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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 aims to analyze the conditions and the influence of population growth, the Human Development Index (HDI), municipal minimum wage, and sectoral economic growth on the open unemployment rate in Jambi City. The author draws upon findings from previous studies regarding the factors that affect the open unemployment rate. The data utilized in this study comprises time series data from 2000 to 2023, sourced 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 been the most influential in reducing unemployment during periods of economic growth in Jambi City.

Keywords: *Population Growth, Human Development Index (HDI), Municipal Minimum Wage, Economic Growth in the Agricultural Sector, Economic Growth in the Industrial Sector, Economic Growth in the Service Sector*

1. INTRODUCTION

One of the main issues arising from these demographic dynamics is the unemployment rate. Unemployment is the condition in which individuals in the labor force are without jobs and are actively seeking work. 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 job availability creates complex challenges. Although the government has implemented various policies and programs to create job opportunities, job growth often fails to keep pace with overall workforce growth. 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 also contributes to increases in poverty rates, crime, and overall economic deterioration. The unemployment rate is not merely an economic issue; it is also a complex

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social issue, with many interacting factors that determine it. 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 reduce community income, hindering the ability to meet basic needs and increasing 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 Indonesia's unemployment trend has declined in recent years, the rate remains higher than in 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 for 2019 to 2023 indicate that the number of employed people declined by an average of 0.04% per year. This decline reflects the slow growth of job opportunities, which cannot keep pace with population growth, particularly for the productive age group, which increasingly faces difficulties finding 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 annual growth rate of 1.75% during the same period. This rise indicates increasingly complex employment challenges, especially in urban areas experiencing rapid urbanization. The limited capacity of the labor market to absorb the growing labor force has led to 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 can also cause social instability, increase the risk of criminal activity under 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 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 matched by 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 keep pace, 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, though in opposite directions. An increase in the quality of human resources, without job growth, can lead to a surge in unemployment, as a more skilled workforce seeks jobs that meet 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 reduce the open unemployment rate. An increase in the minimum wage enhances the purchasing power of the workforce, ultimately stimulating economic growth and expanding 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 is significantly related to the open unemployment rate. As economic growth increases, more job opportunities are created, thereby absorbing more labor. This is consistent with economic theory, which holds that economic expansion increases investment, production, and labor demand, ultimately reducing the unemployment rate.

From these studies, it can be concluded that factors such as population size, the Human Development Index (HDI), minimum wage policies, and economic growth are significant determinants of 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), the city's minimum wage, and sectoral economic growth. As an economic and governmental center, Jambi City faces complex population dynamics and labor market challenges, in which the gap between labor skills and market needs often drives unemployment. The variables used in this study are consistent with previous research, particularly regarding economic growth. However, there is a significant difference: this study considers not only overall economic growth but also sectoral growth 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. The term “population" refers to the number of individuals living in a given area over a specified period (Prabowo et al., 2023). A population is 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 intend to stay longer, even if 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 Programme (UNDP) to assess the success rate of human development. The index is based on a comparison of life expectancy, literacy rates measured by recent educational attainment, and individual purchasing power across countries. An increase in HDI contributes to economic growth by strengthening people’s capacity for productivity and creativity (Muqorrobin & Soejoto, 2017).

2.3. City Minimum Wage

Wages are the rewards that an organization or agency must pay its employees. The amount of money paid will affect labor supply and demand (Arida et al., 2015). To meet workers’ basic needs, the government has set minimum wage requirements. However, the salaries they earn at work are sometimes still below the minimum wage, leaving them and their families unable to cover the cost of living. 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 assessed by the contributions of specific economic sectors in a region is called sectoral economic growth. Each economic sector, including trade, industry, services, construction, and agriculture, plays a unique role in driving regional economic growth. Sectoral economic growth offers a deeper understanding of how each sector contributes to the growth of Gross Domestic Product (GDP) or Gross Regional Domestic Product (GDP). 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 of the Unemployment Rate problem, so understanding labor market dynamics is crucial for formulating effective policies to address it. The unemployment rate is a macroeconomic problem that directly impacts 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 unemployment often comes up in political discussions, where politicians claim that their proposed policies can contribute to job creation (Aswanto, 2021).

