



## Allocation of Special Autonomy Funds (Dok) and Its Impact on Regional Economic Influence in Papua Province

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**ABSTRACT:** This study aims to determine the effect of the Special Autonomy Fund (DOK) allocation on regional economic inequality both directly and indirectly through economic growth in Papua Province. The type of data used is panel data for 19 districts / cities for 12 years and data collection is done by documentation method. Data were analyzed using the common effects and fixed effects Ordinary Least Squares (OLS) method with the simultaneous equation model with the help of software eviews 9. The results showed that the DOK education sector variables directly, health sector DOK, infrastructure sector DOK and economic empowerment sector DOK popularity has a significant positive effect on economic growth. Furthermore, directly the DOK infrastructure sector and the DOK of the people's economic empowerment sector have a negative significant effect on regional economic inequality. Furthermore indirectly through economic growth of the DOK education sector, health sector DOK, infrastructure sector DOK and populist economic empowerment sector negative effect on inequality regional economy.

**KEYWORDS:** Special Autonomy Fund (DOK), Economic Growth and Regional Economic Inequality

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### I. INTRODUCTION

The main goal of economic development is to create the highest Gross National Product (GNP) or Gross National Product (PNB) growth rate, but followed by eradicating poverty, overcoming income inequality, providing employment, better education, improving health standards and nutrition, improving environmental conditions and refreshing cultural life.

Development carried out so far is quite capable of encouraging an increase in the rate of regional economic growth, but in many cases it is relatively unable to reduce development disparities between regions. Economic inequality between regions is triggered by several things, including differences in natural resource potential, differences in demographic and employment conditions, and differences in socio-cultural conditions between regions. In addition, the lack of smooth mobility of goods and services between regions also contributed to economic inequality between regions.

The issue of inequality that characterizes the development process in various regions in Indonesia can be observed through a comparison of the western and eastern regions, Java and outside Java as well as between provinces and districts / cities as autonomous regions. Todaro (2003), explains that the negative effects of extreme inequality, among others, economic inefficiencies, weakening social stability and solidarity, and high inequality are generally seen as unfair.

Referring to the Papua Province that during the last 12 years the Gross Regional Domestic Product (GRDP) per capita ADHB has always increased with the highest value in 2009, which was Rp. 237,435,160.36 billion and the average growth of Rp.55,504. On the other hand, the increase in per capita GRDP was accompanied by problems of economic inequality between regions. Inequality in economic development in this region is a serious macroeconomic problem and is a joint commitment at the central, provincial and district / city levels of government.

the level of economic development inequality in Papua Province tends to fluctuate as indicated by the Williamson Index with the highest level of inequality in Indonesia and reached its peak in 2005 of 2.21 with a growth of 28.48%. The rate of economic development inequality in the Papua Province is categorized as

extreme inequality and has the potential to cause various community problems. The trend of high regional inequality between developed regions and developing regions is influenced by several factors, including economic development progress (Williamson, 1965; Yemtsov, 2005; Elbers et al., 2005; Kay et al., 2007), political situation and fiscal decentralization (Swastyardi, 2008; Lessmann, 2011); and HDI (Mopangga, 2011).

Listening to positive views about the benefits of decentralization, it can be said that the elaboration of the implementation of fiscal decentralization can make the economy of a region more advanced, as indicated by the increase in regional revenues, GDP growth, an increase in per capita income of the population. In the end, efforts to improve income equity, and reduce poverty, improve the quality of society reflected through the human development index and decrease the unemployment rate in the national economy can be better realized through the implementation of fiscal decentralization (Vasquez and Robert, 2001).

In the adjustment of the special autonomy fund, the Papua Province stated that 15% was realized in the health sector for health costs and improved nutrition which was directed at increasing the reach and quality of health services. The health sector represents the quality of human capital as a factor of production, high health will increase productivity of the poor, better health will increase labor power, reduce days not working so that greater opportunities are created in order to produce value for goods and services. Health is not only the key to the success of economic growth but also a vital indicator in overcoming development inequality. Schultz (1961) in Craigwell (2012), said that health has become the basis for achieving faster growth in Western societies. Getting high standards of health is the basic right of every person and also the basis for reducing socio-economic inequality (Backman, et al., 2008).

Modernization of the economy requires modern infrastructure as well. In an effort to achieve and maintain high economic development, the role of infrastructure remains critical. Infrastructure helps in determining a country's overall productivity and economic development (Mody 1997). Dekker et. al. (2003) emphasize that infrastructure development through capacity expansion will have a positive impact on national and regional economic development.

