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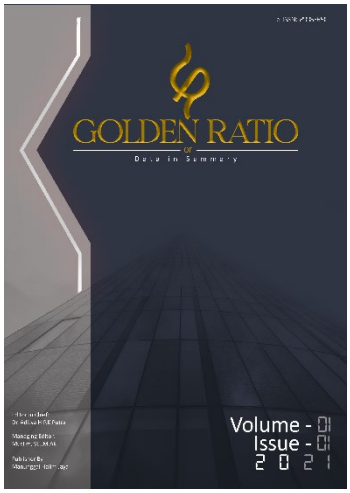

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DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

Analysis of the Effect of Capital Expenditure and Labor on Economic Growth in the Pohuwato District

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Abstract: Pohuwato Regency is an integral part of Gorontalo Province. Much progress and improvement have occurred beyond that of Boalemo Regency as its parent regency, both in terms of public services and the implications for the regional economy. Especially in the Capital Expenditure budget item which continues to increase and the absorption of the workforce is increasingly higher. In the long term (8 years) fluctuating movements in Capital Expenditure can normally be followed by a graph of Economic Growth. On the other hand, other factors such as labor whose graph continues to climb should be able to increase economic growth by several figures. From these problems, an in-depth study of Capital Expenditures and Labor and the extent of their influence on the Economic Growth of Pohuwato Regency is needed. This study aims to determine whether Capital and Labor Expenditures affect the Economic Growth of Pohuwato Regency. This study uses multiple linear regression analysis. The source used in this research is secondary data. Secondary data in this study used time series data for 2007-2014. The result is that the Capital Expenditure and Manpower variables partially and simultaneously have a positive and significant effect on the Economic Growth of Pohuwato Regency from 2007-2014. Among the independent variables, the variable Manpower has the most dominant influence on the Economic Growth of Pohuwato Regency.

Keywords: Economic Growth, Capital Expenditure, Manpower

1. INTRODUCTION

Economic development is very important because when talking about economic development it means that there is a development process that involves economic growth followed by several changes. These changes include changes in economic structure (from agriculture to industry or services) and institutional changes, both through regulation and institutional reform itself. Economic growth is an integral part of the development of a nation, it can even be said to be one of the important indicators to describe a country that is prosperous and financially capable. Every country will strive to achieve optimal economic growth to bring its people a better life. Gross Domestic Product (GDP) is a macroeconomic indicator knowing the economic condition of a region or region in a certain period. Analysis of economic growth from the percentage of accumulated GDP at certain constant base prices can be used as a benchmark for the success of development that has been achieved and can also be used to determine the direction of future development. Economic growth then shows the extent to which economic activity can generate additional income for the community in a certain period. National development cannot be separated from regional or regional development. The main target of national development certainly leads to the creation of equitable distribution of development results, including inter-regional distribution of income. Achieving the above targets requires extra work because in general the economic development of a region has economic potential and relatively different characteristics.

Seriousness in developing the region can be measured by the spirit of regional autonomy. Today the central government is trying to put back the importance of regional autonomy to its true position

which is marked by the enactment of Law Number 22 of 1999 concerning Regional Government which was later revised into Law Number 32 of 2004. Meanwhile, Law Number 25 of 1999 concerning the Balance of Finance between the Central and Regional Governments was later revised into Law Number 33 of 2004. The definition of regional autonomy according to Law Number 32 of 2004 article 1 paragraph 5 is the rights, authorities, and obligations of an autonomous region to regulate and manage its government affairs and interests local community by statutory regulations. Meanwhile, regional autonomy is a process of devolution in the public sector where there is a delegation of authority from the Central Government to Provincial and Regency/City Governments or a process of devolving power from the Central Government to Provincial and Regency/City Governments as mandated in the Law. Meanwhile, the essence of the concept of regional autonomy is an effort to maximize the results to be achieved while avoiding complications and things that hinder the implementation of regional autonomy. Thus, the demands of the community can be realized in real terms by implementing broad regional autonomy and not neglecting the continuity of public services, as well as maintaining rational fiscal sustainability. Furthermore, through regional autonomy, it is hoped that the regions will be more independent in determining all their activities and the Central Government is expected to be less active in managing the regions. Regional governments are expected to be able to play their role in opening up opportunities to advance the region by identifying potential source of income and being able to determine regional spending efficiently and effectively, including the ability of the region to improve performance, being accountable to its superior government and the public/society.

