

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

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ABSTRACT: Regional income disparity and uneven economic growth remain persistent development challenges in West Nusa Tenggara Province, despite the continued implementation of fiscal decentralization and the increasing allocation of intergovernmental fiscal transfers. This condition raises questions regarding the effectiveness of fiscal transfer instruments in simultaneously promoting economic growth and reducing income inequality across districts and municipalities. Accordingly, this study aims to examine the effects of Revenue Sharing Funds (DBH), General Allocation Funds (DAU), Physical Special Allocation Funds (Physical DAK), Non-Physical Special Allocation Funds for Health Operations (DBOK), and Non-Physical Special Allocation Funds for Education Operations (DBOP) on income inequality and economic growth in districts/municipalities of West Nusa Tenggara during the period 2018-2023.

This study employs a quantitative approach using panel data regression analysis. Income inequality is measured by the Gini Ratio, while economic growth is proxied by real GDP per capita. The results indicate that DBH, Physical DAK, and DBOK have a significant role in reducing income inequality, whereas DAU and DBOP do not show a significant effect. In contrast, regional economic growth is significantly influenced by DBH, DAU, and DBOP, with DBOP emerging as the most dominant factor, while Physical DAK and DBOK do not exhibit a direct impact. These findings suggest that intergovernmental fiscal transfers in West Nusa Tenggara have not yet functioned optimally in achieving both growth and equity objectives simultaneously, highlighting the need for more targeted and outcome-oriented fiscal management at the regional level.

KEYWORDS: Balancing Funds, Income Inequality, Economic Growth.

I. INTRODUCTION

Indonesia introduced regional autonomy in 2000, as stipulated in Law No. 22 of 1999 concerning Regional Autonomy and revised in Law No. 32 of 2004 concerning Regional Autonomy. In Indonesia, regional autonomy gives local governments broader authority to stimulate the economy and improve the welfare of their communities. This law changed the direction of national development from centralism to decentralization. Fiscal decentralization is a form of transfer of financial sovereignty from the central government to local governments. Fiscal decentralization can increase local potential and enhance development based on national priorities. The central government's power delegated to local governments is aimed at formulating and implementing regional plans to achieve economic growth (Kaneva et al, 2023).

Although West Nusa Tenggara has implemented regional autonomy and fiscal decentralization policies in regional finances, it still faces social inequality issues, namely differences in income distribution and economic growth between regions. Income equality leads to economic equality and the achievement of national development in Indonesia. The Gini Index is an indicator of income inequality. Based on BPS data, the Gini index of NTB Province in the last 6 years (2018-2023) has fluctuated. West Nusa Tenggara Province is one of the regions in Indonesia that has many natural resources, including in the fields of agriculture, tourism, and fisheries. However, this potential has not been fully able to improve the community's economy in a significant way (Febrianti, Hailuddin, 2025).

Regional economic growth plays a crucial role in the success of national economic growth. Every province, including West Nusa Tenggara Province, is required to achieve high economic growth, meet economic planning targets, and resolve various development issues within its autonomous region. Each region has the freedom to manage its resources, which can be utilized for the welfare of the local community. With its geographical advantages and abundant natural resources, West Nusa Tenggara Province has great potential to increase its Gross Regional Domestic Product, which in turn will drive better economic growth

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

(Mafahir, Soelistiyo, 2018). Based on BPS data, the economic growth rate of West Nusa Tenggara Province in the last six years (2018-2023) has fluctuated. The fluctuation in the economic growth rate of West Nusa Tenggara Province is inseparable from the development of national economic growth. BPS data shows that economic growth in 2018-2023 tends to slow. It is known that the smallest GRDP per capita is in East Lombok Regency, namely in 2020 at 15,152 million rupiah, while the highest GRDP per capita is in West Sumbawa Regency, namely in 2022 at 207,626 million rupiah.

II. LITERATURE REVIEW

1. Income Inequality

According to a number of experts on income inequality, this income inequality refers to the variation in the amount of income earned or generated by society, which causes the distribution of national income to be unbalanced among individuals in society (Todaro, Stephen., 2006). Income inequality is the economic insufficiency that occurs between the rich and the poor, which can be seen from the difference in the amount of income. Income inequality reflects the relative standard of living among the whole society, caused by differences in production factors and the availability of resources in various regions (Kuncoro, 2006).

