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The Effect of Structural Transformation on Income Inequality in South Sulawesi

[1]Nely Ayu Adriani Udhar, [2]Agussalim, [3]Sultan Suhab

[1]Magister of Economics development and planning. Hasanuddin University. Indonesia. E-mail: nelyaa.udhar@gmail.com
[2] Economics and Business Faculty, Hasanuddin University. Indonesia.

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ABSTRACT: The Effect of Structural Transformation to Income Inequality in South Sulawesi

This study aims to look at the direct and indirect effects of structural transformation (primary sector, secondary sector and tertiary sector) on income inequality through employment and per capita income in South Sulawesi.

The type of data analyzed in this study is secondary data in the form of panel data (pooled data) that combines cross-regional data (cross-section) and cross-time data (time series). Analyzing data uses the path analysis method.

The results showed that the primary sector had a positive and significant effect directly on income inequality and was negatively and indirectly related through employment and income per capita. The secondary sector has a negative and significant effect on income inequality both directly and indirectly through employment and per capita income. The results of testing the data indicate that the direct shift in the structure of the economy from the primary to the secondary sector has a significant effect in reducing inequality. Income inequality will decrease with the transition to the industrial sector. The tertiary sector has a negative and significant effect on income inequality through the employment and per capita income in South Sulawesi. The shift in structure towards the tertiary sector from the agricultural and industrial sectors has a significant effect in reducing inequality. Thus, it can be said that a shift in economic structure will improve income distribution.

I. INTRODUCTION

Economic development is a community effort to achieve a better life in increasing the availability and distribution of various basic needs, increasing the standard of living in a socio-economic manner. Development is actually a planned process towards better

conditions, economic development can be interpreted as a process that causes an increase in per capita income, which is accompanied by changes in the economic structure, improving income distribution and reducing the poverty rate. Economic development has the main objective of reducing the poverty rate which can be achieved through economic growth and or through income redistribution.

Economic growth is often seen as an indicator of a region's economic success, therefore Indonesia's high economic growth is always highlighted as a parameter of prosperity. However, Indonesia's persistence in pursuing a high rate of economic growth has not been accompanied by an improvement in income distribution, as well as generating conglomeration practices. Symptoms arise in the economy, where resources and assets are only focused on a small group of people, business ownership accumulates in only few of people, business competition grows unhealthy and an economy with a dualistic face: affluent vs slum, metropolis vs isolated (Agussalim, 2009).

In the last decade, Indonesia has recorded a very impressive economic growth rate which has even taken place consistently with an average growth rate of 5.11 percent per year, and in 2017 Indonesia's economic growth was 5.07 percent. Meanwhile, South Sulawesi as one of the provinces outside Java has a much higher economic growth when compared to the national economic growth of 7.23 percent in 2017, this also puts South Sulawesi as one of the provinces with the highest economic growth in Indonesia. Furthermore, data on economic growth in the last five years shows that South Sulawesi's economic growth is very accelerating with an average growth of 7.4 percent per year. This achievement not only exceeds the average national economic growth, but also places Sulawesi as the province with the highest economic growth as well as the most dynamic region in Indonesia.

However, behind these encouraging facts, another worrying fact appears, namely the widening income inequality. Income inequality as reflected by the Gini coefficient shows a very fast movement from 0.36 in 2008 to 0.407 in 2017. Or in other words, in just ten years the degree of inequality in South Sulawesi moved from the "moderate" criteria to the "high" criteria. The 0.407 figure is not only above the National figure of 0.39, but also has positioned South Sulawesi as one of the regions with the highest level of inequality in Indonesia.

In the long term, economic development will bring about a series of dynamics of a country's economic structure, which was originally more subsistence in nature and focused on the primary sector towards a more modern economic structure dominated by non-primary sectors. Increased economic growth accompanied by structural changes is one of

the indicators commonly used to measure the success rate of economic development. In meaning with establishment, Dudley and Seers refer to three (3) main objectives are: *1.What has been happening to poverty? 2.What has been happening to unemployment? 3.What has been to inequality?* (Hasan, 2018)

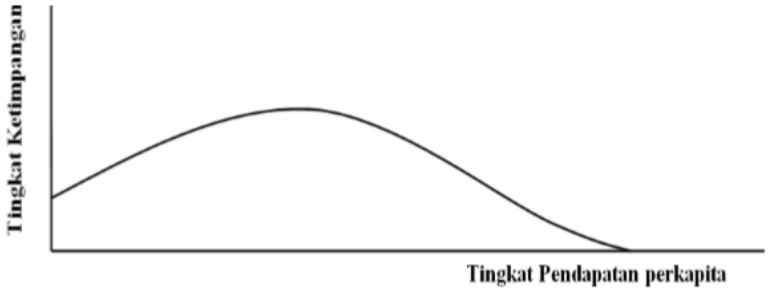
In a question posed by Professor Dudley such, overcoming the problem of income inequality is one of the issues that must be addressed in the development process. Reality shows the close relationship between inequality and the quality of life of a nation. Even the damaged social conditions of society and the chaotic economic situation are believed to be one of the long-term impacts of economic inequality in society. There have been many studies conducted to determine in depth the concrete impact of decreasing on improving the quality of human life. At least, these impacts are grouped into several aspects including the level of crime, the level of happiness, the level of health, the quality of social trust, and the level of political stability.

