


# Analysis Of The Effect Of Gross Regional Domestic Product, Provincial Minimum Wage, Human Development Index And Investment On Unemployment In Jambi Province

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Article Info	ABSTRACT
<b>Keywords:</b> PDRB, Minimum Wage IPM, Investation, Unemployment	This research aims to determine the influence of Gross Regional Domestic Product, Provincial Minimum Wage, Human Development Index and Investment on Unemployment in Jambi Province. The research method used in this research is a secondary data analysis method with a quantitative approach. Research results: Partially, the provincial minimum wage (X2) has a significant and positive effect on unemployment in Jambi Province and investment (X4) has a significant and negative effect on unemployment in Jambi Province, while gross regional domestic product (X1) and human development index (X3) capital expenditure do not significant effect on unemployment in Jambi Province. However, together Gross Regional Domestic Product (X1), Provincial Minimum Wage (X2), Human Development Index (X3) and Investment (X4) have a significant effect on unemployment in Jambi Province with an R-square value of 74.50 percent during the period 2010-2022
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## INTRODUCTION

Labor problems are problems faced by almost all countries in the world, especially the problem of unemployment (Indriani, 2016). Both developed and developing countries face the problem of unemployment. The only difference is whether or not the state is able to provide benefits to the unemployed (Anwar, 2023). Indonesia is one of the most populous countries in the world. In addition, natural resources are also abundant. However, the greater the population in a country, the greater the number of its labor force (Mike & Andrisani, 2019). With a large enough labor force, migration flows that continue to flow, and the impact of economic recessions like today, make labor problems, including unemployment, very large and complex. This is due to lack of employment, unemployment is also an option for everyone (Zakaria & Junaidin, 2020). There are people who do not want to work because they are lazy and there are also people who want to work but the job opportunities available are not to their liking so they prefer to be unemployed. Unemployment is a very complex problem because it affects and is influenced by many factors that interact with each other following

patterns that are not always easy to understand. If unemployment is not immediately overcome, it can cause social insecurity and potentially lead to poverty (Malangkas Twaine et al., 2022). Unemployment is one of the causes of crime in the community. Unemployment is someone already classified in the labor force, who is actively looking for work at a certain wage level, but cannot get the desired job (Filiarsari & Setiawan, 2021).

Unemployed people mean people who have no income, so it will be difficult to meet their living needs. Then the opportunity to commit crimes is greater. Not only that, unemployment can also disrupt political stability in a country because unemployment makes people dissatisfied with the government (Ningsih & Ratna, 2011). The size of the unemployment rate is very important in measuring the success of economic development because unemployment is one indicator to show the level of welfare resulting from economic development. So, with a high unemployment rate will have a serious impact on a country, such as being a major source of poverty, triggering high crime, hindering long-term development, and other social problems. The problem of unemployment is of course also experienced by all provinces in Indonesia, including Jambi Province. GDP (Gross Regional Domestic Product) is one indicator of the level of welfare of the population in a region. GDP is the net value of final goods and services produced by different levels of economic activity in a region in a period (Filiarsari & Setiawan, 2021). The definition of GRDP is the amount of added value produced for all business areas in an area or is the sum of all final value of goods and services produced by all units (Lucky Riana Putri, 2020).

The Human Development Index (HDI) is an indicator of human development introduced by the United Nations Development Programme (UNDP) in 1990 (Nasruddin et al., 2022). Basically, HDI includes three components that are considered fundamental to humans and are operationally easy to calculate to produce a measure that reflects human development efforts. Generally, the overall HDI development rate during 2017-2022 has increased. The highest HDI development is in Jambi City with an average HDI of 78.25 percent every year.

Investment is also one indicator that can overcome unemployment is the realization of opportunities for the private sector to invest in it, in order to create jobs for people who are generally still unemployed. Investment is an input of an economic activity that will later affect the amount of employment. The higher the investment, the greater the lower the unemployment. Conversely, if the amount of investment decreases, the unemployment rate will increase. In addition to affecting the number of unemployed, investment also plays a role in increasing the rate of economic growth.

