

Analysis of Economic Growth and Distribution of Revenues in Districts/Cities in Southeast Sulawesi Province

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ABSTRACT--- *This study aims to determine the effect of economic growth, infrastructure, investment, fiscal and labor on income distribution in the regencies/cities in Southeast Sulawesi province. This research uses both descriptive qualitative and quantitative analysis. The former is used to describe phenomena related to the problems studied, and the latter to analyze quantitative information, namely the regression model estimation using data panel. To analyze collected data, the study uses an econometric model, which is defined as a quantitative analysis of actual economic phenomena based on concurrent development of theory and observation, connected with an appropriate method of inference. Econometrics is a mixture of economics theory, mathematical economics, economic statistics, and mathematical statistics. The study investigates economic growth and revenue distribution in 12 regencies/cities in Southeast Sulawesi Province, which included 10 (ten) districts namely Buton, Muna, Konawe, South Konawe Selatan, North Konawe, Bombana, Wakatobi, North Buton, and North Kolaka, and 2 (two) cities including Kendari City and BauBau City, for a period of 6 (six) months. Variables under investigation include two dependent variables, i.e., economic growth (Y1) and income distribution inequality (Y2), and four independent variables namely Infrastructure (IF), Investment (K), Fiscal (F), and Manpower (L). To analyze data, the Fixed Effect panel data regression model is used. Results of the research show that road infrastructure construction, investment, fiscal decentralization and labor has a negatively significant impact on unequal distribution of income, in that road infrastructure, investment, fiscal and labor decentralization can reduce inequality of income distribution. In contrast, the impact of economic growth on the inequality of income distribution is positively significant in that economic growth can increase the inequality of income distribution. These findings do not correspond with Neo Classic theory and Kuznet's Theory which postulate that while inequality of income distribution tends to widen in the early stages of development, it decreases as the development process goes. However, they support Neo Marxist theory which states that economic growth will always widen the gap or inequality between the rich and the poor due to the accumulation of capital and technological progress which tends to increase the concentration of control of resources and capital by the capital rulers of the "elite" society, leaving non-capital owners to remain in poverty. The regencies/cities in Southeast Sulawesi province have their own work agenda that is not connected to each other. This is especially the case with cities which become growth center such as Kendari, BauBau, and Kolaka regencies that are proved to have less impact on other underdeveloped regions. These particular findings confirm Myrdal's theory which argues that backwash effects are more dominant than spread effects, as well as Hirschman's theory which points out that polarization effect is more dominant than trickling down effect. We believe this is because natural resources potentials owned by the cities/regencies in Southeast Sulawesi Province have not been fully utilized and are only partially exploited without integrating them with the resources of other regions.*

Keywords--- Economic growth, income distribution, infrastructure, investment, fiscal, labor and panel data regression

1. BACKGROUND

Southeast Sulawesi is one of Indonesian provinces with the highest growth. In the period of 2007-2012, the province's economy grew at an average of 8.4 percent per year or ranked fourth of the highest nationally after West Papua, Central Sulawesi, and West Sulawesi. The highest growth momentum of Southeast Sulawesi occurred in 2012

which reached 10.4 percent or the second highest growth nationally after West Papua's growth of 15.8 percent. In spite of this, the economy of Southeast Sulawesi still faces some challenges concerning its sustainability in the future. In 2014, the growth of Southeast Sulawesi began to slow down, touching the lowest figure of 6.26 percent. On the other hand, although the per capita Revenue Ratio of Southeast Sulawesi province increased following the trend of national per capita income, per capita income of the province remains far below national per capita income. In 2014, the per capita GRDP of Southeast Sulawesi is still Rp 27.8 million per year, well below the national per capita GDP of Rp 34.1 million.

The high imbalance of economic development between regions in Southeast Sulawesi is reflected by per capita GDP of Buton which reaches Rp 3,517 million and Baubau City which is 3.528 Million as the cities sitting at the lowest two categories of GDP per capita, and the second highest category of GRDP per capita which includes Kolaka Regency with Rp 18,301 million and Kendari City with Rp 10,055 Million. The table shows that the per capita inequality of each region is still quite high. Per capita income of Kolaka district is three times higher than per capita income of Buton and Wakatobi districts, or twice the per capita income of North Buton or North Konawe. Increased economic growth in Southeast Sulawesi Province in 2013, triggered by the growth of mining and extraction sectors, was inseparable from the value of investment in these sectors which increased considerable, although other sectors had not contributed significantly to the increase in income per capita. Based on the above conditions, relevant policies and strategies are needed to promote economic growth and address disparities in people's per capita income in Southeast Sulawesi by promoting investment and developing infrastructure and human resources.