## II. RESEARCH METHODS

### 2.1 Location and Type of Research

The research was conducted at the Papua Province Central Statistics Agency (BPS) and the Regional Financial and Asset Management Agency (BPKAD) of the Papua Province. Meanwhile, the time needed in this study is 1 (one) month.

### 2.2 Data Types and Analysis Methods

The type of data used in this study as an analysis material using a panel data approach in the form of regional economic inequality data, economic growth, education sector DOK, health sector DOK, infrastructure sector DOK, populist economy empowerment DOK from 2005-2016.

The data obtained in this study are sourced from the BPS of the Papua Province for data on economic growth and provincial DOK data sourced from the Papua Province BPKAD and the results of the authors' review.

the researcher determined the basic econometric model which consists of two equations which explain the behavior of DOK allocation for economic growth and regional economic inequality. In this study, data analysis techniques were carried out using the common effects approach and fixed effect Ordinary Least Squares (OLS) method of the simultaneous equation model with the aim of predicting how much influence exogenous variables have on endogenous variables through intervening variables using software eviews 9. Mathematically the model can be expressed in the following functions:

$$Y1 = f (X1, X2, X3, X4)$$

$$Y2 = f (X3, X4, Y1)$$

$$eY1 = X1\alpha_1 X2\alpha_2 X3\alpha_3 X4\alpha_4 e\alpha_0 + \epsilon_1 \dots\dots\dots (1)$$

$$eY2 = X3\beta_1 X4\beta_2 e\beta_0 + \beta_3 Y1 + \epsilon_2 \dots\dots\dots (2)$$

Substitute equation (1) into equation (2)

$$Y1it = \alpha_0 + \alpha_1 \ln X1it + \alpha_2 \ln X2it + \alpha_3 \ln X3it + \alpha_4 \ln X4it + \epsilon_1$$

$$Y2it = \beta_0 + \beta_1 \ln X3it + \beta_2 \ln X4it + \beta_3 \ln Y1it + \epsilon_2$$

$$= \beta_0 + \beta_1 \ln X3it + \beta_2 \ln X4it + \beta_3 \ln (\alpha_0 + \alpha_1 \ln X1it + \alpha_2 \ln X2it + \alpha_3 \ln X3it + \alpha_4 \ln X4it + \epsilon_1) + \epsilon_2$$

$$= \beta_0 + \beta_1 \ln X3it + \beta_2 \ln X4it + \alpha_0 \ln \beta_3 + \alpha_1 \beta_3 \ln X1it + \alpha_2 \beta_3 \ln X2it + \alpha_3 \beta_3 \ln X3it + \alpha_4 \beta_3 \ln X4it + \beta_3 \epsilon_1 + \epsilon_2$$

$$= \beta_0 + \alpha_0 \ln \beta_3 + \beta_1 \ln X3it + \beta_2 \ln X4it + \alpha_1 \beta_3 \ln X1it + \alpha_2 \beta_3 \ln X2it + \alpha_3 \beta_3 \ln X4it + \alpha_4 \beta_3 \ln X4it + \epsilon_3$$

.....(3)

Where

Y1: Economic growth

Y2: Regional Economic Inequality

$\alpha_0, \beta_0$ : Constants  
 $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ : Slope or Coefficient or Intersep  
 $\beta_1, \beta_2, \beta_3$ : Slope or Coefficient or Intersep  
X1: Education Sector DOK  
X2: Health Sector DOK  
X3: Infrastructure Sector DOK  
X4: DOK of the Democratic Economy Empowerment Sector  
 $\varepsilon_1, \varepsilon_2, \varepsilon_3$ : error term

### III. RESEARCH RESULT

Referring to the results of data processing, the value of t is calculated for the education sector DOK variable  $3.208261 > 1.285394$  (probability = 0.0016), health sector DOK  $1.796564 > 1.285394$  (probability = 0.0739), infrastructure sector DOK  $2.983090 > 1.285394$  (probability = 0.0032), DOK populist economic empowerment sector  $5.422331 > 1.285394$  (probability = 0.0000), with a significance level ( $\alpha = 10\%$ ,  $df = 221$ ) is 1.285394. So that it can be concluded that: DOK education sector variables, health sector DOK, Infrastructure sector DOK and populist economic empowerment sector positive and significant impact on economic growth.

In addition, there are also indirect effects listed in Table 5.10. Based on the results of data processing through economic growth (Y1) for the infrastructure sector DOK variable (X3) has a t-statistic of -3.101470 with a probability = 0.0022. Then through economic growth (Y1) the DOK of the people's economic empowerment sector (X4) has a t-statistic of -7.454303 with probability = 0.0000. So it can be concluded that: DOK variable in the infrastructure sector, DOK of the economic empowerment sector has a negative and significant effect on regional economic inequality through economic growth.

