How do Local Revenue, Revenue Sharing, General Allocation, and Special Allocation Funds impact Regional Spending in West Nusa Tenggara?

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Abstract
Regional own-source revenue serves as a vital funding source for local government operations. The more revenue a region generates locally, the greater its capacity to meet regional expenditure requirements. Regional revenue and expenditure are also funded through the regional budget, which includes profit-sharing funds, general allocation funds, and special allocation funds. This study aims to analyze the impact of Regional Own-Source Revenue, Production Sharing Fund, General Allocation, and Special Allocation Fund on Regional Expenditures in West Nusa Tenggara Province during the 2017-2021 period. The research is quantitative-descriptive in nature, utilizing secondary data from the West Nusa Tenggara Province Regional Financial and Asset Management Agency (BPKAD). Data collection is conducted through documentation, and data analysis employs panel data regression with the EViews 10 analysis tool. The findings indicate that local own-source income, general allocation funds, and special allocation funds positively and significantly influence regional expenditures in West Nusa Tenggara Province. However, profit-sharing funds have a negative and significant impact on regional expenditures. The determinant test (R2) reveals an R-Squared value of 0.9888, indicating that 98.88% of the variation in regional spending in West Nusa Tenggara Province can be explained by the independent variables, while the remaining 2.22% is influenced by external factors not included in this study’s model.

Keywords: Local Original Revenue, Profit Sharing Fund, General Allocation Fund, Special Allocation Fund, Regional Expenditure.

1. INTRODUCTION
Indonesia is one of the countries that implements a regional autonomy system [1]. Law Number 23 of 2014 on Regional Governments explains that regional autonomy is the right, authority, and obligation of autonomous regions to manage and govern local governance affairs and interests in accordance with the law and regulations [2], [3]. Regional autonomy provides a significant opportunity for each region to encourage community participation and improve its performance in order to promote regional self-reliance [4]-[6]. Therefore, regional autonomy grants authority and responsibility to regions to meet their local needs, thereby enhancing development and financial management.

The central government allocates balance funds derived from the state budget (APBN) to regions to finance their needs in the decentralization process. Law Number 33 of 2004 Article 5, paragraph 2, explains that regional revenue comes from local own-source revenue, balance funds, and other revenues. Furthermore, in Article 10, paragraph 1, it is stated that balance funds consist of revenue sharing funds, general allocation funds, and special allocation funds [7]. Hence, the central government provides assistance to regions to support their potential, reducing regional government dependence on the central government, which affects the regional fiscal situation.

The financial performance of a region can be assessed by the level of local own-source revenue generated, which is one of the sources of regional revenue used to finance local government programs [8], [9]. The higher the local own-source revenue generated by a region, the greater its ability to meet local expenditure needs, in addition to budget revenue and expenditure, including revenue sharing funds, special allocation funds, and general allocation funds [10].
A region can be considered advanced if it has a high level of local own-source revenue because a higher local own-source revenue reduces the level of dependency of regional governments on the central government in terms of the regional budget [11]. Empirically, the realized values of local own-source revenue, revenue sharing funds, general allocation funds, and special allocation funds for West Nusa Tenggara Province in the years 2017-2021 (in thousands of Indonesian Rupiahs) are examined.

Table 1 Realization of West Nusa Tenggara Province Regional Government Revenue for the 2017-2021 Fiscal Year [12]

<table>
<thead>
<tr>
<th>No</th>
<th>Years</th>
<th>PAD (IDR 10^9)</th>
<th>DBH (IDR 10^9)</th>
<th>DAU (IDR 10^9)</th>
<th>DAK (IDR 10^9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2017</td>
<td>2,309</td>
<td>1,071</td>
<td>7,009</td>
<td>2,704</td>
</tr>
<tr>
<td>2</td>
<td>2018</td>
<td>1,723</td>
<td>812</td>
<td>7,020</td>
<td>2,837</td>
</tr>
<tr>
<td>3</td>
<td>2019</td>
<td>1,790</td>
<td>570</td>
<td>7,320</td>
<td>3,332</td>
</tr>
<tr>
<td>4</td>
<td>2020</td>
<td>1,811</td>
<td>630</td>
<td>6,673</td>
<td>2,540</td>
</tr>
<tr>
<td>5</td>
<td>2021</td>
<td>1,983</td>
<td>791</td>
<td>6,623</td>
<td>2,777</td>
</tr>
</tbody>
</table>

