# An Analysis of Flypaper Effect Phenomenon on Regional Expenditure in District and City in Central Sulawesi

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**ABSTRACT**

This study aims to determine the effect of regional original income, general allocation funds, revenue sharing funds and special allocation funds on regional expenditures and whether there is a flypaper effect phenomenon in regencies/cities in the Sulawesi Region within the period of 2015 to 2019. The sample in this study consisted of 81 districts/cities. This study employs a panel data regression analysis tool. The results indicate that simultaneously PAD, DAU, DBH and DAK have a positive and significant effect on regional spending and partially each dependent variable has a positive and significant effect. In addition, this study found that there has been a flypaper effect phenomenon on regional expenditures in districts/cities in the Sulawesi Region in 2015-2019, this is indicated by the greater use of general allocation funds by the Regional Government in carrying out regional expenditures compared to using their own local revenue.

*Keywords*: *Regional Original Revenue, General Allocation Fund, Special Allocation Fund, Revenue Sharing Fund, Regional Expenditure, Flypaper Effect*

## 1. INTRODUCTION

In order to promote the welfare of the people, to educate the people's lives and to fulfill the interests of the people as stated in the preamble to the 1945 Constitution, the system of government in Indonesia provides flexibility to regions to carry out regional autonomy. This has been regulated in Law Number 23 of 2014 which explains that regional autonomy is the right, authority and obligation of autonomous regions to regulate and manage their own affairs of government and the interests of local communities in the system of the Unitary State of the Republic of Indonesia. The implementation of regional autonomy is an appropriate and very important step for the Indonesian state in order to improve and improve the welfare of the people. In the scope of the public economy, Regional Governments have better data and information than the Central Government regarding the conditions in their respective regions so that in determining decisions regarding the procurement of public goods and services carried out by the Regional Government will be better than when carried out by the Central Government.

With the delegation of authority from the Central Government to the Regional Government which is carried out based on the principle of autonomy, the Central Government provides balancing funds to the Regional Government consisting of DAU, DBH, and DAK. Based on Government Regulation No. 55 of 2005, Balancing funds are allocated to assist regions in funding their authority, as well as to reduce inequality in government funding sources between the center and the regions. In addition to balancing funds, the Regional Government has a source of funding that comes from its own region, namely Regional Original Revenue (PAD) which is used to fund its government. However, in practice this balancing fund is actually used by the Regional Government as the most dominant source of funds to finance regional expenditures, so that later the transfer funds or balancing funds will be calculated and reported in the Regional Revenue and Expenditure Budget (APBD). Thus, the problem that occurs is that the Regional Government relies too much on balancing funds consisting of DAU, DAK and DBH in financing capital expenditures and regional development compared to optimizing the potential of the region.

Because there are still many irregularities in local government finances which indicate that local governments give different reactions to transfer funds in the form of balancing funds and also to their own regional income, this condition can be called the flypaper effect, which is a condition where local governments tend to use allocations. from balancing funds to finance various types of regional expenditures so that it shows a waste of the budget provided by the Central Government.

This is in line with the statement from Oates in [1] which states that if the Regional Government responds to the balancing fund from the Central Government which is greater than its own regional income, a flypaper effect will occur. According to [2] the flypaper effect can occur because two conditions for the results obtained must show that the DAU coefficient value is greater than the PAD coefficient value and both are significant and PAD is not significant with the assumption that the determination of the occurrence of the flypaper effect uses a comparison of the influence of PAD and DAU on Regional Expenditures.

Several researchers have conducted research on the topic of the flypaper effect in various regions in Indonesia, such as the research conducted by [2] which examined the flypaper effect in districts/cities in Sumatra, [3] which examined the flypaper effect in districts/cities in Sumatra. East Java, as well as [1] examined the flypaper effect in districts/cities on the islands of Bali and Nusra. Based on some of the studies mentioned above, the author wants to find out whether there is a flypaper effect phenomenon in regencies/cities in the Sulawesi Region considering that Sulawesi Island is a strategic area as a center of trade and industry in the Eastern Region of Indonesia..