A number of research concerning with inequality of income distribution has been conducted. Sutarno and Mudjarat Kuncoro (2000), for example, reports that the tendency of increased inequality is caused, among others, by the concentration of spatial economic activities. Suarteja (2003) states that GDP growth rate negatively affects the level of disparity results in development. Waluyo (2004) points out that the relationship between income distribution and economic growth is negatively significant, and that while investment does not improve the redistribution of income, it improves the redistribution of land ownership and increases the efficiency of the allocation of economic resources. Wahyuni (2004) states that there is a negative relationship between economic growth and income inequality in that if economic growth rises then income inequality will decrease. Yoga (2006) states that investment growth increases the extent of gap in regional development, and it has a real or positive influence on income inequality. Noegroho and Soelistianingsih (2008) argues that economic growth has a positive effect on income disparity. Parhah (2008) maintains that unemployment rate, development expenditure, and GRDP per capita have a regressive effect on income distribution.

Research Objectives

The objectives of this research are:

To determine the effect of economic growth, infrastructure, investment, fiscal, and labor on income distribution at districts/cities in Southeast Sulawesi Province;

2. THEORETICAL REVIEW AND CONCEPTUAL FRAMEWORK

According to Adam Smith's theory, factors affecting economic growth include available natural resources (land), human resources (population), and stock of existing capital goods. Similarly, Neoclassical theory suggests that economic growth depends on increased supply of production factors which include population, labor, and capital accumulation, as well as the rate of technological progress (L. Arsyad, 2010). Bhinadi (2003) states that economic growth is triggered by capital goods, labor, and productivity changes resulted from these factors of production. Todaro (2004) points out 3 (three) main factors or components in the economic growth of a nation, including: (1) capital accumulation; (2) population growth; (3) technological progress.

Harrod Domar's growth theory (Jhingan, 2004) postulates that investment plays a key role in economic growth in that it generates revenue and enlarges economy capacity by increasing capital stock. According to Kunle et al. (2014), economic growth is directly related to inflows of foreign investment. Healthy economic growth will provide a positive signal for investment inflows. According to Sukirno (2011), investment activities allow a society to continuously improve its economic activities and employment opportunities, as well as to increase national income and improve the prosperity of the community. In addition, according to Smith (Irawan, 2002), it is believed that population can encourage economic growth. Increasing population will expand market, and in turn market expansion will heighten the level of specialization in the economy.

As pointed out by the Cumulative Causation Models by Myrdal (1975) and then formulated by Kaldor, government intervention is necessary to increase economic growth rate. One form of such intervention is fiscal policy. A policy for decentralization of revenue and expenditure is a way to improve efficiency of public sector, reduce budget deficits, and promote economic growth (Bird, 1993; Bird and Wallich, 1993; Bahl and Linn; 1992; Gramlich, 1993; and Oates 1993; Zhang and Zou 1998). Following Ebel and Yilmaz (2002), Slinko (2002), Vasquez and McNab (2001), Pose et al (2007), fiscal decentralization brings significant changes to the welfare and economic benefits, whereas according to World Bank (1997), decentralization can indirectly affect economic growth as it will improve macroeconomic efficiency

and stability. It is explicitly stated that public expenditures, especially for constructing infrastructure for communities, will be more effective if they are undertaken by local governments because the governments will be more aware of what local people want and need. According to Barro's (1990) growth model, infrastructure capital is an input into aggregate production but resulted from reduced investment in other types of capital. However, economic growth that is influenced by investment, labor, fiscal and infrastructure is often accompanied by a phenomenon of inequality in revenue sharing that occurs in many parts of the world, both developed and developing countries. Mark's theory (1787) argues that while economic growth tends to reduce the problem of poverty and inequality of income distribution, it only occurs in the early stages of development and in the next stage the opposite will happens – there will be inequality of income distribution and increased poverty. Classical economists (Roberti, 1974; Hayani and Ruffan (1985), argue that economic growth will always tend to reduce poverty and income inequality even in the early stages of growth. This is in contrast to Kuznets (1995) who holds that economic growth in poor countries initially tends to lead to high levels of poverty and inequality of income distribution, but if poor countries are developing then the problem of poverty and inequality of income distribution will be alleviated. According to Neo Marxist, economic growth will always lead to widening the gap of inequality between the rich and the poor.

