

## The Effect of Education and Skills on Unemployment: the Moderation Role of Economic Growth

By:

Ardhita Eko Ginanjar<sup>1)</sup>, Albrian Fiky Prakoso<sup>1\*)</sup>, Wida Wulandari<sup>1)</sup>, Retno Mustika Dewi<sup>1)</sup>

<sup>1)</sup>Faculty of Economics and Business, Universitas Negeri Surabaya

<sup>\*)</sup>Corresponding Author: [albrianprakoso@unesa.ac.id](mailto:albrianprakoso@unesa.ac.id)

**ABSTRACT:** Aspects of community education, namely the average length of schooling (RLS) and Community Vocational Skills (CVS), are important to know community welfare, one of which is seen from the open unemployment rate (TPT). This study aims to analyze: (1) The relationship between RLS and TPT, (2) The effect of CVS on TPT, (3) The role of economic growth (EG) as a moderator between RLS and TPT, and (4) The role of economic growth (EG) as moderation between CVS and TPT, in Sidoarjo, East Java using 2019-2023 data. Using the Structural Equation Modeling (SEM) method, the findings show that people's vocational skills are the main thing that affects TPT levels. However, the study notes that economic growth failed to moderate the relationship between RLS and CVS on TPT. The role of the government is crucial to improve vocational skills in the form of massive training for prospective workers with related industries.

**Keywords:** Open Unemployment Rate, Education, Economic Growth.

**ABSTRAK:** Aspek pendidikan masyarakat yaitu rata rata lama sekolah (RLS) dan Kecakapan Vokasional Masyarakat (CVS) menjadi hal penting untuk mengetahui kesejahteraan masyarakat, yang salah satunya ditinjau dari Tingkat Pengangguran Terbuka (TPT). Penelitian ini bertujuan untuk menganalisa: (1) Hubungan antara RLS dan TPT; (2) Efek CVS terhadap TPT; (3) Peran pertumbuhan ekonomi (EG) sebagai moderasi antara RLS dan TPT; serta (4) Peran pertumbuhan ekonomi (EG) sebagai moderasi antara CVS dan TPT, di Sidoarjo Jawa Timur menggunakan data tahun 2019-2023. Dengan menggunakan metode Structural Equation Modelling (SEM), Temuan ini mengindikasikan bahwa kecakapan vokasional masyarakat menjadi hal utama yang mempengaruhi tingginya TPT. Bagaimanapun juga, penelitian ini mencatat bahwa pertumbuhan ekonomi gagal untuk memoderasi hubungan RLS dan CVS terhadap TPT. Peran pemerintah krusial guna meningkatkan kecakapan vokasional berbentuk pelatihan masif bagi calon pekerja dengan industri terkait.

**Kata Kunci:** Tingkat Pengangguran Terbuka, Pendidikan, Pertumbuhan Ekonomi.

## INTRODUCTION

Aspects of community education, namely the average length of school (RLS) and Community Vocational Skills (CVS), are two crucial things in realizing the prosperity of an area (Adly, 2022; Hanushek, 2020; Wardhana et al., 2020). RLS represents the average number of years that residents aged 15 and older spend on various types of education they have pursued (Jannah & Indah Fitriana Sari, 2023), while people's vocational skills are means skills that are associated with certain areas of work found in society (Dalimunthe, Raudah Zaimah. Siregar, 2020).

With a positive combination of these factors, there will be a domino effect on the unemployment rate decreasing due to additional income (Kitov, 2021). This ideal concept has long been used as a basic idea for regional progress throughout the world. Unfortunately, not all regions/regions can implement it optimally, including in Indonesia (Oktafianto et al., 2019). One of the areas experiencing obstacles in realizing this prosperity is Sidoarjo Regency/City in East Java Province.

Based on data, Sidoarjo Regency in 2023, the Sidoarjo Open Unemployment Rate (TPT) in August 2023 was 8.05% or down around 8.5% percent compared to August 2022 (BPS, 2023). With this number, Sidoarjo ranks first in the 2023 TPT, surpassing the capital of East Java, namely Surabaya, which in the same year had a TPT figure of 6.76%. Meanwhile, the average TPT in Indonesia itself is only around 5.32%. This indicates that Sidoarjo still has serious problems in dealing with high TPT even though there is a decline every year (BPS Kabupaten Sidoarjo, 2023).

