

***THE EFFECT OF POPULATION GROWTH, GOVERNMENT EXPENDITURE AND HUMAN RESOURCE QUALITY TO OPEN UNEMPLOYMENT RATE IN SOUTH SULAWESI***

---

***<sup>1</sup>Andi Mahyuddin, <sup>2</sup>Madris, <sup>3</sup>Fatmawati***

*<sup>1</sup>(Master of Resource Economics, Faculty of Economics and Business, Hasanuddin University)*

*<sup>2</sup>(Faculty of Economics and Business, Hasanuddin University)*

*<sup>3</sup>(Faculty of Economics and Business, Hasanuddin University)*

**ABSTRACT**

Unemployment is seen as a burden on the economy of a country or region. This study aims to assess the extent to which socioeconomic variables such as population growth, government spending, the quality of human resources (HR) have a direct or indirect effect through investment and economic growth on open unemployment rate in South Sulawesi Province. The data sample used in this study was a time-series from 2000 to 2019 and then analyzed in the Structural Equation Model (SEM) equation model with SPSS version 25 program. The results showed that population growth had no significant effect either directly or indirectly on the open unemployment rate. Government spending has a significant effect both directly and indirectly in reducing the unemployment rate through investment. The quality of human resources has a significant direct and indirect negative effect on the open unemployment rate through economic growth. In conclusion, the open unemployment rate in South Sulawesi is more influenced by factors of government spending, quality of human resources, investment, so it is hoped that the local government will make more efforts to improve these factors to overcome the problem of unemployment.

**Keywords:** Open unemployment, Population growth, Government spending, Human resources quality, Investment, Economic growth

**INTRODUCTION**

A high unemployment rate can hinder efforts to achieve economic development in a country in order to increase the prosperity of its people. This is because unemployment has a negative impact on economic activity. Apart from having a negative impact on the economy, unemployment can also have an impact on socio-political instability (Mahdar, 2015). The problem of unemployment in the province of South Sulawesi is interesting to study. Several economic and social indicators, such as the level of regional economic growth and support for a conducive investment climate, the open unemployment rate in this strategic area of Indonesia is still quite high. Based on data from the Central Statistics Agency (BPS) in February 2020, South Sulawesi is in the 6th (sixth)

highest rank of 34 provinces with a percentage of 6.07 percent. This situation is far above the national average of 4.99 percent of the open unemployment rate.

In various research literatures, economic growth and investment play an important role and can act as a mediator for other factors towards fluctuations in the unemployment rate. Investment does not only create demand but also increases production capacity (Mulyadi, 2003). The relationship between economic growth and unemployment is generally known as Okun's Law (Okun's Law) which states that the higher the output growth, the lower the unemployment rate and vice versa (Arsyad, 2010).

Likewise, government spending factors can affect open unemployment. According to Keynes's theory, government intervention is still very necessary because if the economy is fully regulated by the free market, full employment opportunities and economic stability will not be possible (Sukirno, 2008).

The quality of human resources is also one of the factors causing the creation of unemployment in an area. There is a close positive relationship between production activities and human capital both at the same level and in the derivative equation. The higher the quality of human capital will have a positive effect on productivity (Elena Pelinescu, 2015). This research was conducted to find out how and to what extent the factors previously mentioned can influence the open unemployment rate in South Sulawesi Province.

## II. THEORETICAL REVIEW

In Malthus's theory, population growth will follow an exponential function, while growth (food supply) is linear. As a result, if population growth is not controlled, it will result in poverty and problems in the economy.

A different theory was put forward by Boserup (1965) where population growth can increase the level of productivity such as increasing productivity in the agricultural sector which can absorb more labor. As a rebuttal to Malthus's theory, Boserup states that to overcome scarcity of food supply, adjustments can be made between the productivity of sources and food supply with an additional workforce system and efforts to increase the production process so as to reduce unemployment and poverty (Ichekekwu, 2018).

In Keynes's theory, government spending is a driving force for economic growth which can create a multiplier effect (multiplier effect) in other sectors of the economy. The higher economic activity as a result of the multiplier effect, the more it will be able to absorb labor and reduce the unemployment rate. (Sukirno, 2000).

The Keynesian theory was also strengthened by Prof. Soemitro Djoyohadikoesoemo who stated that efforts to expand employment opportunities can be carried out by implementing public works or infrastructure projects through, among others, the construction of roads, bridges, waterways and dams which will further reduce unemployment (Ariesty: 2010).