The minimum wage also affects remuneration. Where the minimum wage is a minimum standard used by employers or industry players to provide wages to workers in their business or work environment. Because the fulfillment of decent needs in each province is different, it is called the Provincial Minimum Wage. Provincial Minimum Wage (UMP) is the Minimum Wage that applies to all Districts/Municipalities in one Province. This minimum wage is set once a year by the Governor based on the recommendation of the Provincial Wage Council.

Based on the description that has been described, there are several economic indicators that have a relationship with the unemployment rate. The problems that will be raised in this

study are to determine the factors that are thought to have a relationship with unemployment in Jambi Province, including Gross Regional Domestic Product, Provincial Minimum Wage, Human Development Index and Investment. Therefore, the title of this study is "Analysis of the Effect of Gross Regional Domestic Product, Provincial Minimum Wage, Human Development Index and Investment on Unemployment in Jambi Province".

## METHODS

The research method used in this study is a secondary data analysis method with a quantitative approach. The quantitative method is the study of an object to contain a systematic description and description of the facts of the object under study, using data in the form of numbers as a tool for analyzing (Dani & Wiarta, 2022). Secondary data is obtained from relevant agencies and then the data is explained descriptively quantitative and qualitative. This study is to see the effect of Gross Regional Domestic Product, Provincial Minimum Wage, Human Development Index and Investment on unemployment in Jambi Province.

### Multiple Linear Regression Analysis

Multiple linear regression analysis is a tool for forecasting the value of the influence of four or more independent variables on one dependent variable (to prove the presence or absence of a functional relationship or causal relationship between two or more independent variables  $X_1, X_2, \dots, X_n$  against one variable bound  $Y$ ).

$$\text{Log}Y = \beta_0 + \beta_1 \text{Log}X_1 + \beta_2 \text{Log}X_2 + \beta_3 X_3 + \beta_4 \text{Log}X_4 + e$$

Information

- Y : Number of Unemployed (Souls)
- $\beta_0$  : Constant Coefficient
- $X_1$  : Gross Regional Domestic Product (Rupiah)
- $X_2$  : Provincial Minimum Wage (Rupiah)
- $X_3$  : Human Development Index (Percent)
- $X_4$  : Investment
- $\beta_1-4$  : Regression coefficient of each independent variable
- e : Error Term

### Test the hypothesis

#### Test t (Partial)

This technique is a procedure, in which the sample results are used to prove the correctness or error of the null hypothesis (Dani et al., 2024). In multiple linear regression, this is necessary because each independent variable exerts a different influence on the model. Test the hypothesis can be known by comparing the t count with t table as follows:

$H_0 : \beta_i = 0$ , meaning that each variable  $X_i$  has no influence on variable  $Y$ , where  $i = 1, 2, 3$ .

$H_0 : \beta_i \neq 0$ , meaning that each variable  $X_i$  has an influence on the variable  $Y$ , where  $i = 1, 2, 3$ .

This study used an error rate of 0.05 (5%) at a significant level of 95%.

### F Test (Simultaneous)

In general, the F test is used to determine the effect of independent variables together on the dependent variable (Neldawaty & Dani, 2022).  $F_{calculate}$  is used to assess whether the proposed regression equation model can be accepted and rejected. The value with  $F_{calculate}$  is constantized with  $F_{table}$ , using the error rate ( $\alpha$ ) used is 5% or 0.05 then  $F_{calculate} > F_{table}$  means that the independent variables together have a meaningful influence on the dependent variable.

### Coefficient of Determination Test (R-Square)

This test is carried out to determine how much contribution the independent variable makes to the dependent variable. This test can be done by looking at the  $R^2$  value (Dani et al., 2023). The closer  $R^2$  is to the value of one, the greater the contribution made by the independent variable to the dependent variable in a research model.