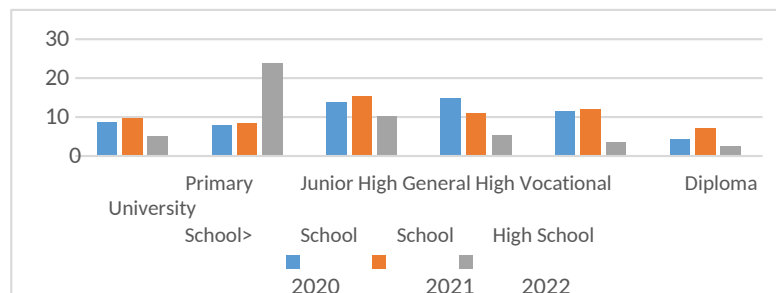


Figure 1. Open Unemployment Rate (TPT) in Sidoarjo According to the Highest Average Years of School Completed (percent), August 2020 - August 2022  
Source: Indonesian Central Statistics Agency, 2022

RLS has a massive influence on unemployment rates and welfare (Aljileedi Mustafa Rayhan et al., 2020; Weerasiri & Samaraweera, 2021). In terms of RLS, Sidoarjo Regency has shown an increase over the last three years. The RLS figure for Sidoarjo Regency in 2022 will reach 10.7 years, meaning that on average the population of Sidoarjo Regency aged 15 years and over has received 11 years of school education or the equivalent of the second grade of high school. This figure is higher than the provincial figure, where for three years the average RLS for East Java Province was 7.75 years (Badan Pusat Statistika Kabupaten Sidoarjo, 2022).

In terms of vocational skills, it can be reflected in the fact that the majority of the working population has the status of laborer, employee or employee, reaching 61.11%. Followed by those who are self-employed with 23.23%, and those who work as temporary assisted workers or unpaid family members at 5.17%. Meanwhile, a small increase occurred in those working as businesses assisted by permanent and paid workers and as laborers/employees. The decline was also seen in those who worked as family members without pay and those who were assisted by temporary/unpaid workers (Badan Pusat Statistika Kabupaten Sidoarjo, 2022).

The positive trend in RLS and vocational skills of the residents above is directly proportional to Sidoarjo's Economic Growth (EG) in 2023. The economy of Sidoarjo Regency in 2023 compared to 2022 experienced growth of 6.16 percent. Sidoarjo Regency's economic growth in 2023 will still be above East Java Province which grew by 4.95 percent and nationally by 5.05 percent (BPS Kabupaten Sidoarjo, 2023). Another supporting fact is that the Sidoarjo region has one of the largest factory industries in

East Java. In 2019 alone, the number of large and medium industrial companies in Sidoarjo Regency was 961 companies. Taman, Waru, Gedangan and Sedati subdistricts are central industrial areas; more than 400 companies produce industrial products there (BPS, 2019). With this capability, ideally Sidoarjo can have a TPT below the national average. This phenomenon intersects with the concept that good economic growth can be a major factor in low levels of unemployment and poverty in an area (Baktemur, 2021; Ngubane et al., 2023; Nisa & Airlangga, 2022).

According to human capital theory, which states that education and training are investments that enhance individual productivity significantly. Individuals who exhibit higher productivity and get a good education according to this theory will also have higher incomes, and more jobs (Ramadhona et al., 2023; Smelser & Baltes, 2001; Soesatyo et al., 2017). This is also a means of ensuring higher economic growth and prosperity (Edeji, 2024), and achieve the goal of equality. By increasing education both formally and through training coupled with good population skills, economic growth can simultaneously increase (Liu & Li, 2023).

