

**DEVELOPMENT INEQUALITY OF NEW AUTONOMOUS  
ECONOMIC REGIONS IN LAMPUNG PROVINCE,  
2005-2013**

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***Abstract***

*Euphoria to decentralization and regional autonomy in 2000 seemingly causes the decision makers to provide more priority to allocation and transfer, such as public allocation funds and revenue sharing which provides broad discretion for regional governments to manage the use. The role of specific allocation funds which are able to be a trusted stimulus for reaching the national development target and prioritize externalization from regional public service which is ignored. The allocation of balancing funds has a strategic and primary purpose which is the encouragement of a relatively high economic growth and does not cause inequality. The source of funds of the new autonomous regions other than from locally generated revenue are also from transferred funds from the central government in the form of public allocation funds, specific allocation funds and revenue sharing. Those sources of funding contribute to the creation of regional economy development inequality. Research results show that in the last three years the inequality of economic development in new autonomous regions has narrowed. That condition is sustained by the willingness of public allocation funds, specific allocation funds, and while revenue sharing does not significantly influence economic development inequality in the regions.*

***JEL Classification:*** H70, H77, O10

***Keywords:*** Economic Growth, Inequality, Transfer funds

**1. INTRODUCTION**

Regional autonomy and fiscal decentralization are effectively implemented in 2001 and in the development it was met with several improvements to acts which manage it. In 2004 the autonomous region act number 32 year 2004 about regional government was published and act number 33 year 2004 about Financial Balance of the Central Government and Regional Governments. With the birth of those two acts the relation system of government institutions in Indonesia experienced change. The relation is said to be vertical which is between the central government, provincial government, and regency/city government, and also horizontal between the executive, legislative, and judicative, in several levels which are the Central Government, Province, and Regency/City.

The study about regional autonomy development and its success levels is a topic which is interesting to study. Some studies produce different conclusions between the researchers with several logical argumentations and empirical proof. Generally the research uses a fiscal decentralization frame and economic growth. Research results shows a fluctuating condition and tend to be different such as the study of Ilmi (2005) explains that fiscal decentralization has a

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positive influence to economic growth. While the studies of Davoodi and Zou (1998) and Woller and Phillips (1998) shows that fiscal decentralization does not have a significant impact to economic growth in developing countries. It differs from the research results of Zhang and Zhou (1998) and Xie, et al (1999) which explains that fiscal decentralization implementation is less advantageous for development and has a negative influence to economic growth.

Fiscal decentralization is one of the government instruments in managing development for motivating a regional or national economic increase. A good finance relation mechanism is expected to accelerate the implementation of economic development in regions so it can impact the economic condition which is more developed. The final purpose of a development process is the increase of welfare of society. As of now the fiscal decentralization policy rests on allocation and central to regions which is known as fund transfer. Until now, there has been significant allocation of balancing funds to regions, in the form of public allocation funds, specific allocation funds, and revenue sharing, which are from tax and natural resources, the allocation of public allocation funds are used for closing fiscal gap. Because it considers two aspects at once, which are needs and fiscal ability of regional governments. The formula of public allocation funds in Indonesia is different from the internal revenue allotment model which is a form of fund transfer in the Philippines, where transfer allocations are only based on fiscal needs; which uses the land area and total population variables. The public allocation fund formula is also different from transfer allocation in Canada which the transfer allocation is only based on regional tax collection ability (capacity side of regional fiscal).

Until today the measure of fiscal needs has not yet used the real expense needs approach, yet still uses approach variables (proxy variables) among others are; Regional Gross Domestic Product, Human Development Index, total population and land area. In the future the distribution of public allocation funds is expected to solve horizontal inequality, as a cause of the presence which of course distorts the allocation of public allocation funds to reach the purpose, such as hold harmless policy and the use of employee expense as a variable.

The measure of fiscal needs (public allocation fund formulation) does not use a proxy, but uses a formulation which reflects more of real regional needs. The count of public allocation funds should be done by an independent institution from several political interests.

