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Efficiency Analysis of Central Government Transfer Funds to the Regions Income Inequality

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A B S T R A C T

The government spending budget in the form of transfers to the regions is the government's effort to reduce income inequality in every region in Indonesia. Therefore, this study aims to analyze income inequality through the government budget to regions, including transfers of balancing funds and transfers of special autonomy funds and adjustments using the estimated Gini Ratio. This study uses secondary data from 2007 to 2020 sourced from the Ministry of Finance of the Republic of Indonesia and the Indonesian Central Bureau of Statistics. The analysis results show that the estimated transfer allocation of funds to the regions for income inequality has not been efficient, with a technical efficiency ratio of an average of 0.95 of the potential budget spent with realization based on estimates frontier regression line. This means there is inefficiency in the government budget in the form of transfers to urban and rural areas. This proves that the government's efforts in transfers to the regions have not been fully efficient in reducing income inequality in the area. The policy needed is to focus on capacity-building programs and human resources who will manage funds in the regions and act as a driving force for development.

INTRODUCTION

Indonesia is an archipelagic country with thousands of islands with various characteristics of the region. The non-uniformity of this region's characteristics will affect the region's ability to grow, which causes some areas to increase. In contrast, some areas grow slowly, so inequality of both development and results occurs, namely inter-regional income. Even though economic growth has increased and poverty has shown a downward trend, income inequality shows otherwise (Table 1). This goes hand in hand with findings by Yusuf & Halim (2021); Chongvilaivan & Kim (2016); Miranti et al. (2013); Putri & Natha (2014).

Table 1. Gini Ratio of Urban and Rural Areas in Indonesia

Year	Urban	Rural	Urban-Rural
2007	0.37	0.26	0.29
2008	0.37	0.25	0.32
2009	0.29	0.25	0.29
2010	0.31	0.26	0.30
2011	0.62	0.50	0.60
2012	0.64	0.49	0.62
2013	0.64	0.48	0.62
2014	0.64	0.49	0.61
2015	0.64	0.50	0.61
2016	0.61	0.49	0.59
2017	0.61	0.48	0.59
2018	0.60	0.48	0.58
2019	0.59	0.48	0.57
2020	0.59	0.48	0.57
2021	0.60	0.47	0.57
2022	0.40	0.31	0.38

Source: Statistik Ekonomi dan Keuangan Indonesia, BI, 2022.

Increases in government spending in low-income countries further increase social inequality, especially in government spending on health (Baker et al., 2019). Study Booth, Purnagunawan, dan Satriawan (2019) exhibit the same phenomenon. Responding to the condition of income inequality between regions and their development, the government carried out a decentralization policy, namely the formation of autonomous regions and the legal transfer of power from the central government to regional governments to manage their respective administrations. (Andriani & Wahid, 2018). This policy is expected to provide opportunities for regions to explore the local potential to realize regional financial independence and enhance development. In addition, fiscal decentralization aims to reduce fiscal disparities (both within the central government and between regions) and encourage local governments to be more independent in funding their regional expenditures (Nawawi, 2021).

The central government's policy instrument for realizing the program and agenda for implementing regional autonomy is through transfers to finance development, government services, and provision of facilities and infrastructure in the regions. The allocation of transfers to the regions is carried out by the central Government in components (i) Balance Fund; (ii) Regional Incentive Funds; and (iii) Special Autonomy Fund and Special Status. The aim

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is to increase capacity and capability through the productivity and efficiency of transferring funds to the regions socially and economically.

The transfer budget from the central government to the regions is expected to provide opportunities for the regions to explore the local potential for realizing regional financial independence, improving community services, and enhancing development. In addition, fiscal decentralization aims to reduce fiscal disparities (both within the central government and between regions) and encourage local governments to be more independent in funding their regional expenditures (Nawawi, 2021). However, the practice of fiscal decentralization in Indonesia is still unable to solve development problems optimally, one of which is income inequality. Indonesia's current condition is still included in the middle-income country because its economic growth is still not evenly distributed and inclusive, so it has the potential to be vulnerable to poverty (Wibowo, 2016).

