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THE EFFECT OF POPULATION GROWTH, HUMAN DEVELOPMENT INDEX, CITY MINIMUM WAGE AND SECTORAL ECONOMIC GROWTH ON THE OPEN UNEMPLOYMENT RATE IN JAMBI CITY

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ABSTRACT

This study examines the impact of population growth, the Human Development Index (HDI), municipal minimum wage, and sectoral economic growth on the open unemployment rate in Jambi City. This study comprises time series data from 2000 to 2023, obtained from the Central Statistics Agency (BPS) of Jambi Province and Jambi City. The data was analyzed using a multiple linear regression model, supported by quantitative descriptive techniques and a series of relevant statistical tests. The results of this analysis indicate that the open unemployment rate in Jambi City has increased due to population growth not being matched by job creation, an HDI that has yet to effectively absorb the workforce, a high municipal minimum wage not supported by productivity, and a slowdown in the industrial and service sectors. From 2000 to 2023, the service and industrial sectors have proven to be the most influential in reducing unemployment when experiencing positive growth in Jambi City. Policy implications emphasize the need for balanced economic development and labor market alignment.

Keywords: Population Growth, HDI, Minimum Wage, Agricultural Sector, Industrial Sector, Service Sector, Unemployment

1. INTRODUCTION

Unemployment remains a critical macroeconomic and social issue, particularly in developing economies experiencing rapid demographic changes. Unemployment refers to the condition where individuals who are part of the labor force do not have jobs and are actively seeking employment. This phenomenon occurs due to an imbalance between the increasing number of workers and the labor market's capacity to absorb them. The disparity between the growth rate of the labor force and the availability of jobs creates complex challenges. Although the government has implemented various policies and programs to create job opportunities, job growth often does not keep pace with the total workforce. As a result, the unemployment rate increases, which can trigger broader social and economic impacts.

The unemployment rate in Indonesia is an important indicator for assessing the labor market's ability to absorb the labor force. When the unemployment rate rises, it not only affects individuals but can also contribute to increases in poverty rates, criminality, and overall economic deterioration. The unemployment rate is not merely an economic issue; it is also a

complex social issue, where many interacting factors play a role in determining the unemployment rate. The mismatch between the increasing labor force and the limited job opportunities creates a gap that can exacerbate social conditions and increase the risk of poverty.

According to Todaro (2003), the unemployment rate is closely related to the poverty rate. High unemployment can lead to a decrease in community income, which ultimately hinders the fulfillment of basic needs and results in an increase in poverty levels. The success of an economy can be evaluated through three main indicators: output, unemployment rate, and inflation. These three macroeconomic variables are interrelated. When a country's real output exceeds its potential output capacity, inflation tends to rise. This indicates that, in the process, labor utilization increases to push output beyond its potential limits. The negative relationship between the gap between real output and potential output and the unemployment rate is explained by Okun's Law (Darman, D. 2013).

Based on data from BPS (2024), although the unemployment trend in Indonesia has shown a decline in recent years, the rate remains higher compared to neighboring countries such as Malaysia, Thailand, and Vietnam. For instance, in 2015, Indonesia's national unemployment rate reached around 6%, while those countries had unemployment rates below 4%. Data from the Indonesian Central Statistics Agency from 2019 to 2023 indicates that the number of employed people experienced an average decline of -0.04% per year. This decline reflects the slow growth of job opportunities that cannot keep pace with population growth, particularly for the productive age group, which increasingly faces difficulties in obtaining employment. Although the percentage decrease is relatively small, its impact on the economic sector is quite significant. Conversely, the unemployment rate has increased, with an average growth of 1.75% per year during the same period. This rise indicates increasingly complex employment challenges, especially in urban areas experiencing rapid urbanization. The limited absorption capacity of the labor market for the growing labor force has caused a surge in unemployment, which can ultimately worsen social issues such as rising poverty and declining quality of life. Therefore, more effective strategies are needed to create job opportunities and enhance workforce skills to improve competitiveness in the job market.