Specific allocation funds, are a form of transfer funds from the central to regions for funding authority which has been centralized, and carry on tasks for supporting national priority programs. As in many other nations, the form of transfer which are specific grant will have a very important role in keeping the conformity of the direction of national development. Specific allocation funds in Indonesia have functions for bridging standard reach of minimum treatment nationally, which means that specific allocation funds should be allocated to certain regions which has not yet reached the national standard quality of public service such as expected. Specific allocation funds are not allocated to all regions, but only to certain regions with specific conditions.

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Revenue sharing, is also a strategic balancing fund for regions which have sources of central revenue in their regions, covering central tax revenue which is personal income tax, land and building tax, duties on acquisition of land and building rights, and revenue from natural resources (Crude Oil, Natural Gas, General Mining, Forestry, and Fishery). Based on Act No.33/2004, the regional parts from tax and natural resources are already determined for the amount based on a certain percentage. The allocation of balancing funds has a strategic and primary purpose which is to motivate a relatively high economic growth and does not cause inequality.

The effort for motivating growth can be focused in the effort of pushing mainstay sectors and subsectors. According to Kuncoro (2004), the development of regional economy should be more prioritized in mainstay subsectors which are owned by each regency/city, by still paying attention proportionally of other subsectors corresponding with the potential and chance of development.

The development of mainstay subsectors should be directed in efforts for creating interregional linkage, one of the efforts is to create specialization. This is supported by Rustiadi (2009), that regional development strategy is a combined sectoral and spatial approach in the frame of realizing balanced regional development. Regional growth occurs as a cause of several influencing factors. Areas develop because of interactions between the center (core region) and fringe (periphery/hinterland) as stated by John Fiedmann in the Center and Fringe relation model (Meier, et.al.,2006). According to Bokemann (1999), empirically regional growth is related with the specialization, interaction, centrality, rank size rule, and housing dynamics process so regional growth occurs as a cause of a strong relation between regions, where one of the regions function as a center and supported by other regions as interland.

The motivation for the establishment of new autonomous regions is for the welfare of society. But in reality it does not match what happened. Local governments are still unable to prosper the community, so local governments still depend on transfer funds provided by the central government. The ability of new autonomous regional governments to use transfer funds obtained from the central government will affect the development of the region. But there are still many governments who have not been able to utilize the transfer funds in the can with maximum. So there are some autonomous regions left behind in terms of regional development. This can lead to imbalances in the autonomous regions of the province in Indonesia.

The development of balancing funds calculated by Regency / City in Lampung Province currently has a significant increase. Fund transfers in the province of Lampung have not resulted in more capacity building, only to be done in new autonomous regions. The allocation of transfer funds consisting of DAU, DAK and DBH is already running and fluctuating, but many more have not yet reached or occurred in any of the districts / cities in Lampung Province.

In this research there are several economic growth theories which are used, the first which is the Solow economic growth theory which contends that economic growth is caused by the change of factors which influence the

aggregate supply. The primary factor which motivates economic growth is the availability of production input and technological progress. Nevertheless the Solow-Swan framework is still considered as the most dominant theoretical base (Romer, 1996). The Neo Classical theory is developed with the basic premises (a) perfect competition, (b) rational economic behavior, and (c) no externality in economics. Based on those premises the Neo Classical determines the primary assumptions in their theory construction. First, production determines the per capita income of a society in a state. Second, population growth is exogenous, constant, and not influenced by other factors. Third, the savings level is a determined fraction (part) from national income.

Other than that the presence of a governmental role is also an important factor for decreasing inequality in new autonomous regions of Lampung province. The government is an institution which is able to implement several matters better than the private or individuals. Three relevant matters of national finance are income redistribution, public goods provision, and social protection (Gramlich 1990). Market strength and mechanism is believed to never produce an equal income distribution.

