

# The Impact of Government Transfers on Disparities in Agriculture Sector Development in Indonesia

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**Abstract**—This study aims to describe the effect of profit sharing fund (DBH), General Allocation Fund (DAU) and Special Allocation Fund (DAK) to the output and income per capita of the people in the agricultural sector 2010 and 2018. Using the data panel and Fixed Effect Model. The conclusions from the results of the study include: (1) The relationship between DBH to GRDP and Income percapita of agriculture sector is positive; (2). The relationship between DAU to GRDP and Income percapita of agriculture sector is positive; (3) The relationship between DAK to GRDP and Income percapita of agriculture sector is negative. It is expected that the government more concern to the use of appropriate allocation fund in order to give the positive impact to marginal output and income percapita in agriculture sector.

**Keywords:** *disparities, agricultural sector, profit sharing fund, General Allocation Fund and Special Allocation Fund*

## I. INTRODUCTION

Economic development is a process and the stages of the efforts undertaken by the state in increasing national income and per capita income of residents in long-term efforts to achieve economic growth. Benchmarks for development success can be seen from the achievement of high economic growth, national and dynamic stability and equitable development and results leading to social justice for all people so that it can reduce income disparities between residents, between regions and between sectors.

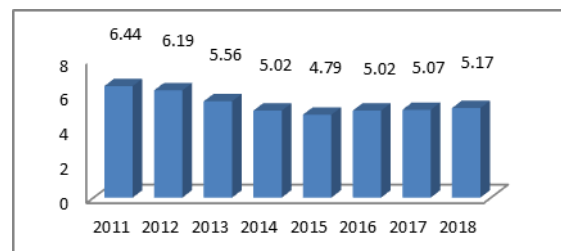
The indicator development itself is none other than the economic growth and equity. High economic growth and accompanied by equitable distribution of development outcomes is one of the conditions that are important in realizing the quality development.

The main challenges faced in the development process is how to build up the area with the available resources and develop the region well in order to provide a stimulus to economic growth and reduce inequality between regions.

In developing countries, the development gaps among regions are common symptoms that occur in the processes involved in the construction. The big difference in the content of the natural resources and differences in demographic conditions contained in the respective regions that led to the ability of a region to push the development process also becomes different. No wonder that in every region there is usually a forward region (Developed Region) and underdeveloped region (underdeveloped Region). Their implications for social welfare among regions and regional development policy formulation by local governments (Sjahfrizal, 2012).

Indonesia is one of the developing countries that are rich in natural resources both marine resources, forests, mines and others. The wealth of natural resources is widespread in all areas of the province in Indonesia. As an agricultural country, agriculture is one of the prime movers in the economic development of the people of Indonesia. Contribution of the agricultural sector on the growth rate of gross domestic product (GDP) in Indonesia reached 13.26 percent.

Indonesian economic conditions during this decade the growth fluctuated. Since 2011, economic growth in Indonesia has decreased from 6.44 per cent and has decreased every year to reach 4.79 per cent in 2015. However, in subsequent years, the economy in Indonesia began to make improvements. It is characterized by an increase in economic growth in 2016 to 2017, respectively of 5.02 percent, 5.07 percent and 5.17 percent. Conditions such as these can be seen in Figure 1.



Source: Central Bureau of Statistics

Fig 1. Economic Growth in Indonesia 2011-2018

On the production side, the economic recovery boosted growth in almost all sectors of the field of business in the economy of the agricultural sector is no exception. In the Central Bureau of Statistics

survey related to economic growth in 2018 stated that the contribution of the agricultural sector on the growth rate of gross domestic product (GDP) reached 13.26 percent. This indicates that the agricultural sector is one of the prime movers in the economic development of the people of Indonesia. Such conditions can be seen in Table 1.

TABLE I. AGRICULTURAL SECTOR CONTRIBUTION TO GDP INDONESIA ON CONSTANT PRICE YEAR 2014-2018 (MILLIONS RUPIAH)

Year	Contribution
2014	13:18
2015	13:04
2016	12.84
2017	12.69
2018	13:26

*Source: Central Bureau of Statistics*

Growth in the agricultural sector in the spatial scope is sometimes not always take place systemically. There are some areas that achieve rapid growth, while some other areas are growing very slowly. These regions are not progressing or similar growth caused by the lack of resources possessed, the tendency of the role of capital (investors) prefer urban areas or more areas have adequate facilities and support such as transportation infrastructure, banking, insurance, too a skilled workforce and inequality redistribution of revenue sharing from the central government to the regions.

