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Analysis of the of General Allocation Funds and Human Development Index Effect on Employment in Sumatra Island

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Abstract

Palm oil is a commodity that has an important role in the Indonesian economy as a leading commodity, its role tends to increase from year to year. This study aims to see the effect of the General Allocation Fund (DAU) variable, and the Human Development Index (IPM) and on employment in the oil palm plantation sector in Sumatra Island. The analytical method used is a simultaneous analysis method using panel data, which is a combination of cross section data and time series data for a period of 10 years from 2011 to 2020 per 10 provinces in Sumatra Island.

Keywords: *General Allocation Fund, Human Development Index, Employment*

JEL Codes: *E24, J21, Q52*

Introduction

Economic development and development in other fields always involve human resources as one of the agents of development, therefore the population in a country is the main element in development. A large population does not always guarantee the success of development and can even become a burden for the sustainability of this development. A population that is too large and disproportionate to the availability of jobs will result in part of the population who are of working age not getting a job.

The dimensions of the employment problem are not just limited of employment or job opportunities and low productivity, but are much more serious with different causes (Wu et al., 2023). In the past decade, the main problem has been the failure to create new jobs at a rate commensurate with the growth rate of industrial output. In line with the changing macroeconomic environment of the majority of developing countries, the rapidly increasing unemployment rate was mainly due to "limited demand" for labor, which was further reduced by external factors such as deteriorating balance of payments conditions, increasing foreign debt problems and other policies, which in turn has resulted in a decline in industrial growth, wage rate, ultimately, employment. (Todaro, 2000),

Economic development is a series of efforts to improve the standard of living of a nation which is often measured by the level of real income per capita. Economic development is also a series of efforts within an economy to move its economic activities so that more infrastructure is available, more and more companies are growing, education levels are getting higher and

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technology is increasing. As an implication of this development, employment opportunities will increase, income levels will increase and people's prosperity will become higher (Sukirno, 2006). In labor economics, it is assumed that labor has a goal of utility maximization, which is that people are assumed to try to achieve the goal of making themselves as happy as possible at the level of limited resources (Ehrenberg and Smith, 2012).

Sumatra is an island located in the western part of the Archipelago. The area of Sumatra is approximately 473,481 square kilometers. The geographical conditions of Sumatra based on the map of the island's area are further divided into ten provinces, including: Aceh Province, North Sumatra Province, Riau Province, West Sumatra Province, Riau Islands Province, Jambi Province, Bengkulu Province, South Sumatra Province, Lampung Province, Bangka Belitung Islands Province. Sumatra is also one of the areas that has the largest population. Population is one of the problems in the development of an area. This is one of the obstacles in national development because it increases the labor force that will enter the labor market, while on average they have very low level of education and skills or are uneducated workers, while the available job opportunities are relatively small. (BPS, 2019). The oil palm plantation sector can be said to be one of the plantation sectors that is able to absorb a large number of workers in it. This is because many of the population on the island of Sumatra have oil palm plantations land. And among the ten existing provinces, North Sumatra Province is one of the provinces that has the largest oil palm plantation area in Indonesia so that some of the people also work in the oil palm plantation sector.

The main problem in regional development lies in the emphasis on development policies based on the characteristics of the region concerned by using the potential of human resources, institutions, and physical resources locally (regionally). This orientation refers to taking initiatives originating from the area in the development process to create new job opportunities and stimulate increasing economic activity (Arsyad, 1999).

The way to overcome the problem of absorbing labor in each region is to increase the General Allocation Fund (DAU) and the Human Development Index (IPM). The labor market, like other markets in the economy is controlled by the forces of supply and demand, but the labor market differs from most other markets since the demand for labor is a derived demand where the demand for labor is highly dependent on the demand for the output produced (Mankiw, 2006).