Based on the above, it can be observed that the realization of Regional Own-Source Revenue (PAD) for the government of West Nusa Tenggara Province in 2017 was IDR 2,309, which experienced a decrease in 2018 to IDR 1,723. However, it increased in 2019 to IDR 1,790, followed by another increase in 2020 to IDR 1,811, and in 2021, it further increased to IDR 1,983. Meanwhile, the receipt of Revenue Sharing Fund (DBH) for the government of West Nusa Tenggara Province in 2017 was IDR 1,071, which decreased in 2018 to IDR 812. Subsequently, in the following year, it decreased again in 2019 to IDR 570 but then increased in 2020 to IDR 630 and in 2021, it increased further to IDR 791.

From the table, it can be explained that the General Allocation Fund (DAU) for the government of West Nusa Tenggara Province was IDR 7,009 in 2017, increased in 2018 to IDR 7,020, and further increased in 2019 to IDR 7,320. However, in 2020, there was a decrease to IDR 6,673, and in 2021, it decreased again to IDR 6,623. Additionally, the Special Allocation Fund (DAK) for the government of West Nusa Tenggara Province was IDR 2,704 in 2017, increased in 2018 to IDR 2,837, further increased in 2019 to IDR 3,332, but decreased in 2020 to IDR 2,540. In 2021, it increased again to IDR 2,777.

According to Job [13], the relatively low Regional Own-Source Revenue (PAD) hampers local governments’ ability to enhance their self-reliance, resulting in the central government having to bear a portion of regional expenditures through transfer funds allocated in the Regional Budget (APBD). This research is further supported by Yang et al. [14], whose study on the impact of local own-source revenue, general allocation funds, special allocation funds, and revenue-sharing funds on local expenditures in regencies and cities in West Java found that the coefficient of general allocation funds was larger than the coefficient of local own-source revenue, and both were statistically significant.

Local expenditures are recognized as a reduction in net wealth within the specified budget period and must be allocated effectively and efficiently to determine the success of regional government administration [15]. Therefore, regional autonomy grants authority and responsibility to each region to meet its local needs, making the role of the central government highly influential in regional development.

The financial needs of regencies/cities cannot solely rely on Local Own-Source Revenue but are supported by Revenue Sharing Funds, General Allocation Funds, and Special Allocation Funds used to cover local expenditure needs [16]. This is evident in the study by Yeleneva et al. [17] on the influence of general allocation funds, special allocation funds, revenue-sharing funds, and local revenue on local expenditures in regencies/cities in Central Sulawesi, which found that there was a significant simultaneous effect of general allocation funds, special allocation funds, revenue-sharing funds, and local revenue on local expenditures in regencies/cities in Central Sulawesi.

Based on the above description, the researcher is interested in conducting a study to determine the impact of local own-source revenue, revenue-sharing funds, general allocation funds, and special allocation funds on local expenditures in West Nusa Tenggara Province.

2. METHOD

Conceptual Reviews

One of the sources of local government revenue is Local Own-Source Revenue (PAD). Local Own-Source Revenue encompasses all the region's income derived from local economic sources, including local taxes, local levies, income from the management of separate regional wealth, and other legitimate revenues. Ideally, Local Own-Source Revenue should be the primary source of a region's income used to
fulfill its regional expenditures or financing needs. The greater the contribution of Local Own-Source Revenue to the regional revenue and expenditure budget, the smaller the dependence of local governments on the central government, allowing regional autonomy to be effectively realized. Additionally, the size of Local Own-Source Revenue can also indicate the level of self-sufficiency of a region. The more Local Own-Source Revenue a region obtains, the more it can meet its needs without relying on the central government.

In addition to Local Own-Source Revenue, local governments also receive transfer funds in the form of balance funds, which consist of Revenue Sharing Funds (DBH) allocated to regions based on a percentage to finance regional needs in the context of decentralization. There are also General Allocation Funds (DAU), aimed at equalizing financial capabilities among regions to finance regional needs in the context of decentralization, and Special Allocation Funds (DAK), intended to assist in funding specific activities that fall under regional jurisdiction and align with national priorities. The purpose of providing these transfers is to reduce fiscal disparities between regions. The conceptual framework of the research is presented in Figure 1.

