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The Influence of Economic Growth and Unemployment Rate on Government Expenditure in North Sumatra Province

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ABSTRACT

This study aims to analyze the effect of economic growth and unemployment rate on government expenditure in North Sumatra Province. The research employs a quantitative approach using secondary data in the form of annual time series for the 1990–2024 period, obtained from the Central Bureau of Statistics (BPS) and various scientific literature. Data analysis was conducted using multiple linear regression with the assistance of SPSS version 22.
The results show that, partially, economic growth has a negative and significant effect on government expenditure, indicating that an increase in regional economic activity is followed by a decrease in government spending, along with a stronger role of the private sector. Meanwhile, the unemployment rate does not have a significant effect on government expenditure, meaning that unemployment fluctuations are not yet considered a main determinant in regional budget decisions. Simultaneously, both independent variables significantly influence government expenditure in North Sumatra. Thus, overall macroeconomic dynamics play an essential role in shaping regional fiscal policy.
Keyword: government expenditure, economic growth, unemployment rate

1. Introduction

Economic development is the primary objective of every region in improving public welfare and achieving sustainable growth. Local governments play a central role in this development process, particularly through fiscal policies in the form of government expenditure. Government spending is an essential instrument for stimulating economic activity, strengthening infrastructure, providing public services, and creating a conducive climate for economic growth and public welfare.

In the context of North Sumatra Province, government expenditure management is a strategic issue considering the region's diverse economic dynamics and significant potential in agriculture, industry, trade, and services. As one of the economic centers in Sumatra and Indonesia, North Sumatra has substantial development opportunities due to its large population, diverse economic sectors, and strategic geographic location.

However, macroeconomic challenges such as fluctuating economic growth and varying unemployment rates require a deeper analysis of regional budget policies. Economic instability and relatively high unemployment can affect the government's fiscal capacity and budget priorities.

Economic growth generally reflects the increase in goods and services production within a region over time. High economic growth is expected to expand the revenue base through increased economic activity and taxes, thus potentially enhancing government spending capacity. Nonetheless, growth does not always automatically lead to higher government spending, influenced by budget priorities, fiscal constraints, and regional development strategies. Therefore, it is important to examine how economic growth affects government expenditure in North Sumatra.

Another factor that may influence government spending is the unemployment rate. Unemployment reflects the economy's ability to provide employment for productive-aged populations. High unemployment typically requires greater government expenditure on social programs, workforce empowerment, human resource development, and economic stimulus. However, the relationship varies depending on fiscal capacity and policy priorities.

In North Sumatra, unemployment fluctuations are influenced by workforce migration, economic structure shifts, and the impact of COVID-19. The provincial government faces the challenge of allocating public expenditure effectively to address unemployment and support economic recovery.

Government expenditure includes operational, capital, social, and transfer spending. Effective spending requires proper planning, efficient allocation, and transparent implementation. With significant economic potential but ongoing challenges, North Sumatra requires a comprehensive analysis to understand how economic growth and unemployment influence government expenditure decisions.

This research contributes to regional economic literature and supports North Sumatra's government in designing more effective and responsive fiscal strategies under regional autonomy. A focus on sustainable economic growth and unemployment reduction is essential for strengthening fiscal capacity and improving public services.

2. Literature Review

I. Government Expenditure

Government expenditure represents spending to perform public services, defense, infrastructure development, and social welfare (Musgrave, 1959). Classical theory limits government functions to security and stability (Samuelson & Nordhaus, 2010), while Keynesian economics emphasizes government spending as a tool to stimulate demand during economic downturns (Keynes, 1936).

Types of Government Expenditure

- Operational expenditure (employees, goods, and services)
- Capital expenditure (infrastructure and public facilities)
- Social expenditure (subsidies and social assistance)
- Transfers to regions and villages

Productive spending, particularly capital expenditure, tends to encourage long-term development (Todaro & Smith, 2020).