Theoretically, the disparity between districts/cities and villages can be explained through the theory of economic dualism, which states that the modern and traditional sectors develop unequally within a region. Furthermore, the theory of unbalanced growth and the theory of growth centers explain that development tends to be concentrated in certain regions with initial advantages, such as districts/cities, thus attracting capital and labor flows from villages. In the early stages of development, income inequality tends to increase, as explained in the Kuznets hypothesis. Therefore, the role of the government through fiscal policy, equitable distribution of infrastructure, and strengthening the village economy is crucial to encourage the spread effect and reduce disparities between districts/cities and villages.

According to the Central Bureau of Statistics (2022), one of the parameters commonly used to measure income distribution is the Gini Ratio, also known as the Gini Index or Gini Coefficient. The Gini Ratio is a statistical technique useful for measuring the level of income inequality. According to Todaro and Smith (2011), the Gini Ratio is a measure of income equality that ranges from 0 to 1. A Gini Ratio of 0 indicates that all income is distributed equally among all members of society, reflecting perfect equality. Conversely, a value of 1 indicates that all income is enjoyed by only one person, meaning extreme inequality occurs. Thus, the higher the Gini Ratio, the greater the inequality in income distribution. Conversely, the lower the Gini Ratio, the more equal the income distribution.

2. Economic Growth

According to Adam Smith, a classical economist, there are two main aspects of economic growth: total output growth or Gross Domestic Product (GDP) and population growth. These two elements are interrelated. In the context of total output growth, Smith argued that a country's production system consists of three main components: available natural resources, human resources (population), and the existing stock of capital goods. These natural resources form the fundamental foundation for production activities in society. The amount of available natural resources will determine the maximum limit for economic growth. In other words, as long as these resources are not fully utilized, the other two production factors, namely population and existing capital stock, will play a significant role in the production process (Hendri, Iswandi, 2022).

Kuznets, in his research cited by Sjafrizal (2008), argued that there is a significant relationship between economic growth and inequality. Initially, economic growth can lead to increased inequality due to unequal income distribution. However, over time, this inequality is expected to decrease and equality will become more common. Kuznets described this pattern through the inverted-U hypothesis, which he developed after analyzing inequality across various countries.

In line with Kuznets' thinking, neoclassical economists argue that in the early stages of economic growth, the mobility of production factors such as capital and skilled labor tends to be concentrated in more developed regions. This results in widening regional development disparities (divergence). However, as the development process continues and infrastructure and communication facilities improve, the mobility of capital and labor will become smoother, thereby reducing income inequality. Empirical evidence for this view is found through observations by neoclassical economists in several countries, such as Taiwan, Hong Kong, and Singapore. Neoclassical groups explain that although economic growth tends to increase inequality in the short term, in the long term, income inequality will decrease (Febrianto, 2017).

3. Balancing Fund

Balancing funds in the context of regional finance are a form of transfer provided by the central government to regional governments. The purpose of this transfer is to support the implementation of regional autonomy. Regulations related to balancing funds are regulated in various laws, one of which is Law Number 33 of 2004 concerning Financial Balance Between the

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

Central Government and Regional Governments. In this law, it is explained that balancing funds consist of Revenue Sharing Funds (DBH), General Allocation Funds (DAU), and Special Allocation Funds (DAK). All of this aims to reduce financial disparities between regions and support equitable national development (Agus, 2020).

The Regional Revenue Sharing Fund (DBH) is allocated based on regional contributions to state revenue from natural resources and certain taxes. This enables producing regions, such as West Nusa Tenggara (NTB), to receive substantial funding, enabling them to accelerate infrastructure development and public services, which impact economic growth. NTB has significant natural resource potential, particularly in the mining, forestry, and fisheries sectors. The DBH derived from the exploitation of these natural resources contributes significantly to regional revenue. Therefore, the DBH is a primary source of funds for development and poverty alleviation (Bappeda NTB, 2022). From the perspective of public economic theory, the DBH reflects the government's distribution function, namely redistributing state revenue to producing regions. Regions that contribute to national revenue receive a share of the revenue as compensation for resource utilization and the impact of economic activity in their regions. Thus, the DBH is expected to reduce vertical inequality between the central and regional governments and increase regional fiscal independence.