Several previous studies have explored the relationship between variables that influence the unemployment rate in a region, for example RLS which has a good impact on the unemployment rate due to the mismatch between highly educated people who like to choose jobs that are appropriate for them (Laia & Ashar, 2023). On the other hand, RLS in time can also have a negative effect on the unemployment rate (Afifah et al., 2024; Gandi, 2020). The negative relationship between average years of schooling and the open unemployment rate is also shown by (Mahdali, 2024) and (Siskawati & Zulfhi Surya, 2021). So it can be concluded that each region can have many differences regarding the factors that cause unemployment.

Furthermore, there is research on the effect of people's vocational skills on unemployment which apparently does not have a significant influence (Gandi, 2020). However, under different conditions, increasing population skills can reduce the unemployment rate in an area (Judijanto & Sudi, 2023). In the aspect of economic growth, when economic growth is high, employment opportunities tend to increase, which can then reduce the level of open unemployment. So it is possible for economic growth to become a moderating variable that influences the level of open unemployment. Economic growth also has a negative influence on unemployment (Farooq et al., 2024; Yuniarti & Imaningsih, 2022)

To respond to the problem above, the urgency is to fill in the gaps in aspects of previous research which discussed the complexity of various factors influencing TPT in Sidoarjo, East Java, especially using the latest year's data to find out further implications.

The novelty of this research in addition to the use of data from the last five years, include: (1) The object of the research, namely the macroeconomic conditions of the Sidoarjo area, as an object that has never been researched based on the viewpoint in this study. (2) The use of CVS variables that are able to describe specific problem conditions in the research object. This variable is very relevant to the current economic development in Indonesia.

Based on the background, the objectives of this research are (1) to know the relationship between RLS and TPT, (2) to know the relationship between CVS and TPT, (3) to know the relationship between economic growth as a moderator between RLS and TPT, and (4) to know the relationship between economic growth as moderating between CVS and TPT. All information was taken in Sidoarjo, East Java in 2019-2023.

This research provides several real contributions, namely developing insight and awareness regarding economic conditions in the Sidoarjo region, providing a solid basis for developing policies aimed at improving the welfare of the population in Sidoarjo and providing a basis for further, more in-depth or broader research on the same or related topics.

## **METHODS**

### ***Study Design***

This type of research is quantitative to objectively explain the relationship between research variables. The research object is the average length of schooling, community vocational skills, economic growth,

and the open unemployment rate in Sidoarjo, East Java in the period 2019-2023. This research uses secondary data sources. This data was obtained from the Central Statistics Agency's publication data portal and the official Sidoarjo government portal by accessing the website.

### **Measurements**

This research uses an independent variable (X1), namely RLS which is seen from the percentage each year, another independent variable (X2), namely CVS which is measured from the percentage of main employment, namely the population working in the manufacturing and service sectors and the percentage of main employment status (Own account workers and laborers/employees) from the entire workforce as interval data (Omar et al., 2023). The dependent variable (Y) in this study is TPT which is reviewed in percentage terms during the year in question. The mediating variable (Z) in this study is EG.

### **Data Analysis**

The analytical method used to test the hypothesis is path analysis. Path analysis is utilized to analyze causal models by exploring the interactions between a dependent variable and several independent variables (Ghozali, Imam. Latan, 2017; Mahapatra et al., 2020). Model evaluation using PLS-SEM will go through two stages, this involves evaluating both the measurement model (Outer model) and the structural model (Inner model). The Outer model focuses on assessing the reliability and validity of the indicator variables that constitute the construct. In contrast, the Inner model is concerned with predicting the relationships between variables, examining how much variance is explained, and determining the significance of the p-value. Warp-PLS 8.0 application data analysis technique to test the hypothesis that has been proposed. Hypothesis testing is carried out by comparing the influence of the independent variable on the dependent. Testing of independent variables and moderating variables focuses on interaction coefficients and p-values. the hypothesis will be accepted if the p-value is significant  $\leq 0.05$  (Ghozali, Imam. Latan, 2017; Sholihin, Mahfud, & Ratmono, 2020).

