

Understanding the Dynamics of Unemployment and Poverty in the Tomini Bay Area

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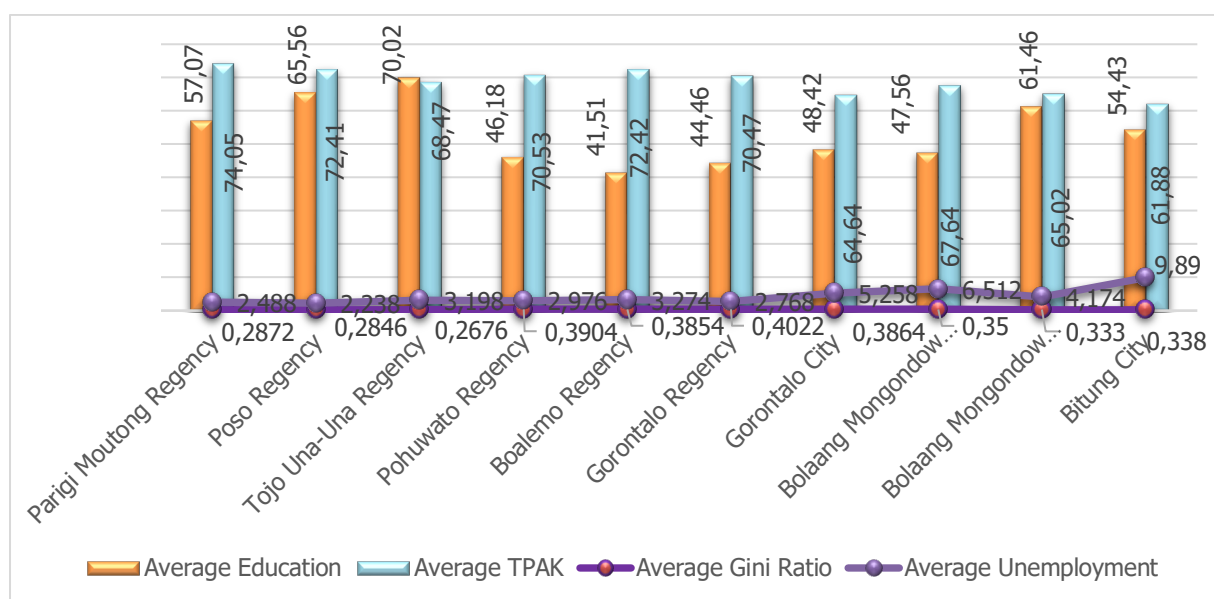
Abstract: Understanding the Dynamics of Unemployment and Poverty in the Tomini Bay Area

This study aims to analyze the effect of education level, gini ratio and labor force participation rate on unemployment, as well as the effect of unemployment on poverty in the Tomini Bay region. The data used in the study is secondary data in the form of 10 regencies/cities in the Tomini Bay area, for the 2018-2022 period, sourced from the Indonesian Central Bureau of Statistics. The novelty of this study is trying to trace the relationship between educational and economic aspects to the phenomenon of poverty in the Tomini Bay Region, as a regional economic power. The future impact of this study is the mapping of the actual condition of poverty and the availability of more evidence-based policy recommendations in reducing unemployment and poverty in the Tomini Bay Area. This study used descriptive quantitative methods. With an approach (Simultaneous equation regression model) using the Indirect Least Square (ILS) regression technique with Fixed Effect Model (FEM). The results of this study show that the level of education and the labor force participation rate have a negative and significant effect on unemployment. In contrast to the Gini ratio which actually has a positive and significant effect on unemployment. On the other hand, unemployment shows a positive and significant influence on poverty. The implication of the research is the need for a truly massive policy to strengthen the education dimension, to accelerate the increase in human capital and the importance of a sustainable program to increase employment opportunities from the government so as to reduce unemployment and poverty.

Keywords: Education; Gini Ratio; Labor Force Participation Rate; Unemployment; Poverty

INTRODUCTION

The poor quality of education can increase unemployment and can have an impact on soaring poverty rates (Moyo et al., 2022). Even in certain cases, the increase in the agricultural production sector as the economic base of the Tomini Bay region and the high level of labor education, have no effect on reducing poverty in the region (Arham, 2023). Entering 2022, the highest poverty in the region is in Boalemo Regency at 18.74 percent (BPS, 2023). Boalemo Regency in the last 5 years tends to dominate the poverty rate in the Tomini Bay area. Even though the area has extraordinary natural potential that can become a new center of economic growth for the eastern part of Indonesia. This bay has an important role for the world because it is located right in the heart of the world's coral triangle (*Heart of the Coral Triangle*). Tomini Bay covers three provinces, namely Central Sulawesi, Gorontalo, North Sulawesi, and there are 8 regencies and 2 cities, including South Bolaang Mongondow, East Bolaang Mongondow, Tojo Una-Una, Poso, Parigi Moutong, Pohuwato, Boalemo, Gorontalo, and Gorontalo and Bitung Cities.