In achieving the welfare of the community, governments are often encountered with the urge to achieve good economic growth and equitable income distribution. The fact is that high economic growth is often not accompanied by equitable distribution of income, and this is particularly prevalent in developing regions. It is, however, possible that even distribution of income entails low economic growth especially in relatively developed areas. Inequality of income distribution in some regions can be due to the growth and limitations of each different region, as well as development that tends to focus on the already developed regions. This leads to uneven distribution of regional income and is one of the factors causing the inequality of the distribution of regional income to widen. Southeast Sulawesi Province is a province that has a fairly high economic growth but it also experiences developmental inequality. This is obvious in the diverse GRDP amongst cities and regencies in the province. While some urban areas enjoy relatively high rate of GDP growth, others have low GDP growth rates. Kendari City and Kolaka Regency have a high Gross Regional Domestic Product because it is the capital of the province as well as the center of activities in all areas of economy, whereas Kolaka Regency is the center of mining and extraction activities. Bombana, Wakatobi, North Buton, and North Konawe have low GDP because the level of economic activities in these areas is still low. If this situation continues, gap in the inequality will get wider and developments will not be evenly distributed throughout the province. Obviously, this situation contradicts Simon Kuznets and Neo-classical theory.

We believe that there are several factors that affect economic growth and income distribution including infrastructure, fiscal, investment and labor supply. For these reasons, this study focuses on the impact of infrastructure, fiscal, investment and labor on economic growth and income distribution, as well as changes in the influence of regional policies that are applied to economic growth and income distribution in the province of Southeast Sulawesi. Conceptually this research can be described in the following chart:

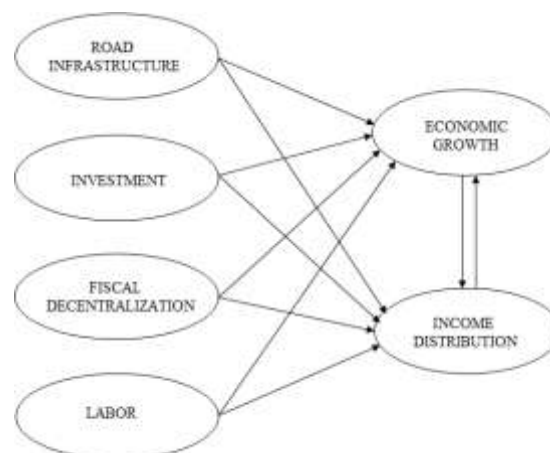


Figure 3.1. Conceptual Framework

From this conceptual framework, it is hypothesized that *there is a significant and positive relationship between economic growth variables, road infrastructure, investment, fiscal and labor decentralization of income distribution in regencies/cities in Southeast Sulawesi Province.*

3. RESEARCH METHODOLOGY

Research design

This research uses qualitative and quantitative descriptive approach. Qualitative descriptive analysis is performed to describe phenomena related to the problems studied, while quantitative analysis is used to analyze quantitative information, namely estimation of the regression model with the use of panel data. To analyze data collected, an econometric model is employed.

According to Samuelson, in Gujarati, econometrics is defined as a quantitative analysis of actual economic phenomena based on concurrent development of theory and observation, connected with appropriate inference methods. Econometrics is a mixture of economic theory, mathematical economics, economic statistics, and mathematical statistics.

Location and Time of Study

The study was conducted in Southeast Sulawesi Province, covering 12 districts / municipalities consisting of (ten) regencies, namely: Buton, Muna, Konawe, Konawe Selatan, North Konawe, Bombana, Wakatobi, North Buton, and North Kolaka, and 2 (Two) cities, namely Kendari City and BauBau City, for 6 (six) months.

Research variables

The dependent variables are economic growth (Y1) and inequality of income distribution (Y2), while the independent variables include Infrastructure (IF), Investment (K), Fiscal (F), and Labor (L).

Data Types and Data Sources

The study considered secondary data, i.e., data obtained based on information compiled and published by relevant agencies (Soeratno and Arsyad, 2003). The types of data used in this study are, among others:

- GRDP data based on 2000 constant prices in the period 2010-2014 obtained from Southeast Sulawesi's Provincial Bureau of Statistics and the same offices in the regencies/cities within the province.
- Data about infrastructure condition in 2010-2014 period acquired from the Public Works Office, the Department of Transportation and Informatics, Mining and Energy and Mineral Resources, as well as Southeast Sulawesi's Provincial Bureau of Statistics and the same offices in the regencies/cities within the province.
- Capital data in the 2010-2014 period obtained from the Regional Board of Investment and One Stop Service (BPMD and PTSP) as well as Southeast Sulawesi's Provincial Bureau of Statistics and the same offices in the regencies/cities within the province.
- Fiscal data during the 2010-2014 period acquired from the Office of Regional Revenue and Assets and BPAKD, as well as Southeast Sulawesi's Provincial Bureau of Statistics and the same offices in the regencies/cities within the province.
- Data of Labor in 2010-2014 period collected from the Office of Manpower and Transmigration, as well as Southeast Sulawesi's Provincial Bureau of Statistics and the same offices in the regencies/cities within the province.