From the description, several hypotheses can be formulated as follows:

Hypothesis 1: Local Own-Source Revenue has a significant positive impact on Regional Expenditure.
Hypothesis 2: Revenue Sharing Fund has a significant positive impact on Regional Expenditure.
Hypothesis 3: General Allocation Fund has a significant positive impact on Regional Expenditure.
Hypothesis 4: Special Allocation Fund has a significant positive impact on Regional Expenditure.

**Analysis Method**

This research is a quantitative study with a descriptive research design. The study utilizes data on the Realization of Local Own-Source Revenue, General Allocation Fund, Special Allocation Fund, Revenue Sharing Fund, and Regional Expenditure in the regencies and cities of West Nusa Tenggara Province for the period from 2017 to 2021. The data required for this research is secondary data, and the data collection method employed is documentation. The data used in this study is sourced from the Regional Budget (APBD) and the Realization of APBD for the regencies/cities in West Nusa Tenggara Province for the years 2017 to 2021, obtained from the Central Statistics Agency (BPS) of West Nusa Tenggara Province.

Data analysis in this research utilizes econometric modeling, specifically panel data regression analysis. The panel data in this study is a combination of cross-sectional data (from 10 regencies/cities in West Nusa Tenggara Province) and time-series data (from the years 2017 to 2021), which will be processed using the statistical analysis tool Eviews 10. Model specification selection is assessed through tests such as the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test.

Once the best-fitting panel data model is determined through model specification tests, classical assumption tests are conducted. Classical assumption tests are used to check for deviations from classic assumptions such as heteroskedasticity, autocorrelation, and multicollinearity.

The equation model using cross-sectional data can be formulated as follows [18]:

\[
Y_i = \beta_0 + \beta_1 X_i + \epsilon_i; \quad (1)
\]

\[i = 1, 2, \ldots, \ldots, \ldots, \ldots, N\]
Where N is the number of cross section data. Next, the time series model equation can be formulated as follows [19]:

\[
Y_{it} = \beta_0 + \beta_1 X_{it} + \epsilon_{it}; \quad i = 1, 2, \ldots, N \nonumber
\]

\[
t = 1, 2, \ldots, T
\]

Based on the model, it can be understood that Y represents the dependent variable, while X represents the independent variable. N indicates the number of observed data points, and T represents the number of years or time periods analyzed in a study. Therefore, the panel data model in this research, based on the variables used, can be applied as follows in a panel data regression model:

\[
BD_{it} = \beta_0 + \beta_1 PAD_{it} + \beta_2 DBH_{it} + \beta_3 DAU_{it} + \beta_4 DAK_{it} + \epsilon_{it}
\]

In this study, we examine the relationship between regional expenditure (BD), which serves as the dependent variable (Y), and several independent variables. These independent variables include original regional income (PAD), profit-sharing fund (DBH), general allocation fund (DAU), and special allocation fund (DAK). The study aims to understand how these financial factors influence regional expenditure in different regencies and cities, represented by ‘i,’ over various time periods denoted as ‘t.’ To capture the complexity of this relationship, we introduce an error term (e) to account for any unexplained variability. Additionally, we consider a constant term (β0) to provide a baseline reference point for our analysis. By examining these variables within a panel data framework, we can gain valuable insights into the dynamics of regional finances and the factors that impact regional expenditure across different regions and over time.

Next, the statistical F test, the t statistical test, and the Coefficient of Determination (R2) test were carried out.

3. RESULT AND DISCUSSION

Results of Panel Data Regression Analysis

The results of the panel data regression analysis can be seen in Table 4.

Table 2 Results of model specification testing using the Chow and Hausman tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Cross-section Chi-square</th>
<th>Chow</th>
<th>Hausman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistic</td>
<td>61.327126</td>
<td>24.341635</td>
<td></td>
</tr>
<tr>
<td>d.f.</td>
<td>9</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Prob.</td>
<td>0.0000</td>
<td>0.0001</td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of testing model specifications with the Chow and Hausman tests above, showing probability values of 0.0000 and 0.001, it can be concluded that the probability value is <0.05 so that the most appropriate model to use is the fixed effect model and the Langrange Multiplier (LM) test is not needed because a good panel data model to use is the Fixed Effect Model.

Classic assumption test

The results of the assumption test can be seen in Table 3.