This research has several objectives. The research objectives to be achieved in this research are to analyze the pattern of equity of district /city financial capability in Lampung Province and to analyze the influence of transfer fund allocation to economic disparity among regencies / cities in Lampung Province

## **2. LITERATURE REVIEW**

### **Growth Theory**

Solow's economic growth theory argues that economic growth is due to changes in factors affecting aggregate supply. The main factors driving economic growth are the availability of production inputs and technological advances. The production function of solow model aggregates (Romer, 1996) is;  $Y = F(Kt, At, Lt)$  where  $Y$  is output,  $K$  is capital,  $L$  is labor,  $A$  shows knowledge, and  $t$  is time. There are three assumptions on the solow model, the first one being used is; constant return to scale, then the output production function  $y_t = f(k_t)$  where  $y_t$  is the output per unit of effective labor and  $k_t$  is the capital per unit effective labor. The second assumption of  $f(k)$  is assumed to satisfy  $f'(0) > 0$ ;  $f'(k) > 0$  and  $f''(k) < 0$ . This condition shows the marginal product of capital is positive ( $MP_k > 0$ ). The third assumption in which  $f(\cdot)$  is assumed satisfies the conditions so that the production function  $f'(0) > 0$ ; and  $f''(\cdot) < 0$ .

Neo Classic economic growth theory is a theory of economic growth that is often associated with the Neo-Classical mashab given its enormous contribution. Classical Neo Theory developed on the basic premise (a) perfect competition, (b) rational economic behavior, and (c) no externalities in the economy. On the basis of the premise the Neo Classical sets the basic assumptions in the construction of his theory. First, production determines the per capita income of a country's people. Second, population growth is exogenous, constant and not influenced by other factors. Third, the saving rate is a fraction (part) of the national income.

### **The Role of Regional Government and Economic Inequality Between Regions**

Government is an institution that can do some things better than private or individual. Three things that are relevant to state finances are income redistribution, public goods provision, and social protection (Gramlich 1990). Market forces and mechanisms are believed to never produce an even distribution of income. In fact, the (relatively) equitable distribution of income is a phenomenon desired by society in general. Therefore, the task of the government is to ensure that there is a more equitable distribution of income among community groups.

Thee Kian Wie, (1981) states that inequality income distribution from an economic point of view is divided into: 1. Inequality of income distribution among income recipients (size distribution income); 2. Inequality of revenue sharing between urban and rural areas (urban-rural income disparities); 3. Inequality of regional income sharing (regional income disparities);

The inequality of inter-regional development with central and inter-regional with other regions is a natural one, due to differences in resources and the beginning of interregional development (Williamson, 1965). The analysis that links the stages of economic development and income distribution and the expression of growth versus equity is actually triggered by an invention initiated by Simon Kuznet (1955). Simon Kuznet links the growth rates of developed and developing countries by observing time series data for the United States, Britain and Germany as well as cross-sectional data covering the three countries plus India, Sri Lanka and Puerto Rico, and based on those observations Kuznet discovered a pattern that U inverted. The pattern requires that in the early stages of development (represented by low GDP per capita), the growth process is followed by the worsening distribution of income and after reaching a certain point, development will be followed by improved equity. Development with results as illustrated by the inverted U hypothesis, largely based on the Dualistic development model.

### **Public Allocation Fund**

Public Allocation Fund is a fund allocated for the purpose of equitable distribution of finance between regions to finance expenditure needs in the context of decentralization. Law No. 33/2004 on financial balances between the central government and regional governments explains that the Public Allocation Fund aims at the equitable distribution of inter-regional financial capacity aimed at reducing the inequality of interregional financial capacity through the application of a formula that takes into consideration local needs and potentials. Public Allocation Fund of a Region is determined by the size of the fiscal gap of an area, which is the difference between the fiscal need and the fiscal capacity. Provision of Public Allocation Funds to local governments is a consequence of the transfer of authority of the central government to local governments. Thus, there is a significant transfer in the APBN from the central government to local governments, and local governments can freely use the Public Allocation Fund to provide better service to the community so as to

create a healthy life and a longer life expectancy, improve the quality education and living standards of society.