Technique of Data Collection

Techniques of data collection used in this study were based on the aspect of the goal, namely the collection of secondary data from various institutions during the period of 2010-2014 to achieve the first, the second, and the third goal of the study.

Technique of Data Analysis

The study employed the following techniques of data analysis:

a. Gini Ratio Analysis

Gini ratio analysis is performed to find out the inequality of income distribution at regencies/cities in Southeast Sulawesi Province. Mathematically, the Gini Ratio equation (C. Gini, 1912 in Mudrajat Kuncoro, 2001) is formulated as follows:

$$G = 1 - \sum_{i=1}^k \frac{P_i(Q_i + Q_{i-1})}{10.000}$$

Where:

- G = Gini Ratio
- P_i = Percentage of households in income class -i
- Q_i = Percentage of cumulative income up to the class -i
- Q_{i-1} = Percentage of cumulative income up to the class ke-i
- k = Number of income classes

As a measurement of income distribution, the value of Gini Ratio ranges between 0 and 1. A Gini Ratio that is close to zero indicates a small inequality. On the other hand, if the Gini Ratio is close to one, it indicates a big inequality.

B. Analysis of Panel Data Regression Models

Underlying this research are the models used by Gary M. Woller and Kerk Phillips (1998), Jin and Zou (2000), and Jaime Bonet (2006), with a reference to Simon Kuznet's (1955) theory and repetitive models (Recursive models) and least squares.

The equation model of data panel is as follows:

$$Y_{it} = \alpha_{0i} + \alpha_1 X_{it} + \epsilon_{it} \dots\dots\dots(4.1)$$

Where:

- i = indicates the number of cross section units
- t = indicates a specific time period

The function model used is:

$$Y1 = f(IF, K, F, L) \dots\dots\dots(4.2)$$

$$Y2 = f(Y1, IF, K, F, L) \dots\dots\dots(4.3)$$

Where:

- Y1 = Economic growth
- Y2 = Inequality of Income Distribution
- IF = Infrastructure
- K = Investment
- F = Fiscal
- L = Labor

From equations (4.1), (4.2) and (4.3), the following equation is obtained:

$$Y_{1it} = \alpha_{0i} + \alpha_1 \ln X_{1it} + \alpha_2 \ln X_{2it} + \alpha_3 \ln X_{3it} + \alpha_4 \ln X_{4it} + \epsilon_{it} \dots\dots\dots(4.4)$$

$$Y_{2it} = \alpha_{0i} + Y_{1it} + \alpha_1 \ln X_{1it} + \alpha_2 \ln X_{2it} + \alpha_3 \ln X_{3it} + \alpha_4 \ln X_{4it} + \epsilon_{it} \dots\dots\dots(4.5)$$

where:

- Y_{1it} = Economic growth of regencies/cities within Southeast Sulawesi Province (in percent)
- Y_{2it} = Inequality of income distribution at regencies/cities within Southeast Sulawesi Province (in percent)
- X_{1it} = Proportion of road infrastructure in good condition to total length of road in regencies/cities within Sulawesi Tenggara Province (in percent)
- X_{2it} = Proportion of PMTB to total PDRB at regencies/cities within Sulawesi Province Tenggara (%)
- X_{3it} = The proportion of DAU and DAK to total regional revenue in the regencies/cities within Sulawesi Tenggara Province (in percent)
- X_{4it} = The proportion of labor absorption to the population in regencies/cities within Sulawesi Tenggara Province (in percent)
- α_{0i} = Constanta
- α_n = Parameters under observation
- ε_{it} = Error term

4. RESULTS AND DISCUSSION

To analyze the relationship between economic growth, infrastructure, investment, fiscal, and labor and income distribution, a best model (i.e., income distribution equation model) is derived through certain test stages. The steps taken to obtain the best model with this income distribution equation also include administration of some tests related to the procedures on panel and static analysis methods. The first one is the Chow test (redundant fixed effect test) to determine which one is the best model: fixed effect model (FEM) or pooled least square (PLS).