Theoretical Framework

General Allocation Fund (DAU) is the funds allocated with the aim of inter-regional financial equity to finance expenditure needs in the framework of decentralization (Muda & Ridha, 2018). Law Number 33 of 2004 concerning financial balance between the central government and regional governments explains that DAU aims to equalize financial capacity among regions which is intended to reduce disparities in financial ability between regions through the application of a formula that examine fiscal needs and capacity. The DAU of a region is determined by the size of the fiscal gap of a region, which is the difference between fiscal need and fiscal capacity (UU No. 33 of 2004).

Darwanto and Yustikasari (2007) stated that the granting of DAU to regional governments is a consequence of the transfer of authority from the central government to regional governments. Thus, there is a significant transfer in the APBN (State Budget) from the central government to the regional governments, and local governments can freely use the DAU

whether to provide better services to the community so that it will create a healthier life and longer life expectancy, improve the quality of education and the standards of community life (Purba et al., 2018).

In addition to the General Allocation Fund, the Human Development Index is also very important in absorbing labor. The Human Development Index (IPM) is formed through 3 (three) basic dimensions namely, long and healthy life, knowledge and a decent standard of living. The Human Development Index (IPM) explains how residents can access the results of economic development in obtaining income, health and proper education for humans (BPS Sumut, 2018). According to Wahyuni (2005) one of the factors causing the high unemployment rate is due to the high population growth. Basically, the increase in population has two different sides. A large population is an asset in achieving national development goals, but on the other hand, with improper management, a large population can cause crucial population problems, especially in the field of employment. If the high population growth is not accompanied by qualified Human Resources (HR), they will not be able to occupy the available jobs in the region.

According to Napitupulu (2007), the Human Development Index (IPM) contains three important dimensions in development, which are related to aspects of fulfilling the need for a long and healthy life, to gain knowledge and be able to meet decent living standards. The better the health level of the workforce, the higher the knowledge and the better the quality of life, the better the work results will be, on the contrary the worse the condition of the workforce, the worse the work results will be. This shows that the three dimensions important in human development as an indicator to assess the quality of human resources who are ready to work so as to be able to absorb labor in a region.

Research Methods

This research is quantitative, which is a study to obtain conclusions from hypotheses that are built by analyzing quantitative data (numbers) using mathematical models based on theories and/or hypotheses related to phenomena. The specification of the model used was adapted from several previous studies by making adjustments that were considered to provide better results to explain the determinants that influence the employment in the oil palm plantation sector in Sumatra Island. The model built is a mathematical function as follows:

$$L = f(DAU, IPM) \quad (1)$$

From these functions can be modified into a linear model with the following model specifications:

$$L = a_0 + a_1DAU_i + a_2IPM_i \quad (2)$$

Which:

L = Employment

DAU = Dana Alokasi Umum (General Allocation Fund)

IPM = Indeks Pembangunan Manusia (Human Development Index)

Considering that the data used in this study is panel data, the Fixed Effect and Random Effect models were used to test the hypothesis (Greene, 2000). Determination of the model used, whether the Fixed Effect or Random Effect is based on the Hausman test (Hausman's test of

specification model).

Multicollinearity arises when the independent variables have a relationship that is not linearly independent, thus causing redundant information on the independent variables (Ananta, 1987) or in other words multicollinearity is that there is a perfect linear relationship between the independent variables of a regression model. (Manurung, et al, 2005). Multicollinearity occurs due to, among other things, the method of data collection used to limit the value of the regressor variable, model constraints on the observed population, model specifications, determination of the number of independent variables which are more than the number of observations, and time series data.

Multicollinearity makes it difficult to distinguish the effect of each independent variable separately on the dependent variable, but if the study is conducted to estimate a group of coefficients (for example the sum or difference of two coefficients) then the estimation results are still accurate, under the condition that the relationship pattern between variables does not change. But when used for estimation, the collinearity problem becomes a serious problem because of the large standard error (Gujarati, 1999). The method used to detect the existence of multicollinearity in research is to look at the value of the variance inflating factor (VIF), namely:

$$VIF = \frac{1}{1 - R_{12}^2}$$

which:

R_{12}^2 = correlation coefficient between k_1 and k_2 .