Table 3 assumption testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>PAD</th>
<th>DBH</th>
<th>DAU</th>
<th>DAK</th>
<th>Prob (F-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD</td>
<td>0.143</td>
<td>0.389</td>
<td>0.364</td>
<td>0.389</td>
<td>0.653</td>
</tr>
<tr>
<td>DBH</td>
<td>0.145</td>
<td>0.263</td>
<td>0.263</td>
<td>0.263</td>
<td>1</td>
</tr>
<tr>
<td>DAU</td>
<td>0.388</td>
<td>0.653</td>
<td>0.653</td>
<td>0.653</td>
<td>0.247</td>
</tr>
<tr>
<td>DAK</td>
<td>0.364</td>
<td>0.247</td>
<td>0.247</td>
<td>0.247</td>
<td>1</td>
</tr>
</tbody>
</table>

Based on the output results in the table, it is evident that the regression model does not exhibit symptoms of multicollinearity disturbance. This is confirmed by the fact that none of the independent variables has a value exceeding 0.9, indicating the absence of multicollinearity. Furthermore, the output shows a significance value of 0.004, which is less than 0.05. This implies that there are no issues with heteroskedasticity in the study.

Estimation of the Panel Data Regression Model

The results of the panel data regression calculations, including model specification tests, have identified the best-fitting model as the Fixed Effect Model. The outcomes of the data processing using the Fixed Effect Model in this research are presented in the following Table 4.

Table 4 Panel Data Regression Results (Fixed Effect Model)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Sig.</th>
<th>F</th>
<th>Sig</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.937</td>
<td>1.833800</td>
<td>2.692</td>
<td>0.011</td>
<td>243.782</td>
<td>0.000</td>
<td>0.985</td>
</tr>
<tr>
<td>PAD</td>
<td>0.143</td>
<td>0.039244</td>
<td>3.662</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBH</td>
<td>-0.078</td>
<td>0.034118</td>
<td>-2.299</td>
<td>0.027</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAU</td>
<td>0.404</td>
<td>0.161398</td>
<td>2.506</td>
<td>0.016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAK</td>
<td>0.147</td>
<td>0.051191</td>
<td>2.872</td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
log(BDit) = 4.937019 + 0.143708 log(PADit) - 0.078469 log(DBHit) + 0.404488 log(DAUit) + 0.147024 log(DAKit)

Figure 2 Ilustrations of Regression Results

The influence of Local Own-Source Revenue (X1) on Regional Expenditure (Y): The partial t-test results for the Local Own-Source Revenue variable reveal a probability value of 0.0008, which is less than 0.05. This indicates that the Local Own-Source Revenue (X1) variable has a significant and positive impact on Regional Expenditure (Y). The panel data regression results indicate a positive and significant effect of Local Own-Source Revenue on Regional Expenditure in West Nusa Tenggara Province, as evidenced by the probability value of 0.0008, which is less than 0.05 (significance level). The coefficient for the Local Own-Source Revenue variable is 0.143708, suggesting that a 1 percent increase in Local Own-Source Revenue will lead to a 0.144 percent increase in Regional Expenditure. This implies that an increase in Local Own-Source Revenue positively contributes to higher Regional Expenditure in West Nusa Tenggara Province. This finding aligns with previous research by Abdullah et al. [20], [21], which also found a positive and significant relationship between Local Own-Source Revenue and Regional Expenditure.

The impact of Revenue Sharing Fund (X2) on Regional Expenditure (Y): The partial t-test results for the Revenue Sharing Fund variable indicate a probability value of 0.0274, which is greater than 0.05. Therefore, it is concluded that the Revenue Sharing Fund (X2) variable does not have a significant influence on Regional Expenditure (Y). The Revenue Sharing Fund represents funds sourced from the State Budget (APBN) allocated to regions based on a percentage to finance regional needs in the context of decentralization. The partial test results also reveal that the Revenue Sharing Fund (X2) has a negative and significant impact on Regional Expenditure, as indicated by the probability value of 0.0274, which is greater than the 5 percent significance level.

With a coefficient of -0.078469 percent, this implies that an increase in the Revenue Sharing Fund will result in a decrease in Regional Expenditure in West Nusa Tenggara Province by 0.078469 percent. Therefore, the research findings indicate that the Revenue Sharing Fund has a negative influence on Regional Expenditure in West Nusa Tenggara Province. This result is consistent with the study conducted by Awalia et al. [22], which found a negative impact of the Revenue Sharing Fund on Regional Expenditure.