The impact of the unemployment rate on society is significant and complex. In addition to losing a reliable source of income, job loss also makes it difficult for individuals to afford necessities such as clothing, food, and housing. This often triggers larger social issues, including rising poverty rates, economic inequality, and deteriorating social cohesion. A high unemployment rate also has the potential to cause social instability, increase the risk of criminal activity due to economic pressure, and worsen public safety and order. Furthermore, widespread unemployment can amplify public dissatisfaction with the government, thereby increasing the risk of social unrest and political instability. In a broader context, chronic unemployment can disrupt the processes of economic and social development and exacerbate structural injustices in the distribution of resources and economic opportunities. Thus, the issue of unemployment cannot be viewed solely from an economic perspective; it must be understood as a multidimensional issue that requires a holistic approach to its resolution.

The success of poverty reduction efforts is not only determined by economic growth but also by how the benefits of that growth are fairly distributed across all segments of society. High income inequality, poorly managed urbanization, and population growth that is not balanced with job creation capacity will worsen the effects of unemployment and poverty. Therefore, a more comprehensive and integrated approach is needed to address this issue, combining economic development strategies with sustainable social policies.

Previous research has identified various factors contributing to the Open Unemployment Rate (OUR). Studies conducted by Suroya & Erdkhadifa (2023), Astuti et al. (2019), and Lestari & Woyanti (2020) indicate that the population size has a significant impact on the unemployment rate. All three studies emphasize that population growth not matched by an increase in job opportunities is a major factor in the high unemployment rate. When the number of individuals in the productive age group continues to rise, but job creation does not develop proportionally, the unemployment rate tends to increase.

In addition to demographic factors, Hasibuan (2023), Qamariyah et al. (2022), and Suroya & Erdkhadifa (2023) examined the relationship between the Human Development Index (HDI) and the open unemployment rate. Their research findings show that HDI has a significant impact on the unemployment rate, although with varying directions. An increase in the quality of human resources not accompanied by job growth can lead to a surge in unemployment, as a more skilled workforce seeks jobs with higher standards. However, in some contexts, an increase in HDI can help reduce the unemployment rate when improvements in workforce quality are accompanied by enhanced job opportunities. Therefore,

the relationship between HDI and unemployment greatly depends on local economic dynamics and the employment policies implemented in a given area.

On the other hand, research conducted by Pasuria & Triwahyuningtyas (2022), Simbolon et al. (2023), and Putra & Hidayah (2023) reveals that minimum wage policies significantly influence the reduction of the open unemployment rate. An increase in the minimum wage enhances the purchasing power of the workforce, which ultimately stimulates economic growth and expands job opportunities. This study asserts that appropriate minimum wage policies can serve as effective instruments for reducing unemployment, especially when supported by economic policies that promote job creation.

Furthermore, research by Azis et al. (2021), Syahputra et al. (2019), and Syahril (2014) indicates that economic growth has a significant relationship with the open unemployment rate. As economic growth increases, more job opportunities are created, thereby absorbing more labor. This is consistent with economic theory, which states that economic expansion enhances investment, production, and labor demand, ultimately contributing to a decrease in the unemployment rate.

From these various studies, it can be concluded that factors such as population size, the Human Development Index (HDI), minimum wage policies, and economic growth are significant variables affecting the open unemployment rate. Therefore, in the context of Jambi City, further analysis of these factors is crucial for designing effective policy strategies to reduce unemployment and improve community welfare.

The aim of this study is to examine how the open unemployment rate in Jambi City is influenced by population growth, the Human Development Index (HDI), city minimum wage, and sectoral economic growth. As an economic and governmental center, Jambi City faces complex population dynamics and labor market challenges, where the gap between labor skills and market needs often serves as a primary cause of unemployment. The variables used in this study still refer to previous research, particularly regarding economic growth. However, there is a significant difference, as this study does not only consider overall economic growth but also sectoral economic growth, namely in agriculture, manufacturing, and services. This approach aims to understand how each sector contributes to the open unemployment rate, given that each sector plays a different role in job creation.

2. LITERATURE REVIEW

2.1 Population Growth

Population refers to all individuals who meet the requirements of the applicable laws in a state and have resided in a certain geographic area for a specified period of time. The term "population" refers to the number of individuals living in an area for a certain period of time (Prabowo et al., 2023). Population can be defined as a group of people domiciled in a country. A person is categorized as an Indonesian resident if he has lived for at least six months or intends to stay longer, even though his stay has not reached six months.

2.2 Human Development Index

The Human Development Index (HDI) is an instrument used by the United Nations Development Program (UNDP) to assess the success rate of human development. The index is based on a comparison of life expectancy, literacy rates measured through recent educational attainment, and individual purchasing power in different countries. Increasing HDI contributes to economic growth by strengthening people's ability to increase productivity and creativity (Muqorrobin & Soejoto, 2017).