3. METHODOLOGY

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 seeks to describe a symptom, event, or phenomenon as it occurs. The main purpose of this research is to analyze and address real-world problems in light of the circumstances at the time of the research. 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.

3.1. Multiple Linear Regression

Quantitative and descriptive analyses 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:

$$Yi = \beta0 + \beta1X1i + \beta2X2i + ei$$

Distributed into research variables can be written as follows:

$$TPT = \beta0 + \beta1PP + \beta2HDI + \beta3UMK + \beta4PEA + \beta5PEMn + \beta6PES + ei$$

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

$$Log(TPT) = \beta0 + \beta1Log(PP) + \beta2Log(HDI) + \beta3Log(UMK) + \beta4Log(PEA) + \beta5Log(PEMn) + \beta6Log(PES) + ei$$

Where:

β0	= Constant
β1, β2, β3, β4, β5, β6	= 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.

3.2. Coefficient of Determination (R^2)

To determine the extent to which independent variables influence dependent variables, the Coefficient of Determination (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 the dependent variable, while a value close to one indicates that an independent variable offers almost all the information needed to predict changes in the dependent variable (Kuncoro, 2003).

3.3. Statistical Test F

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 by comparing the calculated F value with the F table value, or the calculated probability with the confidence level reported in the study. An independent variable has a significant effect on the dependent variable if the probability value is less than or equal to 5% (0.05) and the calculated F value exceeds the F value in the table (Kuncoro, 2003). The test criteria applied are as follows, with a significance level

of 5%: Accepted if F calculated < F table, meaning that neither the explanatory factor alone nor its combination has a significant influence on the described variable. Rejected and accepted if F calculates > F table, indicating that the explanatory factors together or simultaneously have a considerable influence on the described variable.

3.4. Statistical Test t

When all other factors are held constant, t t-test is used to determine how significantly each independent variable affects the dependent variable. The calculated t-value and the table's t-value should be compared to assess the impact of each independent variable. Examining the distribution table with degrees of freedom n-k will yield the value t from the table. Thus, the following hypotheses are tested in this test: 1) H0: β1 = 0. Independent variables do not affect dependent variables. 2) H1: β 1 = 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 compares the t-count with the t-table or with the probability values and confidence levels 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 value, and vice versa. This shows how each independent variable affects its 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	0.00000816	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	0.049
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	3.84983		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

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 multiple linear regression analysis are presented. 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. Coefficient of Determination (R^2)

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

4.2. Statistical Test F

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) influence the dependent variable, namely open unemployment in Jambi City. If the significance value is < 0.05, then it can be concluded that the hypothesis is accepted and that the independent variables together influence the dependent variables. On the other hand, if the significance value is > 0.05, it can be concluded that the hypothesis is not rejected and that 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	3.84983		Akaike info criterion	5.772428
Sum squared resid	251.9603		Schwarz criterion	6.116027
Log likelihood	-62.26914		Hannan-Quinn criterion.	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 above, 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 the F calculated 1.876 is greater than the 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).

4.3. Statistical Test t

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 significance value is < 0.05, it can be concluded that the independent variables influence 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	0.00000816	-2.18143	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	0.049
C	1325.383	613.1567	2.161573	0.0452