Gorontalo Province is an autonomous region that has stable economic growth and has the brand of a global corniche six autonomous Regencies/Cities that support Gorontalo are also relatively capable of maximizing their authority in managing the potential of their respective regions, especially in the economic sector. Geographical conditions, culture, and economic typology that vary greatly between regions automatically require different policy strategies to be able to accelerate regional development. In line with this, regional autonomy and fiscal decentralization have also opened opportunities for regions to direct their public policies according to the needs and superior potentials of the regions they have. Innovation, creativity, sensitivity, and foresight of the Regional Government in formulating policies will be the key to the success of regional development. Pohuwato Regency which is an integral part of Gorontalo Province has its advantages in managing its area. After more than a decade of implementing regional autonomy and fiscal decentralization, there have been many advances and improvements that have taken place beyond its parent regency, namely Boalemo Regency, both in terms of public services and the implications for the regional economy.

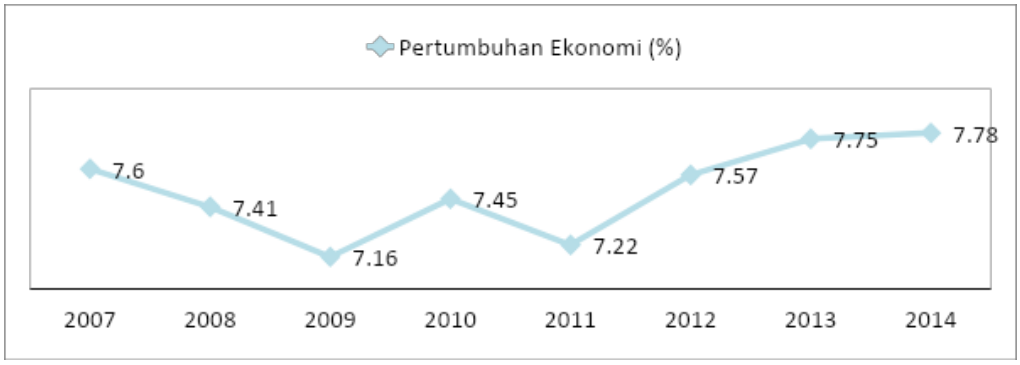

Figure 1. Economic Growth of Pohuwato Regency 2007-2014

Source: Central Bureau of Statistics 2007-2014

From Figure 1. said (Khusaini, 2015) it can be seen that the economic growth of 2007-2014 in Pohuwato Regency tends to experience a positive increase, however, it is interesting to discuss that there are still fluctuations in growth during that period. That economic growth is the development of activities in the economy that causes goods and services produced in society to increase and people's

prosperity to increase. From time to time, it is hoped that the ability of a country to produce goods and services will increase. Economic growth reflects economic activity. The term economic growth can then mean two things, namely good and bad. If at one time the economy is experiencing growth, then economic activity has a good impression. But if at one time the economy is experiencing a decline, it means that the economy has a bad impression. (Bilgin et al., 2021)

(Pichler et al., 2021) divides three main factors or components that influence the economic growth of a region, the three are capital accumulation, population growth, and technological progress. Capital accumulation includes all types of investment, whether made by the government or the private sector, invested in the form of land, physical equipment, and resource capital. Capital accumulation will occur if some of the income is saved (invested) again to increase output or income in the future. The government's role is very much needed in the framework of overcoming problems that cannot be faced by market mechanisms, namely in terms of providing public goods and creating a fair distribution of income. The existence of the Regional Revenue and Expenditure Budget (APBD), especially the Capital Expenditure post which is sourced from central assistance and Local Own Revenue is a form of accumulation of government capital that is used to encourage economic growth in a region. (Saxton & Guo, 2020) Capital expenditure is still one of the concerns of the Pohuwato Regency government with a portion ranging from 20-40% of total regional expenditure realization. Government spending that is oriented towards direct spending is aimed at procuring public facilities and infrastructure such as agricultural facilities, transportation, and other infrastructure that directly support people's productivity and welfare. Besides having to overcome market failures that occur, the government must also provide public goods in greater quantities with better quality.