As measured by GRDP, regional economic growth can also be linked to an increase in people's income in a region. According to Kuznets' concept, an inverted U-shaped relationship exists between income level and income distribution. According to Kuznets' concept, at the beginning of the development process, inequality in income distribution increases due to urbanization and industrialization processes. At the end of the development process, income inequality decreased, namely when the economic sectors in urban areas absorbed most of the workforce from rural areas. The following studies also show various conclusions regarding income inequality and its economic effects. Some say that inequality drives economic growth, but some say the opposite (Yasni & Yulianto, 2020).

Research from Yusuf & Halim (2021); Chongvilaivan & Kim (2016); Miranti et al. (2013); Putri & Natha (2014) found that an increase also followed an increase in economic growth in disparities or disparities between regions. On the contrary, Wahyuni (2004) dan Waluyo (2004) found a negative relationship between economic growth and income inequality.

Economic growth and income inequality are severe problems in the Covid-19 pandemic. Productivity is closely related to access to resources. The scarcity of resource access will reduce production activities (Banerjee & Mullainathan, 2008). This impacts the efficiency of the budget distributed to the regions. The transfer funds should encourage production levels evenly. Thus the transfer funds are not effective and efficient in realizing the redistribution of production growth and regional income (Djohan et al., 2016; Jamal et al., 2015; Mishra & Agarwal, 2019). This condition is exacerbated by the Covid-19 problem, which limits social and economic access. The diversion of the transfer budget is more focused on handling health.

Inequality between regions will continue to occur and even increase if there are no implications or policies from the government to reduce this inequality, both from a fiscal and income distribution perspective. According to Wardhana et al. (2013), regional disparities are a structural problem in the Indonesian economy. For four decades of economic development, no significant change in income distribution between regions has occurred. This occurs concurrently with increased national and per capita income within the accumulation, allocation, and demographic transition framework. These funds must be utilized optimally and directed according to regional needs.

The Government's role in the economy has long been the object of interesting discussion among economists. According to the theory of Adam Smith, a classical economist, the market mechanism has worked efficiently, so there is no reason for the government to intervene in the market. Conversely, Keynesian considers that market freedom, without government intervention, will not be able to optimally allocate resources and output (full employment of outputs). In line with neoclassical theory emphasizing that the role of government through public spending such as building infrastructure and improving the quality of human resources will encourage more private investment thereby increasing economic activity (Kapaya, 2023). Regional transfer funds are one of the government's efforts to meet public spending and inter-regional community needs. This policy is expected to reduce inter-regional disparities, both in terms of fiscal and income distribution. In the economy, the government has a stabilizing role, an allocation role, and a distribution role (Yasni & Yulianto, 2020). By channeling transfer funds to the regions, the government has implemented this allocation and distribution function. (Heryanah, 2017) explains that intra-provincial disparities account for 89 percent of national disparities, so it is very important to prioritize programs for equitable development between regions within the province.

This inequality analysis is related to the decentralization process that is taking place in several countries, including Indonesia. Bonet (2006) argues that inequality in Colombia has increased due to decentralization. Meanwhile, Akita & Miyata (2008) found inequality in Indonesia increased after decentralization was implemented. Similarly, research from Yusuf (2013), although it does not point directly to the decentralization process, Indonesia's inequality increased after the economic crisis in 1998.

This research is different because it focuses on the efficiency of transfers to the provinces in reducing income inequality in all provinces of Indonesia. Then analyze the policies needed so that transfer funds can reduce income inequality in each province.

METHOD

The scope of this study is central to regional transfer funds in each province in Indonesia from 2007 to 2020. The data used is in the form of secondary data obtained from the websites of the Ministry of Finance of the Republic of Indonesia and the Indonesian Central Bureau of Statistics as well as from other sources, which is relevant. This study uses the Stochastic Frontier Analysis model (Shin et al., 2018; Zewdie et al., 2021). .The aim is to analyze the inefficiency of budget transfers to the regions in the form of general allocation funds (DAU), namely funds allocated for inter-regional financial equity in the framework of regional decentralization, special allocation funds (DAK), namely funds allocated to certain regions with the aim of funding special activities, revenue-sharing funds (DBH), namely funds allocated to regions based on percentage figures to fund regional needs in the context of implementing decentralization, as well as special autonomy funds (DOKP), namely financing the implementation of

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special autonomy for selected regions (PP No. 55 of 2005 concerning balancing funds).