The General Allocation Fund (DAU) is a fund derived from state budget revenues, designed to ensure equitable distribution of financial capacity across regions. The primary purpose of the DAU is to support financing for regional needs within the context of decentralization. This fund plays a crucial role in horizontal equity by addressing the fiscal gap that arises between fiscal needs and the economic potential of each region (Setyawati, Hamzah, 2007). In accordance with Law Number 33 of 2004, the total value of the General Allocation Fund (DAU) is set at a minimum of 26% of net domestic revenues listed in the State Budget (APBN). The calculation of DAU requirements is based on various factors, including population, area, number of buildings, and other indicators such as the cost of living index, regional gross domestic product per capita, and the human development index (Rosyadi, Saputra, 2017).

Based on Law Number 23 of 2014 concerning Regional Government, the General Allocation Fund (DAK) is a fund sourced from the State Budget (APBN) allocated to support specific regional needs. This fund is intended for matters under regional responsibility and must align with national priorities, while still considering the availability of funds in the APBN. DAK is often referred to as infrastructure funds because it is used as capital expenditure to finance investments in the procurement and/or improvement of physical facilities and infrastructure with a long economic life (Muis, 2012). However, under certain circumstances, DAK can also be used to cover the operating and maintenance costs of certain facilities and infrastructure for a limited period (Maheni, Maryono, 2021). From a public economic theory perspective, government spending on the health and education sectors is viewed as a productive and long-term public investment. Government intervention is necessary because the health and education sectors contain significant positive externalities, and if left entirely to market mechanisms, their provision tends to be suboptimal. Through the Non-Physical Special Allocation Fund (DAK Nonfisik), the government strives to ensure equitable access to health and education services for all.

III. METHODOLOGY

This research is a quantitative study using an associative format. The purpose of quantitative research is to develop and apply mathematical models, theories, and/or hypotheses related to natural phenomena. This type of research is based on theory testing through the measurement of research variables expressed in numerical form and using an associative research format. Associative research itself aims to identify the relationship or influence between two or more variables (Wiratna, 2018). This study aims to analyze the impact of fiscal balance funds on income inequality and economic growth in districts/cities in West Nusa Tenggara. These balance funds include: DBH, DAU, physical DAK, DBOP, and DBOK. This study uses secondary data from the Directorate General of Fiscal Balance (DJPK), the Ministry of Finance, and the Statistics Indonesia (BPS).

The research method used panel data regression analysis, using time series data from 2018-2023 and cross-sectional data from 8 districts and 2 cities in West Nusa Tenggara. This method aims to examine the relationship between independent variables and dependent variables across multiple data sets over the analysis period, thus obtaining efficient and robust statistical estimates. Panel data regression analysis has several advantages over other approaches. By combining cross-sectional observations with time series, panel data provides more informative data, greater variability, less collinearity between variables, more degrees of freedom, and greater efficiency. Based on the explanation above, there are two regression models in this study, as follows:

$$Y_{it1} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \epsilon_{it}$$

$$Y_{it2} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \epsilon_{it}$$

Where:

Y1 = Gini Ratio

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

Y2 = Economic Growth

X1 = Revenue Sharing Fund (DBH)

X2 = General Allocation Fund (DAU)

X3 = Physical Special Allocation Fund (DAK Fisik)

X4 = Non-Physical Special Allocation Fund for Health Operations (DBOK)

X5 = Non-Physical Special Allocation Fund for Education Operations (DBOP)

α = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Independent Variable Coefficients

ϵ = Error Coefficient

i = Number of regencies/cities, i.e., 10 regencies/cities

t = Research period, i.e., 2018-2023

Panel Data Regression Model Selection

Panel data regression models have three analytical models: the common effects model (CEM), the fixed effects model (FEM), and the random effects model (REM). The CEM model, also called partial least squares, combines all panel data, assuming each analysis subject has the same intercept and slope. The FEM, also called least squares dummy variable, assumes different intercepts across subjects and assumes different slopes across subjects. It is estimated using dummy variables to capture differences in intercepts between research variables. Meanwhile, the REM model has the advantage of addressing uncertainty in the FEM model. The advantage of REM is its ability to eliminate heteroscedasticity.

The three models were then subjected to the process of selecting the best regression model. First, the regression models were subjected to the Chow test, the Hausman test, and the LM test. The Chow test is used to select between the CEM and FEM models, by examining the cross-section chi-square value at the 5% significance level. The Hausman test is used to select between the FEM and REM models, by examining the random cross-section value at the 5% significance level. The LM test is used to identify the CEM or REM model, by examining the Breusch-Pagan value at the 5% significance level.