II. Theoretical Review

Income distribution indicates an equal distribution of the results of a country's development among its population. Income inequality is the difference in income received by each individual in a region as a result of differences in productivity levels. Income inequality is a problem that occurs when a country experiences high economic growth, income inequality that occurs, shows that low income is enjoyed by a large proportion of the population and large incomes are only enjoyed by a small portion of the population (Glaeser, 2006).

Kuznetz (1955) stated that income in the industrial and service sectors is not only high but also unequal, so that when economic growth leads to a greater role for the two sectors, there will be differences in the distribution of income that are getting worse or getting more imbalanced. However, when the economy reaches its highest level, there will be a redistribution of income through the transfer of income to production factors in the development process so that distribution will improve. The concept put forward by Kuznetz is then widely known as the inverted Kuznetz U curve concept which is taken from the shape of the curve shown in the following:

Figure 1. Inverted "U" curve (Kuznetz hypothesis)



The initial process of development, inequality in income distribution will increase as a result of the urbanization and industrialization processes; and at the end of the development process inequality decreases, that is, when the industrial sector in urban areas is able to absorb most of the workforce coming from rural areas (the agricultural sector) or when the share of agriculture is smaller in production and income generation. Initial growth phase will be concentrated in the modern industrial sector, where employment this stage is still limited but the level of wages and comparatively high productivity. The income gap between the modern industrial sectors and the traditional agricultural sector initially widened rapidly before eventually narrowing again (Arsyad, 2010).

According to Nikoloski (2009) the validity of the Kuznets hypothesis has been investigated repeatedly and with conflicting results. Several studies have confirmed this and most have found no evidence for the existence of a deterministic relationship. Income (McKay et al (2003)) White and Anderson (2001) find that the "growth effect" has been a major source of income growth for the poor in developing countries. In line with this study, Ravaillon (2001) argues that poverty alleviation has been more successful in developing countries that combine high growth with a decreasing Gini ratio. Barro (2000) finds evidence that growth reduces inequality. In addition, Birdsal, et al (1995) found evidence that long-term growth reduces inequality (through increasing long-term educational attainment). Panizza (2002) found similar evidence regarding the relationship between inequality and growth. Finally, Stephen Knowles (2005) takes a different approach to measuring inequality and he still finds that there is a negative relationship between growth and inequality in the long run.

Adelman Morris (1973), Bryant and White (1982) stated that development was initially accompanied by an absolute or relative decrease in the average income of the poor and after that these groups would enter the wage economy. At this point, inequality will gradually decrease. The difference in income distribution is the impact of differences in ownership of resources, factors of production, and ownership of capital goods (capital stock). The party with more capital will get more income than the party with less capital. In the view of the Neoclassical theory, differences in ownership of production factors will result in the distribution of the "welfare cake", a trickle up effect occurs, which results in income inequality.

Even inequality occurs as a result of market imperfection which is interpreted as a disturbance so that the market cannot work perfectly which can be caused by imperfect information, government policies, and the main thing that occurs in developing countries is the collusion between several economic actors and the government. In general, according to Adelman (1973), the causes of income inequality, namely: high population growth, inflation, development differences between regions, capital-intensive investment, social mobility, the existence of import substitution industrial policies resulted in an increase in the prices of industrial goods, depreciation exchange rates and the collapse of home industries.

Arthur Lewis (1945) two-sector development model for underdeveloped countries consists of: (1) traditional sectors; The rural subsistence sector is abundant in labor and is characterized by the marginal productivity of labor which is equal to zero and (2) the modern urban industrial sector which has high levels of productivity and becomes a shelter for workers who are transferred gradually from the subsistence sector. This model focuses its main attention on the transfer of labor, output growth and increasing employment in the modern sector. The transfer of labor and the growth of employment opportunities were made possible by the expansion of the output of the modern sector. The speed of expansion of employment in the industrial sector is highly dependent on the level of investment in the modern sector.

Shortage model of two sectors Arthur Lewis enhanced by the model of structural change by Chenery (1975), which examines patterns of development with research covering the transition from the pattern of agrarian economy to industrial economy, sustainability accumulation of physical and human capital, changes in the type of consumer demand of the products of basic needs and food to various manufactured goods and services, the development of urban areas especially industrial centers due to the urbanization of job seekers from rural agricultural areas and small cities and the reduction in the number of members of each family.

