



THE EFFECT OF PRIMARY, SECONDARY, AND TERTIARY ECONOMIC STRUCTURES ON INCOME INEQUALITY IN SULAWESI

Wahyu Mantulangi¹

Fitri Hadi Yulia Akib²

S1 Economic Development Study Program , Faculty of Economics, State University of Gorontalo

Correspondence Author: wahyu.mantulangi@gmail.com

Article history:	Abstract:
Received: 20 th May 2022	This study aims to determine the primary, secondary and tertiary sectors' economic structure that affects income inequality in Sulawesi. The data used in this study is secondary data in the form of 6 provinces on the island of Sulawesi with a period of 2011-2020 sourced from journals, articles, and government institutions such as BPS. The analysis technique used is panel data regression. The results of this study indicate that (1) the effect of the primary economic structure on income inequality is positive and significant. Regional income inequality will increase in Sulawesi between 2011 and 2020 as the primary economic structure develops. (2) The impact of the secondary sector's economic structure on income inequality is negative and significant. This means that income inequality between Sulawesi regions will decrease from 2011-to 2020, along with the increase in the secondary economic structure. (3) The effect of the tertiary sector economic structure on income inequality is positive and significant. With the increase in the tertiary economic structure, income inequality between regions will increase during the 2011-2020 period.
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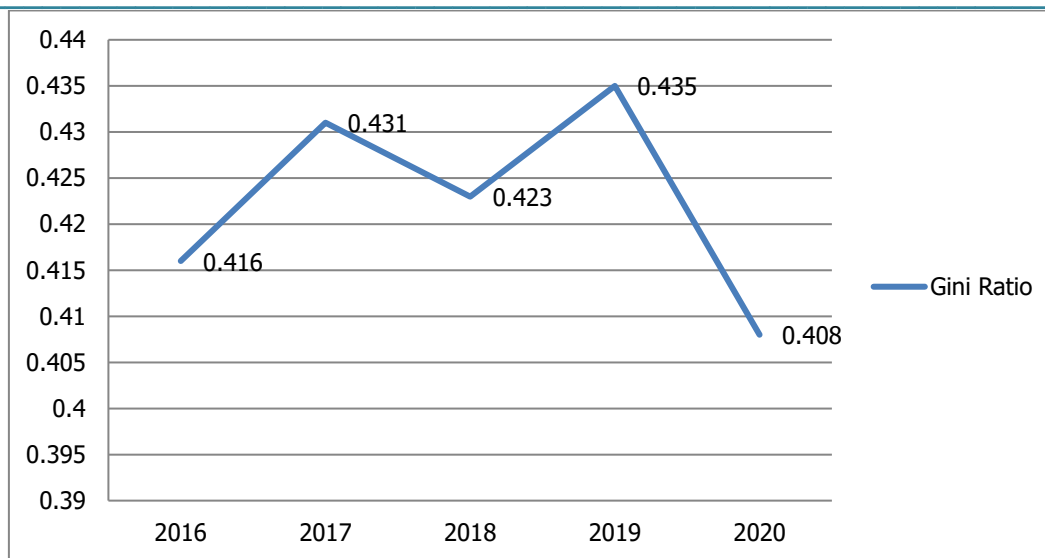
1. INTRODUCTION

Economic development is an integral part of overall national development to improve people's welfare. As a process, economic development has links and influences between the factors that can produce economic development. Furthermore, economic development will be reflected in an increase in per capita income and an improvement in community welfare. In addition, the success of the country's efforts to distribute income evenly and reasonably can reduce the amount of poverty in the country. The income per capita is one of the economic indices that is often used to measure the level of development progress. According to Todaro (2016), the main goal of economic development, apart from creating the highest growth, economic development should be able to reduce poverty and income inequality.

The development gap, in general, has been ongoing and manifested in various forms and aspects. Not only in the form of cracks in the results, such as in terms of per capita income, but also the distribution process. Not only in the form of disparities between regions but also in economic disparities in the existing layers of society. From a normative point of view, efforts to reduce inequality are one of the development goals that must be achieved, especially for the government, whose role is currently increasingly strategic because it is in direct contact with local communities in addition to strengthening the role of local governments as a logical consequence of the ongoing implementation of autonomy.