Source: (BPS, 2023)

Figure 1. Development of Education Level, Gini Ratio, Labor Force Participation Rate (TPAK) and Unemployment Rate in Tomini Bay Area in 2018-2022

Average education levels, gini ratio, labor force participation, and unemployment have tended to remain unequal between regions in the Tomini Bay Area in the last five years. This confirms that the human capital and strategic economic indicators of this area are still poor. When viewed from the level of elementary school education to junior high school graduated, the highest was in Tojo Una-Una Regency at 70.02 percent, while Boalemo Regency actually fell at the lowest figure of 41.51 percent. Judging from the regional gini ratio, the highest level of

income distribution inequality is Gorontalo Regency at 0.402, while the lowest is in the Tojo Una-Una Regency area. Furthermore, for the highest labor force participation rate, it was in Tojo Una-Una Regency at 74.79 percent and the lowest was in East Bolaang Mongondow at 61.59 percent. Finally, the highest unemployment in the Tomini Bay Area is in Bitung City at 9.89 percent and the lowest is in Tojo Una-Una Regency (BPS, 2023). This thus confirms the disparity between regions that has worsened in the last five years.

The existence of education as human capital in contributing to a good quality workforce in terms of production efficiency and effectiveness and providing job opportunities. In addition, the measure of labor demand within a region is the level of education. The higher the level of education obtained by the workforce, the greater the output produced so that it will reduce unemployment and also have an impact on reducing the poverty rate (Anwar & Sari, 2021).

Inequality arises due to the absence of equity in economic development (Rizquillah, 2021). The problem of income inequality is a fundamental problem in Indonesia's economic development. Therefore, there is a need for thought contribution in minimizing the high level of inequality of income distribution in Indonesia. Income equality between residents or households involves two aspects. The first is to further improve the standard of living of people below the poverty line. Second, income distribution in general in the sense of reducing differences in household income levels. Income inequality, unemployment and poverty are caused by distribution mechanisms that do not work properly. This problem arises from distribution inequalities that cumulatively contribute to the resulting disparities in wealth acquisition opportunities. As a result, there is a gap between the rich and the poor, where the rich get richer and the poor get poorer.

A high unemployment rate will reflect the strength or weakness of a country's economy. In other words, a higher unemployment rate indicates worsening economic conditions. One of the issues that a country or Region is very concerned about is unemployment, which affects all kinds of crime, socio-political, and poverty. The size of the unemployment rate can indicate the state of a country or region, whether the economy is experiencing development or experiencing a setback. In addition to the unemployment rate, there is also an imbalance or gap in the distribution of people's income (Ayu & Faisal, 2021).

One of the goals of economic development in a country (region) is poverty alleviation. Based on the experience of developed and developing countries, poverty can be eradicated by maximizing all available resources (Anwar & Nursini, 2018). Natural resources have several functions as mobilizers, the most promising pathways, and effective escape mechanisms to

overcome poverty, especially for dominating agrarian countries (regions) such as the Tomini Bay Area in Indonesia. The Tomini Bay area has various potential natural resources that can be the basic capital of economic development in Arham et al, (2022).

The poverty rate in the Tomini Bay Area tends to fluctuate. Furthermore, when compared between districts/cities in the Tomini Bay area, the highest poverty rate in 2022 is Boalemo Regency at 18.74 percent. In addition, in 2018 the highest poverty in the Tomini Bay area was in Boalemo regency at 20.33 percent (BPS, 2023). Boalemo Regency in the last 5 years tends to dominate the poverty rate in the Tomini Bay area. This certainly needs to be taken seriously in alleviating poverty in the region. Today, the goal of economic development is to alleviate unemployment and poverty, for that there needs to be reconstruction in terms of policy so that the goal of economic development can be achieved optimally.

Based on the above phenomenon, a deeper study is needed to analyze the relationship between education level, Gini ratio and labor force participation rate to unemployment and its impact on poverty in the Tomini Bay Area. The novelty of this study is trying to trace the relationship between educational and economic aspects to the phenomenon of poverty in the Tomini Bay Area, as a regional economic power. The future impact of this study is the mapping of the actual condition of poverty and the availability of more evidence-based policy recommendations in reducing unemployment and poverty in the Tomini Bay Area.

LITERATURE REVIEW

Schultz defines Human Capital as an investment in an individual's knowledge, skills, and health that can increase productivity and generate income in the future. In his perspective, education and training is the main form of investment in Human Capital. Schultz stressed the importance of education and training as a means to increase individual capacity (Al Shbail et al., 2022; Hunter & Shaffer, 2022; Moyo et al., 2022). Education is seen as an investment that provides returns in the long run through increased productivity and income. The emphasis is on the relationship between education level and individual income. According to him, individuals with higher levels of education tend to have better job opportunities and can earn higher incomes. He proposed that an investment in education and training could be considered an investment in human capital that could deliver productivity returns, similar to an investment in equipment or machinery (Igwe et al., 2022; Keep et al., 2022; McKenzie, 2022; Ruzima & Veerachamy, 2023; Yang et al., 2023).

In contrast to Becker, who extends the concept of human capital beyond the dimensions of education and training introduced by Schultz. Human capital includes any form of investment in knowledge, skills, health, and other personal attributes that increase individual productivity.

Becker also extended the concept of Human Capital to an intergenerational dimension. He stated that investment in education by one generation can provide long-term benefits to the next. Education and skills can be inherited and contribute to social mobility (Al Shbail et al., 2022; Bendickson et al., 2023; Brown & Harris, 2022; Hemmert et al., 2022; Keep et al., 2022; Yarrow, 2022).