Source: Eviews (data processed), 2024

Based on Table 3 above, the population growth variable (X1) shows a significance value of < α (0.037 < 0.05), and the calculated t-value (-2.258) is smaller than the t-table value (2.119), so H0 is rejected. This means that variable population growth has a significant effect on the open unemployment rate. The human development index (X2) showed a significance value of < α (0.020 < 0.05), and the calculated t-value (-0.152) was smaller than the t-table value (2.119), so H0 was rejected. This means that the human development index variable had a significant negative effect on the open unemployment rate, as indicated by a t-statistic of 0.152. The minimum wage variable (X3) showed a significance value of > α (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 < α (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 agricultural sector's economic growth variables have a significant effect on the open unemployment rate. The economic growth variable of the industrial sector (X5) showed that the significance value of < α (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 industrial sector's economic growth variable has a significant negative effect on the open unemployment rate, as indicated by a t-statistic of -1,940. The economic growth variable of the service/services sector (X6) showed a significance value of < α (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 for the service sector has a significant negative effect on the open unemployment rate, as indicated by a t-statistic of -2,100.

4.4. The Effect of Population Growth on the Open Unemployment Rate in Jambi City

Regression testing results show 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) and the view of classical economists that, if the population is already large, an increase will reduce economic activity because the productivity of each person becomes negative. So the community's prosperity 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 worker's income is only sufficient for living expenses. If the population is in short supply and marginal production exceeds per capita income, then population growth will increase per capita income. But if the population is increasing and additional products are decreasing, it will affect the production function: marginal production will begin to decrease. Therefore, national income and per capita income are growing more slowly. Meanwhile, the population of Jambi City continues to grow, and job opportunities must keep pace with this growth. 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 consistent with Habel Taime and Putri Nadya Djaelani (2021), who found that population growth does not have a significant effect on the open unemployment rate in the Mimika district. The results of this study are supported by research (Malak et al., 2023), which finds that population size does not significantly influence the open unemployment rate in Manokwari Regency.

4.5. The Effect of the Human Development Index on the Open Unemployment Rate in Jambi City

Based on Table 1, the human development index has a significant negative effect on the unemployment rate, with a significance level of 0.020 and a coefficient of -0.182, indicating that a 1-unit increase in the human development index is associated with a 0.182 percent decrease in the unemployment rate. The decline in the percentage of open unemployment as HDI increases suggests that higher HDI can improve access to education, public health, and living standards. This can help reduce the open unemployment rate by improving people's skills and education, making it easier for them to get jobs.

This result is in accordance with Okun's Law, which holds that increased productivity, as measured by the human development index, will encourage economic growth. An increase in economic growth is expected to expand employment opportunities and labor demand, allowing more people to enter the labor market and ultimately reducing the unemployment rate. If a region's HDI is high, it will be associated with a lower 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), which shows that the human development index variable has a partial negative and significant influence on open unemployment in DKI Jakarta Province. This research is supported by Muhammad Baihawafi & Asnita Frida Sebayang (2023), who state that the Human Development Index (HDI) has a negative and significant effect on the unemployment rate in the Regencies/Cities of West Java Province. The findings of this study indicate that the human development index is a significant predictor of unemployment in Indonesia. This means that if the human development index increases, Indonesia's open unemployment rate will decrease. The results of this study are supported by the theoretical basis put forward by Michael P. Todaro and Stephen C. Smith (2011), which suggests 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) is characterized by an increase in a person's knowledge and skills, which will spur an increase in their work productivity. Increased productivity can affect job opportunities: with higher productivity, production costs per unit decrease. A decrease in per-unit production costs will reduce the per-unit price. If the price of goods falls, demand for goods increases, which encourages entrepreneurs to increase labor demand, and with increased labor absorption, the high unemployment rate can be reduced.

4.6. The Effect of the Minimum Wage on the Open Unemployment Rate in Jambi City

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 that, if you look at the overall minimum wage in Jambi City, it continues to increase every year. The increase in the minimum wage then raises the unemployment rate, as the need for labor continues to grow alongside production. The results of this study are consistent with the theory that the wage relationship influences the unemployment rate, as described by Kaufman and Hotchkiss (1999). Workers who determine their minimum wage level at that wage level, if all the wages offered are below that 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 below the minimum wage, it will increase the number of unemployed people there. This situation will increase the open unemployment rate. Based on the results of the study (Suhendra & Wicaksono, 2016), the provincial minimum wage has a significant effect on the number of unemployed in Indonesia. This is based on the theory that increasing wages can reduce unemployment. Of course, wage increases must also be based on the person's performance. This result is in agreement with the theory put forward by Mankiw (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.