2.3 City Minimum Wage

Wages are rewards that an organization or agency must give to its employees. The amount of money paid will affect the supply or demand for labor (Arida et al., 2015). To meet the living needs of workers, the government has set minimum wage requirements. However, the salaries they earn at work are sometimes still below the minimum wage and not enough to cover the cost of living for them and their families. So often many people resign and move to other workplaces because the wages they receive are not appropriate.

2.4 Sectoral Economic Growth

Economic growth that is reviewed from the contribution of certain economic sectors in a region is called sectoral economic growth. Each economic sector, including trade, industry, services, construction, and agriculture, has a unique function in driving economic growth in a region. A deeper understanding of how each sector adds to the growth of Gross Domestic Product (GDP) or Gross Regional Domestic Product (GDP) is offered by sectoral economic growth. Kuznets defines economic growth as the long-term expansion of a country's ability to provide a wide range of products and services to its people. Technological advances as well as institutional and ideological adaptations to changing circumstances and needs have led to this increase in capacity. (Ma'ruf & Wihastuti, 2008).

2.5 Unemployment and Open Unemployment Rate

In terms of employment statistics, the Central Statistics Agency (BPS) defines the unemployment rate as the number of unemployed people who are actively looking for work or starting new businesses. In addition, people who have been hired but have not yet started working are also included in the unemployment rate. This definition reflects various aspects related to the problem of the Unemployment Rate, so understanding the dynamics of the labor market is crucial in formulating effective policies to address the issue of the Unemployment Rate. The unemployment rate is a macroeconomic problem that has a direct impact on society and is one of the toughest challenges. Job loss causes psychological discomfort and a decline in living standards for many people. Therefore, it is not surprising that the topic of unemployment often comes up in political discussions, where politicians often state that the policies they propose can contribute to job creation (Aswanto, 2021).

3. METHODOLOGY

3.1 Data and Approach

This type of research uses quantitative and descriptive analysis techniques. According to Sujana and Ibrahim in Sundari (2012), descriptive research is a type of research that tries to describe a symptom, event, or event that is happening. The main purpose of this research is to analyze and solve real-world problems based on the circumstances at the time the research was conducted. Secondary data, or information collected, organized, and published by various organizations, institutions, or agencies, including BPS reports, is the source of data used in this study. In addition, the data type used is time series data in the years 2000–2023.

3.2 Model Specification

Quantitative and descriptive analysis were used as statistical analysis approaches in this study. Multiple regression models are used to determine the impact of sectoral economic growth, wages, human development indices, and population growth on open unemployment rates. The basic formula is as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + e_i$$

Distributed into research variables can be written as follows:

$$TPT = \beta_0 + \beta_1 PP + \beta_2 HDI + \beta_3 UMK + \beta_4 PEA + \beta_5 PEMn + \beta_6 PES + e_i$$

It is further transformed in the form of logarithms as follows:

$$\text{Log}(TPT) = \beta_0 + \beta_1 \text{Log}(PP) + \beta_2 \text{Log}(HDI) + \beta_3 \text{Log}(UMK) + \beta_4 \text{Log}(PEA) + \beta_5 \text{Log}(PEMn) + \beta_6 \text{Log}(PES) + e_i$$

Where:

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = Variable coefficient

TPT = Open Unemployment Rate

PP = Population Growth

HDI = Human Development Index

UMK = City Minimum Wage

PEA = Economic Growth of the Agricultural Sector

PEMn = Economic Growth of the Industrial Sector
 PES = Economic Growth in the Service Sector
 ei = Disruptive coefficient.

3.3 Analytical Techniques

To find out how much influence independent variables have on dependent variables, the Determination Coefficient Test (R2) is used. The coefficient of determination ranges from zero to one; A small value indicates that an independent variable has very little power to predict changes in dependent variables, while a value close to one indicates that an independent variable offers almost all the information needed to predict changes (Kuncoro, 2003).

