




# The Economic Growth and the Income Gap or Economic Inequality in Sulawesi

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## Abstract

This study aims to determine the influence of primary, secondary, and tertiary sectors in Sulawesi. Further, this study refers to secondary research due to the data are obtained from six provinces comprises (Sulawesi Utara, Sulawesi Tengah, Sulawesi Tenggara, Sulawesi Barat and Gorontalo). Those data are obtained from Indonesia Statistics and implemented through a simple regression analysis panel. The result shows that the primary and tertiary sectors are positive and significantly influence the income gap. In contrast the secondary income is negative and significant on the income gap in Sulawesi.

**Keywords:** Economic development, Income gap, Primary sector, Secondary sector, Tertiary sector

## 1. Introduction

Development plans in Indonesia include national development plans and regional development plans. In general, economic development is directed so that people's incomes rise continuously which is followed by the best possible equity. However, economic development is not only focused on economic aspects, but rather a multidimensional process that includes major changes in social structure, seeks to reduce and eliminate poverty, income inequality and unemployment rates or efforts to create employment opportunities for more equitable populations (Todaro, 2006).

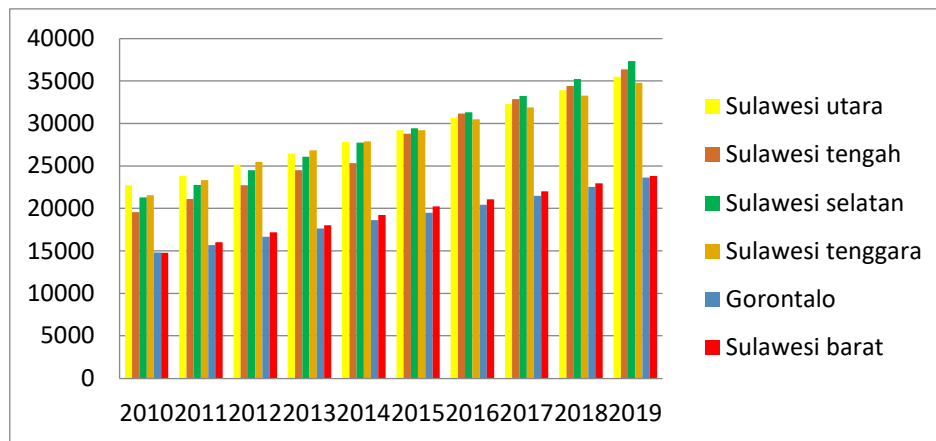
Inequality basically caused a and yes differences in natural resource content and differences in demographic conditions that exist in each region. Income inequality is felt in Indonesia. Income inequality can be measured by the Gini Index (Gini Ratio). Indonesia's Gini ratio reached 0.391 which overall decreased from previous years. This shows that the income inequality that occurred in Indonesia was very high. More specifically what happened in several areas on Sulawesi Island, according to the BPS in 2019 there were 3 provinces that had inequality rates above the national gini raso, Gorontalo Province, South Sulawesi Province, and Southeast Sulawesi Province and not there are areas that have low inequality. For more details, the following income inequality data is presented through the provincial ratio gini on Sulawesi Island in 2019.

**Table 1.** Provincial Gini Ratio on Sulawesi Island 2015-2019

Wilayah	2015	2016	2017	2018	2019
Indonesia	0.402	0.394	0.391	0.384	0.380
Sulawesi Utara	0.366	0.379	0.394	0.304	0.376
Sulawesi Selatan	0.404	0.400	0.429	0.388	0.391
Sulawesi Tengah	0.370	0.347	0.345	0.317	0.330
Sulawesi Tenggara	0.381	0.388	0.404	0.392	0.393
Gorontalo	0.401	0.410	0.405	0.417	0.410
Sulawesi Barat	0.362	0.371	0.339	0.366	0.365

Source: Central Statistics Agency.2021

Based on Table 1 above shows that inequality that occurs in Indonesia has decreased every year and inequality in each region on Sulawesi Island has fluctuated. Central Sulawesi becomes an area that has the lowest average level of gini ratio compared to other regions. In contrast, Gorontalo Province is the region that has the highest gini ratio compared to other regions. This phenomenon is caused by a variety of different factors in each region.