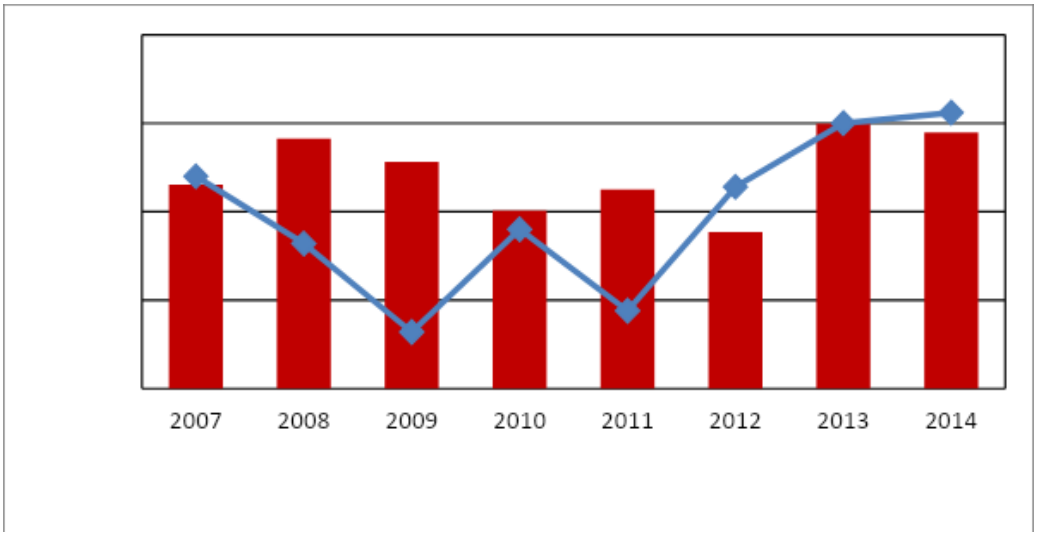

Figure 2. Realization of Capital Expenditure (BM) (Million Rupiah) and Economic Growth (PE) of Pohuwato Regency 2007-2014

Source: Regional Financial and Asset Management Agency/Central Bureau of Statistics for Pohuwato Regency 2007-2014

From Figure 1.2 it is clear that the total realization of capital expenditure shows an unstable increase from year to year (Chi & Qian, 2016). But even so, in the period from 2007 to 2014, there was an increase of up to IDR 29 billion. The most significant decrease occurred in 2012 touching 88 billion. But even so, the response to the graph of the percentage of economic growth still does not show significant movement. To be able to continue to increase the trend of investment in Pohuwato Regency, the Regional Government, Law Enforcement Officers, and community components are required to immediately create a climate conducive to investment, so that the potential of the region

can be optimally managed, especially in the agricultural sector which is a leaning sector for regional economic growth. The total corn area in Pohuwato reaches ±150,000 ha with an average production of 400,000 tons per year. More than 50 percent of corn production in Gorontalo Province is supplied by Pohuwato Regency. Apart from corn and rice, the farming communities in this district also develop horticultural commodities and plantations with various types of plants. Such as coconut, cocoa, cashew, candlenut, coffee, oranges, and durian. (gontaloprov.go.id). The potential for economic turnover in the agricultural sector is also followed by the dominance of the workforce that fills the agricultural sector's business fields. Population growth and workforce growth are naturally considered positive factors that spur economic growth. A larger number of workers means an increase in production levels, while greater population growth means a larger size of the domestic market. (Haseeb et al., 2021).