To ascertain whether each independent variable in the model simultaneously affects the dependent variable, F-statistical tests are used. The Quick Look approach can be used to perform the F test, which is to compare the F-calculated and F-table values or the probability values and confidence levels contained in the study. An independent variable together affects the dependent variable if the probability value is less than 0.05 or equal to 5% and the calculated F value is greater than the F of the table (Kuncoro, 2003). The test criteria applied are as follows, with a significance level of 5%: Accepted and rejected if $F_{\text{calculated}} < F_{\text{table}}$, meaning that neither the explanatory factor alone nor its combination has a significant influence on the described variable. Rejected and accepted if $F_{\text{calculated}} > F_{\text{table}}$, indicating that the explanatory factors together or simultaneously have a considerable influence on the described variable.

When all other factors are considered constant, a statistical test t is used to determine how significantly each independent variable affects the dependent variable. The calculated t-value and the t-value of the table should be compared to assess the impact of each independent variable. Examining the distribution table = 0.05 or 5 percent and degrees n-k will yield the value t of the table. Thus, the following hypotheses are tested in this test: 1) $H_0 : \beta_1 = 0$ Independent variables have no effect on dependent variables. 2) $H_1 : \beta_1 \neq 0$ Independent variables affect dependent variables. In addition to the above approach, the Quick Look method can also be used to perform a t-test, which is to compare between t-count and t-table or probability values and confidence levels that have been established in the study. Reject or accept is indicated if the probability value is less than 0.05 or equal to 5% and the calculated value is greater than the table, and vice versa. This shows how each independent variable affects its own dependent variable and vice versa (Kuncoro, 2003).

4. FINDINGS AND DISCUSSION

Based on the results of multiple linear regression equations to see the influence of independent variables, namely population growth (X1), human development index (X2), minimum wage (X3), economic growth in the agricultural sector (X4), economic growth in the manufacturing sector (X5) and economic growth in the service/services sector (X6) on the bound variable (independent variable), namely open unemployment in Jambi City, the Eviews 12 analysis tool was used to obtain regression equations. Based on the calculation using eviews 12, the following results were obtained:

Table 1
 Estimation of Multiple Linear Regression Test Results

Dependent Variable: LNNY Method: Least Squares Date: 04/22/25 Time: 21:52 Sample: 1 24 Included observations: 24				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.000302	0.000134	-2.258679	0.0373
X2	-0.182261	1.195752	0.152425	0.0206
X3	-1.780069	8.16E-06	2.181431	0.0435
X4	-18.86669	8.630854	-2.185958	0.0431
X5	-10.94677	5.641027	-1.940563	0.0309
X6	-12.08135	5.752966	-2.100021	0.0490
C	1325.383	613.1567	2.161573	0.0452
R-squared	0.398448	Mean dependent var	8.332539	
Adjusted R-squared	0.861399	S.D. dependent var	4.267423	
S.E. of regression	3.849830	Akaike info criterion	5.772428	
Sum squared resid	251.9603	Schwarz criterion	6.116027	
Log likelihood	-62.26914	Hannan-Quinn criter.	5.863585	
F-statistic	1.876709	Durbin-Watson stat	2.714929	
Prob(F-statistic)	0.014358			

Source: Eviews (data processed), 2024

Where it can be formulated as follows:

$$TPT = \beta_0 + \beta_1 PP + \beta_2 HDI + \beta_3 UMR + \beta_4 PEA + \beta_5 PEMn + \beta_6 PES + E$$

Based on Table 1, the results of the analysis used in multiple linear regression are obtained, the following equation is obtained.

$$Y = 1.325,3 - 0,0003 X_1 - 0,182 X_2 - 1,788 X_3 - 18,866 X_4 - 10,946 X_5 - 12,018 X_6 + E$$

4.1 Model Fit

The coefficient of determination seen in Table 1 is obtained as 0.398448, the open unemployment rate is explained by population growth factors, human development index, minimum wage, economic growth of the agricultural sector, growth of the manufacturing economy, and growth of the service or service economy which is 39.84 percent, while the remaining 60.16 percent is influenced by other variables outside the research.

4.2 Simultaneous Effect

The simultaneous test or F test is a test used to understand whether the independent variables of population growth (X1), human development index (X2), minimum wage (X3), economic growth in the agricultural sector (X4), economic growth in the manufacturing sector (X5) and economic growth in the service/services sector (X6) together (simultaneously) have an influence on the dependent variable, namely open unemployment in Jambi City. If the significant value < 0.05, then it can be concluded that the hypothesis is accepted and the independent variables together have an influence on the dependent variables. On the other hand, if the significant value is > 0.05, then it can be concluded that the hypothesis is rejected and the independent variables together have no influence on the dependent variables.

