
THE INFLUENCE OF EXPORTS AND LABOR ON THE GROWTH OF THE CREATIVE ECONOMY IN TIMOR LESTE

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ABSTRACT

The creative economy is a potential sector and has become a source of new economic growth as a government solution to prevent the national economic slowdown in recent years. Several creative economy sectors have played a significant role in increasing the development of the creative economy in Timor-Leste. One indicator of good creative economy sector performance is exports, a component of GDP. If creative industry exports increase, the creative economy will play a significant role in national economic growth, ultimately achieving a total increase. Gas, coffee, and oil also play an essential role in driving the development of the creative economy. This study examines the influence of exports and labor on the growth of the creative economy in Timor-Leste. This study uses a quantitative approach with the SPSS data analysis method. The data used are secondary data from 2014 to 2023. The results show that the influence of exports on GDP is significant. The impact of labor on GDP is also substantial. In addition, the influence of exports and labor on GDP is essential.

Keywords: Creative economy, Exports, GDP, Labor, Timor-Leste

INTRODUCTION

Looking at Gross Domestic Product (GDP) is one way to assess economic growth in Timor-Leste. Economic growth data is used to observe changes in the level of economic activity each year. Gross Domestic Product (GDP) is the market value of all goods and services produced in an economy at a given time. GDP is used to measure and assess the economic development of a region (Faradilla et al., 2024). GDP is often a key indicator for determining a country's economic development. Economic growth can be defined as an explanation of the factors that determine long-term increases in per capita output and how these factors

interact to create growth. According to the Harrod-Domar theory (Anggraeni et al., 2021), economic growth requires capital formation and stock. This capital formation is seen as expenditure that increases the economy's ability to produce goods and as expenditure that increases effective demand across society. However, growth in productive capacity does not automatically result in production growth; income increases if capacity remains constant, and output cannot be sold because income remains fixed. However, new investment is needed to spur economic growth, a net addition to reserves or capital stock. In the current economic era, creative economic growth

prioritizes information and creativity by relying on ideas and knowledge from human resources as production factors (Khairunnisa et al., 2023). The creative economy sector consists of 14 subsectors, namely the advertising sector, the architecture sector, the goods market sector, the arts sector, the crafts sector, the design sector, fashion, video, film and photography, interactive games, music, performing arts, publishing and printing, computer services and software, television and radio, and research and development. Developing countries often face problems such as a lack of capital supply, low economic growth, and a lack of advanced technology. Production costs are high, but labor productivity remains low due to unskilled labor and rudimentary equipment. This labor component plays a role in fluctuations in national income. Increasing the number of workers at a certain level can increase production results, increasing national output. For example, the role of labor does not accompany a production activity. In this case, production activities will not decrease in quality, but unskilled labor can also result in hampered production processes, thereby reducing output and, thus, reducing consumption. Labor is a factor that can increase a country's regional GDP or GRDP. Increased investment can influence an increase in the labor force, and an increase in the labor force can influence an increase in output.

The theory of labor demand states that the more labor a firm employs, the more output it produces. This is called the Marginal Product of Labor. The Marginal Product of Labor (MPL) is the additional output a firm

obtains from one extra labor unit, given a fixed amount of capital. A country certainly needs assistance from other countries. Foreign trade is one form of activity that occurs between countries. Not all countries can produce the goods and services they need. Exports and imports are forms of foreign trade. According to Samuelson's book "The Science of Macroeconomics," (Rahman et al., 2021) Exports are goods and services produced domestically and purchased abroad. Exports are a component of aggregate expenditure. Therefore, exports influence the amount of national income that can be achieved. If exports increase, aggregate spending will also increase, and this can increase national income. However, national income cannot influence exports; the amount of exports will not always change even if national income remains constant. Therefore, the export function has the same influence as the investment function and government spending.