Disparities between regions agricultural sector can be a serious problem. Thus, if this imbalance is left unchecked then it can hamper economic growth. One of the policies taken by the government to address the problem of inequality is the provision of transfer of funds to the local government through decentralization. With the additional allocation of funds provided in the form of "block grant" in the form of Balance Fund, which consists of DBH Taxes and Natural Resources, General Allocation Fund (DAU) and Special Allocation Fund (DAK) is expected to increase output and per capita income of the people in the agricultural sector.

By looking at this trend, the authors are interested to discuss and analyze the inequality of agricultural sector and the impact of government transfers in tackling inequality agricultural sector in Indonesia.

## II. LITERATURE REVIEW

### A. Theoretical Basic

- *Regional Economic Growth*

Based on Kuznets hypothesis "there is a positive correlation between the rate of growth of per capita income with growth rates of income inequality levels are indicated by an inverted U-shaped curve". Where in the early stages of growth, income distribution tends to deteriorate but at the

next stages will be improved. Based on this Kuznets means policy to pursue high economic growth is absolutely necessary (Kamaluddin, 2000).

But in fact the high economic growth is not always accompanied by an equitable distribution of income. High economic growth rates many people feel does not provide solutions to the problem of poverty and the unequal distribution of income. When a high level of economic growth is accompanied by increasing levels of unemployment in rural and urban areas. The distribution of income between the rich with the poor growing gap. High economic growth appeared to have failed to eliminate or even reduce poverty in the developing world.

Growth in GNP per capita prompt does not automatically raise the level of living of the people. Even the growth of GNP per capita in some developing countries such as Pakistan, India, Kenya, and others have led to an absolute decline in the rate of the poor in urban and rural areas.

- *Myrdal Impact Theory*

Professor Myrdal argued that economic development resulted in a process of cause and meyebab circular makes the rich benefit more and more, and those left behind become increasingly constrained. Behind impact (backwash effects) tend to be large and the impact of the spread (spread effects) tend to be smaller. Cumulatively, these trends worsen international imbalances and lead to regional imbalances between the least developed countries (Jhingan, 2007).

Professor Myrdal build a theory of underdevelopment and economic development around the idea of regional imbalances in the national and international level. He found the inequality between regions and between countries because of their reverse impact (backwash effects) and the impact of the spread (spread effects). Behind impact is all the changes that are harmful from an expansion in the region due to causes outside the region. Scatter impact is the impact of the development momentum that spreads centrifugally from the center of the economic expansion to other regions. Both of these forces are used to indicate the spatial consequences of centralized economic growth both positive and negative. The strength of the spread effects include innovation and technology, while the strength of the negative effects usually go beyond the effects of the spread of imbalances in capital flows and labor from underdeveloped regions. Disparities between regions occur because backwash effects greater than the spread effects (Myrdal, 2000).

- *Concept of Disparities*

The construction carried out so far have been quite encouraging increase in the rate of economic growth, but in reality it is relatively can reduce the inequality (disparities). In general inequality

include income inequality that gave rise to the difference (gap) between the rich and the poor, the spatial imbalances that led to the region developed and lagging regions and sectoral imbalances which creates featured and non-featured sector. Especially the development gaps experienced by new areas experiencing expansion.

Adelman and Morris (1973) in Arsyad (2010) suggested the 8 factors that lead to the unequal distribution of income in the developing countries, namely:

- (a) High population growth which results in lower per-capita income;
- (b) Inflation where cash incomes increased but not followed proportionally with increasing production of goods;
- (c) Inequality of development among regions;
- (d) Very much investment in projects that are capital intensive (capital intensive), so that a percentage of revenues from additional capital assets is greater than the percentage of income derived from work, so unemployment increases;
- (e) Low social mobility;
- (f) Implementation of the policy of import substitution industries which resulted in an increase in prices for industrial products protect businesses capitalist class;
- (g) The deterioration in the exchange rate (terms of trade) for developing countries in trade with developed countries, as a result of demand inelasticity of countries to export goods developing countries; and
- (h) The destruction of the people kerjainan industries such as carpentry, home industries, and others.