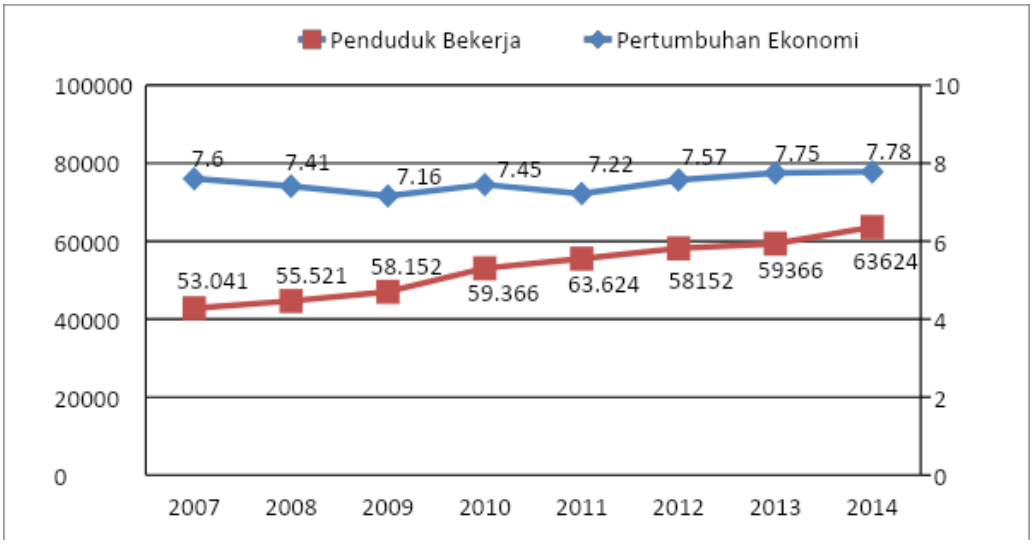

Figure 3. Employed Labor Force and Economic Growth in Pohuwato Regency 2007-2014

Source: Manpower and Transmigration Office/Pohuwato Regency Central Bureau of Statistics 2007-2014

However, it is still questionable whether the really fast pace of labor growth will have an impact positive or negative on economic growth. This, of course, depends on the ability of the regional economic system to productively absorb the increased labor force. Labor absorption in Pohuwato Regency from 2007 to 2014 continued to increase from 53,041 people to 63,624 people. On the other hand, relatively stagnant conditions were shown by the rate of economic growth, although it still showed signs of inconsistency in the movement of economic growth, which was still at 7%. In the long term (8 years) fluctuating movements in capital expenditures can normatively be followed by graphs of economic growth (Pichler et al., 2021). On the other hand, other factors such as the labor force whose graph continues to climb should be able to make economic growth increase by several figures. (Asongu & Amankwah-Amoah, 2018) From the problems above, an in-depth study is needed for capital and labor expenditures and the extent of their influence on economic growth in Pohuwato Regency with the formulation of the title: Analysis of the Effect of Capital and Labor Expenditures on Economic Growth in Pohuwato Regency. Based on the background study above, the researcher formulates the following questions:

1. How does Capital Expenditure affect Economic Growth in Pohuwato Regency?
2. How does the influence of Labor on Economic Growth in Pohuwato Regency?
3. Which variable has the most dominant influence on economic growth in Pohuwato Regency?

2. RESEARCH DESIGN AND METHOD

A. Research Approach This

The research uses a descriptive quantitative approach, in which the researcher intends to describe and analyze the potential for capital expenditure and labor and the impact on economic growth in Pohuwato Regency. This research is a study that tests theories by measuring research variables by conducting data analysis with statistical procedures. The goal is to test research hypotheses related to the variables studied. The results of testing the data are then used as a basis for drawing research conclusions.

B. Location and Time

Research This research was conducted in Pohuwato Regency where the development of the area is quite rapid, but on the other hand, there are still inconsistencies in the economy in the last 8 years so it is interesting to study in more depth. The research time is estimated from October to December 2015.

C. Types and Sources of the Data

Type of data used in this study is quantitative data while the sources used in this study are secondary data. Secondary data in this study used time series data from 2007 to 2014 obtained from the Regional Financial and Asset Management Agency, the Office of Manpower and Transmigration, and the Central Statistics Agency of Pohuwato Regency. Secondary data can be defined as data that has been collected by third parties. (Institution or institution) is processed and published for certain purposes. Research only borrows the data according to the needs of the researcher, in this case, the researcher is a "secondhand" who simply records, accesses, or requests the data from other parties who are responsible for the data.

D. Data Collection Methods

In this study, data were obtained using documentation, namely collecting data related to research problems from various official publications of related institutions.

E. Data Analysis

Method the analytical method used to answer the problems/hypotheses in this study is descriptive analysis and multiple linear regression analysis. Meanwhile, data processing was carried out using the IBM SPSS version 16 program.