H1: Education level negatively affects unemployment

Marx saw inequality and unemployment as inseparable phenomena of the capitalist structure. In the capitalist system, Marx identified a class division between the owners of capital (capitalists or bourgeoisie) and workers (proletariat). According to Marx, capitalists make a profit by paying workers a value lower than the value produced by their labor. This creates the income inequality that characterizes capitalism, where workers receive a fraction of the value they produce (Boettke, 2020; Journal et al., 2020; Lin, 2019; Rioux et al., 2020).

But this is in contrast to Sen's view of supporting policies aimed at reducing inequality in access to education, health, and economic opportunity. Inequality in one dimension (for example, access to education or health) can contribute to unemployment or inequality in another. Through this approach, efforts can be made to create conditions in which more people have the ability to engage in economic activities and reduce structural unemployment. Sen acknowledges that inequality factors, such as inequality of access to education, health, and economic opportunity, can be a cause of structural unemployment. Inequalities in the distribution of resources and opportunities can create disparities in labor force participation (Sen, 2002; Thomas & Thomas, 2016).

H2: Gini ratio has a positive effect on unemployment

Smith expressed his views on various aspects of the economy, including unemployment. Although Smith does not specifically address the issue of unemployment in his work, some basic principles of his thought can be connected to this issue. Smith believed in the power of the free market. According to him, if the labor market is allowed to operate without excessive interference from the government or other parties, the market will adjust naturally. The laws of supply and demand will apply in the labor market, and wages will reach levels that allow workers to get jobs. Smith believed that a free and efficient market economy would achieve its own equilibrium. In the event of unemployment, in his view, the market will adjust itself. Wages that are too high will cause employers to be less able to hire many workers, so wages will fall to create more jobs (O'Donnell, 2022b, 2022c; Smith, 2022).

Smith believed that the labor market essentially operates like any other market, where

supply and demand determine the price (wage) and amount of labor absorbed. If the supply of labor exceeds demand, then unemployment arises. Conversely, if demand outstrips supply, then the wage level may rise. Smith argued that wage levels should be adaptable to market conditions (O'Donnell, 2022b). If wage levels remain high when labor supply exceeds demand, this can lead to unemployment because firms are unable to hire all existing workers. Wage flexibility was considered by Smith to be a natural adjustment mechanism for maintaining equilibrium in the labor market (Roberts, 2023). Smith put forward the idea of limited government and lack of interference in the economy (free market labour) (Hopkins & Klinke, 2023). He argued that the market, if allowed to operate uninterrupted, would find its natural equilibrium, including in terms of unemployment. The government should not be involved in determining wage levels or providing jobs directly, Smith's view (Bueno, 2022; MacWilliam, 2022; Martins, 2022a, 2022b; Moyo et al., 2022; Phillips, 2023; Smith, 2022).

But in contrast to Keynes's view, he believed that government could play an important role in tackling unemployment through fiscal and monetary policy. He proposed government intervention to stimulate aggregate demand and prevent a downward spiral of economic activity (Dimand, 2023). One of Keynes's most famous criticisms of the classical view is the need for government intervention in addressing economic instability, especially through fiscal and monetary policy. According to Keynes, government can play an important role in reducing unemployment by utilizing economic policy instruments (Braga & Serrano, 2023; Dimand, 2023; O'Donnell, 2022c, 2022a; Polanyi Levitt & Seccareccia, 2022).

Fiscal policies such as increased public spending or tax cuts can increase public spending, restore consumer confidence, and stimulate economic growth. Keynes's views on unemployment provided the foundation for a modern understanding of the role of government in addressing unemployment and economic crises (Dimanand & Bateman, 2023). His approach places more emphasis on the impact of regulation on the unemployment rate as well as the need for decisive action to restore balance in the economy (Anakpo & Kollamparambil, 2022a, 2022b; Bracarense & Bracarense Costa, 2022; Dos Santos Ferreira, 2023; Ramos-Herrera, 2023; Tran, 2023). So did Marx, who opposed Smith's assertion that although Smith saw specialization as a way to increase productivity, Marx saw it as the cause of workers' alienation. Workers are responsible for only one small task, and they lose control of the entire production process, causing alienation from their work product and feeling alienated from themselves and eventually unemployed (Cousins, 2022; de Paula, 2022; Gan & Bai, 2023; Madra, 2023; Peters et al., 2022; Polanyi Levitt & Seccareccia, 2022; Skillman, 2023).

H3: The labor force participation rate has a positive effect on unemployment

Adam Smith, as a major figure of classical economics, contributed to the thinking of poverty through his work, "The Wealth of Nations." Although Smith did not specifically address poverty, some basic principles in his thinking can be applied to understanding his perspective on the issue. Smith argued that if markets were allowed to operate without excessive interference, mutual gains would occur. Although individuals may act on the basis of selfishness, overall market interaction is expected to lead to mutual benefits, which can ultimately help reduce poverty levels. Smith believed that investments in physical capital, such as machinery and equipment, could increase productivity and economic growth. Sustainable economic growth is expected to create more job opportunities and, ultimately, reduce poverty levels (Moyo et al., 2022; Steeds, 2022).

However, in contrast to Karl Marx who explained that the power structure in capitalist society was the beginning of poverty. He argues that Smith tends to ignore the social and economic inequalities that arise from the centralized ownership of capital in the hands of a small group of capitalists. The centralisation of capital on the bourgeoisie, resulting in poverty and inequality. Such dysfunction inherently results in economic inequality resulting in poverty for most workers (Balasopoulos & Boer, 2022; Byahut, 2022; Cole, 2022; Fassenfest, 2023; Jun, 2022; McNulty, 2023; Tucker, 2022; Wang & Peters, 2023).