Classical Assumption Test

Classical assumption testing is a statistical requirement that must be met based on ordinary least squares (OLS). Accurate analysis requires several tests based on the classical assumptions underlying the regression model. These classical assumptions include normality, multicollinearity, heteroscedasticity, and autocorrelation. According to Basuki (2016), in the context of panel data, autocorrelation testing is not mandatory because panel data is cross-sectional, while autocorrelation usually only occurs in time series data. Multicollinearity tests are used to determine the existence of a linear relationship between the variables explaining the selected model. Heteroscedasticity tests are used to determine whether various residuals are constant or fluctuating.

Panel Data Regression Model Examination

The F-statistic test, the t-statistic test, and the coefficient of determination (R^2) test are required to assess the feasibility of the research model. The F-statistic test simultaneously examines whether the independent variables significantly influence the dependent variable. The t-statistic test is used to determine the partial influence of the five independent variables on the dependent variable in the two selected regression model equations. The coefficient of determination test is used to measure the degree to which the five independent variables influence the dependent variable in the two selected regression model equations.

IV. RESULTS AND DISCUSSION

This study examines the balance funds (DBH, DAU, physical DAK, DBOK, and DBOP), income inequality, and economic growth in 10 cities/regencies in West Nusa Tenggara for the period 2018-2023.

Table 1 Selection of Panel Regression Model Suitability

Description	Model 1: Income Inequality		Model 2: Economic Growth	
	Probability	Decision	Probability	Decision
Uji Chow	0,2277	CEM	0,0000	FEM
Uji Hausman	0,2435	REM	0,0139	FEM
Uji LM	0,4078	CEM	-	-

Source: Output results processed with Eviews 12

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

To select the best research model for these two research equations, a statistical test process was conducted. Model 1, which examined income inequality in districts/cities in West Nusa Tenggara, yielded a Chow test with a probability of 0.2277 (>0.05), so the second test was conducted. The Hausman test yielded a probability of 0.2435 (>0.05), so the final test, the LM test, was conducted. This final test yielded a probability of 0.4078 (>0.05). Therefore, the CEM model was chosen as the regression model to test the first model's hypothesis. Model 2, which measured GRDP per capita, yielded a probability of 0.000 (<0.05) in the Chow test, so the Hausman test was conducted. This second test yielded a probability of 0.013 (<0.05). FEM is the selected panel data regression model for testing the second model hypothesis.

Table 2 Classical Assumption Test

Description	Model 1: Income Inequality	Model 2: Economic Growth
Multicollinearity Test	VIF < 10	VIF < 10
Heteroscedasticity Test	N > 5%	N > 5%

Source: Output results processed with Eviews 12

The results of the multicollinearity analysis for both models showed Variance Inflation Factor (VIF) values below 10, a common threshold often used in econometrics. This low VIF indicates no significant correlation between the independent variables in the model. The absence of multicollinearity ensures that each independent variable provides distinct information on the dependent variable, ensuring consistent and correctly interpretable regression coefficient tests. Therefore, the regression model is suitable for use because the independent variables can independently explain the variation in the dependent variable without any interfering influences.

The heteroscedasticity test showed positive results, with the N value exceeding 5% in both models. This indicates that the residual variance is constant, or homoscedastic, throughout the observations. Meeting this homoscedasticity assumption is crucial because it ensures that the Ordinary Least Squares (OLS) estimator possesses the characteristics of a Best Linear Unbiased Estimator (BLUE). If the residual variance remains constant, the standard error obtained is efficient, and hypothesis testing can be conducted correctly. On the other hand, if there is heteroscedasticity, the standard error estimate will be imprecise and can lead to erroneous statistical conclusions.