The phenomenon of income distribution inequality is still a complex problem faced by poor and developing countries throughout the world, including Indonesia. On a smaller scale, this problem is also faced by regions in Indonesia down to the district/city level. The issue of income inequality, more popularly called inequality, whether between individuals, groups, sectors, or regions, needs to be addressed immediately because it will negatively impact both political stability and economic stability. The significant role of the government in allocating development funds for public services, including for the education and health sectors, has made it possible to reduce the problem of poverty which is one of the "handicaps" in the success of economic development so far (Priyono Tjiptoherijanto, 2014).

The higher the level of inequality in the population's income distribution, it means that the income gap between the rich and the poor is getting wider. When conditions like this occur in an area, the development carried out is more in favor of a few rich people, while the poor do not enjoy it.



Source : Badan Pusat Statistik 2020

Picture 1. Income Inequality (Gini Ratio) Indonesia 2016-2020

The factor suspected of increasing income inequality in Indonesia is economic growth. According to Todaro (2013), boosting economic growth will increase Income Inequality and vice versa. The development of income inequality as measured by the Gini ratio and the factors that influence it (based on the theory of Todaro, Barro, and Ebel & Yilmaz), namely economic growth, labor productivity and investment and the Human Development Index (HDI) per island in Indonesia from 2008- 2012.

Viewed from income inequality in Sulawesi, the author would like to conduct a research analysis with the title: **“The Effect of Primary, Secondary and Tertiary Economic Structure on Income Inequality in Sulawesi”**

2.MATERIALS AND METHODS

2.1 Theory Study

2.1.1 Income Inequality

Economic inequality of income distribution inequality is a reality that exists in the world community, both in developed and developing countries, which is also an important issue to be reviewed. There need to be various efforts from the government in making policies to improve community economic development and increase people's living standards through several types of businesses to increase income distribution from various existing aspects (Dondo et al., 2019).

Inequality is a broader concept than poverty because measuring inequality is a concept that measures a large population, not just measuring the population of people living below the poverty line (Haughton & Khandker, 2009). Inequality is not only measured through the average distribution but other aspects. According to Haughton and Khandker (2009), the simplest way of measuring inequality is to divide the population into one-fifths (quintiles) from the poorest to the richest and report the level or proportion of income (or expenditure) that increases at each level.

2.1.2 Economic structure

a. Primary Sector

Kuznets explains that the economic structure will change; this is evidenced in Fisher's research which explains that the conditions in a country can be distinguished based on the number of workers according to the sector. In his article entitled International Labor Review, which discusses the higher the per capita income of a country, the smaller the role of the agricultural sector in providing employment opportunities. This proves that the agricultural sector's production has developed more slowly than the production of national development. Decreased and the smaller the contribution made. Several factors cause this. First, this situation is caused by human nature in their consumption activities; namely, when income increases, the elasticity of demand caused by changes in income is low for the consumption of food ingredients.

Meanwhile, the demand for clothing, housing, and industrial consumer goods is the opposite. Second, changes in economic structure are caused by continuous technological changes. Technological progress will increase the productivity of economic activities that will expand markets and trade activities. Changes like this will create a need to produce new goods. New goods are meant to be goods and services that use technology, including food processing activities, transportation services, and distribution of industrial market products. According to Kuznets theory, these factors can reduce the contribution of the primary sector and the movement of labor from the primary sector to other sectors.

b. Secondary sector

The secondary sector can be called the industrial economy because this sector relies on the industrial sector. This industrial economy is located in urban areas, where urban areas are strategic locations for running this sector. The characteristic of the secondary sector is a high level of productivity from the inputs used. According to Lewis, the urban economy will be a destination for workers from rural areas. The addition of the number of workers in this

sector will increase the output in this sector; thus, this sector provides many jobs, and this will be fulfilled by the rural population employing urbanization. Lewis assumes that urban wages are 30% higher than rural wages. This makes the role in this sector increase, so Lewis concludes that the industrial sector is a sector of economic activity experiencing rapid development in the development process.