H4: The unemployment rate has a positive effect on poverty

METHODS

This approach uses descriptive quantitative methods. The location of this study. This research took place in the Tomini Bay area, which covers three provinces, namely Central Sulawesi, Gorontalo and North Sulawesi Provinces. The data used in this study is secondary data, namely panel data from ten districts in the Tomini Bay Area in the 2018-2022 period, obtained from the Central Statistics Agency (BPS).

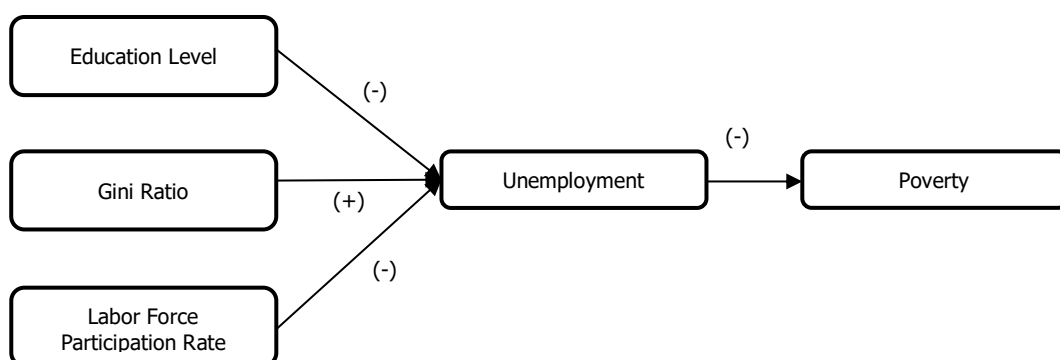


Figure 2. Research Framework

These data include; Elementary/Junior High School Education level, labor force participation rate and poverty are each measured by percentage, and gini ratio is measured by points. The data that has been obtained is then analyzed with a simultaneous equation model (*simultaneous equations model*) use using Eviews-10 software. The simultaneous equation model is a model that shows the relationship between endogenous or bound variables with exogenous variables or independent variables (Gujarati, 2002).

The way to overcome the above problems can be done by: *The Reduced-From Equations*, so that the structural equation takes shape *Indirect Least Square (ILS)* here's the equation:

$$PG_{it} = \alpha_0 + \alpha_1 TP_{it} + \alpha_2 GR_{it} + \alpha_3 TPAK_{it} + \varepsilon_{it} \dots\dots\dots (3.1)$$

$$POV_{it} = \beta_0 + \beta_1 PG_{it} + \varepsilon_{it} \dots\dots\dots (3.2)$$

Where: PG is unemployment measured in units (percent), POV is poverty measured in units (percent), α, β is a regression coefficient, TP is the level of elementary / junior high school education measured in units (percent), GR is the Gini Ratio measured in units (points), TPAK is measured in units (percent), ε is the standard error, i is the District / City of Tomini Bay Area and t is the data period measured in years (2018-2022).

Next, equations (3.1) and (3.2) are converted into equations of reduced form (*reduced form equations*). *Reduced from* aims to determine endogenous variables and exogenous variables of the model to be analyzed, equations *Reduced From* In search with the following steps:

To get the equation *Reduced From* Then the first rarity by substituting equation (3.1) so that it will produce the following equation:

$$\begin{aligned} PG_{it} &= \alpha_0 + \alpha_1 TP_{it} + \alpha_2 GR_{it} + \alpha_3 TPAK_{it} + \alpha_4(\beta_0 + \beta_1 PG_{it} + \varepsilon_{it}) + \varepsilon_{it} \\ PG_{it} &= \alpha_0 + \alpha_1 TP_{it} + \alpha_2 GR_{it} + \alpha_3 TPAK_{it} + \alpha_4 \beta_0 + \alpha_4 \beta_1 PG_{it} + \alpha_4 \varepsilon_{it} + \varepsilon_{it} \\ PG_{it} - (\alpha_4 \beta_1 + PG_{it}) &= \alpha_0 + \alpha_1 TP_{it} + \alpha_2 GR_{it} + \alpha_3 TPAK_{it} + \alpha_4 \beta_0 + \alpha_4 \varepsilon_{it} + \varepsilon_{it} \\ (1 - \alpha_4 \beta_1) &= \alpha_0 + \alpha_1 TP_{it} + \alpha_2 GR_{it} + \alpha_3 TPAK_{it} + \alpha_4 \beta_0 + \alpha_4 \varepsilon_{it} + \varepsilon_{it} \\ PG_{it} &= + TP \left(\frac{\alpha_0 + \alpha_4 \beta_0}{1 - \alpha_4 \beta_1} \right) \left(\frac{\alpha_1}{1 - \alpha_4 \beta_1} \right)_{it} + \left(\frac{\alpha_2}{1 - \alpha_4 \beta_1} \right) GR_{it} + TPAK \left(\frac{\alpha_3}{1 - \alpha_4 \beta_1} \right)_{it} + \left(\frac{\alpha_1}{1 - \alpha_4 \beta_1} \right) + \left(\frac{\alpha_4 \varepsilon_{it}}{1 - \alpha_4 \beta_1} \right) \\ \widehat{PG}_{it} &= \pi_{10} + \pi_{11} TP_{it} + \pi_{12} GR_{it} + \pi_{13} TPAK_{it} + V_1 \dots\dots\dots (3.3) \end{aligned}$$