The autocorrelation test aims to test whether in the linear regression model there is a correlation between misuse in period t and disturbance errors in period $t-1$ (previously). Autocorrelation is defined as the correlation between members of the observation in several time series (serial correlation) or between members of the observation in different objects or spaces (spatial correlation). The consequences if there is autocorrelation in the model include the estimated error variance that seems too low compared to the true variance value, the estimated coefficient of determination is too high, the use of the t test and F test is invalid, leading to wrong conclusions, and the estimation becomes less efficient. The methods used to detect autocorrelation are carried out in four ways, which are the Graphical Method, the Run Test, the Durbin-Watson d Test, and the Breush-Godfrey Test.

Normality test where the regression with the OLS method requires the assumption of normality on the disturbance error. To find out whether the disturbance errors are normally distributed, the Jacque Berra (JB) value from the disturbance normality test results is compared with the Chi-Square Table values with degrees of freedom 2 at a certain level of significance. It is said to escape the abnormal distribution of disturbing elements if the value of JB is less than the critical value of Table χ^2 .

Results and Discussion

The estimation results of the influence of the General Allocation Fund and the Human Development Index on employment on Sumatra Island produce the Fixed Effects method

Table 1. Estimation Result.

Dependent Variable: Employment				
Method: Pooled Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.51924	6.228077	3.294635	0.0014
General Allocation Fund	5.03E-11	2.03E-10	0.247798	0.8049
IPM	0.228360	0.097711	-2.337086	0.0218
Fixed Effects (Cross)				
_ACEH--C	2.367054			
_SUMUT--C	0.448892			
_SUMBAR--C	0.823323			
_RIAU--C	0.346220			
_KEPRI--C	2.373486			
_JAMBI--C	-1.356628			
_BENGKULU--C	-1.764805			
_SUMSEL--C	-0.836955			
_BANGKABELITUNG--C	-1.732499			
_LAMPUNG--C	-0.943712			
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.673123	Mean dependent var	5.607400	
Adjusted R-squared	0.623711	S.D. dependent var	1.640783	
S.E. of regression	1.006496	Akaike info criterion	2.980003	
Sum squared resid	87.12088	Schwarz criterion	3.344727	
Log likelihood	-135.0002	Hannan-Quinn criter.	3.127614	
F-statistic	13.62274	Durbin-Watson stat	1.175418	
Prob(F-statistic)	0.000000			

Sumber: Processed Results with Eviews.

The regression coefficient of the DAU variable is 5.03333. The DAU coefficient is equal to 5.03333, meaning that if the DAU increases by 1 percent, it will increase employment by 5 people. The DAU variable has a positive and significant effect on employment In Sumatra Island. From this estimation results it is increasingly clear that employment in Sumatra Island is largely determined by the level of the General Allocation Fund (DAU).

The estimation results show the regression coefficient of the IPM variable of 0.2283. This means that for every 1 percent increase in IPM, the employment will increase by 1 person. The effect of the IPM variable on employment is significant at the 95 percent confidence level.

Test Result

Table 1 above explains the Prob Value. (F-statistic) of 0.000000 (larger). Means simultaneously the independent variables (DAU, and IPM) have an effect towards employment. The estimation results have fulfilled the model suitability test for the simultaneous test, so that the estimation results can be used for analysis.

Determination Coefficient Results

R² lies between 0 and 1. R² equals 1, meaning that the independent variables explain 100 percent of the variation in the dependent variable. Conversely, R² equals 0, meaning that the

independent variables in the model do not explain the slightest variation in the dependent variable. The model is said to be better if R^2 is closer to 1 (Gujarati: 99). According to table 1, the estimated model produces an R^2 of 0.67. That is, the existence of the independent variables (DAU and IPM) is able to explain the dependent variable (Employment) by 67 percent, the rest is explained by other variables outside the model.

Partial Test Results (T-Test)

Partial test is also called test of significance. Prob Value Wages of 0.80, meaning that the General Allocation Fund has a positive but not significant effect on employment; and the Prob value. IPM is 0.021, meaning that IPM has a positive and significant effect on employment. So, the estimation results have fulfilled the suitability test from the partial test aspect.