Table 3 Estimation Results of the Two Research Models

Variables	coefficient	t-Statistic	Probability	Decision	Model Decision	
Model 1: Income Inequality						
C	0,0523					
DBH	-0,2145	-3,5049	0,0007	H _{1DBH} Accepted	R ²	0,8214
DAU	-0,0318	-1,1398	0,2815	H _{1DAU} Rejected	Adj,R ²	0,7941
DAKFisik	-0,1763	-3,5372	0,0006	H _{1DAK} Accepted	F-Statistic	30.5874
DBOK	-0,0921	-2,2458	0,0259	H _{1DBOK} Accepted	Prob (F-St)	0,0000
DBOP	-0,0157	-0,7929	0,4290	H _{1DBOP} Rejected		
Model 2: Economic Growth						
C	27439,38					
DBH	1,8913	3,1521	0,0029	H _{1DBH} Accepted	R ²	0,9165
DAU	4,7807	3,6911	0,0008	H _{1DAU} Accepted	Adj,R ²	0,8809
DAKFisik	2,7079	0,2511	0,8028	H _{1DAK} Rejected	F-Statistic	34,3610

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

DBOK	0,8423	0,6930	0,4911	H _{1DBOK}	Prob (F-	0,0000
				Rejected	St)	
DBOP	5,8400	3,0736	0,0030	H _{1DBOP}		
				Accepted		

Source: Output results processed with Eviews 12

Model testing was performed on both research models. The F-statistic test results showed that the probability of the first and second models being equal was 0.0000, or both values were less than 5%. This means that at least one independent variable correlates with the dependent variable, and simultaneously, DBH, DAU, physical DAK, DBOK, and DBOP significantly influence their respective dependent variables. For the income inequality model, the t-statistic test showed that DBH, physical DAK, and DBOK were significantly correlated with the dependent variable. In the economic growth model, 3 were three independent variables significantly correlated with the dependent variable: DBH, DAU, and DBOP.

Based on the regression results in model 1 with the Common Effect Model, it is known that the R-square value is 0.8214. This indicates that the variation of the dependent variable, namely the level of income inequality, can be explained simultaneously by the independent variables, namely DBH, DAU, Physical DAK, DBOK, and DBOP by 82.14% while the remaining 17.86% is explained by other factors outside the variables studied. Because the R-squared value obtained in this first model is almost close to one hundred, it means that the ability of the independent variables to explain the dependent variable is quite good. While the regression results in model 2 with the Fixed Effect Model, it is known that the R-square value is 0.9165. This indicates that the variation of the dependent variable, namely economic growth, can be explained simultaneously by the independent variables, namely DBH, DAU, Physical DAK, DBOK, and DBOP by 91.65% while the remaining 8.35% is explained by other factors outside the variables studied. Because the R-squared value obtained in this second model is almost close to one hundred, it means that the ability of the independent variables to explain the dependent variable is quite good. Based on Table 3, the research model equation can be written as follows:

$$Y_{it1} = 0,0523 - 0,2145X_{1it} - 0,0318X_{2it} - 0,1763X_{3it} - 0,0921X_{4it} - 0,0157X_{5it}$$

$$Y_{it2} = 27439,38 + 1,8913X_{1it} + 4,7807X_{2it} + 2,7079X_{3it} + 0,8423X_{4it} + 5,8400X_{5it}$$

DISCUSSION

Balancing funds in NTB vary from region to region, with East Lombok Regency receiving a larger amount compared to other regions (Directorate General of Fiscal Balance, 2023). Based on official data available from the West Nusa Tenggara Province Central Statistics Agency (NTB Province Regional Government Financial Statistics publication 2023) and central fund transfer/allocation datasets (Ministry of Finance's DJPK portal and NTB data portal), Overall, over the six years, it can be concluded that East Lombok Regency was the region with the highest dominance in General Allocation Funds, Physical Special Allocation Funds, and Non-Physical Special Allocation Funds for Health and Education Operations. Meanwhile, West Sumbawa Regency was very dominant in Revenue Sharing Funds but relatively low in General Allocation Funds and Non-Physical Special Allocation Funds for Education. On the other hand, North Lombok Regency and Bima City tended to be the regions with the lowest cumulative receipts of balancing funds, reflecting limited fiscal capacity and scale of needs compared to other regions in West Nusa Tenggara Province.

The Impact of Revenue Sharing Funds (DBH) on Income Inequality and the Economy

Based on the research results, it can be seen that the Revenue Sharing Fund (DBH) had a negative and significant impact on income inequality in West Nusa Tenggara Province during the 2018-2023 period. This indicates that the higher the DBH received by a region, the lower the level of income inequality. This finding aligns with research by Azizi (2018) and Purba & Simandjorang (2024), which stated that DBH plays a crucial role in improving income distribution in several regions. This situation illustrates that the NTB regional government is capable of optimally designing and managing DBH so that its benefits are felt by the wider community and not concentrated in certain groups. Efficient DBH management directed at public sectors and productive activities has been proven to reduce income disparities between community groups in NTB.