The expenditure approach to national income theory has four components: consumption, investment, government purchases, and net exports. Therefore, when exports increase, national income also increases. However, conversely, national income cannot influence exports; exports do not necessarily change even if national income remains constant (Bernika et al., 2024). Therefore, the investment and government expenditure functions have the same influence as the export function. This study examines exports and employment as they relate to creative economic growth, while other studies examine overall economic development and do not focus on the

creative industry. Furthermore, this study focuses on Timor-Leste.

METHOD

The quantitative research model used in this study covers Timor-Leste's current GDP. The data used is time series data from 2014 to 2023 using SPSS software (Ghozali, 2021). Secondary data available from Timor-Leste's annual financial reports from 2014 to 2023 is used in this study. The dependent variable in this study is creative economic growth, while the independent variables are exports and labor. This study examines the effect of exports and labor on innovative economic development in Timor-Leste.

The regression model used in this study is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$$

Where:

Y = Creative GDP

X_1 = Labor

X_2 = Exports

e = Error Correction Term

β_0 = Constant/intercept

β_1, β_2 = Regression Coefficients

Testing Steps

a. Normality Test

The normality test tests whether the research data is usually distributed. A regression

model is considered good if the normality test results are normal.

b. Multicollinearity Test

The multicollinearity test tests whether the research data, i.e., the independent variables, correlate. A regression model is considered reasonable if there is no correlation between the independent variables. The resulting VIF value is observed to test for multicollinearity. The variable is free from multicollinearity if the VIF (Variance Inflation Factor) is less than 10.

c. Heteroscedasticity Test

The heteroscedasticity test is used to test for equality of residual variances from one observation to another. If the residuals have the same variance, it is called homoscedasticity, and if the variances are not the same, it is called heteroscedasticity.

Hypothesis Testing

Partially, the t-test is an analysis used to formulate hypotheses. The t-test explains how far the influence of the independent variables individually on the dependent variable (Sugiyono, 2019b)

Research Framework

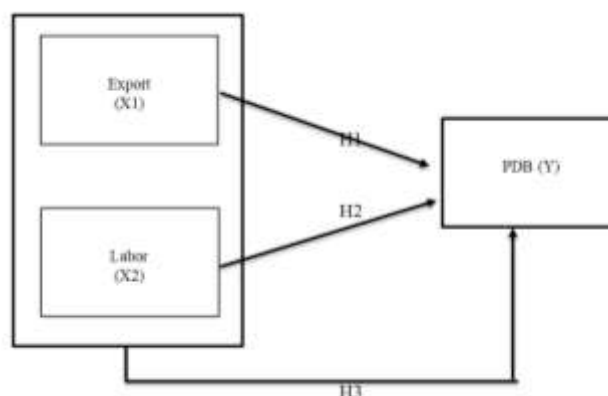


Figure 1. Research Framework

Based on the research framework in Figure 1, it is clear that exports and labor force variables influence the growth of the creative economy in Timor-Leste. Labor absorption and exports are key factors affecting economic growth. The success of a region's economic growth is influenced by several production factors (Azzahra et al., 2022). Production factors are everything needed to produce goods or services. One such factor is labor. Similarly, exports are a crucial factor in economic growth, serving as a source of foreign exchange for the country (Rizkina et al., 2023)

With the various economic achievements achieved in Timor-Leste, the creative economy may be one sector capable of driving economic growth by increasing GDP growth in the creative economy. One indicator of a well-performing creative economy sector is exports. According to (Krisnan, 2021), the contribution of creative economy exports to national exports consistently increases annually. The annual growth of creative economy exports also tends to be positive compared to national exports, which tend to be negative. Since exports are a component of GDP, increasing creative economy exports can impact GDP growth, boosting national economic growth. Therefore,

the impact of creative economy exports on GDP growth is interesting to study. Furthermore, to assess the effects of creative economy exports, up-to-date data is needed to obtain a more accurate picture of GDP growth, making forecasting creative economy exports crucial (Bernika et al., 2024)

RESULTS

Classical Assumption Test

Classical assumption testing is necessary to determine whether the residual values in a regression model are normally distributed and thus meet the normality assumption. The classical assumption tests used in this study include the normality test, multicollinearity test, and heteroscedasticity test (Ghozali, 2021)

Normality Test

This Test is performed to determine whether the residual values in a regression model are normally distributed. In linear regression, this is indicated by the magnitude of the random error (e) value, which is usually distributed. A good regression model is typically distributed or nearly so, making the data suitable for statistical testing. Several methods can test normality in regression, including the Kolmogorov-Smirnov method, which compares the cumulative distribution with a normal distribution (Sugiyono, 2019a).