## RESULTS AND DISCUSSION

**Table 1.** Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	48,392	24,143		2,004	,080
	LogX1	-3,864	2,125	-3,768	-1,818	,107
	LogX2	2,290	,925	4,871	2,475	,038
	LogX3	-,010	,008	-,267	-1,294	,232
	LogX4	-,208	,088	-,786	-2,367	,045

a. Dependent Variable: LogY

Based on table 1. Then it can be formulated into the form of multiple linear regression econometric equations as follows:

$$\text{LogY} = 48.392 - 3.864\text{LogX1} + 2.290\text{LogX2} - 0.010\text{LogX3} - 0.208\text{LogX4} + e$$

From the equation can be interpreted in the discussion and results as follows:

1. The value of the  $\beta_0$  coefficient number for Jambi Province is 48,392 meaning, if in the 2010-2022 period there is no change in Gross Regional Domestic Product (X1), Provincial Minimum Wage (X2), Human Development Index (X3) and Investment (X4) or assuming constant, then unemployment (Y) in Jambi Province continues to grow by 48.392 percent.
2. For the regression coefficient of the Gross Regional Domestic Product (X1) variable ( $\beta_1$ ), a value of -3.864 is obtained, meaning that if there is an increase or increase in Gross Regional Domestic Product (X1) by 1 percent, it will reduce unemployment (Y) in Jambi Province during the 2010-2022 period by 3.864 percent, assuming other variables remain (*Ceteris paribus*) or there is no change or constant. However, what happened in Jambi Province was only medium-term, causing the effect of GDP to be insignificant on unemployment with a sig value greater than alpha ( $0.107 > 0.050$ ).

3. For the regression coefficient of the Provincial Minimum Wage (X2) variable ( $\beta_2$ ), a value of 2.290 is obtained, meaning that if there is an increase or increase in the Provincial Minimum Wage (X2) by 1 percent, unemployment in Jambi Province during the 2010-2022 period will increase by 2,290 percent assuming other variables remain (Ceteris paribus) or there is no change or constant. In this case, proving that the greater the minimum wage will be the greater the burden incurred for the company, later in turn there will be labor restrictions that can encourage unemployment. So that in Jambi Province, the provincial minimum wage has a positive and significant effect on unemployment with alpha below 5 percent with a sig < alpha ( $0.038 < 0.050$ ).
4. For the regression coefficient of the human development index variable (X3) ( $\beta_3$ ), a value of -0.010 is obtained, meaning that if there is an increase or increase in the human development index (X3) by 1 percent, it will reduce unemployment (Y) in Jambi Province during the 2010-2022 period by 0.010 percent, assuming other variables remain (Ceteris paribus) or there is no change or constant. However, what happened in Jambi Province was only medium-term causing the HDI effect to be insignificant on unemployment with a sig value greater than alpha ( $0.232 > 0.050$ ).
5. For the regression coefficient of the investment variable (X4) ( $\beta_4$ ), a value of -0.208 is obtained, meaning that if there is an increase or increase in investment (X4) of 1 percent, then unemployment in Jambi Province during the 2010-2022 period will decrease by 0.208 percent assuming other variables remain (Ceteris paribus) or there is no change or constant. In this case, proving that the greater the investment, the greater the availability of business opportunities to meet the needs of goods and services, later in turn there will be absorption of labor which can encourage a decrease in unemployment. So that in Jambi Province, investment has a negative and significant effect on unemployment with alpha below 5 percent with sig < alphag ( $0.045 < 0.050$ ).

### Test the hypothesis

#### Test t (Partial)

The Partial Test is used to partially test the regression coefficient of the independent variable. This means that if the level of significance is less than 0.05 or 5%, then the proposed hypothesis is accepted or said to be significant, meaning that partially the independent variable (X1 to X4) has a significant effect on the dependent variable (Y) = hypothesis is accepted, while if the level of significance is greater than 0.05 or 5%, then the proposed hypothesis is rejected or said to be insignificant, meaning that partially the independent variable (X1 to X4) has no significant effect on the dependent variable (Y), the hypothesis is rejected. For more details can be seen in the table below:

**Table 2.** t Analysis

Variable	t	Sig.	Keterangan
LogX1	-1,818	,107	Tidak Signifikan
LogX2	2,475	,038	Signifikan
LogX3	-1,294	,232	Tidak Signifikan

Variable	t	Sig.	Keterangan
LogX4	-2,367	,045	Signifikan

Nilai t-tabel = (prob ; n-k) t-tabel = (0,05 ; 13-4) t-tabel = 2,262

Based on Table 2. partial statistical test with confidence level  $\alpha = 5\%$ , obtained t-statistical value for the variable gross regional domestic product (X1) ( $\beta_1$ ) whose value is smaller than t-table ( $1.818 < 2.262$ ) or when viewed from sig> from alpha 5 percent ( $0.107 > 0.050$ ), meaning that H0 accepted H1 rejected. This shows that gross regional domestic product (X1) during the period 2010-2022 has no significant effect on unemployment (Y) in Jambi Province, with a confidence level above  $\alpha = 5\%$ .