1. Descriptive Analysis This

The research uses descriptive statistical analysis which aims to describe the effect of capital expenditure and labor variables on economic growth.

2. Classical Assumptions Test

Before conducting data analysis, the data is tested according to the classical assumptions. If there is a deviation from the classical assumptions, nonparametric statistical tests are used. On the other hand, the classical assumptions are fulfilled if parametric statistics are used to obtain a good regression model. The regression model must be free from multicollinearity, and heteroscedasticity, and the resulting data must be normally distributed. According to (Chin et al., 2017), the classic assumption test is as follows:

a. Normality Test

Requirements in parametric analysis, namely data distribution must be normal. The test uses the *Kolmogorov-Smirnov test* (Explore Analysis) to find out whether the data distribution for each variable is normal or not.

b. Multicollinearity Test Multicollinearity

A condition where there is a perfect or near-perfect linear relationship between two or more independent variables in the regression model. To detect the presence or absence of Multicollinearity by looking at the Tolerance and VIF values. The smaller the Tolerance value and the bigger the VIF, the closer to the Multicollinearity problem. In most studies, it is stated that if the Tolerance is more than 0.1 and the VIF is less than 10 then Multicollinearity does not occur.

c. Heteroscedasticity Test Heteroscedasticity

A condition where there is an unequal variance of the residuals in the regression model. A good regression model requires no Heteroscedasticity problem. Heteroscedasticity causes the estimator to be inefficient and the coefficient of determination will be very high. To detect whether there is heteroscedasticity by looking at the pattern of dots on the regression scatterplots. If the dots spread in an unclear pattern above and below the number 0 on the Y axis, there is no Heteroscedasticity problem.

d. Autocorrelation Test Autocorrelation

A condition in which the correlation of the residuals for one observation with another is arranged in a time series. A good regression model requires no autocorrelation problems. To detect the presence or absence of autocorrelation by carrying out the Durbin-Watson test with a procedure with the hypothesis H: There is no autocorrelation and Ha0: there is autocorrelation.

e. Linear Regression Analysis

Regression or forecasting is a process of systematically estimating what is most likely to occur in the future based on past and present information held so that errors can be minimized. Regression can also be interpreted as an attempt to predict changes. In order not to misunderstand that forecasting does not give a definite answer about what will happen, but instead tries to find an approach to what will happen. So, regression suggests curiosity about what will happen in the future to contribute to determining the best decision. Meanwhile, regression analysis is used to predict how far the value of the dependent variable changes, and if the value of the independent variable is manipulated/changed or up and down. The benefit of the results of the regression analysis is to decide whether the increase and decrease in the dependent variable can be done by increasing the independent variable or not. This analysis is based on the relationship of one dependent variable with one or more independent variables. If only one independent variable is used, it is called simple linear regression analysis and if it uses more than one independent variable, it is called multiple linear regression analysis. The following is the formulation of multiple linear regression:

$$Y = b_0 + b_1 X_1 + b_2 X_2$$

Where:

Y	= Economic Growth (the forecasted dependent variable)
X_1	= Capital Expenditures (the predicted independent variable)
X_2	= Labor (the forecasted variable independent forecast)
b_1- b_2	= Regression Coefficient
b_0	= Constant

1. Partial Test (T-Test)

T-test to determine the effect of the independent variables partially on the dependent variable. Is the effect significant or not?
Test b_1 (capital expenditure) H_0: $b_1 = 0$ this means that capital expenditure does not affect economic growth
Test b_2 (labor) H_0: $b_2 = 0$ this means that labor does not affect economic growth
Test b_1 (capital expenditure) H_0: $b_1 \neq 0$ this means that capital expenditure affects economic growth
Testing b_2 (labor) H_0: $b_2 \neq 0$ It, means that labor affects economic growth significance level uses 0.05
T arithmetic ≤ t critical so H_0 accepted, t count > t critical so H_0 rejected

2. Simultaneous Test (F-Test)

Test F test or regression coefficient test simultaneously, namely to determine the effect of the independent variables simultaneously on the variable, whether the effect is significant or not.
H_0: $b_1 = b_2 = b_3 = 0$ this means that capital expenditure and labor simultaneously do not affect economic growth.
H_a: $b_1 \neq b_2 \neq b_3 \neq 0$ this means that capital expenditure and labor simultaneously affect economic growth.
The significance level uses 0.05
F count ≤ F critical so H_0 accepted, F count > F critical so H_0 rejected

3. Analysis of the Coefficient of Determination (R2)

Analysis of the coefficient of determination (R2) is used to find out how much the percentage of independent variables influences simultaneously the dependent variable.