Table 1. Normality Test Results
One-Sample Kolmogorov-Smirnov Test

		Export	Labor	GDP
N		10	10	10
Normal Parameters ^{a,b}	Mean	1736,5000	128,2400	9354,0000
	Standard	168.95315	6.57524	1262.76214
	Deviation			
Most Extreme Differences	Absolute	,351	,106	,177
	Positive	,162	,096	,177
	Negative	-,351	-,106	-,149

Test Statistics	,351	,106	,177
Asymp. Sig. (2-tailed)	,00351 ^c	,200 ^{c,d}	,200 ^{c,d}

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

Source: Processed Secondary Data, 2025

The results of data processing show that the research variables, namely Exports (X1), Labor (X2), and GDP (Y), have probability values of 0.351 (X1), 0.106 (X2), and 0.177 (Y), respectively, where the probability value is greater than 0.05, so it can be concluded that the population is normally distributed.

Multicollinearity Test

The multicollinearity test determines whether a regression model contains a correlation between

independent variables. A good regression model should not correlate with independent variables. If independent variables are correlated, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation value is zero (Falendro et al., 2018). To detect the presence or absence of multicollinearity, we generally look at the Tolerance and VIF values in the linear regression results.

Table 2. Multicollinearity Test Results
 Coefficients ^a

Model	Collinearity Statistics	
	Tolerance	VIF
1		
(Constant)		
Export	,943	1,060
Labor	,943	1,060

a. Dependent Variable: GDP
 Source: Processed Secondary Data, 2025

The decision-making method is considered to have no multicollinearity if the Tolerance is greater than 0.10 and the VIF is less than 10. The calculation results in the table above show that the VIF values of all independent variables are well below 10, and the calculated tolerance value is greater than 0.10, indicating no correlation between the independent variables. Thus, the regression model has no multicollinearity among the independent variables.

Heteroscedasticity Test

The heteroscedasticity test aims to determine whether there is inequality of variance in a regression model from the residuals of one observation to the

fixed observation, which is called homoscedasticity. If there is a difference, it is called heteroscedasticity. A good regression model requires the absence of heteroscedasticity problems. One way to analyze the assumption of heteroscedasticity is by using the Glejser Test. This Glejser method proposes regressing the absolute value of the residuals against the independent variable. Basic decision on test heteroscedasticity, namely :

- a. If the mark significance is bigger than 0.05, the conclusion is that no heteroscedasticity has occurred.

- b. If the Mark significance is smaller than 0.05, the conclusion is heteroscedasticity.

Table 3. Heteroscedasticity Test
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	388,271	1605,981		,242	,816
	Export	-,740	,480	-,515	-1,541	,167
	Labor	8,650	12,345	,234	,701	,506

a. Dependent Variable: Abs_Res

Source: Processed secondary data, 2025

Based on the table above, it can be seen that the significance value of all variables is more than 0.05, which means that there is no heteroscedasticity in the research data.

Regression Analysis

Regression is a statistical method used to determine the presence or absence of a relationship (causal or

cause-and-effect relationship). It is presented in the form of a systematic model or equation. Regression can be used to predict or develop a model, expressed as a regression equation. Regression analysis determines how much one variable influences another or several other variables.