Based on the fixed effect redundant test, it is found that the income distribution equation is better estimated using the FEM rather than then PLS. This is indicated by the significance of F-statistics of all estimated models. Since the result of Chow statistical test is 1282.37 (Prob-F <0.05), then H_0 is rejected. This result also suggests the existence of individual heterogeneity on the FEM model, which is believed to give better results that does the PLS. The Hausman test, used to choose between random effect model (REM) and FEM for income distribution equation, also proposes that the best model to make estimation is the FEM. This is indicated by the Hausman test statistic value of 86.67 with p-value $0.000 < 0.05$, meaning that H_0 is rejected and H_1 is accepted, and it follows the fixed effect model. To obtain the estimation of BLUE (Best Linear Unbiased Estimator), a test is run on the basic assumptions which include multicollinearity, heteroscedasticity and autocorrelation. Result of the test shows that there is no correlation of matrix value between every individual independent variable. In addition, the independent variable of 0.75 is obtained so that the model does not have a problem with multicollinearity. Furthermore, a test to estimate the model is conducted using the Estimated Generalized Least Square. Estimation using the GLS is automatically free not only from autocorrelation symptoms, but also from the symptoms of heteroscedasticity caused by constant variation (Juanda, 2011). Therefore, based on the analysis to determine the most appropriate model, which is performed on several stages of various statistical tests, the Fixed Effect model is selected as the best model to identify the effect of economic growth, road infrastructure, fiscal decentralization, investment, and labor on inequality of income distribution.

Result of regression on Y2 equation model (Income Distribution Inequality) shows that economic growth has a positively significant effect on the inequality of income distribution. This is indicated by the probability value of regression coefficient of income inequality, which is 0.0000, and is lower than the error tolerance of 0.05. Road infrastructure, investment, fiscal decentralization, and labor have a negatively significant impact on the inequality of income distribution. This is indicated by the probability value of the regression coefficient of road infrastructure, investment, fiscal decentralization on income inequality, which is 0.0000, lower than error tolerance of 0.05, and the probability value of regression coefficient of labor to income inequality, which is 0.0463, lower than error tolerance of 0.05. The relationship between economic growth, road infrastructure, investment, fiscal, and labor decentralization and inequality of income distribution can be explained in Table 4.1, as follows:

Table 4.1. Regression Result of Fixed Effect Equation Model with Unequal Income Distribution as a Dependent Variable in Regencies/Cities Revenue in Southeast Sulawesi in 2010-2014

Variable	Coefficient	Standard Error	t-Statistic	Probability
Economic growth	0.114421	0.011193	0.22276	0.0000**
Road infrastructure	-0.010195	0.002106	-4.841492	0.0000**
PMTB	-0.034992	0.004805	-7.281.845	0.0000**
Fiscal decentralization	-0.079763	0.003560	-22.40845	0.0000**
Employment	-0.003152	0.001549	-2.035555	0.0463**
C	2.947364	0.061571	47.86908	0.0000
R-squared	0.999180			
Adjusted R-squared	0.998680			
F-statistic	1997.026			

** Significant at the error level of 5% (0.05)

a. Analysis of the Effect of Economic Growth on Income Distribution

Apriesta and Miyasti (2013) state that economic growth and income distribution have a reciprocal relationship, that is, economic growth can affect the distribution of income, and revenue distribution can affect economic growth. Furthermore, according to Rustiadi et al. (2011), there are 4 (four) typologies of areas in some districts: firstly, areas with high growth rates and high disparities; secondly, areas with high economic growth and low disparities or gaps; thirdly, areas with low economic growth and high disparities or gaps; and fourthly, areas with low economic growth and low distribution or disparity.

Based on regression equation model with income distribution as a dependent variable and economic growth as an independent variable in 2010-2014, as shown in Table 5.17, economic growth in Southeast Sulawesi's regencies/cities has a positively significant effect on income distribution, indicating that the variable of economic growth generates positive and significant influence on income distribution in the regencies/cities. This is indicated by the significance impact of economic growth variable on the distribution of income, as suggested by the probability value of regression coefficient of economic growth, i.e. 0.0000, which is lower than error tolerance of 0.05 and has a positive sign of significance and coefficient value of 0.114421. This meant that economic growth has a significantly positive effect on income distribution, in that every 1-percent rise in economic growth will cause the gap in distribution of income to become wider by 0.114 percent. The positive influence is contributed by an increase in investment, especially in the mining sector, which leads to capital accumulation and increases the concentration of control over capital resources especially the mining resources by the capital rulers of the elite community whereas on the other hand non-capital owners remain in a low-income state. This condition exacerbates income inequality.