Government Spending Growth Theory

- **Wagner's Law**: public spending increases with economic expansion
- **Keynesian Theory**: government spending stimulates economic activity during downturns

II. Economic Growth

Economic growth refers to the continuous increase in goods and services production (Mankiw, 2021), measured through real GRDP (BPS, 2023).

Economic Growth Theories

- Classical theory (Smith, Ricardo)
- Keynesian theory (aggregate demand)
- Neoclassical theory (Solow model: capital, labor, technology)
- Endogenous growth theory (innovation, education) — Romer (1990)

Higher economic growth expands the tax base, increasing fiscal capacity.

III. Unemployment

Unemployment occurs when labor is unable to find work (Mankiw, 2021). Types include structural, frictional, cyclical, and open unemployment.
High unemployment often increases government spending on social and employment programs.

IV. Relationship Between Variables

- Economic growth → government expenditure (Wagner, Musgrave)
- Unemployment → government expenditure (Keynes; BPS, 2023)

3. Research Method

This study utilizes quantitative secondary time-series data. Data were obtained from BPS and relevant literature for the period 1990–2024. Literature review was conducted to support theoretical foundation. The study area is North Sumatra Province. Data were analyzed using multiple linear regression via SPSS version 22.

4. Results And Discussion

Results

Normality Test

Normality testing is essential to evaluate whether the standardized residuals in the regression model follow a normal distribution or not. The normality test does not examine each variable individually; instead, it focuses solely on the standardized residual values (Suliyanto, 2011)

Table 1. Results of the One-Sample Kolmogorov–Smirnov Normality Test

Unstandardized Residual		
N		10
Normal Parameters[a,b]	Mean	.000000
	Std. Deviation	305990650.30048100
Most Extreme Differences	Absolute	.149
	Positive	.149
	Negative	-.087
Test Statistic		.149
Asymp. Sig. (2-tailed)		.148c

Source: Data Processing Output

The normality test using unstandardized residuals above shows a Kolmogorov–Smirnov significance value of 0.148. This value is greater than the 5% significance level (0.05), indicating that the significance value is higher than 0.05. Therefore, it can be concluded that the data for both variables are normally distributed.

Multicollinearity Test

According to Imam Ghazali (2011: 107–108), there is no collinearity problem if the VIF value is less than 10.00.

Table 2. Results of the Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant	683754961.6	178064153.4		3.840	.001		
Pertumbuhan	-30791390.6	14232881.16	-351	-2.163	.038	.982	1.019
Ekonomi	-36159377.5	20909864.13	-280	-1.729	.093	.982	1.019
Pengangguran)							

Source: Data Processing Output

It can be seen from the multicollinearity test results in the table above that the VIF values for economic growth and unemployment are 1.019, which is less than 10.00. Therefore, it can be concluded that there is no multicollinearity violation.

Heteroskedasticity Test

The heteroskedasticity test is conducted to determine whether there is unequal variance of residuals across observations in the regression model. One of the important assumptions in classical linear regression is homoskedasticity, which means that the variance of the error terms (residuals) must be constant. If this assumption is violated, heteroskedasticity occurs, which may cause the estimation results to become inefficient, although still unbiased. There is no indication of heteroskedasticity if the significance value is greater than 0.05.

Table 3. Heteroskedasticity Test Results

Model	Unstandardized Coefficients	Std.Error	Standardized Coefficientas	t	Sig
	B		Beta		
1 (Constant) Pertumbuhan Ekonomi Pengangguran	450015018.9 -.384 -.384	89396403.04 .228 .249	 -.259 -. 259	5.034 -1.689 -1, 541	.00 .103 .133

Source: Data Processing Output

Based on the table above, the significance value is greater than 0.05. Therefore, it can be concluded that there is no heteroskedasticity violation in the data used in this research model.

Hypothesis Test

The t-table value in this study is determined with n = 35; degrees of freedom (df) = n − k − 1 = 35 − 3 − 1 = 31; with a significance level (alpha) of 0.05 and a one-tailed test, resulting in a t-table value of 2.040.