The next step is equation (3.2) as follows:

$$\begin{aligned} POV_{it} &= \beta_0 + \beta_1 (\pi_{10} + \pi_{11} TP_{it} + \pi_{12} GR_{it} + \pi_{13} TPAK_{it} + V_1) + \varepsilon_{it} \\ POV_{it} &= \beta_0 + \beta_1 \pi_{10} + \beta_1 \pi_{11} TP_{it} + \beta_1 \pi_{12} GR_{it} + \beta_1 \pi_{13} TPAK_{it} + \beta_1 V_1 + \varepsilon_{it} \\ POV_{it} &= \beta_{20} + \beta_{21} TP_{it} + \beta_{22} GR_{it} + \beta_{23} TPAK_{it} + V_{it} \\ \text{If simplified in the Regression equation, namely} & : \\ POV_{it} &= \pi_{20} + \pi_{21} TP_{it} + \pi_{22} GR_{it} + \pi_{23} TPAK_{it} + V_{it} \\ POV_{it} &= \pi_{20} + \pi_{22} + V \widehat{PG}_{it} \dots\dots\dots (3.4) \end{aligned}$$



The result of *Reduced From* for equations (3.1) and (3.2) is as follows:

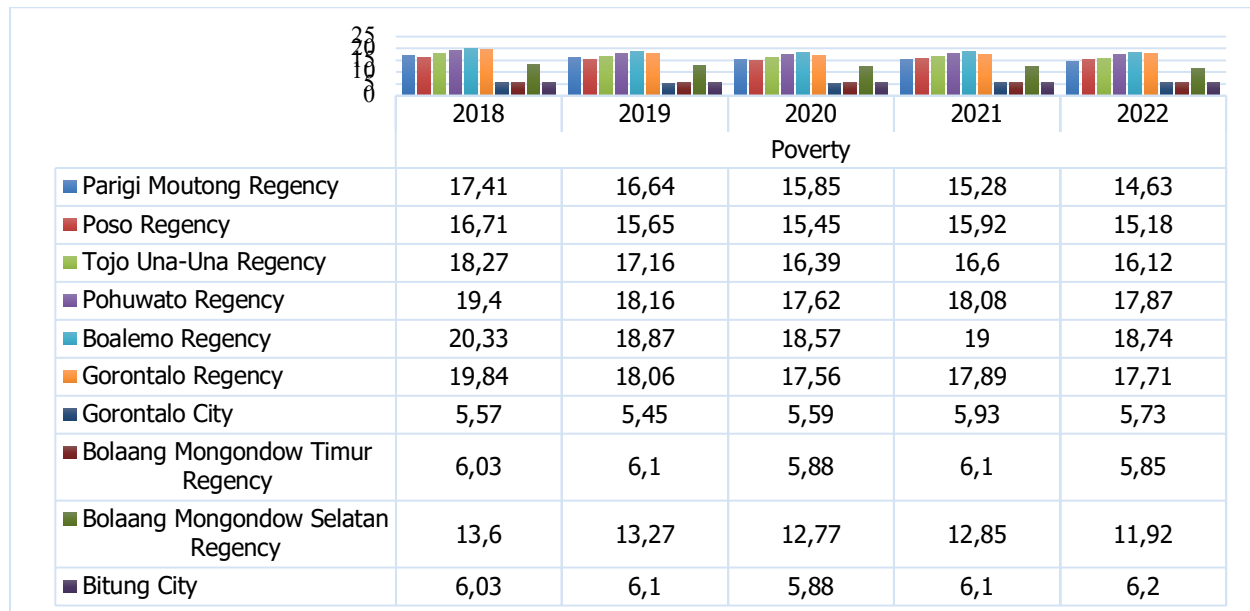
$$\widehat{PG}_{it} = \pi_{10} + \pi_{11}TP_{it} + \pi_{12}GR_{it} + \pi_{13}TPA_{it} + V_1 \dots\dots\dots (3.5)$$

$$POV_{it} = \pi_{20} + \pi_{22}PG_{it} + V_2 \dots\dots\dots (3.6)$$

Because equations (3.5) and (3.6) above are equations *Reduced from* Then OLS can be applied to each equation *Reduced from* This is to obtain the estimated value of each endogenous variable. By *Order Condition* or the requirements of the simultaneous equation method will be this research using the ILS method (*Indirect Least Squares*). This is done simultaneous equations in this study contain equations that *just identified*. This ILS technique is only suitable for estimating structural equations that *exactly identified* which is part of a system of simultaneous equations without restrictions on the variance matrix of its variable disorder (Sumodiningrat in Faiziah & Sofyan, 2014).

RESULT AND DISCUSSION

The poverty rate in the Tomini Bay area tends to fluctuate. However, in general it shows a completely lame situation. In the last five years Boalemo has become the poorest area in this area, when compared to the districts / cities in the Tomini Bay area. In 2018 in Boalemo Regency it was 20.33 percent, entering 2022 the poverty rate in Boalemo Regency exceeded 18.74 percent.



Source: (BPS, 2023).