The transfer funds are expected to reduce poverty and income inequality between residents and between regions. Inefficiency is a term related to the minimization and maximization of an objective function. This model is usually used to analyze profits, costs, and production in agriculture, health, banking, and other fields, such as in studies by An et al. (2018), Tsionas (2017), and Xu et al. (2018). Other studies related to public and demography Chandio et al., (2018).

Pilat & Morasa (2017) described that ratio analysis could be used to see the efficiency of regional revenue budget realization. The estimation model is divided into two parts, namely, looking at the urban and rural aspects. The estimation model is divided into two parts, namely looking at the urban and rural sides by estimating the frontier line using SPSS software. This equation can be written as follows:

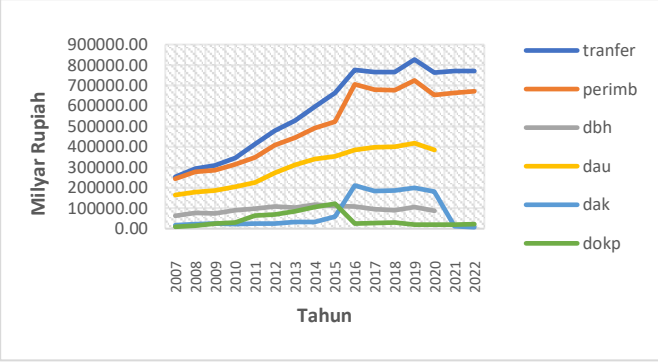
$$GR_{urban} = \alpha_0 + \alpha_1 \log DBH_i + \alpha_2 \log DAU_i + \alpha_3 \log DAK_i + \alpha_4 \log DOKP_i + v_i - u_i$$

$$GR_{rural} = \beta_0 + \beta_1 \log DBH_i + \beta_2 \log DAU_i + \beta_3 \log DAK_i + \beta_4 \log DOKP_i + v_i - u_i$$

The estimated ratio of the allocation of transfers of funds to the regions from both the urban (GR_{urban}) and (GR_{rural}) sides can be explained by revenue-sharing funds (DBH), general allocation funds (DAU), special allocation funds (DAK), and special autonomy fund and balancing (DOKP). The value of the technical efficiency ratio of the potential budget spent with the realization based on the estimated frontier regression line can be concluded at the efficiency level.

RESULTS AND DISCUSSION

The problem of inequality is a more complicated problem when compared to poverty. Low and high inequality will predict growth and prevent a country from getting out of the Middle Income Trap (MIT). In the last two decades, inequality in Indonesia has increased. However, this condition occurs not only in Indonesia but is also experienced in many other countries, especially those in the Middle-Income Group (Wibowo, 2016).



Source: Statistik Ekonomi dan Keuangan Indonesia, BI, 2022.

Figure 1. Development of Transfer Funds from the Central Government to the Regions

In Figure 1. Explains the development of transfer funds from the central government to the regions, which fluctuate yearly. Overall, the highest government transfers to the regions occurred in 2019. This is related to the problem of the Covid-19 virus that Indonesia experiences and even countries around the world. Various economic activities had to be closed or stopped to prevent the further spread of this virus so that social and economic access became limited, which, in the end, significantly impacted the economy. Many companies went bankrupt, and people lost their jobs. In this condition, the government spends substantial funds compared to previous years to prevent the economy from falling. The transfer budget focuses more on handling health and helping people affected by this problem, such as MSME actors, labor workers, etc.

Table 2. Frontier regression line estimation

	Mean	Std. Error	95% Conf. Interval	
TE_GR_urban	.9506524	.0178222	.9121499	.989155
TE_GR_rural	.9563207	.0132578	.9276789	.9849624

Source: Statistik Ekonomi dan Keuangan Indonesia, BI (processed, 2022).