Source: Central Statistics Agency (2021)

**Figure 1.** Gross Regional Domestic Product per capita Sulawesi 2010-2019

There are VI Provinces in the Sulawesi islands include: northern Sulawesi, central Sulawesi, South Sulawesi, southeast Sulawesi, Gorontalo , and Western Sulawesi Over the past 10 years. Each Province has varying values and tends to increase. It can be seen from the data above showing that the highest PDRB level was in southern Sulawesi Province in 2019 and the Lowest PDRB was in West Sulawesi Province in 2010. Sulawesi have economic growth rate that varying each year, the pace of economic growth impacts the improvement of economic sectors namely the primary sector, the secondary sector and the tertiary sector . Of these three sectors illustrate that s echost of the contribution of the economic sector to the PDRB in Sulawesi different.

## 2. Literature Review and Hypothesis Development

### A. Literature Review

#### Economic Development

Development is often interpreted as progress made by a society in economic standing (Grace, 2013:1). Economic development is a series of processes of activities carried out by a country to develop economic activities or activeities to improve the level of life or prosperity (income per capita) in the long run (Subandi, 2011:9).

## **Definition of Economic Growth**

Economic growth (Economic Growth) is the development of activities in the economy that cause goods and services produced in society to increase and people's prosperity to increase. The problem of economic growth can be seen as a macro-economic problem in the long run.

## **Economic Sector Theory**

### ***Primary Sector Theory***

Kuznets explained that the economic structure would undergo this change as evidenced in Fisher's study which explained that the ummuk looking at conditions in a country could be distinguished by the number of workers by sector. In his writings entitled International Labor Review which discusses the higher the country's shipping income, the smaller the agricultural sector's funding in providing employment opportunities. This proves that agricultural sector production is experiencing slower development than national development production.

### ***Secondary Sector Theory***

According to Sukirno (2006: 150), ummuk developing countries are still a lot of problems that are obstacles in the secondary sector. One problem faced by developing countries is the limited use of technology for the production process. As a result, the output produced by this sector is still underestimated so that it can only meet the needs of its own regions.

### ***Tertiary Sector Theory***

In the kuznet analysis explains the change in contributions within the Tertiary sector. In this sector the role of the service sector in providing labor is increased, it is reviewed from the point of contribution in creating national products and accommodating labor in the whole economy. Then the style is 1. In general, the economic sector of services contributes to creating rising or equal national products. 2. Its role in providing employment in the overall proportion of the workforce has increased in good nature.

## **The Role of the Economic Sector**

Sukirno (2005:46) explains that, based on the business field, the economic sectors in the Indonesian economy are distinguished in three 3 main groups namely: 1). Primary sector, which consists of agricultural, livestock, forestry, fisheries, mining and quarrying business fields; 2). The secondary sector, consisting of the processing industry, electricity, gas and water, and buildings; 3). The tertiary sector, consisting of trade business fields, hotels, restaurants, transportation, communication, finance, leasing, and company services, as well as other services (including government)

## **Inequality of Income Distribution**

### **Definition of income distribution**

Economic inequality or income distribution inequality is a reality that is mediated by the world community in both developed and developing countries which is also an important issue to review and needs to be made various efforts by governments in taking policies to improve the economic development of the community, as well as improving the standard of living of the community through various businesses in order to increase the distribution of income from various aspects (Dondo et al., 2019).

### **Gini coefficient**

Gini ratio is one of the most common measures of inequality used to measure inequality. Gini ratio is a measure of aggregate inequality whose value ranges between zero and one. The value of zero gini ratio means there is no inequality while the value of one means perfect inequality (Rambe, 2018).