How to measure the degree of inequality of income distribution, namely:

1. Criteria for the World Bank

- 40% lower Y
  - if 40% Y real <12%, the high degree of inequality
  - if 40% Y real 12% -17%, the intermediate level of inequality
  - if 40% of the real Y > 17%, the low level of inequality
- 40% Y medium
- 20% higher Y

2. Gini coefficient

Measurements are relatively simple inequality is by calculating the ratio of the areas which lie between the diagonal line and the Lorenz curve divided by the area where the Lorenz curve half of the field is located.

The Gini coefficient is a measure of inequality or inequality (income / welfare) aggregate numbers ranging from zero (perfect equalization) to one (perfect inequality).

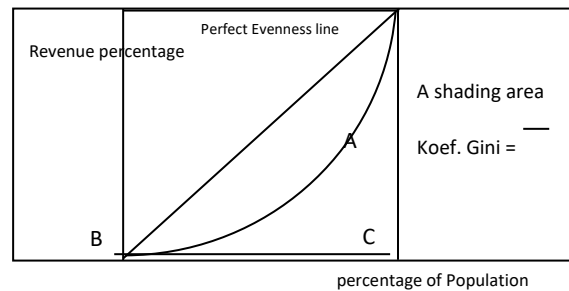


Fig.2. Estimated Gini Coefficient

In practice, the rate of inequality for countries that welfare inequality among the population known sharp ranged from 0.50 to 0.70. As for the countries that are known relative distribution pendaptannya most equitable, ranges from 0.20 up to 0.35 (Todaro, 2000).

3. Lorenz curve

Lorenz curve describes the relationship between population groups and their income. The farther the Lorenz curve of the diagonal line (perfect evenness), the higher the degree of inequality shown.

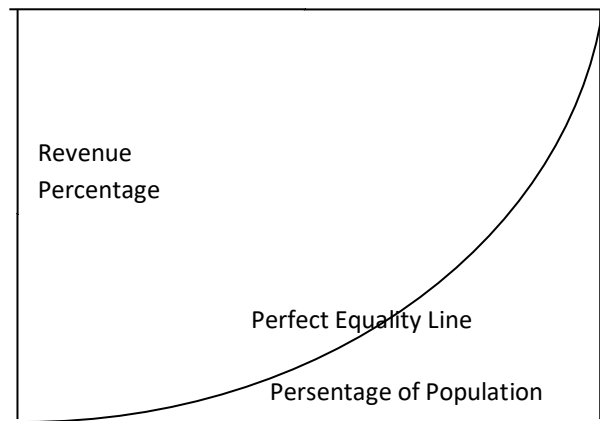


Fig. 3. Lorenz Curve

Development is a goal but only a tool as the process to reduce poverty and reduce inequality in income distribution. Reduced income distribution inequality is at the core of development. As an additional form of uneven record seems to refer to the importance of the quality of the development process. If the high economic growth was not followed even distribution of development outcomes to all segments of society, then it is no benefit in reducing income inequality.

B. Conceptual Framework

From description above, the conceptual framework of this study are as follows:

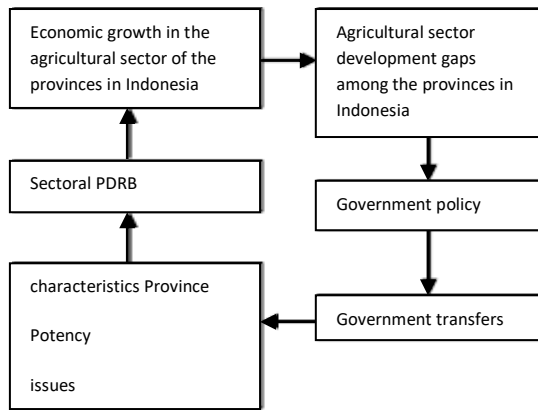


Fig.4. Conceptual Framework

C. Literature Review

Huruta Analysis (2016) in his study "Effects of Fiscal Transfer on Regional Imbalances in East Sumba" shows that the allocation of funds the village has a positive and significant impact on regional inequality. Therefore, it is necessary to create a generative relationship between developed areas with the area behind it to eliminate regional inequalities. This study uses data such as gross regional domestic product at constant 2000 prices, and the realization of the village fund allocation from 2008 to 2010.