Gini Ratio Urban	Coefficient	Std. Error	z	p|z|
log_dbh	0.0063	0.000033	190.33	0.000
log_dau	0.0334	0.00003	1111.98	0.000
log_dak	0.0409	8.63e-06	4735.29	0.000
log_dokp	0.1105	7.10e-06	1.6e+04	0.000
Constant	-1.5019	0.000287	5232.55	0.000
/lnsig2v	-35.9603	219.0222	-0.16	0.000
/lnsig2u	-4.8435	0.377965	-12.81	0.009
Likelihood-ratio test of sigma_u=0: chibar2(01) = 8.14 Prob>=chibar2 = 0.002				
Log-likelihood = 23.743171				
Number of obs = 14				
Prob > chi2 = 0.0000				

Gini Ratio Urban	Coefficient	Std. Error	z	p|z|
log_dbh	0.01325	0.000034	389.52	0.000
log_dau	-0.1329	0.0000313	1435.66	0.000
log_dak	0.0939	8.28e-06	1.1e+04	0.000
log_dokp	0.1245	5.71e-06	2.2e+04	0.000
Constant	-0.34109	0.0001986	-1717.30	0.000
/lnsig2v	-38.9209	766.4258	-0.05	0.000
/lnsig2u	-5.3514	.3779645	-14.16	0.009
Likelihood-ratio test of sigma_u=0: chibar2(01) = 5.98 Prob>=chibar2 = 0.007				
Log likelihood = 27.298066				
Number of obs = 14				
Prob > chi2 = 0.0000				

Based on the estimation results (Table 2.), allocating funds to the regions for income inequality is inefficient, with an average technical efficiency ratio of 0.95 of the potential budget spent with realization based on the estimated frontier regression line. This means there are inefficiencies in the government spending budget in the form of transfers to urban

and rural regions. This explains that the government's efforts in transferring to the regions have not effectively reduced income inequality. Supports the explanation above, Akita & Miyata (2008) dan Bonet (2006) argued that decentralization efforts to reduce inequality were ineffective. Then this condition is exacerbated by the Covid-19 problem, which limits social and economic access. The diversion of the transfer budget is more focused on handling health. This confirms that the problem of income inequality cannot be solved by government spending alone but also depends on the form of the policy. This is reinforced by research from Guiga & Rejeb (2012), which explains that high economic growth is essential but not enough to reduce inequality without policies in the field. The government needs to formulate policies to increase income distribution in Indonesia so that income inequality is not too large.

Central and regional governments must be able to choose policy packages that can encourage increased per capita income and slow the rate of increase in income inequality. For this reason, synergy is needed between the central and regional governments regarding the quality of Human Resources (HR) from the employment side. Namely, efforts to increase employment absorption are carried out through (1) encouraging structural transformation to create more productive jobs; (2) supporting the development of sustainable Micro, Small, and Medium Enterprises; (3) holding labor-intensive training programs to improve people's skills to make it easier for people to get jobs and income. Increased income will increase demand, which will be responded to by increased production, ultimately increasing Regional Own Revenue which plays a significant role in the Regional Revenue and Expenditure Budget. This cycle will strengthen sustainable economic growth. However, to achieve decent job opportunities, it is necessary to support skilled human resources through investments in education and health and access to public services. Government policies are focused on creating skilled human resources supported by efficient fiscal policies so that distribution is even. Huang & Morgan (2018) strengthened that to become a country in the Upper Middle-Income group, economic growth must pay attention to efficiency, increase the workforce's skills, and be oriented toward industries that provide high-added value. Therefore, through fiscal policy, the government encourages the skills of the Indonesian workforce to continue to increase.

CONCLUSIONS

Based on the analysis results, it can be concluded that the government budget in transferring funds to the regions has not been efficient in reducing income inequality in Indonesia. Income inequality cannot be resolved by spending government alone, but also depending on the form of policy. Central and regional governments must be able to choose policy packages that can encourage increased per capita income and slow the rate of increase in income inequality. For this reason, synergy is needed between the central and regional governments regarding the quality of Human Resources (HR) from the employment side. Namely, efforts to increase employment absorption are carried out through (1) encouraging structural transformation to create more productive jobs; (2) supporting the development of sustainable Micro, Small, and Medium Enterprises; (3) holding labor-intensive training programs to improve people's skills. This policy is expected to improve people's skills and open opportunities for people to work and earn income.

The social implication of this research is that it can be used as a consideration in determining policy packages that can optimize the potential of the region owned, especially with regard to increasing skills and business opportunities for the community so that they can have income so that it will increase a more equitable distribution of income.

The limitations of this study only focus on transfers from the central government to the regions in estimating income inequality, making it possible to add other variables to strengthen the research results.

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