**Table 2.** List of GINI Coefficient Value groups

<b>Nilai Koefisien (X)</b>	<b>Distribusi Pendapatan</b>
X= 0	Merata sempurna
X< 0 < 0,4	Tingkat ketimpangan rendah
0,4 < X < 0,5	Tingkat ketimpangan sedang
0,5 < X < 1	Tingkat ketimpangan tinggi
X = 1	Tidak merata sempurna (dikuasai oleh satu pihak)

Source: WDI accessed 18 / 8/2018

The GINI index is conventionally formulated as follows:

$$G = \sum_{t=1}^{n-1} n_{t+1} \pi_t - \sum_{t=1}^{n-1} n_t \pi_{t+1}$$

Keterangan:

$n_t$  = Pangsa kumulatif pendapatan

$\pi_t$  = pangsa kumulatif penduduk.

## **B. Hypothesis Development**

A hypothesis is a temporary allegation or statement that is still weak in its level of wellness which must still be tested using certain techniques. Based on the formulation of the problem described in the previous chapter, the hypothesis is proposed as follows:

H<sub>1</sub>: Primary sector economic growth has a positive effect on income inequality

H<sub>2</sub>: Secondary sector economic growth has a negative effect on income inequality

H<sub>3</sub>: Tertiary sector economic growth has a positive effect on income inequality

## **3. Methods**

The object in this study is income inequality in Sulawesi. The Sulawesi region was taken as the object of mortal research based on its yeast economic growth, where there was an inequality of income generated by 6 (six) provinces in the Sulawesi region. Whereas the time period used to conduct this study is for 3 months from July to September 2021.

This research use methods with a quantitative approach that is systematic scientific research on parts and phenomena and their relationships. According to Sugiyono (2012) Quantitative research is a research method that is based on the philosophy of positivism, used to research in certain populations or samples, data collection using research instruments, data analysis, quantitative / statisitk, with the aim of testing established hypotheses.

In this study one dependent variable was used and three independent variables. Dependent variable (Y) i.e. income inequality and independent variables (X) used are primary, secondary and tertiary sectors .

The method used by researchers to obtain data needed in this study is documentary data, namely the process of collecting data from data or documents in government institutions such as BPS (Central Statistics Agency) relevant services and other sources that discuss inequality issues such as print media, economic journals and reference books on income gaps.

In this study, the following are explained perihal operational limits as follows Table 3.

**Tabel 3.** Operational Tables variable

Variable	Definition of Operational	Unit
Sector Primary (X1)	Primary sector yes not seen from the GDP distribution of ADHK's business field is an economic sector that utilizes natural resources. Sector this includes agriculture, forestry, fisheries, and mining , excavation	%
Sector Secondary (X2)	Secondary sector ( secondary sector ) i.e. data seen from the GDP distribution of ADHK business fields is the economic sector which involves the transformation of raw materials into finished goods. This sector consists of two main subsectors, namely manufacture and construction	%
Secondary Tertiary (X3)	Tertiary Sector ( <i>tertiary sector</i> ) i.e. data seen from the GDP distribution of ADHK business fields is the business sector that creates product services to consumers or referred to as the service sector	%
Inequality Income (Y)	Analysis to look at the quality of total income inequality between regions, using the Gini ratio analysis method	-

The analytical model used to prove the research hypothesis is to know what the influence of economic structure is, and income inequality in Sulawesi in the 2010-2019 period. So the analysis of these data can be used to find out the factors that influence the income gap by looking at the effect of independent variables on the dependent variable in the period. The approach used to analyze relationships and influences between variables is in the form of economic theory approaches, statistic theory, and econometrics theory. This research analysis method uses regression equation analysis using a simple regression analysis method with panel data.

With the formula as follows:

$$IG_{it} = \beta_0 - \beta_1 \log SP_{it} + \varepsilon_{it} \quad (1)$$

$$IG_{it} = \beta_0 + \beta_1 \log SS_{it} + \varepsilon_{it} \quad (2)$$

$$IG_{it} = \beta_0 + \beta_1 \log ST_{it} + \varepsilon_{it} \quad (3)$$

Remarks:

IG = Income gap between regions is measured by the Gini Index (IG)

SP = Primary Sector region *i* period *t*

SS = Secondary Sector region *i* period *t*

ST = Tertiary Sector region *i* period *t*

$\varepsilon_{it}$  = Error term

*l* = Provincial Territory in Sulawesi

*t* = Period 2010-2019

Data panel analysis, provides two approaches: (1) *Fixed Effect Model* (FEM). Establish that  $\alpha_i$  as a specific group or different in constant term on the regression model. (2) *Random Effect Model* (REM).