F. Operational Research

Variables The research variables consist of three independent variables and one dependent variable, namely as follows:

1. **Economic Growth Variable**: using data on GRDP growth in Pohuwato Regency based on constant prices. The data used is data from 2007 to 2014, expressed in rupiah units (Y).
2. **Capital Expenditure Variable**: using data on the realization of total Capital Expenditure in the Pohuwato Regency APBD, the data used is data from 2007 to 2014, expressed in rupiah units (X_1).
3. **Manpower Variable**: using data on the number of the Workforce Working in Pohuwato Regency, the data used is data from 2007 to 2014, expressed in units of people (X_2).

3. RESULT AND DISCUSSION

A. General Description of Pohuwato Regency

1. Geographical and Regional Demographic Aspects

Source: Central Bureau of Statistics of Pohuwato Regency 2014

Figure 4. Map of Pohuwato Regency 2014

Table 1: Area of Pohuwato Regency District 2014

No	District	Area (Km2)	Percentage (%)
1	Popayato	90.92	2.14
2	West Popayato	578.24	13.62
3	East Popayato	723.74	17.05
4	Lemito	619.50	14.60
5	Car Garage	188.08	4 .43
6	Marisa	34.65	0.82
7	Buntulia	375.64	8.85
8	Duhiadaa	39.53	0.93
9	Patilanggio	298.82	7.04
10	Randangan	331.90	7.82
11	Taluditi	159.97	3.77
12	Paguat	560.93	13.22
13	Dengilo	242.39	5.71
Pohuwato Regency		4,244.31	100

Source: Central Statistics Agency for Pohuwato Regency 2014

Table 2: Total Population of Pohuwato Regency 2007-2014

Total Population of Pohuwato							
2007	2008	2009	2010	2010	2012	2013	2014
Population	**114,572**	**126,895**	**132,906**	**136,581**	**139,110**	**142,066**	**143,338**

Source: Central Bureau of Statistics 2007-2014

2. Economic Growth in Pohuwato Regency

One of the benchmarks for the success of development in the economic field needed for macroeconomic evaluation and planning is usually seen from the growth of the Gross Domestic Product (GRDP) figure, both either at current prices or based on constant prices which are represented as economic growth the economy of a region.

Table 3: Constant Price Economic Growth 2000 Pohuwato Regency 2007-2014

Year	Constant Price GRDP (Million Rupiah)	Rate Growth
2007	421,333	
2008	452,561	7.41
2009	484,958	7.16
2010	521,089	7.45
2011	558,688	521,089
2011	558,688	558,68857
2013	647,587	7.75
2014	697,943	7.78

Source: Central Bureau of Statistics of Pohuwato Regency 2007-2014

3. Development of Capital Expenditure of Pohuwato Regency

Table 4. Realization of Regional Expenditure and Capital Expenditure of Pohuwato Regency 2007-2014

YEAR	APBD Regional Expenditure (Rp)	Capital Expenditure (Rp	
		%	Value
2007	278,276,746,000	41.45	115,359,465,000
2008	339.792.499.264	41.57	141.261.405.390
2009	370.958.329.000	34.53	128,081,369,000
2010	339.792.499.264	34.53	128,081,369,000
2011	446.296.215.022	34.53	112,524,679,479
2012	446.296.215.022	19.79	88.347.579.158
2013	562.883.985.604	26.61	149,768,595.908
2014	660,986,626,531	21.88	144,661,939.352

Table 5: Total Budget and Realists ASI Capital Expenditure Pohuwato Regency 2007-2014