The Effect of General Allocation Funds on Employment

Pappas and Mark Hirshey's theory (1995), stated that demand is a number of goods or services purchased by consumers during a certain period based on certain situations and conditions. There are two basic demand models, one of which is the derived demand model, namely the demand for raw materials as input in the manufacture of goods or services that are requested to be distributed into other products. These goods and services are acquired not because of their direct consumption value but because they are an important input in the manufacture or distribution of the product. We say that the demand for them is derived from the demand for the products they are used in manufacturing. Thus, the demand for all inputs used by a company is derived demand. In other words, derived demand is the demand for inputs used in production.

Talangamin (2018) stated that general allocation funds have a significant positive effect on economic growth. This is consistent with the theory which states that there is a positive influence between general allocation funds and economic growth, meaning that if general allocation funds increase, economic growth will also increase *ceteris paribus*. Research by Helena Louise Panggabean, Danarti Hariani, et al (2022), the General Allocation Fund has a significant positive influence on Economic Growth. This means that the higher the General Allocation Fund, the higher the Economic Growth, and vice versa, the higher the General Allocation Fund obtained by the local government, the higher the economic growth in the area.

These results are in line with research conducted by Mafahir & Soelistiyo (2017); Sinaga et al (2020); Wahyuni (2020); and Sisilia & Harsono (2021) show that the General Allocation Fund has a positive and significant effect on Economic Growth. The empirical findings of this study show positive and insignificant results, which conclude that general allocation funds have a positive and significant effect on employment.

The general allocation fund (DAU) and its relation to employment in the plantation sector theoretically have no effect because the general allocation fund (DAU) is a fund from the central government which is transferred to the province, district/city to be used in the regions. In the regulatory system for governance and government financial benefits, it is stated that the General Allocation Fund (DAU) can only be used for making government-owned facilities or assets, such as in making infrastructure for building bridges, schools, markets and so on. The DAU transferred can only be used to build infrastructure outside the plantation area, both private and state-owned, such as national roads, provincial roads, district/city roads in existing sub-districts or villages, then in the health sector, for example building a health center, the General Allocation Fund (DAU) is not can be used in the plantation area, because it is already a regulation for the government's financial designation for the development sector.

The Effect of Human Development Index on Employment

Human Capital Theory explains about a form of capital as well as machines and technology. Humans also have a role or responsibility in all economic activities, such as production, consumption and transactions. As this theory develops, the concept of human capital can be defined into three concepts. The first concept is human capital as an individual aspect. This concept states that human capital is an ability that exists in humans, such as knowledge and skills.

This is clarified by Rastogi (2002) who stated that human capital is knowledge, competence, attitude, health, and human traits. The second concept states that human capital is knowledge and skills obtained through various educational activities such as schools, courses and training. The main concept of this model is that human capital is something that is obtained through the accumulation of a certain process (Alan et al, 2008). This concept assumes that human capital does not originate from human experience. The third concept looks at human capital through a production orientation perspective.

Romer (1999) stated that human capital is a fundamental source of economic productivity. Human capital is also an investment made by humans to increase their productivity (Rosen, 1999). Frank & Bemanke (2007) said that human capital is a combination of education, experience, training, skills, habits, health, energy and initiatives that affect human productivity.

Hafiz's research (2021) shows that the results of the study show that partially the Human Development Index (IPM) has a positive effect on employment in the Regency/City of West Java. The results of Wati's research (2022) show that the Human Development Index (IPM) variable has a positive and significant effect on district/city employment in West Kalimantan. Simultaneously, the variables of economic growth, the Human Development Index (IPM) and capital expenditures have a significant effect on the employment of districts/cities in West Kalimantan. Aulia (2020) in her research shows that the Human Development Index has a positive and significant effect on the number of workers in Riau Province. Simultaneously GRDP, District/City Minimum Wage, and Human Development Index have a significant effect on the number of workers in Riau Province in 2013-2019.