Establish that  $\alpha_i$  as a group specific disorder as well  $\varepsilon_{it}$ , except for each group, but the single picture includes the same regression for each period.

In addition to the classic assumption test, a statistical test is also carried out to measure the accuracy of the regression function in estimating its actual value. The statistic test is carried out with its coefficient of determination ( $R^2$ ), simultaneous testing of the regression coefficient (F test), and testing the regression coefficient individually (t test).

Before conducting data analysis the data is tested according to classic assumptions, if there is a deviation of the classic assumption used non parametric statistical testing instead the classic assumption is fulfilled if parametric statistics are used to get a good regression model, the regression model must be free from multicollinearity, autocorrelation, and heteroscedasticity and the resulting data must be normally distributed.

#### 4. Results

There are several tests that can be selected in regressing panel data, CEM, FEM, or REM. The experiment conducted was intended to choose a data panel regression model, which is to compare the probability of Chi-square with the alpha level used in the study, as for the tests used, among others, the Chow Test and the Hausman Test on each Primary regression, Secondary and Tertiary.

**Table 4.** Model Selection Income Inequality Against the Primary, Secondary and Tertiary Sectors

Inequality of Revenue	Chow Test p-Chi square	Hausman Test p-Chi square	Conclusion
Against the Primary Sector	0.0000***	0.0018***	FEM
Against the Secondary Sector	0.0000***	0.0087***	FEM
Against the Tertiary Sector	0.0000***	0.0804*	FEM

Description of Significance: \*\*\* = 1%, \*\* = 5% \* = 10% NS = Not Significant  
 Source: Experiments 10 Processing Results 2021 (Appendix)

This research estimation model uses a method *pool least square* or method *panel least square* through approach *fixed effect mode*, caused each chi-square probability (in mode bleaching) is below the alpha level used in the study after passing 2 tests namely the chow and hausman tests. This model aims to assume that the parameters of non-Stochastic (non-random) dependent variables, assuming that the value of the dependent variable is constant in iteration representations. The results of the calculation / estimate have been set as follows.

In the context of knowing the effect of economic growth can be seen from sectoral economic growth in which the economic growth of the Primary, Secondary and Tertiary Se-Sulawesi sectors is a free variable. Whereas Revenue Inequality as a bound variable and the analytical tool used is simple linear regression. time crumbling data used in this study from 2010-2019 and research subjects namely 6 Provinces of the Se-Sulawesi region.

#### Primary Economic Growth Against Income Inequality

**Table 5.** Estimated Results of Regression (Primary Economic Growth and Income Inequality)

Method: Pooled Least Squares				
Total pool (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.01218	5.794996	3.625918	0.0006***
SP?	0.479568	0.154598	3.102032	0.0031***
Fixed Effects (Cross)				
_SULUT_ -C	5.745154			
_SULSEL_ -C	7.091489			
_SULTENG_ -C	-6.272862			
_SULTRA_ -C	-3.082335			
_GORONTALO_ -C	2.286774			
_SULBAR_ -C	-5.768219			
R-squared	0.636409	Akaike info criterion		4.365971
Adjusted R-squared	0.595248	Schwarz criterion		4.610311
F-statistic	15.46139	Hannan-Quinn criter		4.461546
Prob(F-statistic)	0.0000***	Durbin-Watson stat		1.659659

Keterangan: Signifikansi: \*\*\* = 1%, \*\* = 5% \* = 10% NS = Tidak Signifikan

Table 5 above is an estimate of the model of the Primary Sector Economic Growth equation and Income Inequality with the Model *Fixed Effect* So that the model of good econometrics equation is obtained and the model of the equation as follows:

$$IG_{it} = \beta_0 + \beta_1 SP_{it} + \varepsilon_{it}$$

$$IG_{it} = 21.01218 + 0.479568 SP_{it} + \varepsilon_{it}$$

The interpretation of the hasi estimates and the above stab can be explained as follows:

1. Revenue Inequality without being affected by Primary Sector variables remains valuable 21.01218 Percent.
2. The Primary Sector has a positive effect on Revenue Inequality. This means that any increase in the Primary Sector by 1 unit (percent) will increase Revenue Inequality by 0.479568 percent.
3. Based on calculations *fixed effect mode*, of the 6 provinces in Sulawesi analyzed the regions with positive growth values and the most influential on income inequality, namely South Sulawesi, North Sulawesi and Gorontalo Province. Whereas areas that negatively affect income inequality are in the Middle Sulawesi, West Sulawesi and Southeast Sulawesi

### Secondary Economic Growth Against Income Inequality

**Table 6.** Estimated Results of Regression (Secondary Economic Growth and Income Inequality)

Method: Pooled Least Squares				
Total pool (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45.32759	2.195755	20.64328	0.0000***
SS?	-0.306887	0.105218	-2.916688	0.0052***
Fixed Effects (Cross)				
_SULUT --C	1.202335			
_SULSEL --C	4.075334			
_SULTENG --C	-2.704677			
_SULTRA --C	0.046186			
_GORONTALO --C	1.396581			
_SULBAR --C	-4.015759			
R-squared	0.629815	Akaike info criterion	4.383945	
Adjusted R-squared	0.587907	Schwarz criterion	4.628286	
F-statistic	15.02861	Hannan-Quinn criter.	4.479520	
Prob(F-statistic)	0.0000***	Durbin-Watson stat	1.701672	

Keterangan Signifikan: \*\*\* = 1%, \*\* = 5% \* = 10% NS = Tidak Signifikan

Table 6 above is an estimate of the model of the Secondary Sector Economic Growth equation and Income Inequality with the Model *Fixed Effect* So that the model of good econometrics equation is obtained and the equation model as follows:

$$IG_{it} = \beta_0 + \beta_1 SS_{it} + \varepsilon_{it}$$

$$IG_{it} = 45.32759 - 0.306887SS_{it} + \varepsilon_{it}$$

The interpretation of the hasi estimates and the above stab can be explained as follows:

1. Revenue Inequality without being affected by Secondary Sector variables remains valuable 45.32759 Percent.
2. The Secondary Sector has a Negative Effect on Income Inequality. This means that any increase in the Secondary Sector by 1 unit (percent) will reduce income inequality by 0.306887 percent.
3. Based on calculations *fixed effect mode*, of the 6 provinces in Sulawesi analyzed the regions with positive growth values and the most influential on Income Inequality, namely South Sulawesi, Gorontalo, North Sulawesi and Southeast Sulawesi. Whereas areas that negatively affect income inequality are West Sulawesi and Central Sulawesi.

### Tertiary Economic Growth Against Income Inequality

**Table 7.** Estimated Results of Regression (Tertiary Economic Growth and Income Inequality)

Method: Pooled Least Squares				
Total pool (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	29.80138	7.351875	4.053575	0.0002***
ST?	0.219147	0.175595	1.248026	0.0175**
Fixed Effects (Cross)				
_SULUT_ --C	-1.543904			
_SULSEL_ --C	1.482206			
_SULTENG_ --C	-1.323236			
_SULTRA_ --C	1.916946			
_GORONTALO_ --C	2.091782			
_SULBAR_ --C	-2.623795			
R-squared	0.582661	Akaike info criterion	4.503841	
Adjusted R-squared	0.535415	Schwarz criterion	4.748181	
F-statistic	12.33252	Hannan-Quinn criter.	4.599416	
Prob(F-statistic)	0.0000***	Durbin-Watson stat	1.546129	

Table 7 above is an estimate of the Tertiary Sector Economic Growth and Income Inequality model with the Model *Fixed Effect* So that the model of good econometrics equation is obtained and the equation model as follows:

$$IG_{it} = \beta_0 + \beta_1 ST_{it} + \epsilon_{it}$$

$$IG_{it} = 45.32759 + 0.219147ST_{it} + \epsilon_{it}$$

The interpretation of the hasi estimates and the above stab can be explained as follows:

1. Revenue Inequality without being affected by Tertiary Sector variables remains valuable 29.80138 Percent.
2. The Secondary Sector has a Positive Effect on Income Inequality. This means that any increase in the Tertiary Sector by 1 unit (percent) will increase the Inequality of Revenue by 0.219147 percent.
3. Based on calculations *fixed effect mode*, of the 6 provinces in Sulawesi analyzed, the regions with positive growth values and the most influential on Income Inequality, namely Gorontalo, Southeast Sulawesi and South Sulawesi. Whereas areas that negatively affect income inequality are West Sulawesi, North Sulawesi Sulawesi and Central Sulawesi

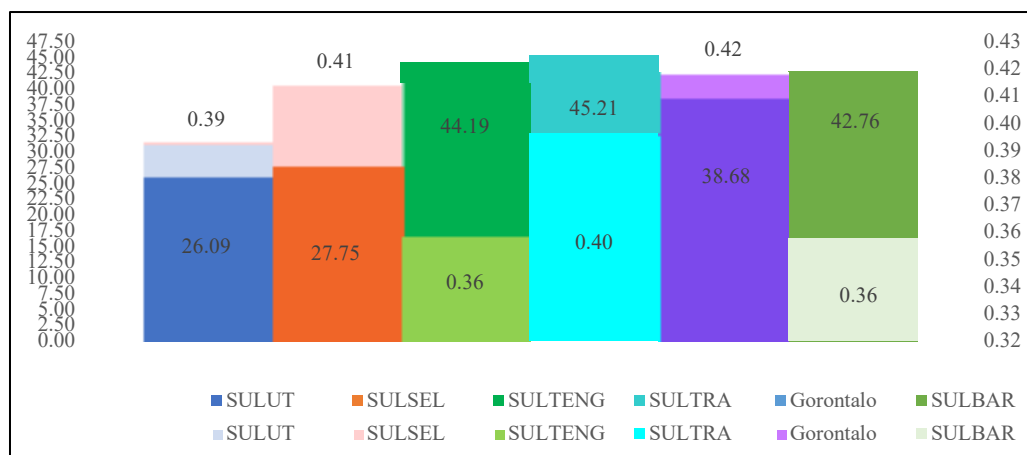
## 5. Discussion

Based on the results of a regression analysis that has been done previously, the analysis of the effect of independent variables on dependent variables can be explained as follows by comparing the phenomena that occur, the results of previous studies and the results of research findings conducted by researchers.

### Effect of Primary Economic Growth on Income Inequality

According to estimates of the results obtained, Primary Sector Economic Growth (SP) has a positive and significant effect on Revenue Inequality (IG). This means that any increase in the Primary Sector will increase Revenue Inequality between the Sulawesi regions. According to Sukirno (2017) The primary sector is a sector whose output still depends on climate or weather, and this sector is also a component of the Gross Regional Domestic Product (PDRB) and each region seeks to improve it, this is certainly very closely related to Inequality of Revenue between regions of the 6 provinces in Sulawesi analyzed the regions with positive growth values and the most influential income inequality, namely South Sulawesi, North Sulawesi and Gorontalo Province. Whereas areas that negatively affect income inequality are in the Middle Sulawesi, West Sulawesi and Southeast Sulawesi.





Source: BPS, 2021

**Figure 2.** Average development of the primary sector and Inequality of Sulawesi regional income 2010-2019

Figure 2 above explains the distribution of income and economic growth of the primary sector in the Sulawesi region unevenly in each province. This difference is evident by looking at the development of the two variables. In North Sulawesi the average economic growth of the primary sector over the period 2010-2019 reached 26.09% with income inequality reaching 0.39%. Another thing in South Sulawesi the average economic growth of the primary sector in the same time period reached 27.75% with an income inequality of 0.41%. In Central Sulawesi Province the contribution of the agricultural sector reached 44.19% with an income inequality of 0.36%, Southeast Sulawesi the contribution of the agricultural sector reached 45.21% with income inequality reaching 0.40%. Furthermore, for the Province of Gorontalo the contribution of economic growth reached 38.68% with income inequality reaching 0.42% and for the Province of West Sulawesi the contribution of primary sector economic growth reached 42.76% with income inequality reaching 0.36%. Thus the data has identified that the greater the contribution of primary sector economic growth will increase income inequality in the Sulawesi region. The results of this study are in line with research conducted by Hasan (2016) which has a primary sector that has a positive effect on income inequality. Furthermore this research is also in line with research conducted by Ikhsan et al (2019) which states that primary sector economic growth has a significant effect on income distribution inequality.