4.7. The Effect of the Economic Growth Contribution of the Agricultural Sector on the Open Unemployment Rate in Jambi City

According to Okun's theory, Samuelson (2005) states that for every 2 percent decline in GNP from its potential GNP, the unemployment rate increases by 1 percent. So, if the GNP was originally 100 percent of potential and then fell to 98 percent, the unemployment rate jumped from 6 to 7 percent. Based on Table 1, the economic growth of the agricultural sector has a significant positive effect on the open unemployment rate, with a coefficient 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 Darman's (2013) research, which finds that the economic growth variable has a negative and significant effect on the unemployment rate in Indonesia. The same research was conducted by Yoyok Soesatyo (2015), and the results 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, which leads to higher 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 increase savings.

4.8. The Effect of Economic Growth in the Industrial Sector on the Open Unemployment Rate in Jambi City

Regression testing results indicate that industrial sector economic growth 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 a 1% increase in the unemployment rate reduces 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 sector has a small contribution to GDP. With a decline in industrial production, consumer spending, investment, and exports will decrease. The results of this study are consistent with those of Anggi Erlangga et al. (2024), which find that economic growth has a significant negative effect on the open unemployment rate in provinces on the island of Sumatra. This result is in line with the theory advanced by Samuelson (2004), which holds that economic growth in Indonesia can be measured by changes in a country's GDP, as GDP is an indicator of unemployment. After all, GDP is an indicator related to unemployment. Theoretically, any increase in economic growth is expected to absorb labor, thereby reducing unemployment. The effect of economic growth on the open unemployment rate in the provinces of Sumatra is due to economic growth absorbing labor in line with increases across sectors. Economic growth has absorbed labor, in line with increases across each GDP sector. 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 absorbing labor, it can also create opportunities to start businesses in the industry. This is in line with research (Martin Fajar & Indah Pratiwi, 2021), which finds that industrial investment and labor absorption positively affect economic growth, thereby increasing human capital and reducing unemployment.

4.9. The Effect of Economic Growth in the Service/Services Sector on the Open Unemployment Rate in Jambi City

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. This result is consistent with Okun's law, which posits an empirical relationship 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. 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 by Rusmana (2018) stated that investment in the service sector has a significant positive effect on economic growth, thereby suppressing the growth of the open unemployment rate. The service sector is the main driver of people's daily mobility and the various services that support their economy. It is also supported by uneven development, which leads people to prefer using available public services for greater efficiency and effectiveness. If the service sector's economic growth in Jambi City continues to grow, it will increase demand for goods and services and, eventually, demand across all economic units. Improving goods and services in an area will indirectly create new job opportunities in Jambi City. This indicates that the high and low levels of open unemployment depend on the high level of economic growth in a region, especially in Jambi City. Increased economic growth in Jambi City will reduce the number of unemployed.

5. CONCLUSION

The results of the analysis for the period 2000–2023 show that population growth, the Human Development Index (HDI), the City Minimum Wage (MSE), and sectoral economic growth are interrelated and interdependent determinants of the Open Unemployment Rate (TPT) in Jambi City. Population growth contributes significantly to labor force growth, but if it is not matched by adequate job creation, it will increase TPT. Meanwhile, an increase in HDI that reflects improvements in the quality of education, health, and living standards should reduce the unemployment rate, but its contribution will be optimal only if the improved quality of human resources is effectively absorbed by the job market. The City Minimum Wage also makes an important contribution to influencing the labor market. An increase in MSEs that is not accompanied

by growth in the business sector can reduce labor absorption due to the high wage burden companies must bear. 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 comes from sectoral economic growth, especially in 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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