### **Spesific Allocation Fund**

Law No. 33/2004 on financial balances between the central government and regional governments explains that Spesific Allocation Fund is a transfer fund from the central government to local governments that are used to carry out infrastructure development and public facilities in districts. Spesific Allocation Fund is intended to assist in financing specific activities in certain areas which are regional affairs and in accordance with national priorities, in particular to finance the needs of basic public service facilities and infrastructure that have not reached certain standards or to encourage the acceleration of regional development. Spesific Allocation Fund is fully utilized for capital expenditures for the improvement of public facilities in other words no part of Spesific Allocation Fund is used for development operational costs such as official travel expenses and so on.

### **Revenue Sharing Fund**

Revenue Sharing Fund is a fund sourced from APBN revenues allocated to the region taking into account the potential of producing regions based on certain percentage figures to fund regional needs in the context of decentralization implementation. Revenue Sharing Fund consists of Revenue Sharing Fund of Tax and Revenue Sharing Fund of Natural Resources. According to Law No. 33 of 2004 Article 1, revenue-sharing funds are funds sourced from APBN revenues allocated to regions based on peresentase figures to fund regional needs in the context of decentralization implementation. Revenue sharing comes from taxes and natural resources. Revenue Sharing Fund is a component of balancing fund that has an important role in carrying out regional autonomy as its acceptance is based on the potential of region generating potential source of local revenue and is one of the basic capital of local government in obtaining development fund and fulfilling regional expenditure which is not derived from original income areas other than general allocation funds and special allocation funds. Therefore, if local governments want high-yield transfers then local governments should be able to optimize the potential of taxes and natural resources owned by each region, so that the contribution of revenue-sharing funds to regional revenues can increase.

### **HYPOTHESIS**

The hypothesis in this research is defined as the following:

- Hypothesis 1: New autonomous region public allocation funds per capita have an effect on Domestic GDP per capita of new autonomous regions
- Hypothesis 2: New autonomous region specific allocation funds per capita have an effect on Domestic GDP per capita of new autonomous regions
- Hypothesis 3: New autonomous region revenue sharing funds per capita have an effect on Domestic GDP per capita of new autonomous

regions

### 3. RESEARCH METHODOLOGY

**Research subject:** This research is implemented in all new autonomous regions in Lampung Province which has more than five years or one governmental period. The data used is secondary data in the form of time series years 2005-2013 which is regional Gross Domestic Product in Lampung Province, Public Allocation Funds, Specific Allocation Funds, and Revenue Sharing from the central government which is obtained by the regencies/cities in Lampung Province. Data sources cover the Central Body of Statistics Lampung Province, the Directorate General of Financial Balance, Indonesian Ministry of Finance, Regional Development Planning Board Lampung Province and other bodies/institutions related with this research.

**Research method:** The Williamson Index will be used for showing inequality of regional financial ability of regencies/cities in Lampung Province. If the financial Williamson Index of a region approaches 0, it means that the financial ability is more and more small and conversely approaches 1, it means the financial inequality is more and more large. The Williamson Index is able to be defined as the following:

$$V_w = \frac{\sqrt{\sum (Y_i - \bar{Y})^2 \frac{f_i}{n}}}{\bar{Y}}$$

Where:

V<sub>w</sub> = Williamson Index

f<sub>i</sub> = total population area i

n = total population of all areas

Y<sub>i</sub> = equality variable value which will be measured for area i

$\bar{Y}$  = average equality variable which will be measured

By using the Williamson Index it is able to be proven if public allocation funds, revenue sharing from the central government have deep roles in the equality of the financial ability of new autonomous regions in Lampung Province.