Table 4. Hypothesis Test Results

Model	Unstandardized Coefficients	Std.Error	Standardized Coefficientas	t	Sig
	B		Beta		
1 (Constant) Pertumbuhan Ekonomi Pengangguran	683754961.6 -30791390.6 -36159377.5	178064153.4 14232881.16 20909864.13	 -.251 -. 280	3.840 -2.163 -1.729	.001 .038 .093

Source: Data Processing Output

For the Economic Growth variable, the calculated t-value is 2.163, which is greater than the t-table value of 2.040, with a probability value of 0.038 < 0.05. Therefore, H0 is rejected and Ha is accepted, meaning that there is a negative and significant effect of economic growth on government expenditure.

For the Unemployment variable, the calculated t-value is 1.729, which is smaller than the t-table value of 2.040, with a probability value of 0.093 > 0.05. Therefore, H0 is accepted and Ha is rejected, indicating that unemployment has no significant effect on government expenditure. Thus, it can be concluded that Ha is

rejected and H0 is accepted, meaning that unemployment has a negative and insignificant effect on government expenditure in North Sumatra.

F-Test

Table 4. F-Test Results

Model	Sum of Squaren	df	Mean Square	t	Sig
1 Regression	6.746E+17	2	3.373E+17	3.390	.046[b]
Residual	3.183E+18	32	9.948E+16		
Total	3.858E+18	34			

Source: Data Processing Output

Based on the output above, the significance value for the simultaneous effect of the economic growth and unemployment variables on government expenditure is 0.046 < 0.05, and the calculated F-value is 3.390, which is greater than the F-table value of 2.503. Therefore, it can be concluded that H0 is rejected and H1 is accepted, meaning that, simultaneously, economic growth and unemployment have a significant effect on government expenditure in North Sumatra Province.

Discussion

The results of the t-test in this study show that the economic growth variable has a t-value of −2.163, which in absolute terms is greater than the t-table value of 2.040, with a significance level of 0.038, which is smaller than 0.05. This indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. Thus, economic growth has a negative and significant effect on government expenditure in North Sumatra Province. This finding suggests that an increase in regional economic activity tends to be followed by a reduction in government spending. This may occur because, when the economy grows, the private sector becomes more active, thereby reducing dependence on government funding.

Conversely, the unemployment variable has a t-value of −1.729, which is smaller than the t-table value of 2.040, with a significance level of 0.093 > 0.05. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected. This means that unemployment does not have a significant effect on government expenditure. Although the coefficient is negative, the effect is not statistically proven. This condition indicates that fluctuations in unemployment levels in North Sumatra have not yet become a primary determinant in government spending decisions. The government likely prioritizes other macroeconomic factors over unemployment in budget formulation.

The results of the F-test show that the calculated F-value of 3.390 is greater than the F-table value of 2.503, with a significance value of 0.046 < 0.05. This means that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the variables of economic growth and unemployment simultaneously have a significant effect on government expenditure in North Sumatra Province. This finding implies that although only economic growth is proven to have a significant partial effect, when combined with the unemployment variable, both variables jointly influence variations in government spending. This confirms that the overall dynamics of the regional economy remain an important factor in determining local government fiscal policy direction.

5. Conclusion

Based on the analysis conducted, this study shows that economic growth has a negative and significant effect on government expenditure in North Sumatra Province. This indicates that increasing economic growth tends to reduce government spending, which may occur due to greater private sector capacity and a lower degree of reliance on government funding. Meanwhile, the unemployment variable is not proven to have a significant effect on government expenditure. Although the direction of the effect is negative, statistically it does not show a meaningful contribution to explaining variations in government spending. This suggests that fluctuations in unemployment are not the main factor influencing fiscal policy during the study period.

Simultaneously, the variables of economic growth and unemployment are proven to significantly influence government expenditure in North Sumatra. Therefore, overall macroeconomic dynamics remain an important determinant in the formulation of regional government budgeting strategies, even though the individual strength of each variable differs.

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