Figure 3. District and City Poverty Rate in Tomini Bay Area 2018-2022

Despite experiencing a downward trend in poverty in the last five years, this region still dominates the poverty rate in the Tomini Bay region. This confirms that the handling of poverty in the region, has not undergone significant changes. This certainly needs to be taken seriously



in alleviating poverty in districts and cities in the Tomini Bay area. In contrast, the lowest poverty in the Tomini Bay area in the last five years was in Gorontalo City, which was 5.57 percent in 2018, then increased to 5.73 percent in 2022. Although it has increased, this achievement is still the lowest when compared to the districts and cities in the Tomini Bay area.

Table 1. Fixed Effect Model Estimation Results (Equation 1)

Independent Variables	β	t- Hit	Sign	Significance	Support for Hypotheses
Education level? (X1)	-0,030	-2,159	0.037**	Significance	Yes
LOG(Gini Ratio? (X2)	2,514	1,838	0.074*	Significance	Yes
TPAK (X3)	-0,085	-2,187	0.035**	Significance	Yes
Constant			14,448		
F Count			38,445		
<i>R Square (R2)</i>			0,925		
<i>Adjusted R2</i>			0,901		
Sample (n)			50		

Source: Secondary data output after processing, Year 2023; (S.Dai, 2023)

Remarks : ***) significant at 1%, **) significant at 5% and *) significant 10%, NS) insignificant.

Based on the results of the analysis, the following research model was obtained:

$$PG = 14.448 - 0.030 (TP) + 2.514 (GR) - 0.085 + \varepsilon$$

The interpretation of the equation model above is as follows; (i) Unemployment (PG) without being influenced by any independent variable in the study model will be constant at 14,448 percent, (ii) Education Level (TP) negatively affects unemployment (pg). This means that every increase in the level of education by 1 percent, can reduce the unemployment rate in the Tomini Bay area by -0.030 percent, (iii) Gini Ratio (GR) has a positive effect on unemployment (pg) meaning that every increase in the Gini ratio by 1 percent, can increase the unemployment rate in the Tomini Bay area by 2,514 percent, (iv) The Labor Force Participation Rate (TPAK) has a negative effect on unemployment (pg). This means that every increase in the labor force participation rate of 1 percent, can reduce the unemployment rate in the Tomini Bay area by -0.085 percent.

Table 2. Fixed Effect Model Estimation Results (Equation 2)

Independent Variables	β	t- Hit	Sign	Significance	Support for Hypotheses
<i>PG_Predictor</i> (X)	0,212	4,031	0,000	Significance	Yes
Constant			12,567		
F Count			746,77		
<i>R Square</i> (R2)			0,994		
<i>Adjusted R2</i>			0,993		
Sample (n)			50		

Source: Secondary data output after processing, Year 2023; (S.Dai, 2023).

Remarks : ***) significant at 1%, **) significant at 5% and *) Significant 10%, NS) Insignificant

Based on the results of the analysis, the model in this study is as follows:

$$POV = 12.567 + 0.212 + \epsilon(\widehat{PG})$$

The results of the table above can explain that (i). The constant is the denominator variable of the Poverty variable (*POVERTY*) which if not influenced by the variables in the research model will be valued at 12,567 percent, (ii). *PG_PREDICTED* () is obtained from equation 1 (*PG Fit Value*). The Unemployment Rate (PG) has a positive effect on poverty with a coefficient value of 0.212 percent From the results of these estimates, it can be explained that if the Unemployment Rate in the Tomini Bay area increases by 1%, poverty will also increase by 0.212 percent.

The Effect of Education Level on Unemployment

The results of this study show that the level of education has a negative and significant influence on the unemployment rate in the Tomini Bay area. Referring to the existing findings, variables were found that were in line with the existing hypothesis. This means that any increase in the level of education in the Tomini Bay area can reduce the unemployment rate. This is caused by several things, including; (i) The policy of efforts to increase human capital in the Tomini Bay Area improves, so that it is factually able to reduce unemployment in the region. People have acquired sufficient education, so that they have access to the necessary skills and knowledge to meet the demands of the job market in the region.

By having the appropriate qualifications, it makes people more able to compete in finding

decent jobs. (ii). The stimulation of the local economy in the Tomini Bay Area is improving, the improvement of education levels has stimulated local economic growth by creating new jobs and supporting development in various sectors. Graduates who possess appropriate skills have contributed to innovation and economic development in the region, (iii). Entrepreneurship education and micro-enterprise development contribute to reducing unemployment in the Tomini Bay area. Higher education can provide encouragement to individuals to become entrepreneurs or develop micro-enterprises. Graduates who have entrepreneurial knowledge can create jobs on their own, helping to reduce the unemployment rate.

This condition is in line with the theory that reveals the relationship between education and unemployment is the theory of human capital (*human capital theory*) proposed by Gary Becker. According to this theory, education can be considered as an investment in human capital, that is, the improvement of individual qualities and skills. In the context of unemployment, individuals who have higher education tend to have better skills and are more relevant to job market demand. As a result, they have a better chance of obtaining decent work and contributing productively to the economy (Prakoso, 2020). This research is in line with that conducted by Maria, et.al (2023) who said that education has a negative and significant effect on the unemployment rate in North Sulawesi Province. In contrast to the findings Ali et al., (2022) which found that in low income countries, it shows that the level of education is not able to contribute to reducing unemployment. He tried this in countries that are members of the Organization of Islamic Cooperation (OIC) countries.