## **RESULTS AND DISCUSSIONS**

### **Outer Model Analysis**

#### *Validity Test*

Based on the convergence validity test with Warp-PLS software, which shows that all indicators: 1) The average length of schooling (X1.1), 2) The population working in the manufacturing and service sectors (X2.1), 3) The percentage of main employment status (X2.2), Economic Growth (Z1.1), and Open unemployment rate (Y1.1) have met the convergence validity criteria with a Factor Loading value of X1.1 of 1,000, the value of X2.1 is 0.856, the value of X2.2 is 0.856, and the value of Z1.1 is 1.000. While the Factor Loading value Y1.1 is 1,000 This is based on the Factor loading criterion if loading  $> 0.30$ , then it meets convergent validity.

Furthermore, in the discriminant validity test, the findings from the AVE root and correlation indicate that each variable has a larger AVE root than the other variables. So that the discriminant validity of all variables is met.

#### *Reliability Test*

In this test, it is carried out by reviewing the Composite Reliability Results. Composite Reliability Results Coefficients show that the variable "RLS" has a value of 1,000, the variable "CVS" has a value of 0.846, the variable "EG" has a value of 1,000, and the variable "TPT" has a value of 1,000. From the composite reliability results, in the table above it can be seen that all coefficients are greater than 0.7, so they all meet the criteria.

The next aspect is to review Cronbach's Alpha Coefficient. The results obtained were that the variable "RLS" had Cronbach's Alpha Coefficient of 1,000, "CVS" with a value of 0.635, "EG" with a value of 1,000, and "TPT" with a value of 1,000. From the Cronbach alpha results, it can be seen that all coefficients are greater than 0.6 so that all criteria have been met.

### **Inner Model Analysis**

#### *Determinant Coefficient (R-Squared)*

Table 5. Determinant Coefficient (R-Squared) Results

Variable	R-Squared
Y	0.884

Source: Warp-PLS, Author's Calculation

Based on the results from table 5, it shows the R-squared value in the TPT is 0.884 (88%), which means that RLS, VSC and EG influence the open unemployment rate at 88% and are less influenced by other variables.

#### Model Fit Test

Table 6. Model Fit and Quality Indices

No.	Model Fit and Quality Indices	Fit Criteria	Analysis Result	Description
1	Average Path Coefficient (APC)	$P < 0.05$	0.333 ( $P = 0.082$ )	Does not meet model fit requirements
2	Average R-Squared (ARS)	$P < 0.05$	0.884 ( $P = 0.001$ )	Meets model fit requirements
3	Average Adjusted R-Squared (AARS)	$P < 0.05$	( $P = 0.000$ )	Meets model fit requirements
4	Average Block VIF (AVIV)	Acceptable if $\leq 5$ ideally $\leq 3.3$	68.971	Not accepted
5	Average Full Collinearity VIF (AFVIF)	Not available	Not Available	Not available
6	Tenenhaus (GoF)	Small $\geq 0.1$ Medium $\geq 0.25$ Large $\geq 0.36$	0.919	Large
7	Sympson's Paradox Ratio (SPR)	Acceptable if $\geq 0.7$ ideally = 1	0.500	Not accepted
8	R-squared Contribution Ratio (RSCR)	Acceptable if $\geq 0.9$ ideally = 1	0.838	Not accepted
9	Statistical Suppression Ratio (SSR)	Acceptable if $\geq 0.7$	1.000	Accepted
10	Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	Acceptable if $\geq 0.71$	1.000	Accepted

Source: Warp-PLS, Author's Calculation

Because this research only looks for influence, based on the output, the results of this data meet the fit criteria.

#### Hypothesis Testing Results

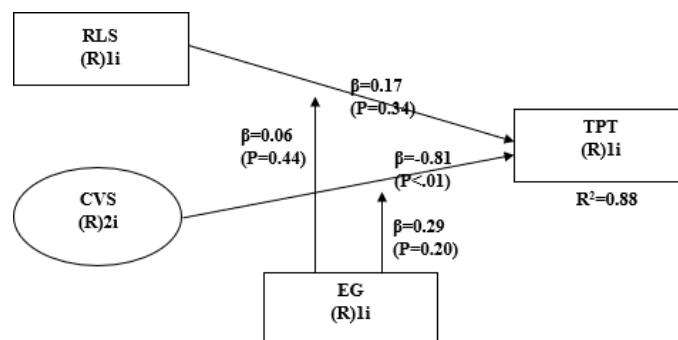


Figure 2. Structural Model

Source: Warp-PLS

*Direct Effect*

Table 7. Direct Effect

No	Relationship between variables (exogenous variables ->		Path Coefficient	P-value	Description
1	X1	Y1	-0.167	P=0.335	Not significant
2	X2	Y2	-0.809	P=0.004	Very significant