According to Becker's theory (1964), specially trained workers are less likely to want to quit their jobs, and companies that employ them tend to keep them. On the other hand, workers without special training tend not to stay in the employer for long and eventually increase the unemployment rate. The same assumption is put forward by Katz and Murphy (1992) which states that the development of new technologies is complementary to skilled labor, so that there is an inequality of income with less skilled workers and the loss of their work land.

### III. RESEARCH METHODS

#### *Method of collecting data*

Conducted by library research (Library Research) in the form of economic reports from the South Sulawesi Province BPS, the Investment Coordinating Board (BKPM), economic studies of the Province of South Sulawesi from Bank Indonesia and economic research institutions.

#### *Data analysis*

This study uses quantitative data analysis techniques using a structural equation model (Structural Equation Model), where the equation is then regressed using the SPSS Version 25 program as follows:

$$Y_1 = f(X_1, X_2, X_3) \quad (1.1)$$

$$Y_2 = f(Y_1; X_1, X_2, X_3) \quad (2.1)$$

$$Y_3 = f(Y_1, Y_2; X_1, X_2, X_3) \quad (3.1)$$

Whereas:

$$Y_1 = \text{Investment (Rp)}$$

$$Y_2 = \text{Economic growth (\%)}$$

$$Y_3 = \text{Open unemployment rate (\%)}$$

$$X_1 = \text{Population growth (Jiwa)}$$

$$X_2 = \text{Government spending (Rp)}$$

$$X_3 = \text{Quality of Human resources (\%)}$$

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_1 \quad (1.2)$$

$$e^{Y_2} = \delta_0 + e^{\delta_1 Y_1} + \delta_2 X_1 + \delta_3 X_2 + \delta_4 X_3 + \mu_2 \quad (2.2)$$

$$e^{Y_3} = \alpha_0 + e^{\alpha_1 Y_1 + \alpha_2 Y_2} + \alpha_3 X_1 + \alpha_4 X_2 + \alpha_5 X_3 + \mu_3 \quad (3.2)$$

The above equation can be rewritten:

$$\text{Ln}Y_1 = \text{Ln}\beta_0 + \beta_1 \text{Ln}X_1 + \beta_2 \text{Ln}X_2 + \beta_3 \text{Ln}X_3 + \mu_1 \quad (1.3)$$

$$Y_2 = \delta_0 + \delta_1 Y_1 + \delta_2 \text{Ln}X_1 + \delta_3 \text{Ln}X_2 + \delta_4 \text{Ln}X_3 + \mu_2 \quad (2.3)$$

$$Y_3 = \alpha_0 + \alpha_1 Y_1 + \alpha_2 Y_2 + \alpha_3 \text{Ln}X_1 + \alpha_4 \text{Ln}X_2 + \alpha_5 \text{Ln}X_3 + \mu_3 \quad (3.3)$$

Then it can be estimated with the following steps:

$$\text{Ln}Y_1 = \text{Ln}\beta_0 + \beta_1 \text{Ln}X_1 + \beta_2 \text{Ln}X_2 + \beta_3 \text{Ln}X_3 + \mu_1 \quad (1.4)$$

$$-\delta_1 Y_1 + Y_2 = \delta_0 + \delta_2 \text{Ln}X_1 + \delta_3 \text{Ln}X_2 + \delta_4 \text{Ln}X_3 + \mu_2 \quad (2.4)$$

$$-\alpha_1 Y_1 - \alpha_2 Y_2 + Y_3 = \alpha_0 + \alpha_3 \text{Ln}X_1 + \alpha_4 \text{Ln}X_2 + \alpha_5 \text{Ln}X_3 + \mu_3 \quad (3.4)$$

#### IV. RESULT AND DISCUSSION

##### *Direct Effect*

In the following sub-chapters, the regression results of the direct effect of the variable population growth, government spending, quality of human resources, investment and economic growth are presented on the open unemployment rate as the main subject of research using the SPSS version 23 program.

