



Determinants of regional development inequality in Sulawesi

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This study was conducted to determine the level of development inequality (IW) in the province of Sulawesi and analyze how the effect of government transfer funds (DAU, DAK, and DBH) on regional development inequality in the province of Sulawesi. Data were collected from the provincial government budget realization reports for the period 2016 - 2021, totaling 6 provinces, using data on the official BPS website (www.bps.go.id), and the official website of each provincial government. The data were analyzed using the SPSS version 27 application in the form of multiple linear regression with a quantitative approach. The results showed that the average Williamson index in all Sulawesi provinces during the 2016-2021 period was 0.509561, which means that there was quite high development inequality, further analysis showed that general allocation funds (DAU) and revenue sharing funds (DBH) had a positive and significant effect on development inequality (IW).

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INTRODUCTION

Economic development is one of the main goals of every country, especially for developing countries. In this case, what every country wants is the existence of equitable economic development in each region of a country. Development involves many aspects besides economic aspects. Spatial or regional economic development is an aspect that can determine whether a development is successful or not, especially regarding aspects of equity (Waras et al., 2017). In order for the equity aspect to work and economic development to achieve its goals, namely; increasing income, equitable distribution of income, decreasing the number of poor people, and decreasing the unemployment rate. Therefore, development from a regional aspect, especially regional development, is an integral part of national development (Amir, 2007). The existence of economic development can, directly and indirectly, influence the problem of regional inequality (Samsir and Rahman, 2018). Indonesia's macro development inequality is influenced by disparities in the allocation of resources, human, physical, technological, and capital resources. This inequality was initially caused by differences in the regions (Raharti et al., 2021). Because of these differences, regions with the ability to increase economic growth and promote development are also different. So, it is not surprising that in a region there are relatively developed regions and regions with relatively underdeveloped regions. The existence of inter-regional development imbalances can then affect the level of community welfare.

Usually, the implications are in the form of jealousy and community dissatisfaction (Sjafrizal, 2014). Inequality occurs due to several factors, namely. (1) differences in the content of natural resources between regions, (2) demographic or population conditions, (3) lack of smooth mobility of goods and services, (4) concentration of economic activities in a region, and (5) differences in the allocation of development funds between regions contained in each region. (Latifah, 2019) Indonesia is a developing country, which means that development inequality between regions in Indonesia will tend to be high. Reporting from the ugm.ac.id website, the director of Spatial Planning and Land of the Ministry of National Development Planning/Bappenas, Uke Muhammad Hussein, said that current national development priorities focus on efforts to develop regions to reduce disparities and ensure equity. Uke said that economic inequality is still a challenge for Indonesia. The inequality rate between regions is still very high. Poverty in eastern Indonesia is 18.01 percent, western Indonesia is 10.33 percent, and urban areas are 7.02 percent. Meanwhile, rural income inequality was 0.324 and urban 0.4 at the end of the 2021 period. Eastern Indonesia is still the region with the highest poverty rate every year because the region is far from the center of government and the economy. Armida (2005) said that one of the prominent inequality problems in Indonesia is the gap between regions as a consequence of the concentration of economic activities in Java and Bali. The development of new provinces since 2001 and decentralization is expected to lead to wider inter-regional disparities. This study focuses on the Sulawesi region which is the eastern part of Indonesia. According to Law No. 22 of 1999, which has been revised by Law No. 32 of 2004, Indonesia began to apply the principles of fiscal decentralization and regional autonomy in the implementation of local government, by granting greater authority in the management of the results and development of their respective regions. Balancing funds or government transfer funds are a source of regional income derived from APBN funds to support the implementation of local government authority in achieving the objectives of granting autonomy to regional heads, namely primarily improving better community services and welfare, also aiming to reduce inter-regional government funding imbalances/gaps and encourage and improve regional infrastructure development for the welfare of the community (Elly, 2016). In the long run, regional disparities can have an impact on people's social lives. Because of these differences, regions differ in their ability to increase economic growth and promote development. (Anin Nabail Azim, n.d.). Some studies (Latifah, 2019) that have discussed this topic are research conducted by showing that DAU has a negative and significant effect on income inequality, and DAK and DBH Tax have no significant effect on income inequality, and economic growth. Research conducted (Nurfadilah Journal, 2017) by DAU, DAK, and DBH has a significant effect on inequality. In contrast to research conducted (Mona Adriana, 2023) by PAD and DAU variables do not significantly affect regional inequality. Development efforts that are more in favor of lagging regions are a must". So, development inequality between regions in 2016 - 2021 is still an unresolved problem. Therefore, to see the magnitude of development inequality between regions, we can use the Williamson index. The purpose of the study is to analyze the effect of DAU, DAK, and DBH on development inequality in the eastern part of Indonesia, especially Sulawesi.