III. Research Methods

Types and sources of data

The type of data analyzed in this study is secondary data in the form of panel data (pooled data) with cross section and time series characteristics simultaneously. The cross section data in this study is data consisting of 24 districts / cities in South Sulawesi Province. As for time series data, it is entity data with a time / period dimension which in this study uses the 2015-2017 periods. This study uses secondary data, sourced from Central Bureau of Statistics (BPS) in the form of structural transformation data (primary, secondary and tertiary sectors), employment, per capita income, and Gini index. As well as some theoretical literature, concepts and empirical studies used to explain the relationship between variables obtained from text books and related journals.

Research variable

The variables used in this study are income inequality (Y3it), per capita income (Y2it), employment (Y1it), structural transformation; primary sector (ΔX1it), secondary sector (ΔX2it) and tertiary sector (ΔX3it).

Analysis Method

The purpose of this study was to measure the effect of the relationship between the independent variable on the dependent variable through intermediate variables. The dependent variable in this study is income inequality. The independent variable in this study is the structural transformation of the primary sector, secondary sector and tertiary sector, while the intermediary variables are employment and per capita income where the analysis method used to test the truth of the proposed hypothesis is using the Path Analysis Model.

Based on the theory of the Income Inequality Model, it can be written in the following equation:

$$Y_{3it} = f(\Delta X_{1it}, \Delta X_{2it}, \Delta X_{3it}; Y_{1it}, Y_{2it}) \quad (1)$$

Where, Y_{1it} is employment and Y_{2it} is income per capita. Based on the pattern of development model developed by Chenery, it can be said that indirectly, structural transformation will affect income inequality through employment which will then increase per capita income. Furthermore, the model used can be formulated as follows:

Employment Model

$$Y_{1it} = f(\Delta X_{1it}, \Delta X_{2it}, \Delta X_{3it}) \quad (2)$$

Per capita income model

$$Y_{2it} = f(\Delta X_{1it}, \Delta X_{2it}, \Delta X_{3it}; Y_{1it}) \quad (3)$$

Based on the functional relationship above then described in several substructure equations as follows:

The equation of the substructure of the employment model:

$$Y_{1it} = \alpha_0 + \alpha_1 \Delta X_{1it} + \alpha_2 \Delta X_{2it} + \alpha_3 \Delta X_{3it} + \mu_{0it} \quad (4)$$

The per capita income model substructure equation:

$$Y_{2it} = \beta_0 + \beta_1 \Delta X_{1it} + \beta_2 \Delta X_{2it} + \beta_3 \Delta X_{3it} + \beta_4 Y_{1it} + \mu_{1it}$$

$$\text{Ln } Y_{2it} = \ln\beta_0 + \beta_1 \Delta X_{1it} + \beta_2 \Delta X_{2it} + \beta_3 \Delta X_{3it} + \beta_4 Y_{1it} + \mu_{1it} \quad (5)$$

The equation for the substructure of the income inequality model

$$Y_{3it} = \gamma_0 + \gamma_1 \Delta X_{1it} + \gamma_2 \Delta X_{2it} + \gamma_3 \Delta X_{3it} + \mu_{0it} + \gamma_4 Y_{1it} + \gamma_5 Y_{2it} + \mu_{1it} + \mu_{2it}$$

$$Y_{3it} = \gamma_0 + \gamma_1 \Delta X_{1it} + \gamma_2 \Delta X_{2it} + \gamma_3 \Delta X_{3it} + \mu_{0it} + \gamma_4 Y_{1it} + \gamma_5 \ln Y_{2it} + \mu_{1it} + \mu_{2it} \quad (6)$$

The effect of structural transformation (primary sector, secondary sector and tertiary sector on per capita income through employment with the substitution of equation 4 to equation 5 can be formulated as follows:

$$\text{Ln } Y_{2it} = \ln\beta_0 + \beta_1 \Delta X_{1it} + \beta_2 \Delta X_{2it} + \beta_3 \Delta X_{3it} + \beta_4 (\alpha_0 + \alpha_1 \Delta X_{1it} + \alpha_2 \Delta X_{2it} + \alpha_3 \Delta X_{3it} + \mu_{0it}) + \mu_{1it}$$

$$\text{Ln } Y_{2it} = (\ln \beta_0 + \beta_4 \alpha_0) + (\beta_1 \Delta X_{1it} + \beta_4 \alpha_1 \Delta X_{1it}) + (\beta_2 \Delta X_{2it} + \beta_4 \alpha_2 \Delta X_{2it}) + (\beta_3 \Delta X_{3it} + \beta_4 \alpha_3 \Delta X_{3it}) + \mu_{0it} + \mu_{1it}$$

It simplified to be:

$$\text{Ln} Y_{2it} = \delta_0 + \delta_1 \Delta X_{1it} + \delta_2 \Delta X_{2it} + \delta_3 \Delta X_{3it} + \mu_{3it} \quad (7)$$