The Regression Analysis is implemented for knowing the inequality influence of allocation funds transfer (Public Allocation Funds, Specific Allocation Funds and Revenue sharing) to economic inequality between regions which uses a non linear regression model which is stated by Sjafrizal (2012) which is as the following:

$$Vm = \beta_0 X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} \epsilon_t \quad \dots\dots\dots(1)$$

For equation (1) above to be estimated it is changed to a double logarithm equation (Gujarati, 1998), as the following:

$$\log Vm = \log \beta_0 + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \epsilon_t \quad \dots\dots\dots (2)$$

Where:

V<sub>m</sub> = Domestic GDP per capita of new autonomous regions

X<sub>1</sub> = New autonomous region public allocation funds per capita

X<sub>2</sub> = New autonomous region specific allocation funds per capita

X<sub>3</sub> = New autonomous region revenue sharing funds per capita

β<sub>0</sub> = Constant

$\beta_1, \beta_2, \beta_3$  = Coefficient each from  $X_1, X_2$  and  $X_3$   
 $t$  = year  
 $\varepsilon_t$  = disruption

In the regression model statistical model tests will be implemented for choosing the right model which covers:

1. Using a significance fixed effect test (Chow Test) which is for knowing if the data panel regression technique with a fixed effect is better than the data panel regression model without the dummy variable or OLS.
2. Language Multiplier Test (LM) which has a purpose for knowing if the random effect model is better than the OLS model. It has a purpose for testing the random effect model based on the residual value from the OLS method.
3. The Hausman test which has a purpose for choosing if the fixed effect or random effect model is better to be used. This Hausman test is based on the idea that LSDV in the fixed effect method and GLS are efficient while the OLS method is not efficient, in the other part the alternative OLS method is efficient and GLS is not efficient.

#### 4. RESULTS

**Research results:** The Equity Pattern of Finance Ability of new autonomous regions in Lampung Province based on the Williamson Index by using the revenue sharing indicator variable for 2005 until 2013 which are:

Table 1 Williamson Indicator Index of Revenue Sharing Funds 2005-2013

YEAR	REVENUE SHARING	REVENUE SHARING/Regency
2005	0.449	0.405
2006	0.475	0.413
2007	0.470	0.503
2008	0.399	0.470
2009	0.474	0.486
2010	0.434	0.595
2011	0.379	0.524
2012	0.429	0.491
2013	0.357	0.434

*Source: processed data, 2015*

Based on table 1 it is able to be seen that in the last two years, Revenue Sharing as an indicator of economic development in the regions experienced a decrease of VW value which means that economic development between regions are more even. Economic development between regions with the revenue sharing indicator is capita divided (revenue sharing/capita) also more even or decreasing VW value, yet the VW value between revenue sharing indicators with the revenue sharing/capita, the VW revenue sharing/capita is larger. This means that revenue sharing tends to be uneven after being counted with the total population in every new autonomous region in Lampung Province.



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When the revenue sharing variable is added with the public allocation funds variable, it occurs a decrease of VW value significantly, which means it occurs a decrease of inequality levels or the economic development between regions is more even. This shows that public allocation funds transfer to new autonomous regions in Lampung Province which has a purpose for decreasing fiscal gap between regions, has succeeded in decreasing the disparity level of interregional economic development. Yet when regional economic development with the revenue sharing and public allocation fund indicators is divided by the total population, the VW value will increase, which means it is less even. This means that revenue sharing and public allocation funds tend to be uneven after being counted with the total population in every new autonomous region in Lampung Province. The Williamson Index with the revenue sharing and public allocation fund indicators years 2005 until 2013 is presented in the following table 2.