Note\*: < (0.01) = Highly Significant, < (0.05) = Significant, < (0.1) = Weakly Significant, > (0.1) = Not Significant.

Source: Warp-PLS, Author's Calculation

From the results of the hypothesis test above, the interpretation is as follows:

- (1) H1 = RLS has a negative and significant effect on the TPT (Siskawati & Zulfhi Surya, 2021)
- (2) The influence of RLS on TPT has a path coefficient of -0.167 and P=0.335. Because P is greater than 0.05, it is said to be not significant. So the hypothesis is rejected. The path coefficient with a negative sign (-0.167) does not mean anything about the influence of RLS on TPT
- (3) H2 = CVS has a negative and significant effect on TPT (Mahdi, 2021)
- (4) The influence of CVS on TPT has a path coefficient of -0.809 and P=0.004. Because P is smaller than 0.05, it is said to be significant. A path coefficient with a negative sign (-0.809) means that the better CVS is, the more TPT decreases. From this, it can be concluded that the hypothesis is accepted.

***Average Length of School and Open Unemployment Rate***

Based on the results of hypothesis testing, the average length of schooling and the open unemployment rate have no influence on each other. This can happen due to several factors. One of them is that residents who have a high average number of years of schooling tend not to want to work with low salaries (Thanh et al., 2020). Even though a high education does not guarantee a job with a high salary (Wongmonta, 2023), in this case residents tend to choose jobs that are suitable and appropriate for them. Therefore, they have a large contribution to the open unemployment rate. So the effect cannot be direct. This finding is also in line with Sharif & Khan, (2023) which states that people who have a higher level of education will also get a higher salary. This understanding is also adopted by many local communities.

This incident is the effect of the development of job recruitment backgrounds from emphasizing educational level such as a bachelor's degree as the main indicator, now shifting to workforce skills according to the type of job. This has happened in various developed countries such as the United States, where they place more importance on work experience. So an indication can be taken that the educational aspect of prospective workers is not as important as skills according to their field (Marinescu & Triyana, 2016).

Demographic and geographic factors can also play a role in determining average years of schooling and unemployment rates. Urban areas generally have higher unemployment rates than rural areas, but the average years of schooling of residents in urban areas may be higher (Brooks et al., 2021). This may occur due to differences in economic structure, types of jobs available, and levels of social mobility between urban and rural populations. This implication can also occur in several areas of Sidoarjo. On the other hand, although higher education can improve an individual's qualifications (Chankseliani, 2022), if there are no jobs that match those qualifications in the area, the unemployment rate remains high.

The role of well-targeted public policy is absolutely essential in explaining the relationship between average years of schooling and the unemployment rate. Education policies that suit industry and market needs can increase the availability of skilled labor (Kumar et al., 2019; Selim, 2020), but

inefficient labor policies or an imbalance between supply and demand for labor can cause low levels of Unemployment remains high despite rising education levels.

#### **Community Vocational Skills and Open Unemployment Rate**

From the hypothesis results, the higher community's vocational skills leads to lower the level of open unemployment and vice versa. Vocational education and training usually directs a person to develop skills that can be directly applied in the workplace (Hasbullah et al., 2022; Rizana & Kristanti, 2021). In the Sidoarjo area, training implementation that supports these results is training in various industries such as engineering, agriculture and manufacturing.

If the population has vocational skills that match the needs of the job market, it will be easier for them to get a job and in the long term this can reduce the unemployment rate. This is in line with Rathelot et al., (2023) who revealed that the significant influence of suitability of abilities is very important in determining the balance of demand and supply of labor so that it can reduce the number of unemployed.