Furthermore, this study also found that DBH has a positive and significant impact on economic growth, as reflected in the increase in Gross Regional Domestic Product (GRDP). This means that the increase in DBH makes a significant contribution to regional economic activity, both through increased government spending, infrastructure development, and the development of leading sectors such as agriculture, tourism, and small and medium-sized industries. These results are consistent with research by Pradana & Mun'im (2022), which showed that DBH can significantly impact regional economic growth. Thus, DBH serves not only

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

as an instrument for equity but also as a driver of sustainable economic growth.

Empirically, these conditions demonstrate that fiscal policy in the form of DBH has a dual impact on economic development in West Nusa Tenggara Province. First, DBH can reduce income inequality, thus achieving more equitable development. Second, DBH strengthens regional economic growth by increasing fiscal capacity, which is then allocated to productive development activities. Therefore, it can be concluded that effective DBH management is a strategic instrument in realizing inclusive and sustainable development in West Nusa Tenggara during the study period.

The Impact of the General Allocation Fund (DAU) on Income Inequality and the Economy

The results of this study reveal the complex role of the General Allocation Fund (DAU) within regional financial structures. Empirically, the DAU shows a negative but insignificant effect on income inequality, indicating that although increases in DAU tend to be followed by slight reductions in inequality, the effect is not statistically strong. This suggests that the DAU has not yet functioned optimally as an instrument of fiscal equalization in reducing inter-regional income disparities in West Nusa Tenggara (NTB) during 2018–2023. This finding is consistent with Azizi (2018) and Wirandana & Khoirunurrofik (2022), who argue that fiscal transfers do not automatically improve income distribution due to weaknesses in regional planning and policy implementation. Consequently, the DAU's expected role in promoting equitable income distribution has not been fully realized.

In contrast, the study finds that the DAU has a positive and significant effect on regional economic growth. Increases in DAU strengthen local fiscal capacity, enabling regional governments to finance development activities and public services that stimulate economic activity. This result aligns with Pradana & Mun'im (2022), who emphasize the role of the DAU in supporting economic growth through productive public spending. In NTB, rising DAU allocations during 2018–2023 contributed to higher GRDP, particularly through infrastructure development, improved public services, and increased local economic circulation.

However, in practice, the DAU in NTB has been largely allocated to routine expenditures such as personnel salaries and administrative costs, limiting its impact on income redistribution. The dominance of operational spending reduces fiscal space for development programs that directly benefit low-income groups, resulting in unequal distribution of development gains. Consequently, increases in DAU do not necessarily reduce inequality and may even widen income gaps, as reflected in the persistent disparities between urban and rural areas and between agricultural and non-agricultural sectors. To address this issue, regional governments need to reorient DAU utilization toward capital expenditures and public infrastructure, particularly in health, education, and public works, in line with its primary function of addressing regional fiscal gaps for development (Akita et al., 2021).

The Impact of the Physical Special Allocation Fund (DAK Fisik) on Income Inequality and the Economy

The research findings indicate that the Physical Special Allocation Fund (DAK) has played a significant role in reducing income inequality in West Nusa Tenggara (NTB) during the 2018–2023 period through its function as an instrument of fiscal equalization. By targeting infrastructure development in less-developed regions such as road connectivity, health facilities, and educational infrastructure the Physical DAK has improved access to public services, reduced logistics costs, and expanded economic opportunities for low-income communities. This mechanism aligns with fiscal equalization theory, which posits that central government transfers can strengthen the capacity of fiscally weaker regions to deliver public services, thereby narrowing regional and urban rural income disparities.

Empirically, the expansion of infrastructure projects funded by the Physical DAK in underdeveloped regencies such as North Lombok, Dompu, and Bima has contributed to greater labor mobility and improved market access, which in turn helped suppress inequality levels. These results are consistent with previous studies (Azizi, 2018) showing that public capital expenditure disproportionately benefits lower-income groups. Nevertheless, despite relatively high physical realization rates of DAK-funded projects, the decline in NTB's Gini ratio remained limited, reflecting that improvements in infrastructure have not yet translated into broad-based and evenly distributed income gains.