The economic growth variable also has the greatest elasticity value compared to other variables in the model. This indicates that economic growth has a negative impact on income distribution or income gap. This particular result is in line with findings in several studies. For example, Bulteet al (2004), Pineda and Rodriguez (2010) report that economic growth has a positive effect on income distribution. Sri Danawati, I KG Bendesa and Made Suyana Utama (2016) state that economic growth has a positively significant impact on income inequality of regencies/cities within Bali province. Similarly, Wildan Arifianto (2014), Prabowo Siswanto (2010), H. Miyasto, SU (2010), R. Abdul Maqin (2006) discovers that the influence of economic growth on the distribution of income is positive and significant. In contrast, a study conducted by Ravalion and Chen (1997) in (Waluyo, 2006) finds a negatively significant relationship between economic growth and gap in income distribution. It demonstrates that an increase in economic growth will narrow down, rather than enlarge, income gap. This is similar to the result of a research carried out by Tutik Yuliani (2015) which finds that economic growth negatively affects the equality of development.

b. Analysis of the Effect of Road Infrastructure on Income Distribution

Road infrastructure is one of economic variables that can affect income gap in a regency/city. Rustiadi et al (2011) states that improvement of road infrastructure or availability of road infrastructure can lead to increased economic growth and reduce regional disparity level. However, a linear relationship is also possible, that is, higher economic growth can lead to a higher level of disparity. The variable of road infrastructure in the regencies/cities in Southeast Sulawesi plays an important role in reducing income inequality. A regression model of equation with income distribution as a dependent variable and infrastructure as an independent variable in the year 2010-2014, as shown by figure 5.17, shows that infrastructure has a negatively significant effect on income distribution at regencies/cities in Southeast Sulawesi. This is indicated by the significant effect of infrastructure on the distribution of income, as marked by the probability value of regression coefficient of economic growth, i.e., 0.0000, which is lower than error tolerance of 0.05 and has a significant negative sign and coefficient value of -0.010. This finding suggests that better road infrastructure can reduce gap in income distribution. Each 1-percent increase in infrastructure can reduce income gap by 0.010 percent. This proves that uneven distribution of income is inseparable from the contribution of road infrastructure to the regencies/cities in the province of Southeast Sulawesi. Partially, the road infrastructure has a negatively significant impact on the inequality of income distribution in the regencies/cities in Southeast Sulawesi.

This particular finding is similar to what Rustiadi et al. (2011) report, in which road infrastructure is considered a vital input in the economy of a region. Furthermore, it is pointed out that the better the condition of road infrastructure, the more developed the economic activities in an area since it can facilitate social activities. Growing economic activities will increase per capita income, and this reduces poverty in a region. A region with increased per capita income and decreased poverty can be categorized as a prosperous place where income gap may not make a real difference.

C. Analysis of Investment Effect on Revenue Distribution

Investment has a huge role in national production capacity since investment drives the economy both for the addition of production factors and the improvement of the quality of production factors. Thus, investment will increase public expenditure through the increase of people's income by the work of multiplier effect. The formation of Gross Fixed Capital is part of an investment that aims to increase asset growth in order to generate a multiplier effect on economic growth. Investment activities can help economic growth, public welfare, and employment to grow so that inequality of income distribution can be reduced.

In accordance to the result of current research, it is held that investment in districts/cities in Southeast Sulawesi Province plays important roles in reducing income gap. Based on the result of regression model equation, with income as the dependent variable and investment as the independent variable in 2010-2014 as table 5.17 presented, investment has a negatively significant effect on inequality of income in districts/cities in Southeast Sulawesi. This is indicated by the significance of investment variable on the income distribution, as marked by the probability value of regression coefficient to income inequality, which is 0.0000 and smaller than error tolerance of 0.05, and has a sign of negative significance and coefficient value -0.035. This means that increased investment can decrease gap in income distribution,

with each 1-percent increase in investment can narrow income gap by 0.035 percent. This result also proves that unequal distribution of income cannot be separated from contribution of investment at regency/city in Southeast Sulawesi. Partially, investment has a negatively significant effect on the unequal distribution of income in Southeast Sulawesi's regencies/cities.

This particular result is not consistent with the endogenous growth theory. According to Todaro (1994), endogenous growth model can be used to determine the potential for high investment returns in developing countries where the ratio of working capital is still low. Endogenous growth model considers technological change as an endogenous outcome of investments in human resources and technology-intensive industries, both private and governmental. This theory refers to innovation or technological development as a component of investment, where previous changes or developments in technology are the result of physical capital investment and human capital that can create external economy and increase productivity. Investment is closely related to the economic growth of a region and this is illustrated by the fact that increasing number of investments that enters into a region will increase the output generated and eventually increases economic growth. However, the increasing numbers of investments that enters into a region will lead to income inequality. Similarly, according to Myrdal (Jhingan, 1993), investment tends to increase inequality. In emerging areas, demand for goods and services will lead to increased investment, which in turn will increase revenues. In contrast, in less developed areas, the demand for investment is low because of small community revenues. In addition, investment, especially private investment, is largely determined by market forces. In this case, an advantage that plays a significant role in attracting private investment to a region is the location of the region (Sjafrizal, 2008). This difference is what will further widen income distribution imbalance amongst regions.