The total effect for each variable on regional economic inequality. These results can be interpreted: Through economic growth (Y1), the education sector DOK (X1) has a negative and significant effect on regional economic inequality with total effects -1.7611875162. Through economic growth (Y1), the health sector DOK (X2) has a negative and significant effect on regional economic inequality with total effects -0.0035972412. Directly or indirectly through economic growth (Y1) the DOK variable in the infrastructure sector (X3) has a negative and significant effect on economic inequality with total effects -12.458948878. Directly or indirectly through economic growth (Y1) DOK variable populist economic empowerment sector (X4) has a negative and significant effect on economic inequality with total effects -0.4722516804.

### IV. DISCUSSION

#### 4.1 Effect of the DAK of the Education Sector on Regional Economic Inequality through Economic Growth

Referring to the results of statistical analysis, the education sector DOK (X1) has a positive effect with an estimated value of 19.88290 and is significant for economic growth (Y1) at the value of 0016. The results of the statistical analysis mean that every increase in education sector DOK by 1% will increase economic growth by 19.88290%.

Meanwhile, indirectly through economic growth (Y1), the education sector DOK variable (X1) has a negative influence of -1.7611875162 against regional economic inequality (Y2). The results of this statistical analysis show that every 1% increase in DOK in the education sector will reduce the level of regional economic inequality by 1.7611875162%.

The findings are in accordance with the human capital theory which states that education has an influence on economic growth and will reduce income disparities because education plays a role in increasing labor productivity. Furthermore, Guisan, (2010), the main effects of education investment to increase life satisfaction in developing countries. In addition, education also has a positive effect on the government quality index, which contributes to the increase in real per capita GDP.

#### 4.2 Effect of Health Sector DOK on Regional Economic Inequality and Inequality through Economic Growth

Health sector DOK (X2) has a positive and significant effect on economic growth (Y1). Based on Table 5.9, it can be seen that the estimated value of the health sector DOK variable is 0.040611 with a significant level of 0.0739. The results of the statistical analysis state that every 1% increase in DOK in the health sector will increase economic growth by 0.040611%.

Indirectly through economic growth (Y1), the health sector DOK variable (X2) has a negative influence of -0.0035972412 on regional economic inequality (Y2). The results of this statistical analysis show that every 1% increase in the education sector DOK will reduce the level of regional economic inequality by 0.0035972412%.

These results are in accordance with the theory said by Schultz (1961) in Craigwell (2012), saying that health has become the basis for achieving faster growth in Western societies. Getting high standards of health is the basic right of every person and also the basis for reducing socio-economic inequality (Backman, et al., 2008).

#### **4.3 Effect of Infrastructure Sector DOK on Regional Economic Inequality through Economic Growth**

The results of the statistical analysis show that the DOK variable in the infrastructure sector is directly negative and significant towards regional economic inequality with the estimated results of -0.01202668 and a significant level of 0.0022. This means that every 1% increase in DOK in the infrastructure sector will reduce regional economic inequality by 0.0022%.

Through economic growth (Y1), the infrastructure sector DOK variable (X3) has a negative influence of -0.4322688776 on regional economic inequality (Y2). This means that every 1% increase in DOK in the infrastructure sector will increase economic growth by 0.4322688776%.

DOK infrastructure sector (X3) directly has a positive and significant effect on economic growth (Y1). Based on Table 5.10, it can be seen that the estimated value of the infrastructure sector DOK variable is 4.880093 with a significant level of 0.0032. This means that every 1% increase in DOK in the infrastructure sector will increase economic growth by 4.880093%.

The results of the above findings are in accordance with what was stated by Jones (2006) that there is strong evidence that infrastructure investment is the best component to accelerate growth and to reduce inequality and make the pattern of growth more pro-poor. Man (1997), economic modernization requires modern infrastructure too. In an effort to achieve and maintain high development. Infrastructure helps in determining the overall productivity and economic development of a country and the quality of life.

#### **4.4 Effects of the DOK of the Community Economic Empowerment Sector Against and Regional Economic Inequality through Economic Growth**

The results of the subsequent statistical analysis show a direct influence between the DOK of the people's economic empowerment sector (X4) on regional economic inequality (Y2). The results of statistical analysis show that the DOK of the people's economic empowerment sector is negative and significant towards regional economic inequality. The estimated value of the DOK of the economic economy empowerment sector is -0.0999025 with a significant level of 0.0000. This means that every 1% increase in the DOK of the people's economic empowerment sector will reduce regional economic inequality by 0.0999025%.