Then the effect of structural transformation (primary, secondary and tertiary sectors) on income inequality through employment and per capita income with the substitution of equation 4 and equation 7 to equation 6 can be formulated as follows:

$$Y_{3it} = \gamma_0 + \gamma_1 \Delta X_{1it} + \gamma_2 \Delta X_{2it} + \gamma_3 \Delta X_{3it} + \mu_{0it} + \gamma_4 Y_{1it} + \gamma_5 \ln Y_{2it} + \mu_{1it} + \mu_{2it}$$

$$Y_{3it} = \gamma_0 + \gamma_1 \Delta X_{1it} + \gamma_2 \Delta X_{2it} + \gamma_3 \Delta X_{3it} + \mu_{0it} + \gamma_4 (\alpha_0 + \alpha_1 \Delta X_{1it} + \alpha_2 \Delta X_{2it} + \alpha_3 \Delta X_{3it} + \mu_{0it}) + \ln \gamma_5 (\delta_0 + \delta_1 \Delta X_{1it} + \delta_2 \Delta X_{2it} + \delta_3 \Delta X_{3it} + \mu_{3it}) + \mu_{2it}$$

$$Y_{3it} = \gamma_0 + \gamma_1 \Delta X_{1it} + \gamma_2 \Delta X_{2it} + \gamma_3 \Delta X_{3it} + (\gamma_4 \alpha_0 + \gamma_4 \alpha_1 \Delta X_{1it} + \gamma_4 \alpha_2 \Delta X_{2it} + \gamma_4 \alpha_3 \Delta X_{3i} \mu_{0it}) + (\ln \gamma_5 \delta_0 + \gamma_5 \delta_1 \Delta X_{1it} + \gamma_5 \delta_2 \Delta X_{2it} + \gamma_5 \delta_3 \Delta X_{3it} + \mu_{3it}) + \mu_{0it} + \mu_{1it} + \mu_{3it} + \mu_{2it}$$

$$Y_{3it} = (\gamma_0 + \gamma_4 \alpha_0 + \ln\gamma_5 \delta_0) + (\gamma_1 + \gamma_4 \alpha_1 + \gamma_5 \delta_1) \Delta X_{1it} + (\gamma_2 + \gamma_4 \alpha_2 + \gamma_5 \delta_2) \Delta X_{2it} + (\gamma_3 + \gamma_4 \alpha_3 + \gamma_5 \delta_3) \Delta X_{3it} + (\mu_{0it} + \mu_{1it} + \mu_{2it} + \mu_{3it})$$

Then it can be simplified to:

$$Y_{3it} = \sigma_0 + \sigma_1 \Delta X_{1it} + \sigma_2 \Delta X_{2it} + \sigma_3 \Delta X_{3it} + \mu_{4it} \quad (8)$$

Where:

ΔX_{1it} = Primary Sector

ΔX_{2it} = Secondary sector

ΔX_{3it} = Tertiary sector

Y_{1it} = Employment

Y_{2it} = Income per capita

Y_{3it} = Income Inequality

$\alpha_0, \beta_0, \gamma_0, \delta_0, \sigma_0$ = Intercep

$\mu_0, \mu_1, \mu_2, \mu_3, \mu_4$ = error term

a. Direct effect

α_1 = The effect of the primary sector on employment

α_2 = The effect of the secondary sector on employment

α3 = Effect of the tertiary sector on employment

β1 = The effect of the primary sector on per capita income

β2 = The effect of the secondary sector on per capita income

β3 = Effect of the tertiary sector on per capita income

β4 = Effect of employment on per capita income

γ1 = The effect of the primary sector on income inequality

γ2 = The effect of the secondary sector on income inequality

γ3 = The effect of the tertiary sector on income inequality

γ4 = Effect of employment on income inequality

γ5 = The effect of per capita income on income inequality

b. Indirect effects

δ1 = The effect of the primary sector on per capita income through employment

δ2 = The effect of the secondary sector on per capita income through employment

δ3 = The effect of the tertiary sector on per capita income through employment

α1γ4 = The effect of the primary sector on income inequality through employment

α2γ4 = The effect of the secondary sector on income inequality through employment

α3γ4 = The effect of the tertiary sector on income inequality through employment

δ1ɣ5 = The effect of the primary sector on income inequality through employment and per capita income

δ2ɣ5 = The effect of the secondary sector on income inequality through employment and per capita income

δ3ɣ5 = The effect of the tertiary sector on income inequality through employment and per capita income

c. Total effects

ɣ1 + α1ɣ4 + δ1ɣ5 = σ1 = The total effect of the primary sector on employment on per capita income on income inequality

ɣ2 + α2ɣ4 + δ2ɣ5 = σ2 = The total effect of the secondary sector on employment on per capita income on income inequality

ɣ3 + α3ɣ4 + δ3ɣ5 = σ3 = The total effect of the tertiary sector on employment on per capita income on income inequality