Year	Budget (IDR)	Realization of (IDR)
2007	126,621,679,000	115,359,465,000
2008	165,610,217,422	141.261.405.390
2009	139,866,476,000	128,369,000
2010	139,866,476,000	141.261.405.390
2011	135,716.217.800	112,524,679,479
2012	115,715,638,803	88.347.579.158
2013	162.811.992.510	149.768.595.908
2014	126,340,48,836	144,661,939,352

Table 6: Distribution of the Work Force Employed by Main Employment in Pohuwato Regency 2007-2014

No	Fields Employment	Pohuwat Regency							
		2008	2008	2009	2010	2011	2012	2013	2014
1	Agriculture	25,710	30,225	26,935	26,309	23,430	21,677	23,705	27,751
2	Industry	1,959	1,515	2,097	2,327	1,843	2,246	1,803	2,664
3	Other sectors	4,938	4,082	5,898	12,565	9,972	10,869	10,618	42,781
Total		44,644	47.006	53,041	55,521	58.152	59,366	63,624	Source

B. Research Result

1. Transmigration

	Kolmogorov-Smirnova		
	Statistics	df	Sig.
Economic Growth (Y)	**.119**	**8**	**.200**
Capital Expenditures (X1)	**.176**	**8**	**.200**
Labor (X2)	**.163**	**8**	**.200**

Source: SPSS Output 16 (Data processed)

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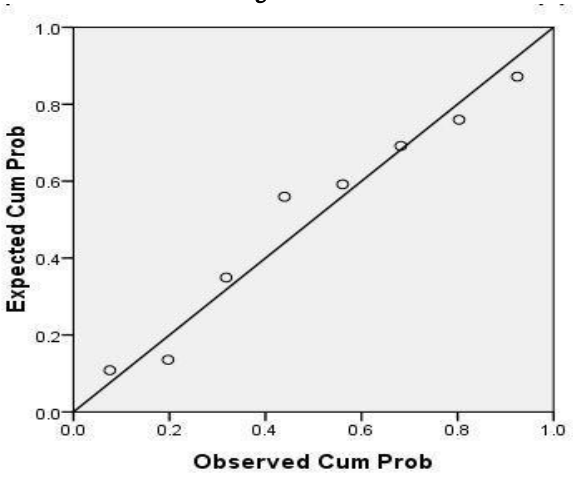
Figure 5. Nominality Test Results
P-Plot of NormalRegression Standardized Residual



Source: Output SPSS 16 (Processed data)

2. Multicollinearity Test

Table 7: Multicollinearity Test Results
Coefficients

Model		Collinearity Statistics	
		Tolerance	VIEW
1	(Constant)		
	Capital Expenditure (X1)	.994 1.006	Labor
	(X2)	.994 1.006	Source

Source: SPSS Output 16 (Processed data)

3. Heteroscedasticity Test

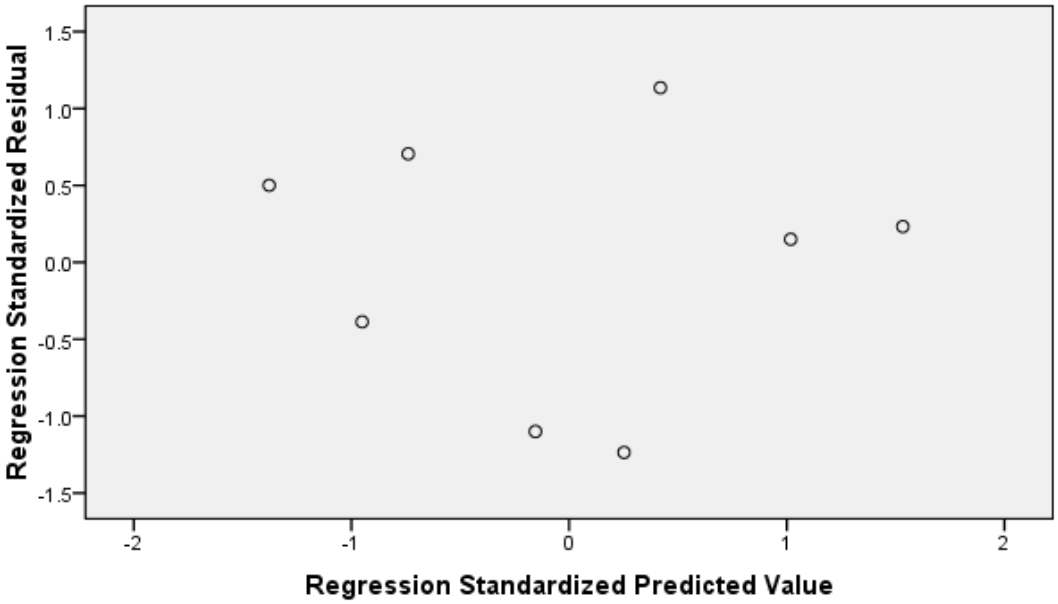


Figure 6. Scatterplot

Source: SPSS Output 16 (Processed data)