The Effect of Gini Ratio on Unemployment

The Gini ratio has a positive and significant effect on the unemployment rate. Referring to the existing findings, variables were found that were in line with the existing hypothesis. This means that every increase in income distribution inequality can increase the unemployment rate in the Tomini Bay region in the 2018-2022 period. This can be interpreted that deep income inequality in the region, empirically exacerbates the unemployment rate that occurs in the Tomini Bay region. When the Gini ratio is high, it means that the income gap between rich and poor groups is larger. This could reflect economic inequities and inequality of access to economic opportunities in the region. In this context, there are several things that trigger the phenomenon, including; (i). The unemployment rate arises due to income inequality, where inequality in economic access contributes to worsening people in obtaining access to employment, so that the unemployment rate increases.

Income inequality can create inequalities in economic opportunities, especially when it comes to access to decent and potentially viable work. If most economic opportunities are

concentrated in the hands of a handful of people or companies, this can result in more people experiencing unemployment or unstable employment, (ii). The gap in access to education has contributed to the increase in unemployment in the Tomini Bay area. Although the level of education in the region has improved, it does not seem to be evenly distributed in rural and urban areas.

Levels of income inequality are often correlated with inequality in access to education. If only a small percentage of society has access to quality education, there will most likely be a skills gap among the workforce. This can lead to a large portion of the population having low skills and less competitive in an increasingly complex job market, (iii). Skills gaps and job market demand, high income inequality often creates skills gaps among different walks of life. If most workers don't have the skills that match the demands of the local job market, they may struggle to find decent jobs. This can increase the structural unemployment rate, where workers lack the skills needed by the market, (iv). Limited access to capital and resources. Individuals or households with low incomes may have limited access to the capital and resources necessary to set up or develop their own businesses. This can hinder their ability to create jobs on their own, which can worsen the unemployment rate, (v). Inequality in access to public services, income inequality can also be reflected in inequality of access to public services, such as health and education services. This access gap can affect people's overall well-being, including their ability to compete in the job market.

According to Marx view, the important role of social classes in forming social structures. According to him, society is divided into two main classes, workers (proletarians) and owners of capital (capitalists or bourgeoisie). One relevant supporting theory in the relationship between the gini ratio and unemployment is the theory of social conflict (*Social Conflict Theory*). This theory emphasizes that high income inequality creates social conflict between the rich and the poor. These social conflicts can affect economic stability and lead to high unemployment rates. According to social conflict theory, the rich tend to control greater resources and economic power, while the poor have limited access to those resources. Large income inequality creates economic injustice, where a small percentage of the population controls most of the wealth and economic resources, while a large part of the population has limited or no access at all (Izzati et al., 2021). This research is in line with that conducted by Wirawan, (2019) who said that the Gini ratio had a positive and significant effect on the unemployment rate in DKI Jakarta Province in the 2007-2016 period. This is inversely proportional to the findings Uroos et al., (2022) that the uneven income distribution in Pakistan has no effect on the increase in unemployment. This is

due to workers in Pakistan engaged in the informal sector or private employment, which are less affected by income inequality in the formal sector.

The Effect of Labor Force Participation Rate on Unemployment

The high labor force participation rate has a negative and significant influence on the unemployment rate in the Tomini Bay Area in the period 2018-2022. Referring to the existing findings, variables were found that were in line with the existing hypothesis. This means that any increase in the labor force participation rate can decrease the unemployment rate in the Tomini Bay Area. This is caused by several things, including; (i). As more individuals are actively involved in the job market, the supply of labor increases. This can reduce the unemployment rate because individuals looking for work have a greater chance of finding suitable work in the Tomini Bay Area, (ii) Increased involvement of working-age workers is increasing, labor force participation involves increased involvement of working-age workers, which has increased productivity and helped reduce unemployment in the Tomini Bay Area. Workers who are active in the job market can contribute more to economic growth, (iii). The increase in the availability of workers is increasingly impressive, where more people are willing to work or find work, the availability of workers in the labor market has increased.

This has stimulated economic growth and created more job opportunities, reducing the unemployment rate in the Tomini Bay Area, (iv). Increased worker mobility in the Tomini Bay Area, increased labor force participation includes increased worker mobility, both geographically and sectorally. There are workers who have more mobility, making it easier to adjust to changes in the economic structure and find new job opportunities, (vi). There has been an increase in entrepreneurship in the Tomini Bay Area. Labor force participation has involved an increase in the number of entrepreneurs and entrepreneurs, thus creating new jobs and reducing the unemployment rate. Entrepreneurship can be a driving force for economic growth and job creation, (vii). There is an increase in economic activity. Although there has been a Covid-19 pandemic at the end of 2019 to 2021, slowly the national and regional economies are also accelerating. As a result, there is an increase in labor force participation, which can create more economic activity as more people work or look for work. Higher economic activity tends to lead to greater job demand.

This is in line with Keynes's view that trying to uncover the context of the relationship between labor force participation rates and unemployment is the labor supply theory (*Labor Supply Theory*). Keynes also discussed the concept of labor force participation within his macroeconomic framework. Keynesian theory states that increasing labor force participation rates can help reduce unemployment rates (Braga & Serrano, 2023; Dimand, 2023; Roberts,

2023). This theory states that a high labor force participation rate will reduce the unemployment rate. According to labor supply theory, individuals decide to engage in the labor market based on economic considerations. When labor force participation rates are high, it means that more individuals want and are able to work. Increased labor force participation reflects the level of willingness of individuals to offer their labor, which in turn increases the supply of labor in the market (Salsabila et al., 2022).