IV. Result and Discussion

Table 1 Direct Effects

Variable			Estimate	S.E.	C.R.	P	Label
Y1	<---	ΔX1	,173	,032	5,321	***	par_2
Y1	<---	ΔX3	,020	,015	1,359	,174	par_3
Y1	<---	ΔX2	,045	,025	1,800	,072	par_4
Y2	<---	ΔX1	-,012	,005	-2,297	,022	par_10
Y2	<---	ΔX2	,002	,004	,606	,545	par_11
Y2	<---	ΔX3	,000	,002	,125	,900	par_12
Y2	<---	e2	2,000				
Y3	<---	ΔX1	,001	,001	2,084	,037	par_1
Y3	<---	Y2	,028	,012	2,350	,019	par_6
Y3	<---	ΔX2	-,001	,000	-2,222	,026	par_7
Y3	<---	ΔX3	,000	,000	-,156	,876	par_8
Y3	<---	Y1	-,001	,002	-,439	,660	par_9
Y3	<---	e3	3,000				

Source: Amos (processed data), 2020

Based on the existing table, it illustrates the results of statistical analysis of the effect of the primary, secondary and tertiary sectors on employment. Also the effects of the primary sector, secondary sector, tertiary sector on per capita income and the effects of employment and per capita income on income inequality in districts in South Sulawesi Province.

The results of the analysis show that the primary sector variables have a significant effect on employment, the primary sector variables have a significant effect on per capita income, the primary, secondary sector variables and per capita income have a significant

effect on income inequality. Meanwhile the secondary and tertiary sectors do not have a significant effect on employment and per capita income, tertiary sector variables and employment do not have a significant effect on income inequality.

The estimation results of the primary sector on employment are 0.173 with a probability value of 0.000 at the 5% significance level. This means that the primary sector has a significant effect on employment. Every increase in the primary sector for 1 year will increase employment by 0.173 percent.

As for the estimation results of the secondary sector on employment of 0.045 with a probability value of 0.072 at the 5% significance level. This means that the secondary sector has no effect on employment. Every increase in the secondary sector for 1 year will not increase employment by 0.072 percent.

The estimation results of the tertiary sector on employment are 0.020 with a probability value of 0.174 at the 5% significance level. This means that the tertiary sector has no effect on employment. Every increase in the tertiary sector for 1 year will not increase employment by 0.020 percent.

The estimation results of the primary sector on per capita income are -0.012 with a probability value of 0.022 at a significance level of 5%, this means that the primary sector has a significant effect on per capita income. Every increase in the primary sector for 1 year, there will be a decrease in per capita income by 0.012 percent.

As for the estimation results of the secondary sector on per capita income of 0.002 with a probability value of 0.545 at the 5% significance level, this means that the secondary sector has no effect on per capita income. Every increase in the secondary sector for 1 year will not increase per capita income by 0.002 percent.

As for the estimation results of the tertiary sector on per capita income of 0,000 with a probability value of 0.90 at the 5% significance level, this means that the tertiary sector has no effect on per capita income. Every increase in the tertiary sector for 1 year will not increase the income per capita by 0,000 percent.

The estimation results of the primary sector for income inequality are 0.001 with a probability value of 0.037 at a significance level of 5%, this means that the primary sector has a significant effect on income inequality. Every increase in the primary sector for 1 year will increase income inequality by 0.001 percent.

The estimation result of the secondary sector on income inequality is -0.001 with a probability value of 0.026 at a significance level of 5%, this means that the secondary sector has a significant effect on income inequality. Every increase in the secondary sector for 1 year will increase the Gini ratio by 0.019 percent.

The estimation results of the tertiary sector on income inequality are 0,000 with a probability value of 0.876 at a significance level of 5%, this means that the tertiary sector has no effect on income inequality. Any increase in the tertiary sector for 1 year will not increase income inequality by 0,000 percent.

The estimation result of employment on income inequality is -0.001 with a probability value of 0.660 at the 5% significance level, this means that employment has no effect on income inequality. For every increase in employment for 1 year there will be no decrease in the Gini ratio of 0.001 percent.

The estimated results of per capita income on income inequality are 0.028 with a probability value of 0.019 at a significance level of 5%, this means that per capita income has a significant effect on income inequality. Every increase in per capita income for 1 year will increase income inequality by 0.028 percent.

Table 2 Indirect Effects

Variable relationship	Estimation	Probability	remarks
ΔX1 → Y3 through Y1 and Y2	-0,002	0.000	significant
ΔX2 → Y3 through Y1 and Y2	-0,001	0.000	significant
ΔX3 → Y3 through Y1 and Y2	-0,008	0.001	significant

Source: Amos (processed data)

Table 5.4 shows the results of the statistical analysis of the indirect effect between the primary, secondary and tertiary sectors on income inequality through employment and per capita income. The results show that the indirect effect of the primary sector on income inequality is -0.002 with a probability value of 0.000 at a significance level of 5%, so this indicates that the primary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.002 percent.