RESEARCH METHOD

Population, Sample, and Data Source The type of data used is secondary data. The population in the study were all provinces in eastern Indonesia, based on the criteria for determining the sample using purposive, the sample obtained was 6 provinces in Sulawesi with a time series of 2016-2021. Data was sourced from the Central Statistics Agency (BPS website). **Research Variables and Operational Definitions** The measurements of the dependent and independent variables used in this study can be explained as follows. **Independent Variable** The independent variable used in this study is the transfer fund or balancing fund which is a source of regional income derived from the APBN to support the implementation of local government authority in achieving the objectives of granting autonomy to the regions, especially improving services and improving the welfare of the community. Transfer funds include the General Allocation Fund (DAU) which is used to finance employee salaries, the Special Allocation Fund (DAK) which is used to finance government projects,

and the Tax/Non-Tax Revenue Sharing Fund which is used to overcome the problem of vertical inequality (between the Centre and the Regions) (Mamuka and Elim, 2014). Dependent Variable The dependent variable used in this study is development inequality. Inequality refers to the relative standard of living of people because inequality between regions is the difference in initial endowment factors. These differences make the level of development different in each region. This creates a GAP or welfare gap in the region (Kuncoro, 2006: 87).

Multiple regression analysis is used to obtain regression coefficients that determine whether the hypothesis made is accepted or rejected Ghozali (2013). The multiple linear regression equation in this study is as follows.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Description:

Y	= Development Inequality
α	= Constant
$\beta_1 - \beta_3$	= Regression Coefficient
X1	= General Allocation Fund
X2	= Special Allocation Fund
X3	= Profit-Sharing Fund
E	= error

RESULTS AND DISCUSSIONS

The average value of the Williamson Index in the 6 Sulawesi provinces during the 2016-2021 period is 0.509561, which means there is high inequality. In detail, the development of the Williamson Index in 6 Sulawesi provinces during the 2016-2021 period.

Table 1. Indeks Wiliamson Sulawesi Selatan 2016-2021

Year	Provinsi	IW
2016	Gorontalo (Ibu Kota Gorontalo)	0,15151325
	Sulawesi Barat (Ibu Kota Mamuju)	0,39102248
	Sulawesi Tengah (Ibu Kota Palu)	0,50579779
	Sulawesi Utara (Ibu Kota Manado)	0,49510668
	Sulawesi Tenggara (Ibu Kota Kendari)	0,4346699
	Sulawesi Selatan (Ibu Kota Makassar)	0,67705958
	Gorontalo (Ibu Kota Gorontalo)	0,14838637
	Sulawesi Barat (Ibu Kota Mamuju)	0,35915989
2017	Sulawesi Tengah (Ibu Kota Palu)	0,53788162
	Sulawesi Utara (Ibu Kota Manado)	0,49813332
	Sulawesi Tenggara (Ibu Kota Kendari)	0,45304291
	Sulawesi Selatan (Ibu Kota Makassar)	0,68067699
	Gorontalo (Ibu Kota Gorontalo)	0,14600382
	Sulawesi Barat (Ibu Kota Mamuju)	0,35113404
2018	Sulawesi Tengah (Ibu Kota Palu)	0,91146488
	Sulawesi Utara (Ibu Kota Manado)	0,5027735
	Sulawesi Tenggara (Ibu Kota Kendari)	0,44715373
	Sulawesi Selatan (Ibu Kota Makassar)	0,691282