The results of this study, however, is in line with Blanchar (2012) who argues that investment in a region can contribute substantially to the prosperity of the community. Investment activities can lead to expansion of employment, reduce unemployment, and have a multiplier effect on other economic activities. Investment activities do not only have a direct positive effect but also an indirect positive effect, especially in the distribution of income, in that it keeps a gap in income distribution from getting wider. Having said that, the result of this study is in contrast to a finding in a research conducted by Sri Danawati, I K.G. Bendesa and Made Suyana Utama (2016) which reports that investment has a positive but insignificant effect on income inequality of regencies/cities in Bali Province. Ketut Wahyu Dhyatmika, Hastarini Dwi Atmanti (2013) finds that foreign investment (PMA) has a positive effect on the level of development inequality in Banten Province. Yeniwati (2013) states that there is a significant influence of investment on economic imbalances in the region of Sumatra. R. Abdul Maqin (2006) pointed out that PMDN has a significant influence on income disparity.

d. Analysis of the Effect of Fiscal Decentralization on Income Distribution

Fiscal decentralization through the General Allocation Fund (DAU) and the Special Allocation Fund (DAK) is a regional balancing fund with a view to reducing development budgetary gaps in all districts/cities in Indonesia. Each regency/city has its own limitation of budget, which can lead to unequal distribution of incomes, so the central government introduces DAU and DAK as a way of overcoming it. Since every district/city has different potential resources, regions with plenty potential resources has the advantages of regional budgeting. However, DAU and DAK does not necessarily solve any socio-economic problems in some areas. This is also true of regencies/cities in Southeast Sulawesi.

Fiscal decentralization in regencies/cities within Southeast Sulawesi Province plays a positive role of reducing income gap. Based on the result of regression model of equation, with income as the dependent variable and investment as the independent variable in 2010-2014 as presented in table 5.17, fiscal has a negatively significant effect on income inequality in Southeast Sulawesi's regencies/cities. This is suggested by the significance of fiscal variable on the income distribution, indicated by the probability value of regression coefficient of income inequality, which is 0.0000 and smaller than error tolerance of 0.05, and has a negative sign and coefficient value -0.079. This implies that an increase in fiscal decentralization can reduce a gap in income distribution. Each 1-percent increase in fiscal can narrow an income gap by 0.079 percent. This result proves that unequal income distribution cannot be separated from the contribution of fund transfer from central government to regencies/cities in Southeast Sulawesi. Partially, fiscal has a negatively significant effect on income inequality in districts/cities in Southeast Sulawesi.

The particular result is in line with Tanzi and Blejer's (1984) opinion in that fiscal decentralization plays a role in decreasing income gap. Ezeabasili and Tsegba (2012) also assert that fiscal decentralization can positively influence regional economic growth. In fact, there is a positively strong relationship between government's consumption spending and the distribution of income. According to Pose et al (2007), fiscal decentralization provides significant changes to the welfare and economic benefits. He further maintains that, in making a policy, a local government should determine what goods are mostly needed by a region. This will allow local government to produce more efficient allocation functions. The same opinion is also proposed by Ebel and Yilmaz (2002), Slinko (2002), and Vasquez and McNab (2001). The result of this study in accordance to that of a research conducted by Ketut Wahyu Dhyatmika, Hastarini Dwi Atmanti (2013), which reports that government spending on developments has a negative effect on the inequality of development in Banten Province. Prabowo Siswanto (2010) states that fiscal decentralization is proved to significantly affect the level

of inequality in regional development in Central Java. However, the result of this study is different from a result of research conducted by Sri Danawati, I K.G. Bendesa and Made Suyana Utama (2016), which discovers that government spending has a positively significant impact on income inequality amongst districts in Bali Province.

e. Analysis of The Effect of Labor On Income Distribution

Simanjuntak (Subri, 2003) classifies labors into two: the labor force and the non-labor force. The labor force consists of a group of people who currently have occupations and a group of people who are unemployed or seeking for a job. The non-labor force included those who are attending school, doing households, and other income-earning groups. The number of working people is a description of the conditions of available employment. According to Barro (1999), a shift in economic activities from agricultural to industrial sector can create changes of income in a population which will increase the level of inequality in distribution of income. Incomes generated by a population working in industrial sector will be much higher than agricultural sector. Todaro (2000) says that the impact of income distribution inequality on poverty is caused by an increase in population. Population growth tends to have a negative impact on the poor, especially for the very poor.