c. Sektor Tersier

Kuznets analysis explains the changing contribution in the Tertiary sector. In this sector, the role of the service sector in providing human resources increases; this is seen from the point of view of its contribution to creating national products and accommodating workers in the overall economy. So the pattern is 1. In general, the role of the service economy sector in contributing to creating national products increases or remains the same. 2. Its role in providing jobs in the proportion of the total workforce is increasing in its role in the sector itself and the economy. The first, regional specialization causes the development of the service sector with this pattern in economic development from developing economic activities, and second, the increase in per capita income caused by economic development. These two factors lead to more types of service sector production that a developing economy must provide. An economy that reaches a higher level of development must naturally experience development in trading activities, activities of financial institutions, activities of distributing the products produced by the industrial and agricultural sectors to various regions and abroad, and renting out houses. Houses and buildings.

3.RESULTS

3.1 Regression Estimation Results

Estimation of the equation model The economic structure of the primary, secondary and tertiary sectors of income inequality with the fixed-effect model is based on the results of the previous model selection.

**Picture 1. Regression Results
(Primary, Secondary, and Tertiary Economic Structure Against Income Inequality)**

Estimasi	Coefisien		Probabilitas (p)	
	β_0 (C)	IG	β_0 (C)	IG
SP→IG (Pers 1)	-0.154	0.151	0.0004***	0.0000***
SS→IG (Pers 2)	0.554	- 0.055	0.0000***	0.0000***
ST→IG (Pers 3)	0.221	0.045	0.0002***	0.0040***

Catatan: Tingkat kepercayaan = ***)1%, **)5%, *)10%, TS) Tidak Signifikan

Source: Estimated Results, 2022

The following is an interpretation of the results of the panel data regression estimation of Equations 1, 2, and 3 from the above calculations as follows:

Equality 1 :

1. Income inequality (IG) without being influenced by primary sector variables (SP) remains at -0.154 percent.
2. The primary sector (SP) positively affects income inequality (GI). Every 1 unit (percentage) increase in the primary sector (SP) will increase income inequality by 0.151%.

Equality 2 :

1. Income inequality (GI) without being influenced by secondary sector variables (SS) remains at 0.554 percent.
2. The secondary sector (SS) harms income inequality (GI). This means that every increase in the secondary sector (SS) by 1 unit (percentage) will reduce income inequality by 0.055%.

Equality 3 :

1. Inequality of fixed income is 0.221%, which is not influenced by the Tertiary Sector (ST) variable.
2. The Tertiary Sector (ST) positively affects income inequality (GI). This means that every 1 unit (percent) increase in the tertiary sector (ST) increases income inequality by 0.045%.

3.2 Statistic t-test

Table 2. Significance Test (Equations 1, 2 and 3)

Equality	Income inequality	
	Probability (P-Value)	Significant level
SP→IG (Pers 1)	0.0000	Significant 1%
SS→IG (Pers 2)	0.0000	Significant 1%
ST→IG (Pers 3)	0.0040	Significant 1%

Notes : Level of confidence = ***)1%, **)5%, *)10%, TS) Not Significant

Source : estimated yield, 2022

1.Primary Economic Structure Against Income Inequality

The analysis results obtained that the p-value of the SP equation against the GI was 0.0000. If the p-value is compared with a significance level of 1%, the p-value obtained is always less than 1%, so Ho is rejected. Thus, it can be concluded that the primary economic structure (SP) has a significant effect on income inequality (IG) during the period 2011-2020.

2. Secondary Economic Structure Against Income Inequality

From the analysis results, it is known that the p-value for the SS equation to the GI is 0.0000. If the p-value is compared with a significance level of 1%, the p-value obtained is still less than 1%, so Ho is rejected. Thus, it can be concluded that the secondary economic structure (SS) has a significant effect on income inequality (IG) from the period 2011-to 2020.

3. Tertiary Economic Structure Against Income Inequality

From the analysis results, it can be seen that the p-value of the ST equation to the GI is 0.0040. If the p-value is compared with a significance level of 1%, Ho is rejected because the p-value obtained is smaller than 1%. So it can be concluded that the tertiary economic structure (ST) significantly affects income inequality (IG) from the period 2011-to 2020.

3.3 Classical Assumption Test:

Autocorrelation Test

Autocorrelation is the association between members of a group of records, judging by time or place. The Durbin-Watson test can identify Autocorrelation problems by comparing the Dw statistic with the Durbin Up (dU) and Durbin Low (dL) values.