2019	Gorontalo (Ibu Kota Gorontalo)	0,1436882
	Sulawesi Barat (Ibu Kota Mamuju)	0,34232258
	Sulawesi Tengah (Ibu Kota Palu)	1,00073664
	Sulawesi Utara (Ibu Kota Manado)	0,50267703
	Sulawesi Tenggara (Ibu Kota Kendari)	0,44300956
	Sulawesi Selatan (Ibu Kota Makassar)	0,70739954
	<hr/>	
	Gorontalo (Ibu Kota Gorontalo)	0,19148083
2020	Sulawesi Barat (Ibu Kota Mamuju)	0,33050762
	Sulawesi Tengah (Ibu Kota Palu)	1,11175342
	Sulawesi Utara (Ibu Kota Manado)	0,48929432
	Sulawesi Tenggara (Ibu Kota Kendari)	0,48757924
	Sulawesi Selatan (Ibu Kota Makassar)	0,69506972
	<hr/>	
	Gorontalo (Ibu Kota Gorontalo)	0,193595
	2021	Sulawesi Barat (Ibu Kota Mamuju)
Sulawesi Tengah (Ibu Kota Palu)		1,23603908
Sulawesi Utara (Ibu Kota Manado)		0,49773339
Sulawesi Tenggara (Ibu Kota Kendari)		0,48570281
Sulawesi Selatan (Ibu Kota Makassar)		0,77041962
<hr/>		
Rata-rata		0,50956143

From the results of the research that has been conducted, the researcher will discuss the findings by looking at the output of the research results using the SPSS program (Statistical Package For Social Sciences, Version 27, IBM Corporation, New York, USA). The following is the estimation of development inequality determination with DAU, DAK, and DBH as determinants.

$$IW = -0.025 + 4.378E-10 DAU + -3.405E-10 DAK + 2.276E-9 DBH + e$$

Table 2. Uji Autokorelasi

Runs Test	
	Unstandardized Residual
Test Value ^a	-,02491
Cases < Test Value	18
Cases >= Test Value	18
Total Cases	36
Number of Runs	23
Z	1,184
Asymp. Sig. (2-tailed)	,237
a. Median	

Table 3. Uji Koefisien Determinasi

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,755 ^a	,570	,529	,1805383
a. Predictors: (Constant), DBH, DAU, DAK				

Table 4. Uji Simultan

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,381	3	,460	14,121	,000 ^b
	Residual	1,043	32	,033		
	Total	2,424	35			

a. Dependent Variable: IW

Table 5. Uji Parsial

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,025	,168		-,148	,884
	DAU	4,378E-10	,000	,783	2,077	,046
	DAK	-3,405E-10	,000	-,955	-2,129	,041
	DBH	2,276E-9	,000	,907	3,802	,001

Based on table 2 which is the result of the autocorrelation test, it can be seen that the Asymp. Significance of 0.237 (greater than 0.05), so it can be concluded that there are no autocorrelation symptoms in the model.

Based on table 3, the coefficient of determination (R^2) is 0.570, so it can be concluded that the DAU, DAK, and DBH variables are able to explain development inequality (IW) by 57 percent, while the remaining 43 percent is explained by other variables not included in this study.

Based on table 4, the simultaneous test results obtained an F count value of 14.121 with a significance level of $0.000 < \alpha = 0.01$, which means that the DAU, DAK, and DBH variables simultaneously affect development inequality (IW) in Sulawesi province.

Based on table 5 which is the partial test results, it can be interpreted as follows. 1. The first hypothesis proposed shows that the General Allocation Fund (DAU) variable has a positive effect on development inequality (IW). In addition, the regression coefficient value of 4.378E-10 is obtained, indicating a positive relationship between DAU and IW. The regression analysis results show that the DAU variable obtained a significance value of 0.046 which is smaller than the significance level (0.046)