## 2. LITERATURE REVIEW

The enactment of Law Number 32 of 2004 concerning Regional Government provides changes to the pattern of relations between government and central finance as well as regional government and finance. The purpose of the issuance of this law is to realize a strong legal basis for the implementation of regional autonomy by providing opportunities for regional governments to form an autonomous region that is independent with sources of regional original income and transfer funds provided by the central government to regional governments as well as providing new hope. for development in autonomous regions.

In carrying out its administration, the Regional Government has a source of regional revenue consisting of Regional Original Income (PAD), Balancing Funds and other legitimate regional revenues. Based on Law Number 23 of 2014 concerning Regional Government, it is explained that PAD is revenue that is obtained by the region from sources within its own territory which is collected based on regional regulations in accordance with applicable laws and regulations which include; regional taxes, regional levies, results of separated regional wealth management, and other legitimate regional original income.

Furthermore, Law Number 33 of 2004 concerning Financial Balance between the Central Government and Regional Governments explains that balance funds are funds sourced from the State Revenue and Expenditure Budget (APBN) which are allocated to regions to fund regional needs in the context of implementing decentralization. The balancing fund consists of the General Allocation Fund (DAU), the Revenue Sharing Fund (DBH) and the Special Allocation Fund (DAK). DAU is a fund sourced from the State Revenue and Expenditure Budget (APBN) which is allocated for the purpose of equitable distribution of financial capacity among regions to fund regional needs in the context of implementing decentralization. DBH is a fund sourced from certain APBN revenues that are allocated to producing regions based on a certain percentage number with the aim of reducing the gap in financial capacity between the Central and Regional Governments. DAK is allocated to certain regions with the aim of helping to fund special activities which are government affairs under the authority of the region.

In addition to having sources of revenue, local governments must spend the budget that comes from regional revenues through regional expenditures. Regional expenditures are all regional obligations that are recognized as a reduction in the value of net assets in the period of the relevant fiscal year. However, in the management of regional revenue sources, especially those from balancing funds, there are still many irregularities committed by the Regional Government. Local governments tend to use transfer funds as the most dominant fund in financing their regional expenditures, this condition can be called the flypaper effect.

In this study, the author tries to examine whether the flypaper effect phenomenon occurs in regencies/cities in the Sulawesi Region by using the PAD variable, balancing funds consisting of DAU, DBH and DAK as well as regional expenditure variables. In this research, the author proposes several research hypotheses. The first hypothesis examines the effect of PAD, DAU, DBH and DAK simultaneously on regional spending by referring to several previous studies such as [4] which tested the effect of PAD and DAU simultaneously on regional spending, the second hypothesis tested the effect of PAD on regional spending, the third hypothesis tested the effect of DAU on regional expenditures, the fourth hypothesis examines the effect of DBH on regional expenditures, and the fifth hypothesis examines the effect of DAK on regional expenditures. The second, third, fourth and fifth hypotheses refer to several previous studies such as [5], [4] and [6] which partially tested each variable on regional spending. The sixth hypothesis examines the influence of DAU on regional spending that is greater than the influence of PAD on regional spending by referring to several studies such as [2], [7], [8], [3], [9], [4], and [6].

## 3. MATERIALS AND METHODS

The basic method in the research conducted by the researcher is the explanative research method. According to [10], explanatory research is a study conducted to find an explanation of why an event or symptom occurs. The data analyzed in this study is secondary data in the form of panel data. The data is in

the form of a report on the realization of the district/city APBD in the Sulawesi region, which consists of six provincial regions including South Sulawesi, Southeast Sulawesi, West Sulawesi, Central Sulawesi, Gorontalo and North Sulawesi. The samples in this study were 70 regencies and 11 cities in the Sulawesi region. The data collection method in this study was collected by the documentation method.