On the other hand, the Physical DAK shows a positive but statistically insignificant effect on economic growth. This outcome reflects the long-term nature of infrastructure investments, which generate multiplier effects only after optimal utilization and integration with productive sectors. Administrative delays, uneven regional distribution, and limited linkage between infrastructure projects and key economic activities have further constrained growth impacts. Consequently, the NTB case illustrates an infrastructure–growth paradox, where increased public infrastructure spending reduces inequality but does not immediately stimulate economic growth, highlighting the importance of institutional quality, planning capacity, and cross-sectoral integration in maximizing the developmental impact of the Physical DAK.

The Impact of the Non-Physical Special Allocation Fund for Health Operations (DBOK) on Income Inequality and the Economy

The research findings indicate that the Health Operational Expenditure Fund (DBOK) has a negative and significant impact on income inequality in West Nusa Tenggara (NTB), highlighting its effectiveness as a redistributive fiscal instrument.

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

Increased DBOK allocations have strengthened access to and the quality of basic health services, particularly for low-income communities in rural and underdeveloped areas. By reducing households' healthcare expenditure burdens and improving health conditions, DBOK enhances purchasing power and labor productivity, thereby contributing to a more equitable income distribution. This result is consistent with previous studies that emphasize the role of government health spending in improving social welfare and regional economic equity.

However, DBOK shows a positive but statistically insignificant effect on regional economic growth in NTB. This outcome reflects the intrinsic nature of health spending, which primarily generates benefits in the medium to long term through improvements in human capital rather than immediate increases in economic output. Moreover, most DBOK allocations are still directed toward routine operational expenditures such as salaries of health workers, facility operations, and medical supplies which tend to have limited short-term multiplier effects on Gross Regional Domestic Product (GRDP). As a result, the contribution of DBOK to economic growth is not directly observable in the short run.

Empirically, during the 2018–2023 period, DBOK allocations in NTB increased alongside improvements in health infrastructure, including the expansion of Puskesmas and Posyandu in remote districts such as Dompu, Bima, and North Lombok. Nevertheless, NTB's economic growth remained volatile due to its heavy reliance on primary sectors such as mining and agriculture, as well as constraints in fiscal capacity, uneven distribution of health facilities, and limited coordination across levels of government. Therefore, while DBOK has been effective in reducing income inequality, its impact on economic growth remains constrained, underscoring the need for stronger synergy between health spending and broader regional development strategies that promote productive sector expansion and human capital utilization.

The Impact of the Non-Physical Special Allocation Fund for Education Operations (DBOP) on Income Inequality and the Economy

Research findings indicate that the Education Operational Expenditure Fund (DBOP) in West Nusa Tenggara (NTB) does not have a significant impact on reducing income inequality, despite continuous increases in its allocation during 2018–2023. This outcome is largely attributable to the orientation of DBOP spending, which has predominantly financed routine operational needs such as non-civil servant teacher honoraria, school operations, and facility maintenance rather than productive investments that directly enhance educational quality and equal access. Moreover, persistent disparities in educational infrastructure and service quality between urban areas (such as Mataram City and West Lombok) and more remote regions (including Bima, Dompu, and West Sumbawa) have limited the redistributive potential of DBOP, thereby constraining its ability to reduce income inequality in the short term.

In contrast, DBOP has demonstrated a positive and significant effect on regional economic growth in NTB. Increased education spending has contributed to improvements in human capital, as reflected in the expansion of educational facilities and the rising number of teachers across all education levels during the study period. These developments have supported the availability of a more skilled workforce, particularly in sectors such as tourism, agriculture, and services, and have generated multiplier effects through increased demand for educational infrastructure, learning materials, and labor. Consequently, DBOP has played an important role in stimulating aggregate economic activity and enhancing regional productivity.

Nevertheless, the unequal distribution of teachers across education levels and regions indicates ongoing structural challenges in the education sector. Although the number of educators has increased overall, participation and continuation rates decline at higher education levels, signaling barriers to educational access and quality for certain population groups. This condition implies that the impact of education spending on income equality is inherently long-term, materializing only when improved educational outcomes translate into more equal employment opportunities and income distribution. Therefore, while DBOP has strengthened the foundation for economic growth in NTB, its effectiveness in reducing inequality requires a strategic reorientation toward quality enhancement, equitable access, and targeted human capital development in disadvantaged areas.