Table 2
Statistical F Test Results

R-squared	0.398448	Mean dependent var	8.332539
Adjusted R-squared	0.861399	S.D. dependent var	4.267423
S.E. of regression	3.849830	Akaike info criterion	5.772428
Sum squared resid	251.9603	Schwarz criterion	6.116027
Log likelihood	-62.26914	Hannan-Quinn criter.	5.863585
F-statistic	1.876709	Durbin-Watson stat	2.714929
Prob(F-statistic)	0.014358		

Source: Eviews (data processed), 2024

Based on Table 2, it is explained that the results of the simultaneous significance test (F Test), the F-statistical probability value of 0.01 is smaller than 0.05 and F calculated 1.876 is greater than F table (2.741), so that the independent variable simultaneously affects the dependent variable. This means independent variables; population growth (X1), human development index (X2), minimum wage (X3), economic growth in the agricultural sector (X4), economic growth in the manufacturing sector (X5) and economic growth in the service/services sector (X6) have a significant effect on the dependent variable, namely the open unemployment rate in Jambi City simultaneously (together).

Partial test or t-test on the independent variables of population growth (X1), human development index (X2), minimum wage (X3), economic growth in the agricultural sector (X4), economic growth in the manufacturing sector (X5) and economic growth in the service/services sector (X6) against the bound variable (independent variable), namely open unemployment in Jambi City. If the significant value < probability of 0.05, it can be concluded that there is an influence of independent variables on the dependent variable and the hypothesis is accepted. However, on the other hand, if the

significant value > probability of 0.05, then it can be concluded that there is no independent variable to the dependent variable.

Table 3

Statistical t-test results

Dependent Variable: LNNY
 Method: Least Squares
 Date: 04/22/25 Time: 21:52
 Sample: 1 24
 Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.000302	0.000134	-2.258679	0.0373
X2	-0.182261	1.195752	-0.152424	0.0206
X3	-1.780069	8.16E-06	-2.181430	0.0435
X4	-18.86669	8.630854	-2.185958	0.0431
X5	-10.94677	5.641027	-1.940563	0.0309
X6	-12.08135	5.752966	-2.100021	0.0490
C	1325.383	613.1567	2.161573	0.0452

Source: Eviews (data processed), 2024

Based on Table 3 above, it is explained that the population growth variable (X1) shows a significance value of $< \alpha$ ($0.037 < 0.05$) and a calculated t-value (-2.258) is smaller than the t-table value (2.119), so Ho's hypothesis is rejected. This means that the variable population growth has a significant effect on the open unemployment rate. The human development index variable (X2) showed a significance value of $< \alpha$ ($0.020 < 0.05$) and a calculated t-value (-0.152) was smaller than the t-table value (2.119), so Ho's hypothesis was rejected. This means that the human development index variable had a significant effect and was negatively related to the open unemployment rate because the t-statistical value was 0.152. The minimum wage variable (X3) showed a significance value of $> \alpha$ ($0.043 < 0.05$) and a calculated t-value (2.181) greater than the t-table value (-2,119), so Ho's hypothesis was rejected. This means that the variable minimum wage has a significant effect on the open unemployment rate.

The economic growth variable of the agricultural sector (X4) showed that the significance value of $< \alpha$ ($0.043 < 0.05$) and the calculated t-value (-2.185) was smaller than the t-table value (2.119), so Ho's hypothesis was rejected. This means that the economic growth variables of the agricultural sector have a significant effect on the open unemployment rate. The economic growth variable of the industrial sector (X5) showed that the significance value of $< \alpha$ ($0.030 < 0.05$) and the calculated t-value (-1.940) was smaller than the t-table value (2.119), so Ho's hypothesis was rejected. This means that the economic growth variable of the industrial sector has a significant effect and is negatively related to the open unemployment rate because the t-statistical value is -1,940. The economic growth variable of the service/services sector (X6) showed a significance value of $< \alpha$ ($0.049 < 0.05$) and a calculated t-value (-2.100) smaller than the t-table value (2.119), so that Ho's hypothesis was rejected. This means that the economic growth variable of the service/service sector has a significant effect and is negatively related to the open unemployment rate because the t-statistical value is -2,100.