According to Ward and Juanda (2013) in his study "The Impact of Central Government Transfers To Decrease Inequality in Income In Indonesia" shows the funds transfer facility provided by the government such as the General Allocation Fund (DAU), Special Allocation Fund (DAK), which functioned as a fiscal stimulus for the region. Funds transfer is expected the center will provide increased development for the region. In this study, the factors that affect income inequality in Indonesia through fiscal instruments that DAU and DAK. Year study period 2001-2010 using panel regression data. The results are estimates obtained are DAU, DAK, road infrastructure, the rules hold harmless and population significant influence on income inequality. In addition to viewing the estimation of income inequality equation, This study will look at the development of income inequality in the Indonesian province of using Williamson index. The results obtained inequality in poor areas more evenly than rich region. Determination rich regions and poor regions using the median GDP per capita.

III. METHODOLOGY

The scope of this study include disparities in the agricultural sector in the provinces in Indonesia as well as the effect of government transfers to the agricultural sector imbalances. Variable DBH General Allocation Fund (DAU) and Special Allocation Fund (DAK) as the independent variable while the inequality of the agricultural sector as the dependent variable in the provinces in Indonesia

This study uses secondary data is panel data is data time series and cross section data for ten years from 2008 to 2017 and the 33 provinces in Indonesia because of the presence of such data may give an idea of the effect of government transfers to the inequality of the agricultural sector provinces in Indonesia. The data used in this research is data Gross Domestic Product (GDP) of agriculture, population, DBH, General Allocation Fund and Special Allocation Fund in the provinces in Indonesia. The data is sourced from the Central Statistics Agency (BPS) of various provinces in Indonesia as well as literature and other supporting books.

The problem in this study is how the influence of the government on tackling inequality transfer the agricultural sector in the provinces in Indonesia. In this case the views of the GDP and income per capita agricultural sector. This research analyzes using panel data.

This study uses a model of the following equation:

$$PDRBit = \alpha + \beta_1DBH + \beta_2DAUit + \beta_3DAKit + e \dots\dots\dots (1)$$

$$PKPit = \alpha + \beta_1DBH + \beta_2DAUit + \beta_3DAKit + e \dots\dots\dots (2)$$

- PDRBit = agricultural sector GDP in the province i
- PKPit = Per capita income in the Agriculture sector i Province
- DBH = DBH (million Rupiah)
- DAU = General Allocation Fund (million Rupiah)
- DAK = Special Allocation Fund (million Rupiah)
- $\alpha$  = Constant
- it = region (provinces in Indonesia) and t (period 2008- 2017)
- $\beta_1, \beta_2$  and  $\beta_3$  = value multiple regression coefficient between independent variables DBH, DAU, DAK to the dependent variable imbalance, when the independent variables are considered constant imbalance.
- $\epsilon$  = error term are other factors that affect the dependent variable.

In the discussion of estimation techniques of panel data regression model, there are three techniques that can be used are:: (Rohmana, 2010)

- 1) Models with OLS (Common)  
Common Effect Model is a simple model that incorporates all data time series with cross section, then performed the estimation of the model using OLS (Ordinary Least Square).
- 2) Fixed Effect Model  
Fixed effects approach (Fixed effect). One of the difficulties of data panels procedure is that the assumption of the intercept and slope of consistent hard fulfilled. To overcome this problem, which is

done in the data panel is to include a dummy variable (dummy variable) to allow for the difference of parameter values vary both across units (cross section) or between time (time-series).

### 3) *Random Effect Model (REM)*

*Random Effect Model (REM)* is used to overcome the disadvantages of the fixed effects model using dummy variables, so the models experiencing uncertainty. The use of dummy variables will reduce the degrees of freedom (degree of freedom), which in turn will reduce the efficiency of parameter yang estimated. REM using residual suspected of having a relationship between time and between individuals. This means REM assumes that every individual has a different intercept a random variable.