Dominant Variable

The dominant variable in a regression model is identified by the largest regression coefficient in absolute value, as it reflects the strongest marginal effect on the dependent variable. Based on the estimation results, in Model 1 (income inequality), the Revenue Sharing Fund (DBH) emerges as the most dominant variable with a coefficient of -0.2145 , indicating that increases in DBH significantly reduce income inequality in West Nusa Tenggara (NTB). This dominance reflects the redistributive role of DBH within the fiscal decentralization framework, where transfers from the central government enhance regional fiscal capacity and help reduce both vertical and horizontal disparities across districts, particularly benefiting relatively underdeveloped areas such as Bima and Dompu.

In Model 2 (economic growth), the Special Allocation Fund for Non-Physical Education Operations (DBOP) shows the largest coefficient, at 5.8400 , making it the most dominant driver of regional economic growth. This strong positive effect can be

The Effect of Fiscal Balance Funds on Income Inequality and Economic Growth of Districts/Municipalities in West Nusa Tenggara During 2018-2023

explained through human capital theory, which emphasizes education as a key determinant of productivity and long-term economic performance. Although DBOP is smaller in nominal size compared to other balancing funds, its targeted use in financing educational operations, improving learning quality, and supporting educators directly enhances the quality of human resources, thereby generating a more substantial and sustainable impact on regional economic growth.

Overall, the findings indicate a clear functional differentiation among fiscal transfer instruments in NTB. DBH plays a dominant role in reducing income inequality by strengthening fiscal equity and enabling more balanced regional development, while DBOP is the dominant factor in accelerating economic growth through human capital formation. This suggests that an effective regional development strategy requires the complementary use of redistributive transfers to promote equity and targeted education spending to stimulate long-term economic growth driven by improved labor quality and productivity.

V. CONCLUSIONS

Based on the results and discussion, the results of this study can be concluded as follows:

1. The empirical results show that Revenue Sharing Funds (DBH), Physical Special Allocation Funds (DAK Fisik), and Non-Physical Health Operational Funds (DBOK) have a negative and significant effect on income inequality across districts/cities in West Nusa Tenggara (NTB). These funds effectively reduce inequality because they directly strengthen regional fiscal capacity, expand basic infrastructure, and improve access to health services for low-income communities. In contrast, the General Allocation Fund (DAU) and the Non-Physical Education Operational Fund (DBOP) do not significantly affect income inequality, as DAU is largely absorbed by routine government expenditures, while DBOP mainly yields long-term benefits through human capital development that are not immediately reflected in income distribution during the study period.
2. In terms of economic growth, DBH, DAU, and DBOP have a positive and significant impact on GRDP per capita in NTB. DBH enhances the fiscal capacity of resource-producing regions, DAU provides fiscal space for economically weaker regions, and DBOP improves education quality, thereby strengthening labor productivity and long-term economic performance. Conversely, Physical DAK and DBOK do not show a significant effect on economic growth, as infrastructure development and health spending tend to generate delayed economic returns and are more oriented toward social welfare than short-term increases in regional economic output.
3. DBH emerges as the most dominant balancing fund in reducing income inequality in NTB, as reflected by its large and consistently significant coefficient. This dominance underscores the effectiveness of DBH as a redistributive fiscal instrument in a region with substantial natural resource potential, particularly when the funds are utilized to finance public services and development programs targeting disadvantaged areas.
4. DBOP is identified as the dominant factor driving regional economic growth in NTB. Despite its relatively smaller nominal allocation, DBOP plays a strategic role by directly strengthening human capital through education spending, which enhances labor productivity and regional economic capacity in a sustainable manner. These findings confirm that while DBH is crucial for promoting equity, DBOP is the most effective fiscal instrument for accelerating long-term economic growth in West Nusa Tenggara.

IMPLICATIONS AND LIMITATIONS

This research will assist district/city governments in West Nusa Tenggara in developing TKDD (balanced funds) for infrastructure, health, education, and public works. This research adds to economic insights, particularly regarding regional finance and policy. However, this study has several limitations, including the number of independent and dependent variables to be analyzed, the research period of 2018-2023, and the use of panel data regression methods. In future research, researchers and academics are expected to experiment with various variables, time periods, and research methods.

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