Table 4. Multiple Linear Regression Results
The Impact of Exports and Labor on GDP
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-15447,913	2541,018		-6,079	,001
	Export	2,081	,760	,278	2,737	,029
	Labor	165,227	19,532	,860	8,459	,000

a. Dependent Variable: GDP

Source: Processed secondary data, 2025

The multiple regression equation can be explained as follows: the Export (X1) and Labor (X2) variables have a negative regression coefficient, this means that both research variables have a negative influence on GDP (Y), so that if there is an increase Export variables (X1) and Labor (X2) can reduce GDP (Y).

a. The constant (α) is = -15447.913

Analysis : If Exports and Labor are equal to 0 or eliminated,

then GDP will increase by 15,447,913 units.

b. The value of $b_1 = 2.081$

Analysis : An export variable has a positive effect on GDP. A 1 percent increase in the export variable will result in a 2.018-unit rise in GDP, assuming the labor force variable remains constant.

c. The value of $b_2 = 165.227$

Analysis : The Labor

variable has a positive influence on GDP. If there is an increase of 1 percent in the labor variable, then GDP will experience an increase of 165,227 units, assuming the export variable is constant. So the regression equation can be written as follows:

$$Y = -15447.913 + 2.081 X_1 + 165.227 X_2 + e$$

Godness Of Fit Test

Partial Parameter Significance Test (t-Statistic Test)

The t-test is used to test the variables that influence the independent variables on the dependent variables individually (alone), so the t-test is used. The t_{table} formula = number of respondents minus two, or written with the formula: $t_{\text{table}} = 10 - 2 = 8$, the t_{table} value is 1.860.

Table 5. t-Test Results
The Impact of Exports and Labor on GDP
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-15447,913	2541,018		-6,079	,001
	Export	2,081	,760	,278	2,737	,029
	Labor	165,227	19,532	,860	8,459	,000

a. Dependent Variable: GDP

Source: Processed secondary data, 2025

Based on the results of the regression analysis, the following was obtained:

a. First Hypothesis Test (H_1)

Analysis : The Export variable has a calculated t value of 2.737 with a significance level of 0.029, because the calculated t value of 2.737 > t_{table} 1.860 and the significance value (Sig.) 0.029 < 0.05 and is positive, it can be concluded that H_0 is rejected. H_a is accepted, meaning exports (X_1) partially influence GDP (Y). The export and import ratio is one indicator used to measure a country's achievements and success in economic development. If the value of exports is higher than the value of imports, it means that export activities have contributed to national income. Increased exports also increase economic growth. (Ngatikoh, 2020)

b. Second Hypothesis Test (H_2)

Analysis : The labor variable has a calculated t value of 8.459 with a significance level of 0.000, because the computed t value 8.459 > t_{table} 1.860 and the significance value (Sig.) 0.000 < 0.05 and is positive. So it can be concluded that H_0 is rejected and H_a is accepted, which means that labor (X_2) partially influences GDP (Y). Population and workforce growth are considered to be factors that have a positive influence on spurring development and economic growth. Considerable workforce growth as a result of population growth means that it will be able to increase the production of goods or services and expand the domestic market share, so that it can encourage economic growth.

Simultaneous Significance Test (F Test)

Testing the influence of independent variables simultaneously on changes in the value of the dependent variable is done by testing the magnitude of changes in the value of the dependent variable that can be explained by changes in the value	of all independent variables; for this reason, it is necessary to conduct an F test (Ghozali, 2019). To find the F_{table} , first you need to find the value of $df_1 (N_1) = k-1 = 2-1 = 1$, $df_2 (N_2) = n-k = 10 - 3 = 7$; thus, the F_{table} value of $df_1 (1)$ and $df_2 (7) = 5.59$
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Table 6. F Test Results
The Impact of Exports and Labor on GDP
ANOVA ^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13370841,510	2	6685420,754	47,740	,000 ^b
	Residual	980272,492	7	140038,928		
	Total	14351114,000	9			

a. Dependent Variable: GDP
b. Predictors: (Constant), Labor, Exports
Source: Processed secondary data, 2025

c. Third Hypothesis Test (H_3)