With an increase in labor supply, job opportunities will increase as there are more individuals available to fill existing job positions. This can reduce the unemployment rate because individuals who are looking for work have a greater chance of obtaining suitable employment. In addition, labor supply theory also emphasizes the importance of economic factors in influencing labor force participation. When economic conditions improve, such as increased economic growth or the opening of new jobs, individuals tend to be more motivated to engage in the labor force. Conversely, when economic conditions are poor, individuals may be more reluctant or difficult to engage in job searching, which can increase the unemployment rate (Ayu & Faisal, 2021).

Thus, labor supply theory provides an understanding of how high labor force participation rates can contribute to reducing unemployment. As more individuals engage in the job market, labor supply increases, job opportunities increase, and the unemployment rate can be suppressed (Salsabila et al., 2022). This research is in line with that conducted by Faizah & Woyanti, (2023) which said that the labor force participation rate has a negative and significant effect on the unemployment rate in Banten Province.

The Effect of Unemployment Rate on Poverty

Unemployment has a positive and significant influence on poverty in the Tomini Bay Area in the period 2018-2022. Referring to the existing findings, variables were found that were in line with the existing hypothesis. This means that any increase in unemployment will be accompanied by an increase in poverty. This is caused by several things, including; (i). When many are unemployed, they lose a stable source of income. Job loss can lead to a decrease in income or even no income at all. This can lead to difficult financial conditions, difficulty meeting basic needs, and eventually being trapped in poverty, (ii). Unemployment has had a long-term effect on poverty. When someone is unemployed for a long period of time, they may experience a decline in skills, loss of confidence, and difficulty re-entering the job market. In this case, they can be trapped in a cycle of poverty that is difficult to leave, (iii). In addition, unemployment can also affect social stability and family well-being. When someone in the family is unemployed, this

can lead to stress, financial instability, and significant emotional distress. Families may face difficulties in meeting food, housing, education, and healthcare needs. This can contribute to family poverty and the difficulty of achieving higher social mobility. Another interesting point found is that the characteristics of poverty in the Tomini Bay area tend to be dominated by rural areas, compared to urban areas in the region. Like Boalemo which is the poorest area, Gorontalo City has the lowest poverty achievement in the region.

One relevant supporting theory in the relationship between unemployment and poverty is the poverty life cycle theory (*Life Cycle Poverty Theory*). According to Marx view, the important role of social classes in forming social structures. According to him, society is divided into two main classes: workers (proletarians) and owners of capital (capitalists or bourgeoisie). This theory states that prolonged unemployment can cause individuals to be trapped in poverty in the long run. According to the poverty life cycle theory, unemployment can interfere with an individual's career and income development during their life cycle. When individuals experience unemployment in the early phases of their lives, such as after graduating school or university, they can have difficulty starting a stable career and getting a job that generates sufficient income. These income constraints can affect daily life and shape a continuing pattern of poverty (Mardiatillah et al., 2021).

In this context, poverty life cycle theory provides an understanding of how prolonged unemployment can contribute to high poverty rates (Diwakar & Shepherd, 2022). In efforts to reduce poverty, it is important to address the root causes of unemployment with policies that promote inclusive economic growth, create sufficient employment opportunities, improve the skills of the workforce through education and training, and provide adequate social protection for individuals affected by unemployment (Mardiatillah et al., 2021). By reducing the prolonged unemployment rate, it can create a way out of the cycle of poverty for individuals and families. This will contribute to improving the economic, social, and psychological well-being of individuals, as well as help promote social mobility and poverty reduction in the long run.

This research is in line with that conducted by Adam, Deswita and Olilingo. Z.F., (2022) That said, the unemployment rate had a positive and significant effect on poverty in the North-North Cooperation region in the period 2011-2022. Such is the case with research Gedikli et al., (2023) which found the influence of unemployment resulting in a vicious cycle of poverty in Europe, America and Australia.

CONCLUSION

Based on the results of the study, it was found that the level of education, labor force participation rate had a negative and statistically significant effect on the unemployment rate in

the Tomini Bay area. On the contrary, the Gini ratio actually shows a positive and statistically significant relationship to the unemployment rate in the Tomini Bay region. Similarly, unemployment to poverty shows the same relationship. The implications of this study include, among others, as follows; 1). The government in this case needs to maintain stability or improve the level of education in the Tomini Bay area to accelerate the increase in human capital. The need to increase access to primary and secondary education to ensure that all levels of society have the opportunity to access education. In addition, the government should focus on improving the quality of teachers and education infrastructure in developing educational programs that are relevant to the needs of the local job market, 2). The importance of a sustainable program to increase employment opportunities from the government so as to reduce unemployment and poverty. For example, through fiscal and monetary policy, the government can provide economic stimulus to increase economic activity. Major infrastructure projects, such as the construction of roads, bridges, and public facilities, that can create direct and indirect jobs in the Tomini Bay Area. Increasingly, increasing the capacity of SMEs can create new jobs and reduce unemployment at the local level. Encourage cooperation between the government and the private sector to create jobs and increase investment, so that existing investments are more inclusive in reducing unemployment and poverty, 3). The need for cash transfers to economically vulnerable groups, or other social assistance programs that are right on target to people in need.

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