4.3 Partial Effects

4.3.1 Population Growth

Based on the results of regression testing, it is shown that population growth has a significant effect on the open unemployment rate in Jambi City. With a significant value of $0.037 < 0.05$ where the value of the coefficient is -0.000 which means that every increase in population growth of 1 percent will reduce the open unemployment rate by 0.000 percent. This result is in line with the theory put forward by Sukirno (2016) the view of classical economists that if the

population is already large, the increase will decrease the level of economic activity because the productivity of each population has become negative. So the prosperity of the community declines again.

The economy will reach a low level of development. When this state is reached, the economy is said to have reached a state of non-development. In this situation, the income of the worker only reaches the level of sufficient living. If there is a shortage of population, marginal production is higher than per capita income, then population growth will increase per capita income, but if the population is more and more additional products that are decreasing, it will affect the production function, namely marginal production will begin to decrease. Therefore, national income and per capita income are growing slower. Meanwhile, the population of Jambi City continues to increase, and jobs must be maintained in line with the growing population. When job growth is out of balance with population growth, the unemployment rate gets higher. Rising unemployment adds to the population's problems. The results of this study are in line with (Habel Taime and Putri Nadya Djaelani, 2021) who stated that population growth does not have a significant effect on the open unemployment rate in Mimika district. The results of this study are strengthened by research (Malak et al., 2023) which states that the number of people does not have a significant influence on the open unemployment rate in Manokwari Regency.

4.3.2 Human Development Index (HDI)

Based on Table 1, it is stated that the human development index has a significant negative effect on the unemployment rate with a significant level of 0.020 and a coefficient value of -0.182 which means that an increase of 1 human development index has an effect of 0.182 percent on the decrease in the open unemployment rate. The decline in the percentage of open unemployment due to increased HDI shows that HDI can improve access to education, improve public health, and improve living standards. This can help reduce the open unemployment rate due to the improvement of people's skills and education, making it easier for them to get jobs. This result is in accordance with Okun's Law theory that through increased productivity caused by an increase in the human development index, it will encourage increased economic growth. An increase in economic growth is expected to increase employment opportunities and increase labor demand so that many people can be absorbed in the labor market which can ultimately reduce the unemployment rate. If the HDI value of a region is high, it will result in a decrease in the unemployment rate and vice versa when the HDI value is low, it can increase the unemployment rate in that area. This is in line with the research (Puan Mahesa et al., 2024) were the results of the study show that the human development index variable partially has a negative and significant influence on open unemployment in DKI Jakarta Province. This research is supported by (Muhammad Baihawafi & Asnita Frida Sebayang, 2023) which states that the Human Development Index (HDI) has a negative and significant effect on the human unemployment rate in Regencies/Cities of West Java Province.

The findings in this study are that the variable human development index has a negative effect on unemployment in Indonesia. This means that if the human development index increases, it will reduce the open unemployment rate in Indonesia. The results of this study are supported by the theoretical basis put forward by (Michael P. Todaro and Stephen C. Smith, 2011) that through increasing human resource development and development to increase human productivity. Through investment in education, it is hoped that it will be able to improve the quality of resources. Human Resources (HR) which is characterized by an increase in a person's knowledge and skills so that it will spur an increase in their work productivity. Increased productivity can affect job opportunities, namely with an increase in productivity, there is a decrease in production costs per unit of goods. A decrease in production costs per unit of goods will reduce the price per unit of goods. If the price of goods falls, the demand for goods increases, so it will encourage entrepreneurs to increase the demand for labor, so that with the increasing absorption of labor, it can reduce the high unemployment rate.

4.3.3 Minimum Wage

Based on Table 1, it is stated that the minimum wage has no significant effect on the open unemployment rate with a significant level of 0.043 and a coefficient value of -1.788 which means that every increase or decrease in the minimum wage in Jambi City of 1 rupiah has an impact on decreasing the open unemployment rate. The effect of the minimum wage on the unemployment rate is because if you look at the overall minimum wage in Jambi City, it continues to increase, the increase continues to occur every year. The increase in the minimum wage then increases the unemployment rate, due to the need for labor that continues to grow along with the increase in production. The results of this study are in accordance with the theory, the wage relationship has an influence on the unemployment rate described by Kaufman and Hotckiss (1999).