As for the partial statistical test with a confidence level of  $\alpha = 5\%$ , obtained the t-statistic value of the provincial minimum wage variable (X2) ( $\beta_2$ ) whose value is greater than the t-table ( $2.475 > 2.262$ ) or when viewed from sig< from alpha 5 percent ( $0.038 < 0.050$ ), meaning that H0 rejected H1 accepted. This shows that the provincial minimum wage (X2) during the period 2010-2022 has a significant effect on unemployment (Y) in Jambi Province, with a confidence level below  $\alpha = 5\%$ .

For a partial statistical test with a confidence level of  $\alpha = 5\%$ , a t-statistic value was obtained for the human development index variable (X3) ( $\beta_3$ ) whose value was smaller than the t-table ( $1.294 < 2.262$ ) or when viewed from sig> from alpha 5 percent ( $0.232 > 0.050$ ), meaning that H0 was accepted H1 was rejected. This shows that the building index (X3) during the period 2010-2022 has no significant effect on unemployment (Y) in Jambi Province, with a confidence level above  $\alpha = 5\%$ .

And a partial statistical test with a confidence level of  $\alpha = 5\%$ , obtained the value of t-statistical investment variable (X4) ( $\beta_4$ ) whose value is greater than the t-table ( $2.376 > 2.262$ ) or when viewed from sig< from alpha 5 percent ( $0.045 < 0.050$ ), meaning that H0 rejected H1 accepted. This shows that investment (X4) during the period 2010-2022 has a significant effect on unemployment (Y) in Jambi Province, with a confidence level below  $\alpha = 5\%$ . Based on the partial t-test, the only variables that have a significant influence are provincial minimum wages (X2) and investment (X4) on unemployment (Y). Meanwhile, GRDP (X1) and HDI (X3) do not have a significant effect on unemployment in Jambi Province.

### F Test (Simultaneous)

Table 3. F Analysis

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	,060	4	,015	5,833	,017 <sup>b</sup>
Residual	,020	8	,003		
Total	,080	12			

a. Dependent Variable: LogY

b. Predictors: (Constant), LogX4, LogX3, LogX2, LogX1

Based on Table 3., obtained F-count value greater than F-table value ( $5.833 > 4.066$ ) at confidence level  $\alpha = 5\%$  or sig smaller than alpha ( $0.017 < 0.05$ ). That is, H0 is rejected and

H1 is accepted. Together, the variables Gross Regional Domestic Product (X1), Provincial Minimum Wage (X2), Human Development Index (X3) and Investment (X4) have a significant effect on unemployment (Y) in Jambi Province during the period 2010 to 2022.

#### Coefficient of Determination Test (R-Square)

**Table 4.** Koefisien Determinasi (R-Squared) Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,863 <sup>a</sup>	,745	,617	,05062

a. Predictors: (Constant), LogX4, LogX3, LogX2, LogX1

b. Dependent Variable: LogY

From the calculation of Adjusted R-square shown in the equation above, a value of 0.617 is obtained. This shows that around 61.70 percent of the ups and downs of unemployment (Y) in Jambi Province from 2010 to 2022, influenced by variables of Gross Regional Domestic Product (X1), Provincial Minimum Wage (X2), Human Development Index (X3) and Investment (X4). While the remaining 38.25 percent, influenced by other variables that were not included in the regression equation in this study.

### CONCLUSION

Partially, the provincial minimum wage (X2) which has a significant and positive effect on Jambi Province unemployment and investment (X4) has a significant and negative effect on Jambi Province unemployment, while the gross regional domestic product (X1) and human development index (X3) capital expenditure do not have a significant effect on Jambi Province unemployment. However, together the Gross Regional Domestic Product (X1), Provincial Minimum Wage (X2), Human Development Index (X3) and Investment (X4) have a significant effect on unemployment in Jambi Province with an R-square value of 74.50 percent during the 2010-2022 period.

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