General Allocation Fund has a positive effect on development inequality

Based on the results of the study, it can be seen that the hypotheses proposed in this study 2 hypotheses are accepted and 1 hypothesis is rejected. Further discussion of the results of this study can be seen in the following explanation. General Allocation Fund has a positive effect on development inequality. The results of hypothesis testing show that the general allocation fund (DAU) has a positive effect on development inequality as measured by the Williamson index (IW). These results indicate that the proposed hypothesis 1 is accepted. Thus, the hypothesis can be empirically proven in this study. This result is not in line with the research of Oktaviani et al. (2017) which states that basically, there is no theory underlying the relationship between the general allocation fund variable and development inequality directly. One of the functions of balancing funds or transferring funds is to reduce the level of fiscal inequality between the central and local governments. Based on research (Ridho & Wijayanti, 2022) shows that DAU has a negative and significant effect on income inequality. In summary, from the results of this study, it can be said that the effect of general allocation funds on development inequality can directly vary depending on the conditions of each region. The larger the proportion in employee payroll, the more it can directly increase the number of development inequality in the region where the local government should

focus more on distributing funds to infrastructure development and government projects with resource utilization oriented to the welfare of the people in the region

Special Allocation Fund has a positive effect on development inequality

Special Allocation Fund has a positive effect on development inequality. The results of hypothesis testing show that the *varia bel* of special allocation funds (DAK) has a positive effect on development inequality as measured by the Williamson index (IW). These results indicate that the proposed hypothesis 2 is rejected. Thus, the hypothesis cannot be empirically proven in this study. This study shows different results from the hypothesis proposed where the direct relationship seen is a negative relationship. This means that the higher proportion of distribution in the special allocation fund segment, which is oriented more towards financing government projects, can reduce the number of development inequality. Research (Muhammad Azizi, n.d.) finding Gross Regional Domestic Product Inequality in South Sulawesi Province shows positive and significant results where when the General Allocation Fund increases, the level of Gross Regional Domestic Product Inequality in South Sulawesi Province will also increase. The allocation of sufficient government expenditure will encourage growth in the region through increased production of goods and services. Thus, regions with adequate funding allocations will be able to increase regional growth, while regions that do not have adequate funding allocations will be able to slow down regional growth so that this condition will increase development inequality (Zul Hazmi Alfurqani et al., 2021). (Zul Hazmi Alfurqani et al., 2021). Research related to the Special Allocation Fund shows a positive effect. This identifies that the greater the Special Allocation Fund, the higher the GRDP of the Regency / City in Central Java Province. So the more the central government provides special assistance funds, the better regional development will be. (Sri & Noviasari, 2017). Effective utilisation of these funds requires strong governance, accountability mechanisms and a commitment to addressing existing inequalities. The central government and fund recipient regions need to work together to ensure that resources are allocated and utilised in a way that contributes to equitable and sustainable development.

Revenue Sharing Fund has a positive effect on development inequality

Revenue Sharing Fund has a positive effect on development inequality. The results of hypothesis testing show that the *varia bel* of revenue sharing funds (DBH) has a positive effect on development inequality as measured by the Williamson index (IW). These results indicate that the proposed hypothesis 3 is accepted. Thus, the hypothesis can be empirically proven in this study. The results of this study explain that revenue-sharing funds can incentivize local governments to focus on development and public services, as they receive a portion of the shared revenue (kemenche.go.id). This can encourage economic growth and more balanced development in different regions. Research results (Oktaviani et al., n.d.) also found that DBH had a significant effect on regional inequality in Jambi Province during the period 2001-2016. In short, revenue sharing can play a role in reducing development inequality by channeling resources to less developed regions. However, its impact depends on the context, design, and implementation. To effectively address development inequality, revenue sharing should be part of a comprehensive development strategy that includes measures to improve governance, encourage local economic initiatives, and ensure transparent and efficient use of funds.

CONCLUSION

Based on the results of research and discussion, it can be concluded that the average value of the Williamson Index in Sulawesi province during the 2016-2021 period is 0.509561, which means that there is a fairly high uneven development between regions. The results of hypothesis testing show that the General Allocation Fund (DAU) and Revenue Sharing Fund (DBH) have a positive and significant effect on Development Inequality (IW), There is a difference in the Special Allocation Fund (DAK) where the results shown have a negative and significant effect on Development

Inequality (IW) in Sulawesi province in 2016-2021. Based on the results of this study, the provincial government needs to strive for equitable development between districts/cities. The regional government of the Regency / City of South Sulawesi Province to be able to optimize the use of balance funds in accordance with their respective corridors so that their influence can actually reduce the level of inequality between regions that occurs and can indirectly affect growth. regions that occur and can indirectly affect economic growth in each region. economic growth in each region.

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