The indirect effect of the secondary sector on income inequality is -0.001 with a probability value of 0.000 at a significance level of 5%, so this indicates that the secondary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.001 percent.

The indirect effect of the tertiary sector on income inequality is -0.008 with a probability value of 0.001 at a significance level of 5%, this indicates that the tertiary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.008 percent.

Discussion

Direct effects

Effect of Structural Transformation on employment

The effect of the primary sector on GRDP is 0.173 with a probability value of 0.000 at a significance level of 5%, this means that the primary sector has a significant effect on employment. Every increase in the primary sector for 1 year will not increase employment by 0.173 percent.

As for the estimation results of the secondary sector on employment of 0.045 with a probability value of 0.072 at the 5% significance level, this means that the secondary sector has no effect on employment. Every increase in the secondary sector for 1 year will not increase employment by 0.072 percent.

The estimation results of the tertiary sector on employment are 0.020 with a probability value of 0.174 at the 5% significance level, this means that the tertiary sector has no effect on employment. Every increase in the tertiary sector for 1 year will not increase employment by 0.020 percent.

The primary sector has a significant effect on employment, meaning that the increase in the primary sector will increase employment in districts in South Sulawesi Province. This result is in accordance with the initial hypothesis which states that the primary sector has a significant and positive direct effect on employment. Meanwhile, the secondary and tertiary sectors are not in accordance with the results of the initial hypothesis.

The results of statistical analysis for the primary sector have shown consistency with the theory of Fei and Ranis (1964) developing a dual economy model. The dual economy Fei-Ranis (FR) model explains how increased productivity in the agricultural sector helps improve the performance of the industrial sector. This model is a development of the Lewis growth model which assumes an unlimited supply of labor. The FR model divides the stages of transformation based on marginal productivity (PM) and wages which are considered constant and exogenous fixed.

The transfer of workers from the agricultural sector to the industrial sector provides benefits for both sectors. At this stage the surplus labor transferred has a perfectly elastic supply curve. This happens because there is an abundance of labor resulting in the marginal

product of cooperation labor with or close to zero. At this stage labor productivity increases, and the industrial sector can grow because it is supported by additional labor from the agricultural sector.

The secondary and tertiary sectors do not have a significant effect on employment in the Regency / City of South Sulawesi, because although the secondary and tertiary sectors have the highest contribution to the GRDP of South Sulawesi Province, the growth rate of the secondary and tertiary sectors is still lower than the growth rate of the primary sector. . An increase in GRDP in the secondary and tertiary sectors cannot be followed by employment. This happens because companies in the secondary and tertiary fields on a large scale use technology and require a workforce with high qualifications and productivity.

The Effect of Structural Transformation on Per capita Income

The estimation results of the primary sector on per capita income are -0.012 with a probability value of 0.022 at a significance level of 5%, this means that the primary sector has a significant effect on per capita income. Every increase in the primary sector for 1 year, there will be a decrease in per capita income by 0.012 percent.

As for the estimation results of the secondary sector on per capita income of 0.002 with a probability value of 0.545 at the 5% significance level, this means that the secondary sector has no effect on per capita income. Every increase in the secondary sector for 1 year will not increase per capita income by 0.002 percent.

As for the estimation results of the tertiary sector on per capita income of 0,000 with a probability value of 0.90 at the 5% significance level, this means that the tertiary sector has no effect on per capita income. Every increase in the tertiary sector for 1 year will not increase the income per capita by 0,000 percent.

The primary sector has a significant effect on per capita income, meaning that the increase in the primary sector will decrease the income per capita in the regencies in South Sulawesi Province. This result is not in accordance with the initial hypothesis which states that the primary sector has a significant and positive direct effect on per capita income. Meanwhile, the secondary and tertiary sectors are not in accordance with the results of the initial hypothesis.

The results of statistical analysis regarding the increase in the primary sector will make a decrease in the income of a region, which will be argued by Hill (1996), which describes the structural transformations that occur in developing countries which have a very fast movement, this is indicated by the contribution of the agricultural sector to income per capita GRDP has decreased to less than half of it. (Amir and Nazara, 2005)

Economic development in the regions is a process that should be carried out in collaboration with the community and policy makers to manage resources and form a partnership pattern between local governments and the private sector to expand employment which will ultimately encourage economic growth. The potential of natural resources is abundant in South Sulawesi Province which can be used as indicators of economic performance and as a measure of a region's prosperity.

According to Nikoloski (2009) there are two long-term effects on changes in the structure of the economy towards the secondary and tertiary sectors. The initial impact is that these changes can accelerate economic growth leading to an increase in GDP per capita. Meanwhile, the second effect predicts that change will lead to an increase in inequality. As a result, at the start of development, income and income inequality will be positively correlated. As the development process continues, the transfer of labor from the agricultural sector to the industrial sector will reduce income inequality. What happened in South Sulawesi Province was that a shift in the economic structure was not followed by a proportional shift in labor across sectors from the primary sector to the secondary and tertiary sectors. This also confirmed why the secondary and tertiary sectors had no significant effect on per capita income.