The impact of General Allocation Fund (X3) on Regional Expenditure (Y): The partial t-test results for the General Allocation Fund variable show a probability value of 0.0169, which is less than 0.05. Therefore, it is concluded that the General Allocation Fund (X3) variable has a significant influence on Regional Expenditure (Y). The General Allocation Fund (DAU) represents funds sourced from the State Budget (APBN) allocated to achieve financial equality among regions to finance regional needs in the context of decentralization. The regression results demonstrate that the General Allocation Fund has a positive and significant effect on Regional Expenditure in West Nusa Tenggara Province, with a probability value of 0.0169, which is less than 0.05 (significance level).

The panel data regression yields a coefficient of 0.404488 for the General Allocation Fund variable, with a significance value of 0.0000. This suggests that, holding other independent variables constant, each percentage increase in the General Allocation Fund leads to a 0.404 increase in Regional Expenditure. Consequently, a larger General Allocation Fund is associated with higher Regional Expenditure in West Nusa Tenggara Province.

The results of this study align with previous research conducted by Latif et al. [23, pp. 2015–2019].
which stated that the Revenue Sharing Fund variable has a positive and significant impact on Regional Expenditure in Central Sulawesi Province. Another research is consistent with the study by Brugere et al. [24], which indicated that the General Allocation Fund has a positive influence on Regional Expenditure. The presence of the General Allocation Fund allows for the transfer of authority from the central government to regional governments, giving regional governments greater flexibility in using the General Allocation Fund to provide better services to the public.

The impact of Special Allocation Fund (X4) on Regional Expenditure (Y): The partial t-test results for the Special Allocation Fund variable indicate a probability value of 0.0068, which is less than 0.05. Therefore, it is concluded that the Special Allocation Fund (X4) variable has a significant influence on Regional Expenditure (Y). The Special Allocation Fund (DAK) represents funds sourced from the revenue of the State Budget (APBN) allocated to specific provinces/districts/cities with the aim of assisting in funding special activities that fall under the purview of regional governments and align with national priorities.

The regression results demonstrate that the Special Allocation Fund has a positive and significant effect on Regional Expenditure in West Nusa Tenggara Province, with a probability value of 0.0068, which is less than 0.05 (significance level). The panel data regression yields a coefficient of 0.147024 for the Special Allocation Fund variable, with a significance value of 0.0000. This implies that, holding other independent variables constant, each percentage increase in the Special Allocation Fund leads to a 0.147 increase in Regional Expenditure. Consequently, a larger Special Allocation Fund is associated with higher Regional Expenditure in West Nusa Tenggara Province.

These research findings are consistent with a study conducted by Ramadhana in 2022, which demonstrated that the Special Allocation Fund variable has a positive and significant impact on Regional Expenditure in Central Java Province. This research is also in line with a study by Loxton et al. [25], which found that the Special Allocation Fund has a positive influence on Regional Expenditure. This indicates that the Special Allocation Fund plays a role in the allocation of Regional Expenditure. The allocation of the Special Allocation Fund can reduce the cost burden of specific activities that must be borne by regional governments.

4. CONCLUSION

The results of the research, conducted using panel data regression analysis with four independent variables, namely Original Regional Income (PAD), Profit Sharing Fund (DBH), General Allocation Fund (DAU), and Special Allocation Fund (DAK), and one dependent variable, which is Regional Expenditure, in West Nusa Tenggara Province, indicate that the partial test results show that Original Regional Income (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK) have a positive and significant impact on Regional Expenditure in West Nusa Tenggara Province. On the other hand, Profit Sharing Fund (DBH) has a negative and significant influence on Regional Expenditure in the same region.

The coefficient of determination (R-squared) is calculated to be 0.9888, meaning that 98.88% of the variation in the dependent variable, which is Regional Expenditure, can be explained by the independent variables, namely Original Regional Income (PAD), Profit Sharing Fund (DBH), General Allocation Fund (DAU), and Special Allocation Fund (DAK). The remaining 2.22% of the variation can be attributed to factors outside the scope of this research model.

These findings indicate that the financial allocations, especially Original Regional Income (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK), play a significant role in influencing Regional Expenditure in West Nusa Tenggara Province. However, it's worth noting that Profit Sharing Fund (DBH) has a negative impact on Regional Expenditure, which suggests that further investigation and policy adjustments may be needed in this regard.

Author declaration
Author contributions and responsibilities
The authors made major contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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Availability of data and materials
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Competing interests
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