Table 3. Autocorrelation Test (Equations 1, 2, and 3)

Equality	Calculation				Description
	Value DW	dU	dL	desicion	
SP→IG (Pers 1)	2.287919	1.61892	1.55240	DW > dU	There is no autocorrelation
SS→IG (Pers 2)	2.213601			DW > dU	
ST→IG (Pers 3)	2.000609			DW > dU	

Source : estimated yield, 2022 (attachment)

Based on the analysis results above, in the regression output of the first equation, between the first-order economic structure (SP) and income inequality (IG), the Durbin Watson value is 2.287919, and the value is below the dU value. The second equation between the secondary economic structure (SS) and income inequality (IG) obtains a Durbin Watson value of 2.213601, which is still higher than the value of dU. The third equation between the tertiary economic structure (ST) and income inequality (IG) obtains a Durbin Watson value of 2.000609, more significant than the value of dU.

Heterocedasticity Test

Then the method of examining the signs of heteroscedasticity is carried out by returning the absolute value of the residual as the independent variable and regressing with the independent variable in the study, which is called the Glejser test.

Table 4. Heteroscedasticity (Equations 1, 2, and 3)

Estimation	Probability	Decision
SP→IG (Pers 1)	0.7891 ^{TS}	No Symptoms of Heteroscedasticity
SS→IG (Pers 2)	0.7615 ^{TS}	No Symptoms of Heteroscedasticity
ST→IG (Pers 3)	0.0153 ^{TS}	No Symptoms of Heteroscedasticity

Notes : Level of confidence = (***)1%, (***)5%, (*)10%, TS) Not Significant

Source : estimated yield, 2022 (attachment)

From the test table, it can be seen from the heteroscedasticity table that the three equations are free from the classical problem of the heteroscedasticity hypothesis. In the first equation, the heterosexuality value for the primary economic structure variable (SP) to IG (income inequality) is 0.7891, which is insignificant at the 10% level. While the second equation, income inequality (IG) and secondary economic structure (SS), is 0.7615, which exceeds the 10% threshold. The value of the third equation, IG (income inequality) and ST (third economic structure), is 0.0153, above the 1% level.

4. DISCUSSION

Primary Sector Economic Structure Against Income Inequality

It is known that the effect of the primary economic structure on income inequality is positive and significant. Regional income inequality will increase in Sulawesi between 2011 and 2020 as the primary economic structure develops.

Economic Structure of the Secondary Sector Against Income Inequality

The impact of the secondary sector's economic structure on income inequality is negative and significant. This means that income inequality between Sulawesi regions will decrease from 2011-to 2020, along with the increase in the secondary economic structure.

This research is in line with research by Zulkifli (2016), which explains that economic growth in the (secondary) industrial sector harms income inequality in South Sulawesi. This happens because more and more people are working in the industrial sector, which accelerates development. People who previously worked in the agricultural sector are slowly moving towards the industrial sector, which will lead to an even distribution of income.

Tertiary Sector Economic Structure Against Income Inequality

The effect of the tertiary sector economic structure on income inequality is positive and significant. With the increase in the tertiary economic structure, income inequality between regions will increase during the 2011-2020 period.

The results of this study are in line with the research of Benarits (2021), which states that the more significant the contribution of the sector, the greater the income inequality. He earns as long as the GRDP growth rate of an area exceeds the GRDP growth rate of the observation period or vice versa.

5. CONCLUSION

Based on the results of the analysis and discussion that has been discussed in the previous chapter regarding the Effect of Primary, Secondary, and Tertiary Economic Structures on Income Inequality in Sulawesi. The following is an explanation of some of these conclusions:

1. The primary economic structure on income inequality has a positive and significant effect. This means that every increase in the contribution of the primary sector will increase income inequality on the island of Sulawesi during the study period.
2. The secondary economic structure on income inequality has been shown to have a negative and significant impact. So the income inequality between regions on the island of Sulawesi will decrease during the study period and the increase in the secondary economic structure.
3. Tertiary economic structure on income inequality has a positive and significant effect. So with, the increase in the tertiary economic structure, will increase income inequality between regions during the study period.

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