Variabels	Coefficient	Std.Error	t-Statistic	Prob. (Sig)	Information
X1 to Y3	-0.129	0.444	-1.058	0.308	Not Significant
X2 to Y3	-0.624	0.740	-3.387	0.003	Significant
X3 to Y3	-1.403	0.225	-4.219	0.001	Significant
Y1 to Y3	-0.025	0.264	-0.162	0.874	Not Significant
Y2 to Y3	-0.624	0.483	-3.399	0.004	Significant
R-squared =		0.8322	F Statistic =	13.8836	
Adjusted R-squared =		0.7722	Sig (F-satistic) =	0.000	Signifikan
Durbin-Watson Stat =		1.2164			
Hubungan Variabel	Coefficient	Std.Error	t-Statistic	Prob. (Sig)	Information
X1 to Y1	0.145	0.445	0.698	0.495	Not Significant
X2 to Y1	-0.511	1.067	-1.133	0.274	Not Significant
X3 to Y1	1.121	0.188	2.388	0.030	Significant
R-squared =		0.4251	F Statistic =	3.9442	
Adjusted R-squared =		0.3174	Sig (F-satistic) =	0.028	Significant
Durbin-Watson Stat =		2.0392			
Hubungan Variabel	Coefficient	Std.Error	t-Statistic	Prob. (Sig)	Information
X1 to Y2	0.033	0.237	0.194	0.849	Not Significant
X2 to Y2	1.122	0.581	2.951	0.010	Significant
X3 to Y2	-0.565	0.114	-1.273	0.223	Not Significant
Y1 to Y2	0.492	0.132	2.400	0.027	Significant
R-squared =		0.6449	F Statistic =	6.8095	
Adjusted R-squared =		0.5502	Sig (F-satistic) =	0.002	Significant
Durbin-Watson Stat =		1.4164			

From the results of this study it was found that population growth had no direct effect on the open unemployment rate in South Sulawesi from 2000 to 2019. It can be seen from the Prob value. (Sig) t test of 0.308 which is greater than the significance value of 0.05 (5 percent). This finding is more due to the character of the population growth trend in productive age which tends to be stable or consistent every year. Meanwhile, the data on the open unemployment rate as the main subject of the study shows a trend in numbers that tends to fluctuate. The results of this study are different from Boserup's (1965) theory which states that population growth can increase productivity, such as in the agricultural sector, which can absorb a lot of labor and reduce unemployment. The results of this study are also different from previous empirical studies by Laku and Deda (2013) where population growth has a positive effect on the high unemployment rate in that country.

The government spending factor has a negative direct effect on the level of open unemployment in the province of South Sulawesi. This is indicated by the value of the influence given is equal to -0.624 with Prob. (Sig) 0.003 or less than the 0.05 level of significance. Thus it can be stated that every increase in government spending by 1 percent also reduces the open unemployment rate by 0.624 percent.

Government spending can suppress or reduce the open unemployment rate because all government spending activities are expected to be able to drive economic activities in society both in terms of production of goods and services and the side of public consumption. With government spending both in the fiscal and monetary sectors, job opportunities for the community can be created so as to reduce the open unemployment rate.

These findings are consistent with Keynes's theory which states that government spending will affect various sectors of the economy, either directly or indirectly, on increasing the production of goods and services. The increase in the production of these goods and services has an effect on economic growth and in turn can create more job opportunities so as to reduce unemployment. The results of this study are also in accordance with previous research by M.F Oladele (2016) where government spending and economic growth in the long term have a negative impact on unemployment in South Africa.

From the research results, the regression coefficient of the quality of human resources variable was -1.403 with Prob.Sig of 0.001 or less than the significance level of 0.05. These results indicate that an increase in the quality of human resources by one percent has a significant impact directly on reducing the open unemployment rate by 1,403 percent in South Sulawesi province during the period 2000 to 2019.

The development of the quality of human resources in terms of the percentage of the population with at least high school graduates and above continues to increase consistently. The average ratio of the minimum high school graduate to the population in the same age group for 20 years is 29.8 percent. This increase is inseparable from the success of government programs in the education sector such as the nine-year compulsory education program which accelerates higher education. In addition, there is a law issued so that both the central and local governments allocate a budget of at least 20 percent of the total national government budget and local government budget.

This result is in accordance with the theory put forward by Becker (1964). In theory, specially trained workers are less likely to want to quit their jobs, and companies that employ them tend to keep them. On the other hand, workers without special training tend not to stay in the employer for long and eventually increase the unemployment rate.

This result is also in accordance with several previous empirical findings such as Isabel Cairo and Tomas Cajner (2014). In conclusion, their research is related to the dynamics of human capital and unemployment in which educated workers enjoy more stable employment in the United States.

### ***Indirect Effect***

Based on the results of the calculation of the regression coefficient, government spending factors and the quality of human resources have an indirect significant effect on open unemployment through the mediating variables in the form of investment and economic growth.

The coefficient of influence on total government spending is greater than the coefficient of direct effect, namely  $-0.611 > -0.624$ . From these results, there is a significant indirect effect of government spending on open unemployment through investment as a mediating variable.