Analysis : The export and labor variables have a calculated F value of 47.740 with a significance level of 0.000, because the calculated F value of $47.740 > F_{table} 5.59$ and the significance value (Sig.) $0.000 < 0.05$ and is positive, it can be concluded that H_0 is rejected. H_a is accepted, which means that the export and labor variables simultaneously affect GDP.	coefficient of determination, is essentially used to measure the model's ability to explain variations in the dependent variable. The coefficient of determination ranges between zero (0) and one (1). A small R^2 value indicates that the independent variables are very limited in explaining variations in the dependent variable. A value close to one indicates that the dependent variables provide almost all the information needed to predict variations in the dependent variable.
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Coefficient of Determination (R^2)

R Square analysis, or the

Table 7. Results of the Analysis of the R^2 Determination Coefficient
The Impact of Exports and Labor on GDP
Model Summary ^b

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	,965 ^a	,932	,912	374.21775

a. Predictors: (Constant), Labor, Exports
b. Dependent Variable: GDP

Source: Processed secondary data, 2025

The results of the analysis of the coefficient of determination in multiple	linear regression with an R^2 (Adjusted R Square) value of 0.912, which means
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that the influence of the independent variables of labor and exports on GDP is 91.2 %. In contrast, the remainder is influenced by other factors not studied.

DISCUSSION

Exports have consistently increased over the past 10 years. Creative economy exports, a component of GDP, have performed well. This component has shown positive developments to date. To achieve increased creative economy exports accompanied by increased GDP growth, the government is expected to promote creative products internationally and intensify the socialization of creative products through various platforms, such as social media, exhibitions, and festivals. Beyond promotion, the government needs to train creative economy entrepreneurs in marketing and branding. The government also needs to facilitate the export of creative products by providing incentives for shipping creative products abroad. In addition, creative economy entrepreneurs need to develop creative products with their unique characteristics and be able to attract consumers, both domestically and internationally. Because oil, gas, and coffee have the potential to become the backbone of Timor-Leste's current economy, the creative economy has received attention and support from the Timor-Leste government. Timor-Leste has also seen the positive impact of the creative economy on its national economic position. It is crucial that the role of the creative economy can be measured quantitatively as a tangible indicator. Done For give a real description about how the economy can be creatively advanced in Timor Leste

CONCLUSION

Based on the research results outlined above, the growth of the creative economy in Timor-Leste is influenced by the exports of oil, gas, and coffee. Therefore, the government can implement policies to increase employment, particularly in labor-intensive sectors, in both the long and short term across various business sectors. This will allow for greater absorption of the workforce, increasing GDP, and increasing the workforce. Furthermore, the government can increase educational and training assistance to increase the productivity of the employed workforce. To increase the workforce, people can also more easily find jobs throughout the country through the flow of information. The government can implement policies to increase commodity exports, which can benefit both exporters and the country, facilitate the export of goods, and even help exporters obtain necessary information. The government has also simplified licensing for platforms that provide export services, specifically for oil, gas, and coffee, to facilitate exports. All three are essential components in the production process, as they can increase GDP.

Furthermore, labor is needed to produce output in production activities, especially in labor-intensive sectors, which can absorb more labor, significantly impacting changes in GDP. Therefore, a productive workforce can increase the Indonesian population's gross domestic product (GDP). A rapid increase in the workforce can also accelerate the growth rate of gross domestic product (GDP) due to the increased number of productive workers. The government's

policy of growing labor absorption through labor-intensive programs will have a positive impact due to the large number of Timor-Leste's population of productive age. This will reduce unemployment and increase labor demand. However, increased labor absorption must be accompanied by increased labor productivity to avoid hampering economic growth. The crisis did not have a significant impact

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- on GDP in either the short or long term. However, the government must pay attention to signs of an impending crisis, as evidenced by several deteriorating macroeconomic indicators, and take swift and effective action to ensure that the impact of the crisis can be addressed quickly and does not have a significant effect on the people of Timor-Leste.
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