Table 2 Williamson Index of revenue sharing and public allocation fund indicators years 2005-2013

<b>YEAR</b>	<b>REVENUE SHARING+PUBLIC ALLOCATION FUNDS</b>	<b>(REVENUE SHARING+PUBLIC ALLOCATION FUNDS) /Capita</b>
2005	0.236	0.282
2006	0.229	0.276
2007	0.210	0.282
2008	0.232	0.337
2009	0.224	0.312
2010	0.280	0.303
2011	0.254	0.289
2012	0.274	0.342
2013	0.251	0.277

*Source: processed data 2015*

The influence of transfer fund allocation to economic inequality between new autonomous regions in Lampung Province. Based on regression results by using the EGLS random effect and with the white cross section standard errors show that generally the estimation models used have consistent standard errors. Evaluation or interpretation to test results of  $t_{\text{statistic}}$  and  $F_{\text{statistic}}$  becomes more valid and able to be taken responsible.

The following is a heteroscedascity test which illustrates the condition where the ( $\sigma^2$ ) variant from the disruption factor or error term (disturbance term) is not the same for all observations of independent variables. For knowing the presence of a heteroscedascity problem in the model, the white test is implemented. Based on residual analysis results using E-views 7.0 software a White value as large as 1.86 is obtained with a probability of 0.65. Therefore the White avalue is less than the chi square table which is 5.991; and supported with a larger probability value than the alpha value of 0.05. So it is concluded that the model used does not contain a heteroscedascity problem.

The multicollinearity test is implemented for the presence of linear relations between independent variables, and uses a correlation matrix approach between independent variables. All explained variables have coefficients

smaller than and no greater than 0.8. So it is concluded that there is no linear relation between the independent variables and it does not have a multicollinearity problem (Kuncoro, 2011). Based on the test phase of the estimation model and paying attention to the classic assumption test it is determined that the fifth model which is the estimation using REM with the white cross section, standard errors. The Regression Results Summary by using the Random Effect (EGLS) with the White Cross Section Standard errors is presented in the following table 3

Table 3 Williamson Index Regression Results Summary of Dependent Variables (VW)

Variable	Random Effect (EGLS) White Cross-Section SE	
	Coefficient	Prob.
C	9.250916	0.0000
Public Allocation Funds?	0.166470	0.0309
Specific Allocation Funds?	-0.004317	0.3597
Revenue Sharing?	0.086115	0.0368
R-squared	0.313863	
F-statistic	12.80819	
Prob(F-statistic)	0.000001	
Durbin-Watson stat	1.155334	

*Source: regression results*

The  $F_{\text{statistic}}$  test is used for knowing the simultaneous influence from independent variables to dependent variables. The F test results obtained an  $F_{\text{statistic}}$  as large as 12.80819 with a probability of 0.000001. When compared with  $\alpha=5\%$ , the probability obtained is less than the determined alpha ( $0.000001 < 0.05$ ). Therefore it is concluded that statistically all independent variables simultaneously or together have significant influences to economic development in new autonomous regions. The determination coefficient value or  $R^2$  as large as 0.31 which means that independent variables simultaneously provide contribution as large as 31 percent to the forming of economic development in new autonomous regions.

In the partial test (t test) regression results generally provide an illustration that all independent variables are statistically proven to have significant influences to economic development in new autonomous regions. The  $t_{\text{statistic}}$  one way test proves that transfer funds in the form of public allocation funds, specific allocation funds, and revenue sharing have positive and significant influences to economic development except for specific allocation funds in  $\alpha=5\%$ .

## 5. CONCLUSION

Based on data analysis results and the implemented discussion, the conclusion is as the following:

1. Balancing fund allocation has a strategic and primary purpose which is motivating the creation of a relatively high economic growth and does not cause inequality. The inequality of economic development between new autonomous regions in Lampung Province using the Williamson Index in the 2005-2013 period shows the presence of inequality change levels between new autonomous regions.
2. The funding source of new autonomous regions other than locally generated revenue is also from the central government transfer in the form of public allocation funds, specific allocation funds and revenue sharing. That source of funding contributes to the creation of regional economic development inequality.
3. In the last three years research of economic development inequality in new autonomous regions is more narrowed. That condition is sustained by the availability of public allocation funds, specific allocation funds and while revenue sharing does not significantly influence economic development inequality in the regions.

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