In addition, high vocational skills can create opportunities for entrepreneurship (Dewi et al., 2019; Han, 2021). Individuals who have specific skills acquired through vocational education often have the potential to become independent entrepreneurs or start small businesses. This can reduce pressure on the labor market by creating new jobs, thereby reducing the unemployment rate (Bakhri & Fauzi, 2019; Jo et al., 2023). This concept has also been implemented well by the Sidoarjo government by providing a lot of entrepreneurship training for the community.

On the other hand, it's not just male, the female population in Sidoarjo also contributes quite a lot to the quantity of workers. Working women in Sidoarjo can increase their chances of getting suitable work and reduce the unemployment rate among them. This can reflect that vocational abilities are needed by all components of society.

Effective vocational education is crucial for regions to meet labor market demands, including for women. Collaboration among educational institutions, government, and the private sector is essential to develop responsive programs that prepare students for evolving job market needs. Enhancing vocational skills is key to reducing unemployment rates (Putra, 2023).

#### **Indirect Effect**

Table 8. Indirect Effect

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No	Exo geno us Varia ble	Moderating Variable	Endogenous Variable	Indirect Influence Path		<i>P-value</i>	Des cription
Coefficient							
1	X1	Z1	Y1	-0.063	P=0.443	Not Moderation	
2	X2	Z1	Y1	0.292	P= 0.202	Not Moderation	

Source: Warp-PLS, Author's Calculation

From the results of the hypothesis test above, the interpretation is as follows:

- (1) H3 = EG as a moderation between RLS and TPT (Johar, 2023)
- (2) The effect of RLS on TPT which is moderated by EG has a path coefficient of -0.063 and P=0.443. Because P is greater than 0.05, it is said to be not significant. A path coefficient with a negative sign (-0.063) means that Z weakens the relationship between X1 and Y. From this, it can be concluded that the hypothesis is rejected. This means that economic growth cannot moderate the relationship between RLS and TPT in this case.
- (3) H4 = EG as a moderation between CVS and TPT (Arifin et al. ,2023; Salahuddin et al., 2023;

Xia et al., 2022)

- (4) The effect of CVS on TPT which is moderated by EG has a path coefficient of 0.292 and  $P=0.202$ . Because  $P$  is greater than 0.05, it is said to be not significant. The positive path coefficient (0.292) means that EG strengthens the relationship between CVS and TPT. From this, it can be concluded that the hypothesis is rejected. This means that economic growth cannot moderate the relationship between CVS and TPT.

#### ***Economic Growth as a Moderation between the Average Length of Schooling and the Open Unemployment Rate***

From the output above, RLS and the open unemployment rate have not been moderated by economic growth. Both can be influenced by complex factors and are not always in line with economic growth. RLS reflects the level of education in a population, which is influenced by various factors such as access to education, quality of education, and individual motivation (Davidovitch & Dorot, 2023; Taranu, 2020). Although economic growth can create more resources for education, the effects may not be immediately visible because there is a time lag between the return on investment in education and an increase in RLS, let alone the subsequent impact on unemployment rates.

Economic growth cannot always reduce unemployment. This is because unemployment is a complex problem and will be more effective with the creation of labor-intensive industries and the opening of many job opportunities (Mercan & Özpeçe, 2020). Economic growth also cannot directly increase unemployment, this is because as the economy expands, this can drive the creation of new jobs in emerging sectors, such as technology or professional services. Some people with higher education are better able to adapt to these changes and find new jobs.

Structural factors in the economy, such as income inequality, can also influence the relationship between economic growth, RLS, and unemployment rates. For example, although high economic growth can increase employment in certain sectors (Cervelló-Royo et al., 2023), it does not always solve the problem of unemployment if the available jobs require skills that do not match the level of education possessed by the majority of the population (Wu et al., 2022).

The above is reinforced by findings from Prayoga et al., (2021) which states that income inequality in Sidoarjo is caused by differences in professions among the community, experience, education and skills. Income inequality also reflects gaps in especially vocational skills and abilities between individuals. Although average years of schooling may increase, if the skills gap remains high, some individuals will still have difficulty finding jobs that match their level of education (Herbert, 2020; Wolcott, 2021).