The Effect of Structural Transformation on Income Inequality

The estimation results of the primary sector on income inequality are 0.001 with a probability value of 0.037 at a significance level of 5%, this means that the primary sector has a significant effect on income inequality. Every increase in the primary sector for 1 year will increase income inequality by 0.001 percent.

The estimation result of the secondary sector on income inequality is -0.001 with a probability value of 0.026 at a significance level of 5%, this means that the secondary sector has a significant effect on income inequality. Every increase in the secondary sector for 1 year will increase income inequality by 0.019 percent.

The estimation results of the tertiary sector on income inequality are 0,000 with a probability value of 0.876 at a significance level of 5%, this means that the tertiary sector has no significant effect on income inequality. Any increase in the tertiary sector for 1 year will not increase income inequality by 0,000 percent.

The significant and positive effect of the primary sector on income inequality means that the increase in the primary sector will increase income inequality in districts in South

Sulawesi Province. This result is not in accordance with the initial hypothesis which states that the primary sector has a significant and positive direct effect on income inequality.

The significant and negative effect of the secondary sector on income inequality means that the increase in the secondary sector will increase income inequality in districts in South Sulawesi Province. This result is in accordance with the initial hypothesis which states that the primary sector has a significant and negative direct effect on income inequality, while the tertiary is not in accordance with the results of the initial hypothesis.

The statistical results that have been carried out are in accordance with what has been stated by Dastidar (2012) that the development of the secondary and tertiary sectors which is faster than the primary sector in developing countries has an effect on exacerbating income inequality. This occurs because the slowdown in the agricultural sector (primary sector) has reduced the absorption of labor, even though it is in this sector that most of the population works. The final impact of structural transformation in developing countries is an increase in the percentage of the poor and widening income inequality.

Changes in the economic structure will affect the distribution of income, that is, it can reduce, increase, or even do not affect the inequality of income distribution at all. Changes in the economic structure will reduce the level of inequality if followed by a transfer of labor from the sectors that are left behind to the targeted sectors.

Meanwhile, for the tertiary sector it is insignificant, the inability of workers to shift to the modern sector will not have a significant effect on improving income distribution, because there is no transfer of workers from the primary and secondary sectors to the tertiary sector. This will actually widen the income gap between the rich and the poor. The results of this study are in line with the opinion of Todaro and Smith (2006) that a fast rate of economic growth does not in itself improve the distribution of income for the entire population. Rapid growth has a negative impact on the marginalized, because they are unable to adapt and will be marginalized as a result of structural changes to modern growth. Other thinkers such as Baudrillard (2011) stated that the ideology of growth only produces two things, namely prosperity and poverty. Prosperous for the beneficiary and the poor for the marginalized.

Effect of Employment on Income Inequality

The estimation result of employment on income inequality is -0.001 with a probability value of 0.660 at the 5% significance level, this means that employment has no effect on income inequality. Every increase in employment for 1 year there will be no decrease in income inequality by 0.001 percent.

Employment has no effect on income inequality in districts in South Sulawesi Province. This result is not in accordance with the results of the initial hypothesis. This is in line with research conducted by Fitriani (2017) which states that the number of job seekers has no effect on income inequality.

This result is in accordance with what was done by Adipuryanti & Sudibia (2015), which states that employment has no effect on income inequality. Likewise with research conducted by Rahma (2018) which states that employment has increased by 1 percent, so it will not increase income inequality.

The non-impact of employment on income inequality is caused by an increase in employment in the agricultural sector followed by an increase in the industrial sector. Seen from the type of business, laborers or employees are the types of business that are mostly practiced by workers as seen from the proportion which continues to increase quite significantly but not accompanied by a decrease in income inequality.

The results of the research that have been carried out are inversely proportional to the theory put forward by Karl Marx, where at the beginning of development there will be an increase in demand for labor. This increase in demand for labor was followed by an increase in the level of wages which then had an effect on the increase in risk of capital to labor so that in the end there was a decline in demand for labor again. Thus, the problem of unemployment and income gap arises.

The Effect of Per capita Income on Income Inequality

The results of the estimated income per capita on income inequality are 0.028 with a probability value of 0.019 at the 5% significance level, this means that per capita income has a significant positive effect on income inequality. Every increase in per capita income for 1 year will increase income inequality by 0.028 percent.

Income per capita has a significant effect on income inequality, meaning that an increase in income per capita will increase income inequality in districts in South Sulawesi Province. This result is not in accordance with the initial hypothesis which states that per capita income has a significant and negative direct effect on income inequality.