## IV. RESULT

### A. The Effect of Profit Sharing Fund, General Allocation Fund (DAU), Special Allocation Fund (DAK) to Agricultural Output In Indonesia

Equation obtained from the data analysis are:

$$GDRP_{it} = \alpha + \beta_1 DBH + \beta_2 DAU_{it} + \beta_3 DAK_{it} + e$$

Based on the results of all tests that have been carried out, as in the Chow Test and Hausman Test the results obtained are Fixed Effect Model. From the regression results, obtained by the following equation:

$$GDRP = 17353.00 + 1.54 + 1.700 - 3.030 + e$$

Based on the regression that has been done, the constant  $C = 17353,00$  showed that if the independent variable is 0, then the GDRP of agriculture sector in Indonesia still increase 173 percent. DBH coefficient indicates the number 1,54 which means when the other variables equal to zero, an increase of one percent in DBH figures will have an impact on increasing GDRP of agriculture sector 1,54 percent. DAU coefficient indicates the number 1,70 which means when the other variables equal to zero, an increase of one percent in DAU figures will have an impact on increasing GDRP of agriculture sector 1,70 percent. DAK coefficient indicates the number  $- 3.03$  which means when the other variables equal to zero, an increase of one percent in DAK figures will have an impact on decreasing GDRP of agriculture sector 3,03 percent.

Determination coefficient  $R^2$  is used to calculate how much varians of the dependent variable can be explained by the independent variables. The  $R^2$  value obtained by 0,803447. That is, the GDRP of Agriculture Sector amounted to 80,34 percent variable community in the province in Indonesia (the dependent variable) can be explained by the independent variable in the model. While the remaining 19,66 percent is explained by

other variables outside the model are held constant (ceteris paribus).

The results of this study indicate that there is a relationship quite significantly between DAU and DAK to GDRP of Agriculture Sector in Indonesia. The mutually beneficial relationship between DAU and DAK to GDRP of Agriculture Sector is caused by the utilization of government budget for investment produce optimal output so productivity is high and hence a high output of agriculture sector in Indonesia.

### B. *The Effect of Profit Sharing Fund, General Allocation Fund (DAU), Special Allocation Fund (DAK) to Agricultural Income Percapita In Indonesia*

Equation obtained from the data analysis are:

$$PKP_{it} = \alpha + \beta_1 DBH + \beta_2 DAU_{it} + \beta_3 DAK_{it} + e$$

Based on the results of all tests that have been carried out, as in the Chow Test and Hausman Test the results obtained are Fixed Effect Model. From the regression results, obtained by the following equation:

$$PKP = 2,6804.00 + 2.08 DBH + 3,48 DAU - 7,30 DAK + e$$

Based on the regression that has been done, the constant  $C = 2,6804$  showed that if the independent variable is 0, then the Income percapita of agriculture sector in Indonesia still increase 2,68 percent. DBH coefficient indicates the number 2,08 which means when the other variables equal to zero, an increase of one percent in DBH figures will have an impact on increasing Income percapita of agriculture sector 2.08 percent. DAU coefficient indicates the number 3,48 which means when the other variables equal to zero, an increase of one percent in DAU figures will have an impact on increasing Income percapita of agriculture sector 3,48 percent. DAK coefficient indicates the number  $- 7,30$  which means when the other variables equal to zero, an increase of one percent in DAK figures will have an impact on decreasing Income percapita of agriculture sector 7,3 percent.

Determination coefficient  $R^2$  is used to calculate how much varians of the dependent variable can be explained by the independent variables. The  $R^2$  value obtained by 0,588486. That is, the Income percapita of Agriculture Sector amounted to 58,84 percent variable community in Indonesia (the dependent variable) can be explained by the independent variable in the model. While the remaining 41,16 percent is explained by other variables outside the model are held constant (ceteris paribus).

## V. CONCLUSION AND IMPLICATION

The conclusions from the results of the study include: (1) The relationship between DBH to GRDP and Income percapita of agriculture sector is positive; (2). The relationship between DAU to GRDP and Income percapita of agriculture sector is positive; (3) The relationship between DAK to GRDP and Income percapita of agriculture sector is negative

It is expected that the government more concern to the use of appropriate allocation fund in order to give the positive impact to marginal output and income percapita in agriculture sector.

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