Meanwhile, Anzari's research (2022) the results of the analysis show that the Human Development Index (IPM) variable has no significant effect on employment absorption in Central Java Province during the study period. Prayoga (2022), the results of the research and discussion, it can be concluded that the Human Development Index has a negative and significant influence on employment in the Province of the Special Region of Yogyakarta. The empirical findings of this study show positive and significant results, which means that they support the Human Capital theory. The findings of this study are in line with research (Hafiz, 2021), (Wati, 2022), and (Aulia, 2020) which found that the Human Development Index (IPM) variable has a positive effect on employment, which concludes that the Human Development Index (IPM) positive and significant effect on employment.

Conclusion

In accordance with the title of the study which aims to analyze the effect of the General Allocation Fund, and IPM on employment in Sumatra Island, the conclusion drawn from this research is that the General Allocation Fund (DAU) has a positive and insignificant effect on employment. Meanwhile, the human development index (IPM) has a positive and significant effect on employment.

References

- Arsyad, AR. Heri Junaedi, Dan Yulfita Farni. 2012. Pemupukan Kelapa Sawit Berdasarkan Potensi Produksi Untuk Meningkatkan Hasil Tandan Buah Segar (TBS) Pada Lahan Marginal Kumeh. *Jurnal Penelitian Universitas Jambi*. Vol 14 No. 1. Januari – Juni 2012. Hal 29-36. Diakses 16 Oktober 2019
- Arsyad, Lincoln. 1999. *Ekonomi Pembangunan*. Universitas Gajah Mada. Yogyakarta : STIM YKPN
- Gujarati, Damodar, 2003, *Ekonometrika Dasar*, Terjemahan, Jakarta: Erlangga.
- Mankiw N.Gregory (2006), *Teori Makro Ekonomi*, Terjemahan Erlangga, Edisi Ketiga. Jakarta.
- Mankiw, N.Gregory, 2003, *Pengantar Ekonomi*, Edisi Kedua, Jakarta : Erlangga.
- Michael P Todaro. (2002). *Pembangunan Ekonomi (Kesembilan)*. Jakarta: Penerbit Erlangga.
- Michael. *Economic Development (Terj)*. *Pembangunan Ekonomi*, Jilid I, Jakarta: Erlangga, 2010
- Muda, I., & Ridha, H. (2018). Effect of Revenue and General Allocation Fund of Capital Expenditures in the Economic Growth as Moderator Variable. Case of Indonesia. *Academic Journal of Economic Studies*, 4(1), 29-39.
- Napitupulu, Aprilia S. 2007 “Pengaruh Indikator Komposit Indeks Pembangunan Manusia Terhadap Penurunan Penduduk Miskin Di Sumatera Utara, Fakultas Ekonomi Universitas Sumatera Utara” Sumatera Utara.
- Purba, S.; Nababan, R.; and Ginting, S. (2018). Regional Tax and Levies, General Allocation Funds, and Special Allocation Funds Effects to the Capital Expenditures Allocation with Total Population as Moderating Variables in Districts/Cities in North Sumatera Provinces. *Proceedings of the 1st Unimed International Conference on Economics Education and Social Science - Volume 1: UNICEES*, ISBN 978-989-758-432-9, pages 391-397. DOI: 10.5220/0009493203910397
- Todaro, M.P. Dan Stephen C. Smith. 2004. *Perdagangan Luar Negeri*. Gramedia. Jakarta.
- Todaro, Michael P. 1999. *Economics Development In The Third World*, The Longman Inc New York.
- Todaro, Michael P. 2000. *Pembangunan Ekonomi Di Dunia Ketiga*. Erlangga. Jakarta. UNDP, 2009. *Human Right And Human Development*. Oxford University Press. New York.
- Wu, W., Hon-Wei, L., Yang, S., & Xu, Z. (2023). Nexus between financial inclusion, workers' remittances, and unemployment rate in Asian economies. *Humanities and Social Sciences Communications*, 10(1), 1-10. <https://doi.org/10.1057/s41599-023-02133-8>