According to the theory put forward by Barro (2000) explains that Kuznets' theory is built from the basic idea of a change in the economic structure from agriculture to industry. This model assumes that the economy was initially dominated by the agricultural sector, which was characterized by a low per capita income accompanied by an even distribution of

income. Meanwhile, the industrial sector started on a small scale with a fairly high per capita income but was followed by high income inequality.

Economic development resulted in a shift in population employment from agriculture to industry. Workers who migrate from agriculture to industry will get an increase in per capita income, which in turn will increase inequality. This theory simply states that at the start of economic development, the relationship between per capita income and inequality will be positive.

Indirect effect

Primary Sector Indirect Effect on Income Inequality

The indirect effect of the primary sector on income inequality is -0.002 with a probability value of 0.000 at a significance level of 5%, this indicates that the primary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.002 percent.

The results obtained are in accordance with the initial hypothesis which states that the primary sector has a negative effect on income inequality through employment and per capita income. This is in accordance with the results of research conducted by Budiharsono (1996) which states that the transition to the economic structure that is expected to occur in a country or region is that the shift in demand patterns will change the structure of production towards an increase in industrial and service production on the basis of a strong agricultural sector. Thus, the growth of the industrial and service sectors is related to the agricultural sector. Like the industry being developed is an agriculture-based industry. It is also hoped that changes in the production structure will change the structure of employment.

Labor shifting from the agricultural sector can be absorbed by the (formal) industrial and service sectors. So that population movement is a provider of cheap labor and not a source of unemployment, a source of inequality and a source of urban crime problems. With the increase in employment from the agricultural sector by the industrial and service sectors and the increase in wages, the structural transformation will increase income and improve the level of income distribution between groups, between sectors and between regions.

Secondary Sector Indirect Effect on Income Inequality

The indirect effect of the secondary sector on income inequality is -0.001 with a probability value of 0.000 at a significance level of 5%, so this indicates that the secondary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.001 percent.

The results obtained are in accordance with the initial hypothesis which states that the secondary sector has a negative effect on income inequality through employment and per capita income. The theory of development by Arthur Lewis basically discusses the development process that occurs between urban and rural areas which takes into account the process of population movement. This theory also discusses investment patterns that occur in the modern sector as well as the wage fixing system that applies in the modern sector which in turn will correlate with the current urbanization.

Along with the development of development in a country, the role of the primary sector will get smaller and smaller (both the proportion of national production and the workforce working in that sector), then the role of the industrial sector will be shifted. With the increasingly rapid role of the secondary sector in the economic structure, national production will also increase because the secondary sector can trigger economic growth faster than the primary sector. Judging from the large level of national production, it is expected that it will increase income, where this increase in income is expected to further reduce the level of existing income inequality.

The Indirect Effect of the Tertiary Sector on Income Inequality

The indirect effect of the tertiary sector on income inequality is -0.008 with a probability value of 0.001 at a significance level of 5%, this indicates that the tertiary sector has a significant effect on income inequality through employment and per capita income. Every 1 year increase in the primary sector will reduce the gap rate by 0.008 percent.

The results obtained are in accordance with the hypothesis and are significant for income inequality through employment and per capita income. This has been expressed by Faustino and Vali (2011) which state that there is one theory that is opposite to the neo-classical theory in explaining the effect of the service sector on inequality, namely the dependency theory. This theory reveals that the economic dependence of developing countries on the economies of developed countries has a dangerous impact on the socio-economies of developing countries, especially in the long run. This dependence occurs through dependence on international trade. Proponents of this theory argue that international trade in developing countries hinders economic growth and results in income inequality.

In developed countries, the development of the service sector and the decreasing share of the industrial and agricultural sectors has succeeded in reducing income inequality. This is because developed countries already have a different phase from developing countries. With the existence of a high level of public education and a fairly rapid level of technology use, it is natural for people in developed countries to work in the service sector.

Industries in developed countries also have capital-intensive characteristics, which are dominated by machines and high technology that require highly educated workers to operate them, so the quality of labor demanded in the industrial sector tends to be higher.

Conclusion

Based on the research that has been conducted, it is concluded that the results of data testing indicate that the direct shift in the economic structure from the primary to secondary sectors has a significant effect in reducing the level of inequality. Income inequality will decrease with the transition to the industrial sector. While indirectly through employment and income per shift, its structure towards the tertiary sector of the agricultural sector and the industrial sector have a significant effect in reducing levels of inequality. Thus, it can be said that a shift in the economic structure will improve income distribution.

Suggestions from researchers that are expected policymakers to policy development and sectoral development for the regional economy. It should prioritize primary and secondary sectors to boost the economy in the regency/cities of South Sulawesi, with regard to those sectors may also encourage the movement of the tertiary sector for the construction of South Sulawesi. It is also expected to look for sources of new economic growth spread throughout the regency/cities of South Sulawesi to encourage the contribution of economic growth in South Sulawesi which has been heavily dependent on the city of Makassar.

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