#### ***Economic Growth as a Moderation between the Community Vocational Skill and the Open Unemployment Rate***

The reason why economic growth could not moderate the relationship between vocational skills and the level of open unemployment in Sidoarjo in the year concerned could be caused by several complex factors. Vocational skills reflect the availability of skills and abilities that are relevant to job market demands. Although economic growth can create new economic opportunities (Alam & Murad, 2020), it does not guarantee that the skills required for those jobs will be in line with the vocational skills possessed by the general population. This means that there is a mismatch between supply and demand for labor. So on a larger scale, even if there is economic growth, the effect on the unemployment rate will be insignificant (Adely et al., 2021).

The above is reinforced by consistent findings from Aggarwal, (2020) which indicate that residents who want to get a job will be greatly influenced by the demand and supply of labor according to market needs and the significant influence of technological developments. So it can be interpreted that economic growth in the case of Sidoarjo cannot have a significant influence.

As an in-depth look at the statistical results, what determines the number of unemployed people is not economic growth but rather the vocational skills they have. Recruitment for jobs today has begun to shift towards emphasizing vocational skills. Whether there is economic growth or not will not have an effect on the workforce recruitment climate.



Structural factors in the economy, such as the type of dominant industry and the level of technology used, can influence the relationship between vocational skills and the level of open unemployment. For example, in industries that are highly automated or rely on advanced technology, high economic growth may not make a major contribution to reducing the unemployment rate (Abid et al., 2023), one of the things that could cause it is the skills required do not align with the vocational skills possessed by the majority of the population.

Moreover, the crucial role of public policy in supporting the development of vocational skills and reducing unemployment levels should not be ignored. By paying attention to current developments in the labor industry, the Sidoarjo government must focus more on developing the vocational abilities of its workforce by paying attention to the Indonesian National Qualifications Framework (KKNI), with concrete actions such as strengthening vocational schools and massive training of prospective workers in collaboration with related industries.

If the above is done, with the current economic growth, it is likely to strengthen the influence between vocational abilities and the open unemployment rate. Attention to this aspect really requires a major contribution to other policy and structural factors (Huruta, 2024).

## **CONCLUSIONS**

The following conclusions are obtained through several research results: (1) The average length of schooling (RLS) and the open unemployment rate (TPT) have no influence on each other; (2) Community Vocational Skills (CVS) have a negative and significant effect on the open unemployment rate (TPT); (3) Economic growth (EG) cannot moderate the relationship between average years of schooling (RLS) and the open unemployment rate (TPT); (4) Economic Growth (EG) fails to moderate the relationship between Community vocational skills (CVS) and the level of open unemployment (TPT).

The relationship between research results can be explained through the real phenomenon that residents who have a high average number of years of schooling are less interested in working with minimal wages, thus making a large contribution to the high level of open unemployment. This paradigm shift affects educated workers in Indonesian cities and parallels findings in developed countries (Bartik, 2022; Jales et al., 2023). Higher education levels decrease interest in low-wage work, contributing to higher open unemployment rates. Vocational skills facilitate easier job placement as they align with industry needs. Economic growth in places like Sidoarjo and Central Java hasn't significantly influenced these factors due to indirect impacts and complexities in unemployment dynamics. Despite numerous industries in Sidoarjo, there's a skills gap hindering workforce alignment, a challenge also seen in Central Java Province (Anas & Rejekiningsih, 2014).

The Sidoarjo government must focus more on improving the community's vocational skills in ways such as strengthening the vocational skills of vocational school graduates, massive training programs for prospective workers who collaborate with related industries. This must be in accordance with the KKNI which has developed along with the labor market climate.

This research has limitations on the availability of data used. To see more complex influencing factors, a lot of additional data is needed so that the influence between each variable can be better interpreted.

Therefore, future research could further analyze the various latest vocational programs for the community which have so far been implemented, So that we can examine further the development of people's vocational skills in order to reduce unemployment and determine corrective steps.

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