**Effect of Secondary Economic Growth on Income Inequality**

According to estimates of the results obtained, Secondary Sector Economic Growth (SS) has a negative and significant effect on Revenue Inequality (IG). This means that any increase in the Secondary Sector will reduce Revenue Inequality between the Sulawesi regions. Secondary economic growth is a sector consisting of various sectors of the processing, construction, waste treatment, electricity and gas procurement industries (BPS, 2021).

Of the 6 provinces in Sulawesi analyzed the regions with positive growth values and the most influential on Income Inequality, namely South Sulawesi, Gorontalo, North Sulawesi and Southeast Sulawesi. Whereas areas that negatively affect income inequality are West Sulawesi and Central Sulawesi. When viewed from the average PDR contribution from the period 2010 to 2019 in each regional Sulawesi published by BPS, the average contribution of the largest economic growth of the shortfall provided by South Sulawesi reached 26.05%, then North Sulawesi reached 23.66%, Central Sulawesi reached 21.81%, Southeast Sulawesi reached 18.78%, West Sulawesi 18.12% and finally Gorontalo Province reached 15.88%, However, the biggest income inequality is given by the Province of Gorontalo (BPS, 2021).

This identifies that the smaller the contribution of the secondary sector will increase the income inequality of the region. The results of this study are in line with research conducted by Fang et al (2015) which states that economic growth has a negative effect on income inequality. Furthermore this study

is not in line with research conducted by Adipuryanti et al (2015) which states that economic growth provides a positive and significant correlation with income inequality.

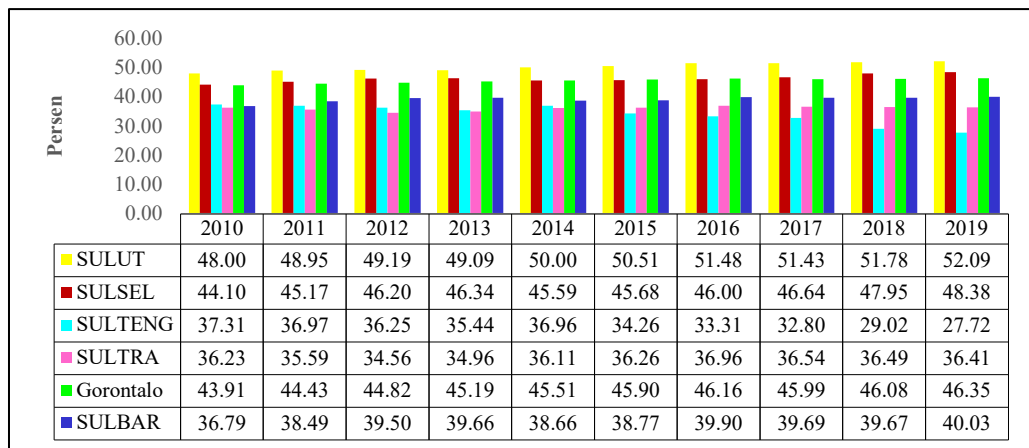
**Effect of Tertiary Economic Growth on Income Inequality**

According to estimates of the results obtained, Tertiary Sector Economic Growth (ST) has a Positive and significant effect on Revenue Inequality (IG). This means that any increase in the Tertiary Sector will increase Revenue Inequality between the Sulawesi regions. The tertiary sector is a sector whose productivity consists of service services, the parwaourism sector, transportation and so on.

of the 6 provinces in Sulawesi analyzed the regions with positive growth values and the most influential on Income Inequality, namely Gorontalo, Southeast Sulawesi and South Sulawesi. Whereas areas that negatively affect income inequality are West Sulawesi, North Sulawesi and Central Sulawesi

According to Idris et al (2014) Factors affecting income inequality are the production structures of an area. Tertiary sector productivity in each region has a different level of productivity each year. The success of economic development is often interpreted as increasing the income of an area or regional product without questioning who will benefit from the accumulation of industrialization in urban areas, expansion of development and the emergence of urbanization that cannot be avoided

This is evidenced by the tertiary sector PDRB in each Sulawesi region, as for the PDRB conditions Tertiary sector in the Regional Sulawesi include.