Indirectly through economic growth (Y1), the DOK variable of the populist economic empowerment sector (X4) has a negative influence of -0.37322668804 on regional economic inequality (Y2). The results of this statistical analysis show that every 1% increase in DOK in the education sector will reduce the level of regional economic inequality by 0.37322668804%.

The DOK of the people's economic empowerment sector (X4) has a positive and significant effect on economic growth (Y1). Based on Table 5.1, it can be seen that the estimated value of the DOK variable for the people's economic empowerment sector is 4.213537 with a significant level of 0.0000. This means that every 1% increase in the DOK of the populist economic empowerment sector will increase the rate of economic growth by 4.213537%.

In accordance with modern economic developments called human capital formation, namely, the process of improving the knowledge, skills and capabilities of the entire population of the country concerned. Community economic empowerment that is always empowered will be mutually sustainable in improving the quality of human resources. Jhingan, (2014), the increase in GNP per capita that is so great seems to be closely related to the development of human factors as seen in the efficiency or productivity that is increasing in the labor force.

### **V. CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of the study it can be concluded that directly the DOK variable of the education sector, the health sector DOK, the infrastructure sector DOK and the populist economy empowerment DOK have a positive and significant effect on economic growth. Furthermore, it is directly found that the DOK of the infrastructure sector and the DOK of the populist economic empowerment sector have a significant and negative effect on regional economic inequality. Furthermore, the latter found that the DOK variable in the education sector, health sector DOK, infrastructure sector DOK and populist economic empowerment sector had a negative and significant effect on regional economic inequality through economic growth.

For the Papua Provincial Government, the allocation of DOK in the education sector, the DOK of the health sector, the DOK of the infrastructure sector and the DOK of the economic empowerment sector need to be specifically upgraded with the aim of increasing economic growth and minimizing regional economic inequality. Increasing spending on education, health, infrastructure and the community economic empowerment sector really needs to be determined in a regulation for the percentage of expenditure items in each sector so that

sustainable economic development experiences a significant increase. In addition, evaluating the productivity of the community is evenly distributed. which includes education, health and work experience so that the occurrence of economic output that has quality and competitiveness based on regional potential in accordance with the conditions of community needs based on MSME programs.

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### ATTACHMENT

Dependent Variable: Y1

Method: Panel EGLS (Cross-section weights)

Date: 11/29/18 Time: 17:39

Sample: 2005 2016

Periods included: 12

Cross-sections included: 19

Total panel (unbalanced) observations: 227

Linear estimation after one-step weighting matrix

White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.42651	3.944918	-2.896514	0.0042
<b>LX1</b>	<b>19.88290</b>	<b>6.197409</b>	<b>3.208261</b>	<b>0.0016</b>
<b>LX2</b>	<b>0.040611</b>	<b>0.022605</b>	<b>1.796564</b>	<b>0.0739</b>
<b>LX3</b>	<b>4.880093</b>	<b>1.635919</b>	<b>2.983090</b>	<b>0.0032</b>
<b>LX4</b>	<b>4.213537</b>	<b>0.777071</b>	<b>5.422331</b>	<b>0.0000</b>

#### Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics			
<b>R-squared</b>	<b>0.927037</b>	Mean dependent var	1.832802
Adjusted R-squared	0.919169	S.D. dependent var	1.827862
S.E. of regression	0.546733	Sum squared resid	60.97911
<b>F-statistic</b>	<b>117.8161</b>		
<b>Prob(F-statistic)</b>	<b>0.000000</b>		

Dependent Variable: Y2  
Method: Panel EGLS (Period weights)  
Date: 11/29/18 Time: 17:41  
Sample: 2005 2016  
Periods included: 12  
Cross-sections included: 19  
Total panel (unbalanced) observations: 227  
Linear estimation after one-step weighting matrix  
White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	29.57498	9.110614	3.246211	0.0013
<b>LX3</b>	<b>-12.02668</b>	<b>3.877734</b>	<b>-3.101470</b>	<b>0.0022</b>
<b>LX4</b>	<b>-0.099025</b>	<b>0.013284</b>	<b>-7.454303</b>	<b>0.0000</b>
<b>Y1</b>	<b>-0.088578</b>	<b>0.014682</b>	<b>-6.033036</b>	<b>0.0000</b>
Weighted Statistics				
<b>R-squared</b>	<b>0.167447</b>	Mean dependent var	1.475554	
Adjusted R-squared	0.156247	S.D. dependent var	0.726580	
S.E. of regression	0.713982	Sum squared resid	113.6788	
<b>F-statistic</b>	<b>14.95029</b>			
<b>Prob(F-statistic)</b>	<b>0.000000</b>			

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