Glejser Method)

Variable	Coefficient	Prob.
C	5.346901	0.1043
LNEDU_EX	-0.148506	0.3093
LNHLT_EX	-0.025925	0.7923
UNEMP	0.061035	0.0522

Resource: Output Eviews13

According to Table 7, you can see the value of Prob. > 0.05, meaning there is no heteroscedasticity problem.

Hyphotesis Test

Table 8. T Test Result

Variable	t-Statistic	t-tabel	Prob.	Result
LNEDU_EX	-0.632726	1.973381	0.5277	Not Significant
LNHLT_EX	-9.287328	1.973381	0.0000	Significant
UNEMP	3.723063	1.973381	0.0003	Significant

Resource: Output Eviews13

Table 8. F Test Result

Prob(F-statistic)	Result
0.000000	Significant

Resource: Output Eviews13

The Effect of Education Spending on Poverty Levels in Lampung
The REM test results indicate that education spending has a negative but insignificant effect on poverty in 14 regencies/cities in Lampung Province from 2010 to 2022. This finding aligns with the study by Fithri & Kaluge (2018), which revealed that government spending in the education sector often fails to effectively target poor communities in accessing proper education. A budgetary focus on infrastructure development rather than improving the quality of teachers and students has led to limited direct benefits for poverty reduction. According to Hanushek & Woessmann (2013), education quality is more critical than budget quantity, and inefficient fund utilization often hinders positive impacts. Nevertheless, education remains essential for enhancing human resources, improving welfare, and reducing poverty. As emphasized by Josep (2018), education plays a strategic role in advancing the nation and society.

The Effect of Health Spending on Poverty Levels in Lampung
The REM test results show that health spending has a significant negative effect on poverty in 14 regencies/cities in Lampung Province from 2010 to 2022, supporting the research by Palenewen et al. (2018). Health facilities for poor communities need improvement through equitable budget allocation and well-targeted programs.

Limited access to healthcare services—such as distance, costs, and service quality—acts as an important indicator of poverty (Bhinadi, 2017). With optimal budget utilization, public health can improve, leading to higher productivity, increased income, and better welfare. Josep (2018) highlights that health is a key factor in national development, while Wahid (2012) emphasizes the positive impact of health on economic growth. However, budget allocation often misses its target, focusing more on infrastructure, salaries, and equipment, while limited access due to a lack of facilities and medical personnel remains a challenge. Improving public health is expected to reduce poverty and fulfill government health budget goals.

The Effect of Open Unemployment Rate (TPT) on Poverty Levels in Lampung
The REM test results indicate that the open unemployment rate (TPT) has a significant positive effect on poverty in 14 regencies/cities in Lampung Province from 2010 to 2022. This finding is consistent with studies by Rivana and Gani (2024) and Karolinska et al. (2023). High unemployment rates exacerbate poverty as joblessness leads to income loss, hinders basic needs fulfillment, and lowers welfare. A lack of job opportunities compared to workforce growth and inflation, which drives up prices and wages, worsens the situation, in line with Malthusian theory. Sukirno (2005) asserts that unemployment harms the economy, reduces income, and increases poverty. To address this issue, the government needs to develop the informal sector as a solution to both unemployment and poverty.

CONCLUSION

The regression results of the REM model show that education spending has an insignificant negative effect on poverty in Lampung, influenced by the budget's focus on infrastructure and the low quality of human resources. On the other hand, health sector spending has a significant negative effect, helping to reduce poverty, especially after the pandemic. TPT has a significant positive effect, indicating that the higher unemployment, the higher poverty due to decreasing people's purchasing power. Simultaneously, these three variables have a significant influence on poverty in Lampung for the 2010-2022 period.

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