Thus, population increase is expected to provide more employment in productive sectors, especially agriculture, trade, and services, which can absorb much more the labor force than can industrial sector. Although income level in the industrial sector is higher, labor is less absorbed by this sector, so income distribution moves more dominantly towards small-scale income groups in order to reduce the gap in the distribution of people's incomes. Employment absorption has a negatively significant impact on income distribution or income gap. Based on the regression equation model, with income imbalance as the dependent variable and fiscal as the independent variable in the year 2010-2014 as shown by table 5.17, workforce has a negatively significant effect on income inequality in the regencies/cities in Southeast Sulawesi Province. This is indicated by the significance of the effect of labor variable on the income distribution, which is marked by the probability value of regression coefficient on income inequality, which is 0.0463 and lower than error tolerance of 0.05, and has a sign of negative significance and coefficient value -0.003152. This finding suggests that an increase in the number of workers can decrease gap in income distribution. Every 1-percent increase in labor can lower income gap by 0.003152 percent. This result proves that inequality of income distribution in a region cannot be separated from contribution of employment in regencies/cities in Southeast Sulawesi. Partially, labor has a negatively significant effect on income inequality in regencies/cities in Southeast Sulawesi.

This finding is consistent with Mark's opinion (in Puslitbang Ekobank, LIPI, 2014) in that a relatively developed region with good economic growth can increase labor demands which then help to narrow income gap. Nevertheless, an increase in labor demand does not always have positive impacts because of its impact on rising capital entails risks to labor, which can decrease labor demand. As a result, unemployment problems will arise and economic growth will weaken. The result of this study is in line with that of a study by Ardito Bhinadi (2003), which reveals that the growth of labor has a negatively significant effect on inequality. It is however different from a result found by Sri Danawati research, I K.G. Bendesa and Made Suyana Utama (2016), which indicates that employment opportunities have a positively significant impact on the inequality of district revenue in Bali Province.

Findings of the Study

- a. Development of road infrastructure, investment, fiscal decentralization, and labor have a negatively significant impact on the inequality of income distribution, in the sense that that road infrastructure, investment, fiscal, and labor decentralization contribute to the decrease of gap in income distribution. However, economic growth that is influenced by road infrastructure, investment, fiscal decentralization and labor, has a positively significant effect on the inequality of income distribution, in that economic growth can widen the inequality of income distribution. This finding is different from Neo Classic theory and Kuznet's Theory which postulates that inequality of income distribution tends to become wider at the early stages of development, but there will be lesser inequality of income distribution as the development process goes. In spite of that, this finding supports the Neo Marxist theory which states that economic growth will always lead to a widening gap or inequality between the rich and the poor. This is due to the accumulation of capital and technological advances that tend to increase the concentration of control over resources and capital by the capital rulers of the "elite" community, while non-owners of capital remain in poverty.
- b. All regencies/cities in Southeast Sulawesi Province have their own working agenda that are not connected to each other, especially Kendari City, Bau Bau and Kolaka which become growth centers but evidently do not to have major impact on other underdeveloped regions or districts in the province. This particular finding supports Myrdal's theory which argues that backwash effects are more dominant than spread effects, as well as Hirschman's theory stating that the polarization effect is more dominant than the trickling down effect. We believe this is because natural resources potentials owned by the regencies/cities in Southeast Sulawesi province have not been maximally utilized, or they tend to be partial without integrating one district and another.

4.1 Limitation of the Study

- a. This study only investigates 4 (four) variables that affect economic growth and income distribution, namely infrastructure, fiscal decentralization, investment and labor. There are many other variables that can influence economic growth and income distribution.
- b. Given its results, this study has not been able to explain the relationship amongst the independent variables under investigation, whereas there is a tendency of correlational relationships between one and other variables, or effect of one variable on the others.
- c. Findings of this study demonstrate the impact of infrastructure, fiscal, investment, and labor on economic growth, as well as the effect of economic growth, infrastructure, fiscal, investment, and labor on income inequality. However, the results of this study may not necessarily be generalizable and applied to similar objects and research areas with different characteristics or settings. Next researchers are therefore advised to examine variables other than what are addressed in this study.

5. CONCLUSION

Distribution of incomes in the regencies/cities in Southeast Sulawesi Province in 2010-2014 is strongly influenced by economic growth, availability of road infrastructure, fiscal decentralization, investment, and employment. Having said that, economic growth also widens inequality of income distribution. Results of the analysis show that economic growth has a positively significant effect on income distribution or income gap. Every 1-percent increase in economic growth can widen income gap by 0.114 percent.

The availability of road infrastructure, investment, fiscal decentralization, and labor have a negatively significant impact on income distribution or income gap. Every 1-percent increase in road infrastructure development can widen income gap or income distribution by 0.010 percent. Every 1-point increase in investment can decrease income gap by 0.035 percent. Every 1-percent increase in fiscal decentralization can reduce income gap by 0.079 percent. Every 1-percent increase in employment can decrease income distribution or income gap by 0.0031.

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