Source: BPS, 2021

**Figure 3.** Development of Sulawesi Regional Tertiary Sector Economic Growth in 2010-2019

Figure 3 explains that the development of the tertiary sector in the Sulawesi region seems clear productivity gaps in the regions. In North Sulawesi province it has a relatively high tertiary economic growth compared to other provinces which in 2010 reached 48.00% and experienced a continuous increase until 2019 reaching 52.09%.

In second place it was owned by the province of South Sulawesi with the Development of the Tertiary Sector in 2010 reaching 44.10% and experiencing a continuous increase until 2019 reaching 48.38%. The third position, claimed by the province of Gorontalo with the development of tertiary economic growth in 2010 of 43.91% and experiencing a continuous increase until 2019 reaching 46.35%.

The fourth position is occupied by the western Sulawesi province with the development of fluctuating tertiary economic growth in the 2010-2019 period, in 2010 West Sulawesi achieved tertiary economic growth reaching 36.79% and increased for 3 years thereafter until 2013 reaching 39.66% . As well as in 2014 it decreased to 38.66% and gradually recovered only in 2015. The breath from that time the tertiary economic growth of West Sulawesi experienced a fairly good acceleration with evidence in 2019 recording growth of 40.03%.

Furthermore, the fifth economic growth occupied by the Southeast Sulawesi Province in 2010 reached 36.23% with fluctuating developments, in the 2019 period reaching 36.41%. In the sixth position

claimed by the central Sulawesi province with the development of the tertiary sector in 2010 of 37.31%. This growth tends to decline from the year to 2019 economic growth in the tertiary sector reaches 27.72%.

Based on the above conditions a decision can be made where the higher increase in economic growth in the tertiary sector will increase income inequality between regions. This is like the elaboration of research conducted by Nuryanto (2017) which states that economic growth is not solely measured based on overall PDRB growth, but must pay attention to the extent to which the distribution of income has spread to the community as well as who has enjoyed the results. It also identifies that the development of the relatively high tertiary sector is only felt by the upper classes and the lower classes cannot feel the impaired economic growth.

The results of this study are in line with research conducted by Iswanto (2015) stating that the economic growth of the tertiary sector as measured by the drinking food accommodation sector has a positive and significant effect on income inequality. Furthermore this study is not in line with research conducted by Yuliani (2015) which explains that economic growth has no significant effect on income inequality.

## 6. Conclusion

Based on the results of analysis and discussion related to the sectoral economic growth (Primary, Secondary and tertiary) of the Sulawesi Province to income inequality in the Sulawesi region, the following conclusions can be drawn: (1) Economic growth The primary sector has a positive and significant effect on income inequality. This means that any increase in economic growth in the primary sector is able to explain significantly the increase in income inequality in the Sulawesi region in the 2010-2019 period. (2) Secondary economic growth has a negative and significant effect on income inequality. This means that any increase in economic growth in the secondary sector is able to explain clearly the decline in income inequality in the Sulawesi region in the 2010-2019 period. (3) Tertiary economic growth has a positive and significant effect on income inequality. This means that any increase in economic growth in the tertiary sector is able to explain significantly the increase in income inequality in the Sulawesi region in the 2010-2019 period.

Based on the conclusions of the study, several suggestions were made which were very helpful to encourage the development of sectoral economic growth, namely: (1) Need to increase capital allocation to primary industries to stimulate employment and expand employment opportunities. So that productivity is more conducive to long-term economic development and reduces income inequality. (2) Government policy is very important for further growth of economic growth, steps to develop infrastructure and formulate and implement economic plans are accepted by all citizens. To ensure that the income gap between the upper middle class and the lower middle class does not widen, it is necessary to use more progressive taxes and support the lower classes. By helping the lower classes by providing financial assistance to build small and medium-sized businesses.

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