4. Autocorrelation

The test aims to determine whether there is a correlation between a series of data

Table 8: Summary Model

Durbin-Watson
2.372

Source: Output SPSS 16 (Processed data)

5. Hypothesis Testing

a. Linear Regression Analysis

Table 9: Multiple Linear Regression Analysis
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	-196218.325	36428.291	
	Capital Expenditure (X1)	.690	.190	.158
	Labor (X2)	12.445	.558	.971

Source: Output SPSS 16 (Data processed)

b. Partial test (t-test)

Table 10: Partial Test Results (t-test)
Coefficients

Model		T	Sig.
1	(Constant)	-5,386	.003
	Capital Expenditures (X1)	3,630	.015
	Labor (X2)	22,304	000

Source: Output SPSS 16 (Data processed)

Table 11: Simultaneous Test Results (Test F)
ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.457E10	2	3.229E10	263.136	.000
	Residual	6.135E8	5	1.227E8		
	Total	6.518E10	7			

Source: Output SPSS 16 (Data processed)

c. Coefficient of Determination (R^2)

Table 12: Results of Coefficient of Determination Model Summary

Model	R	R Square	Adjusted R Square	Std. An error in the Estimate
1	0.995	0.991	0.987	11076.733

Source: SPSS Output 16 (Data processed

References

Asongu, S. A., & Amankwah-Amoah, J. (2018). Mitigating capital flight through military expenditure: Insight from 37 African countries. Research in International Business and Finance, 45, 38–53. https://doi.org/https://doi.org/10.1016/j.ribaf.2017.07.130

Bilgin, M. H., Danisman, G. O., Demir, E., & Tarazi, A. (2021). Bank credit in uncertain times: Islamic vs. conventional banks. Finance Research Letters, 39, 101563.

https://doi.org/https://doi.org/10.1016/j.frl.2020.101563

Chi, W., & Qian, X. (2016). Human capital investment in children: An empirical study of household child education expenditure in China, 2007 and 2011. China Economic Review, 37, 52–65. https://doi.org/https://doi.org/10.1016/j.chieco.2015.11.008

Chin, S., Kim, I., & Choi, C.-H. (2017). What Authentication Technology Should Be Chosen for Construction Manpower Management? Procedia Engineering, 196, 309–314. https://doi.org/https://doi.org/10.1016/j.proeng.2017.07.204

Haseeb, M., Kot, S., Iqbal Hussain, H., & Kamarudin, F. (2021). The natural resources curse-economic growth hypotheses: Quantile–on–Quantile evidence from top Asian economies. Journal of Cleaner Production, 279, 123596. https://doi.org/https://doi.org/10.1016/j.jclepro.2020.123596

Khusaini, M. (2015). A Shift-share Analysis on Regional Competitiveness - A Case of Banyuwangi District, East Java, Indonesia. Procedia - Social and Behavioral Sciences, 211, 738–744. https://doi.org/https://doi.org/10.1016/j.sbspro.2015.11.097

Pichler, M., Krenmayr, N., Maneka, D., Brand, U., Högelsberger, H., & Wissen, M. (2021). Beyond the jobs-versus-environment dilemma? Contested social-ecological transformations in the automotive industry. Energy Research & Social Science, 79, 102180. https://doi.org/https://doi.org/10.1016/j.erss.2021.102180

Saxton, G. D., & Guo, C. (2020). Social media capital: Conceptualizing the nature, acquisition, and expenditure of social media-based organizational resources. International Journal of Accounting Information Systems, 36, 100443. https://doi.org/https://doi.org/10.1016/j.accinf.2019.100443