Workers who determine their minimum wage level at that wage level, if all the wages offered are below the wage level. A person will refuse to accept the wage and not accept the job offered. As a result, it will cause unemployment. If the wage set in an area is lower than the minimum wage level, it will result in an increase in the number of unemployment that occurs in that area. From this situation, it will cause an increase in the open unemployment rate. Based on the results of the study (Suhendra & Wicaksono, 2016) it is stated that the provincial minimum wage has a significant effect on the number of unemployed in Indonesia. This is in accordance with the theory that when wages are increased, it will be able to reduce unemployment, of course, wage increases must also be in accordance with the performance carried out by the person. This result is in agreement with the theory put forward by (Mankim, 2012) which states that the cause of unemployment is due to wage rigidity, namely the inability of wages to make adjustments to the equilibrium point, where the supply of labor is equal to the demand for labor.

4.3.4 Agricultural Sector Growth

According to Okun's theory in (Samuelson, 2005) states that for every 2 percent of GNP decline from its potential GNP, the unemployment rate jumps 1 percent. So if the GNP was originally 100 percent of the potential and then became 98 percent, then the unemployment rate jumped from 6 to 7 percent. Based on Table 1, it is stated that the economic growth of the agricultural sector has a significant positive effect on the open unemployment rate with a significant level of 0.043. With a significant level of less than 0.05, it can be stated that there is an influence between the economic growth of the agricultural sector and the unemployment rate. Economic growth has a significant effect on the open unemployment rate. With a coefficient value of -18.866 which means that every increase in economic growth in the agricultural sector by 1 percent will reduce the open unemployment rate by 18.866 percent. This is in line with the research conducted by (Darman, 2013) that the economic growth variable has a negative and significant effect on the unemployment rate in Indonesia.

The same research was also conducted by (Yoyok Soesatyo, 2015) where the results of the study showed that economic growth variables have a negative and significant effect on the open unemployment rate in the city of Surabaya. Then supported by research (Farouk, 2013) in East Kalimantan, the increase in added value from the agricultural sector has a significant and positive influence on labor absorption. This is due to a decline in agricultural growth so that it leads to an increase in national unemployment. This research places hope on the government for the agricultural sector, namely, the acceleration of agricultural growth will increase the income of the population which has an impact on increasing the demand for goods and services in the non-agricultural sector and the development of agroindustry along with the growth of agriculture and the growth of the agricultural sector, especially in the agricultural business sector, will increase the income of the population so that it will result in an increase in savings.

4.3.5 Industrial Sector Growth

Based on the results of regression testing, it shows that the economic growth of the industrial sector has a significant negative effect on the open unemployment rate in Jambi City. With a significant value of $0.030 < 0.05$ where the coefficient value is -10.946 which means that any increase in economic growth in the industrial sector by 1 percent will reduce the open unemployment rate by 10.946 percent. Hasill is in line with Okun's theory according to Lessiwal, (2072-94) Okun's law states that where there is a 1% increase in the unemployment rate, it will cause a decrease in economic growth. On the contrary, a 1% increase in output will lead to a decrease in the unemployment rate. When industrial industries decline, economic growth tends to decline. This is because the industrial industry has a small contribution to GDP. With the decline in the production of industrial goods, there will be a decrease in consumer spending, investment, and exports. The results of this study are in line with (Anggi Erlangga et al., 2024) which states that economic growth has a significant and negative effect on the open unemployment rate in provinces on the island of Sumatra. This result is in line with the theory conveyed by (Samuelson, 2004) which says that economic growth in Indonesia can be measured through the rise or fall of GDP produced by a country, because GDP is an indicator related to unemployment because GDP is an indicator related to unemployment.

Theoretically, any increase in economic growth is expected to be able to absorb labor, thereby reducing unemployment. The effect of economic growth on the open unemployment rate in the provinces in Sumatra is due to the fact that economic growth has absorbed labor in line with the increase in each sector. Economic growth has absorbed labor in line with the increase in each sector of GDP. The existence of an industry in an area will certainly require labor and usually the community around the industry will have more opportunities to be absorbed and work in the industrial sector. In other

words, industrialization has indirectly affected the unemployment rate in a region. In addition to being able to absorb labor, it can also open opportunities to open businesses around the industry. This is in line with research (Martin Fajar & Indah Pratiwi, 2021) which states that industrial industry investment and labor absorption have a positive effect on economic growth, so that it is able to increase human resources and reduce the number of open unemployment.