This finding is in accordance with the theory put forward by J.M Keynes where fiscal policy such as expansive government spending is considered to be able to encourage investment through increasing aggregate demand. Keynes argues that an increase in aggregate demand can increase investment which in turn can open up wider employment opportunities and reduce unemployment.

Meanwhile, the coefficient value of the total influence of the quality of human resources on open unemployment through economic growth is  $-1.050$ , greater than the coefficient of direct effect of  $-1.403$ . This means that the quality of human resources has an indirect impact on the open unemployment rate through economic growth factors in the province of South Sulawesi for the period 2000 - 2019.

Through the quality of human resources which is proxied from the increasing proportion of high school graduates and above, the rate of economic growth in South Sulawesi continues to show a positive growth rate. This is more due to the increasing rate of growth in the information and communication sector. Growth in this sector is recorded to grow rapidly to reach 9.79 percent in 2020.

### ***Conclusion***

Based on the results of the research and discussion that has been stated in the previous chapter, several conclusions can be drawn as follows:

1. Population growth has no significant effect either directly or indirectly on the open unemployment rate in South Sulawesi province from 2000 to 2019. In other words, it can be said that these findings are not in accordance with the hypothesis in this study.
2. From the results of this study, government spending has a significant effect both directly and indirectly through negative investment on the open unemployment rate in South Sulawesi Province for the period 2000 - 2019. Government spending, which is proxied by the amount of capital expenditure each year is proven to be able to increase the wider investment and employment opportunities for people as workers so that the open unemployment rate can be reduced.
3. The quality of human resources has a significant effect both directly and indirectly through economic growth on the open unemployment rate in South Sulawesi in 2000–19 2019. The consistency of increasing the number of people who have higher education is more absorbed in the labor market. In addition, the quality of human resources drives economic growth which in turn can absorb a wider workforce so that the open unemployment rate can be reduced.

### ***Suggestion***

From the above conclusions regarding the results of this study, there are several important things that can be suggested to all stakeholders, especially to the regional government of South Sulawesi Province as the most authorized party in formulating policies in the related areas:

1. The importance of maximizing budget management in increasing government spending, which is

proven to have a direct or indirect impact on employment. Particularly in this case, regional governments can continue to increase the proportion of capital expenditure more than non-development expenditures such as personnel or routine expenditures. Capital spending is much more effective in reducing unemployment because capital expenditure is more for the construction of public facilities and infrastructure such as the construction of roads, bridges, office buildings and so on.

2. It is hoped that local governments will continue to spur programs in the education sector both in skills and knowledge so that they can consistently improve the quality of human resources. With qualified human resources, regional economic growth can move quickly to produce new multiplier effects in line with the rapidly developing technological developments today. This fast-growing economy, as a factor of superior human resource quality, can then create new job opportunities and spur more productivity so that open unemployment can decrease.

## References

- [1] Arysad, Lincolin (2010). *Economic development*. Yogyakarta: UPP STIM YKPN
- [2] Central Bureau of Statistics, BPS (2020). *State of the Workforce of South Sulawesi Province*
- [3] Becker Gary S. 1965. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* University of Chicago - Department of Economics; University of Chicago - Booth School of Business.
- [4] Budianto, 2014. *Regional Governments Spending, Private Investment and Employment Performance in Indonesia*. *Economic and Financial Studies*, Volume 18 No. 3, December 2014, Page: 181 - 254
- [5] Elena, Pelinescu. 2015. *The Impact of Human Capital on Economic Growth*. *Procedia Economics and Finance 22 Journal*. Institute for Economic Academia Romana
- [6] Mahdar, Basrowi 2018. "Unemployment in a theoretical perspective". *Journal of STEBi Lampung, Indonesia*.
- [7] Mulyadi, Subri. 2003. *Human Resource Economics*. Raja Grafindo Persada: Jakarta.
- [8] Sukirno, S. (2008). *Introductory macroeconomics theory*. Jakarta: PT Raja Grafindo Perkasa.
- [9] Tomaz Cajner & Isabel Cairo, 2011. "Human Capital and Unemployment Dynamics: Why More Educated Workers Enjoy Greater Employment Stability". *Meeting Papers 1145, Society for Economics Dynamics*, 21 Dec. 2007, doi:10.1109/TKDE.2007.190746.(PrePrint)
- [10] Ikechukwu Benjamin, 2018. *The Relationship Between Population Growth and Unemployment: The Nigerian Case*. *Research Gate Journal*.