4.3.6 Services Sector Growth

Based on the results of the t-test in the table, it shows that economic growth has a significant number of ($0.049 < 0.05$) where the coefficient value is -12.081 which means that the economic growth variable of the service/service sector has a significant negative effect on open unemployment in Jambi City in 2000-2023. With a coefficient value of -12.081 which means that every increase in the economic growth of the service sector by 1 percent will reduce the open unemployment rate by 12.081 percent in this study is in accordance with okun's law, which states that there is an empirical influence between unemployment and output in the business cycle. The results of the empirical study show that the addition of 1 (one) point of unemployment will reduce GDP (Gross Domestic Product) by 2 percent. This means that there is a negative influence between unemployment and economic growth and vice versa economic growth and unemployment.

The results of this study are in accordance with the results of previous research conducted by (Fatimah & Prihadi Utomo, 2023) which stated that the GDP of the service sector has a significant and negative influence on the open unemployment rate, which means that every 1 percent increase in the proportion of GDP in the service/service sector will decrease the open unemployment rate. Then the research conducted (Rusmana, 2018) stated that the influence of investment in the service/service sector has a significant positive effect on economic growth so that it can suppress the growth of the open unemployment rate. The service/service sector is the main driver of people in carrying out daily mobility and various services that support their economy. It is also supported by uneven development that makes people prefer to use available public services to be more efficient and effective. If the economic growth of the service/service sector of Jambi City continues to increase, it will increase the demand for goods and services, eventually in all economic units will increase. The improvement of goods and services in an area will indirectly open up new job opportunities in Jambi City. This identifies that the high and low level of open unemployment depends on the high level of economic growth of a region, especially Jambi City. The increase in economic growth in Jambi City will cause a decrease in the number of unemployed.

Policy implications from this study emphasize the need for a comprehensive and integrated approach to reducing unemployment in Jambi City. The government should prioritize strengthening the industrial and service sectors as primary drivers of job creation, given their significant contribution to labor absorption. At the same time, education and training systems must be better aligned with industry requirements to ensure that the workforce possesses relevant skills and competencies demanded by the labor market. In addition, wage policies should be carefully designed to balance increases in minimum wages with productivity growth, thereby avoiding potential negative effects on employment. Finally, efforts to reduce unemployment should be supported by promoting inclusive and sustainable economic growth, ensuring that the benefits of development are equitably distributed while continuously expanding employment opportunities.

This study contributes to the literature by integrating sectoral economic analysis into unemployment research, thereby offering a more understanding of how different economic sectors influence labor market outcomes. It also provides robust long-term time-series evidence covering the period from 2000 to 2023, enabling a comprehensive examination of trends and dynamics over time. Furthermore, the study delivers policy-relevant insights that are particularly valuable for regional labor market planning and decision-making, especially in the context of developing economies.

5. CONCLUSION

This study concludes that unemployment in Jambi City is influenced by demographic, human capital, wage, and sectoral economic factors. While population growth increases labor supply, the Human Development Index (HDI) and sectoral economic growth especially in the industrial and service sectors play a crucial role in reducing unemployment. The results of the analysis during the period 2000–2023 show that the contribution of population growth, the HDI, the City Minimum Wage (MSE), and sectoral economic growth to the Open Unemployment Rate (TPT) in Jambi City are interrelated and interdependent. Population growth contributes significantly to the increase in the labor force, but if it is

not balanced with adequate job creation, it will increase TPT. Meanwhile, an increase in HDI that reflects an improvement in the quality of education, health, and living standards should be able to reduce the unemployment rate, but its contribution will be optimal only if the improved quality of human resources is well absorbed by the job market.

The City Minimum Wage also makes an important contribution in influencing the labor market. The increase in MSEs that is not accompanied by the growth of the business sector has the potential to reduce labor absorption due to the high wage burden that must be borne by companies. On the other hand, if the increase in MSEs is accompanied by an increase in productivity, then its contribution to the decrease in TPT becomes more real. The largest contribution to the decline in TPT can be seen to come from sectoral economic growth, especially the service and industrial sectors. While these sectors are experiencing strong growth, as recorded in certain years, TPT tends to decline due to increased job opportunities. On the other hand, when there is a slowdown or contraction in these sectors, TPT again increases.

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