Panel data regression analysis model is used in this study to see the relationship between PAD, DAU, DAK, and DBH in influencing regional spending and to test the hypotheses described in the previous chapter. To answer the problems that have been formulated, the estimation of the regression model equation is determined as follows:

$$BD_{it} = \alpha + \beta_1 \, PAD_{it} + \beta_2 \, DAU_{it} + \beta_3 \, DBH_{it} + \beta_4 \, DAK_{it} + e \quad (1)$$

Information:
Bdit = Regency/municipal expenditure for the current year
$\alpha$ = Constant
$\beta_{1,2,3,4}$ = Regression coefficient
PADit = Regency/City Original Revenue for the current year
DAUit = Regency/City General Allocation Fund for the current year
DAKit = District/City Special Allocation Fund for the current year
DBHit = Regency/City Revenue Sharing Fund for the current year
t = time/period
i = district/city
e = error term

After determining the estimation of the regression model equation, the next step is to determine the panel data regression estimation model which can be done through three approaches, namely the common effect model, fixed effect model and random effect model. To get the most appropriate model in managing panel data among the three approaches, it is necessary to test, namely:
a. Chow test
The Chow test is a test to determine whether the common effect or random effect model is the most appropriate to use in estimating panel data [11]. If the test results show the F-statistic probability is more than the 0.05 significance level, then the model chosen is the common effect.
b. Hausman test
Hausman test is a statistical test to determine whether the fixed effect or random effect model is the most appropriate to use in estimating panel data [11]. If the Chi-Square probability is smaller than the 0.05

significance level, then H0 is rejected and the correct model is the fixed effect model.
c. LM (Lagrange Multiplier) Test Lagrange Multiplier (LM) is a test to find out whether the random effect model or the common effect model is the most appropriate to use. If the P value is greater than the 5 percent significance level, the correct estimate for the panel data regression model is the common effect model.

After determining the panel data estimation model selected in this study, then the next step is to test the hypotheses, including:
a. The first hypothesis tests the effect of PAD, DAU, DBH and DAK on Regional Expenditures. In testing this hypothesis, the F test (simultaneous test) is carried out.
b. The second, third, fourth and fifth hypotheses test the effect of PAD on Regional Expenditures, DAU on Regional Expenditures, DBH on Regional Expenditures, and DAK on Regional Expenditures. In testing this hypothesis, it is done by using the T test (Partial Test). The t statistic test is a statistical test that shows how far each independent variable partially has a significant effect on the dependent variable. c. Sulawesi. To find out whether the flypaper effect occurs or not, it can be seen from the comparison between the coefficient of balancing funds proxied by DAU and PAD. According to [2] the flypaper effect occurs when the coefficient value of DAU > PAD coefficient value on regional spending. On the other hand, if the coefficient value of DAU < PAD coefficient value on regional spending, it can be concluded that there is no flypaper effect phenomenon.

## 4. RESULTS AND DISCUSSIONS

### 4.1 Test Model

The model test carried out in this study consisted of three test stages consisting of the Chow test, Hausman test and the Lagrange Multiplier (LM) test. This test is needed to select the best model to be used in this study. The first test is the Chow Test to choose the best model between the Common Effect Model and the Fixed Effect Model.

**TABLE 1.** Chow Test Results

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 3.308728 | -80,320 | 0.0000 |
| Cross-section Chi-square | 244.1238 | 80 | 0.0000 |

The results of the Chow test in table 1 show that the probability value of Cross-section F is 0.0000 < 0.05, meaning that H0 is rejected. So, the model chosen between the common effect model and the fixed effect model in estimating the regression equation is the fixed effect model. The second test carried out is the Hausman

Test to choose the best model between the Fixed Effect Model and the Random Effect Model.

**TABLE 2.** Hausman Test Results

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 3.931779 | 4 | 0.4153 |

The results of the Hausman test in table 2 show that the Hausman test results show that the random cross-section probability value is $0.4153 > 0.05$, meaning that H1 is rejected and H0 is accepted. So, the model chosen between the random effect model and the fixed effect model in estimating the regression equation is the random effect model.

The third test is the LM test to choose the best model between the Common Effect Model and the Random Effect Model.

**TABLE 3.** Lagrange Multiplier Test Results

| | Test Hypothesis | | |
|---|---|---|---|
| | Cross-section | Time | Both |
| Breusch-Pagan | 76.47406 | 30.90853 | 107.3826 |
| | 0.0000 | 0.0000 | 0.0000 |

Based on the results of the LM test, it shows that the probability value of the Breusch Pagan cross-section is $0.0000 < 0.05$, meaning that H0 is rejected. So, the model chosen between the common effect model and the random effect model in estimating the regression equation is the random effect model.

### 4.2 Panel Data Regression Analysis

Based on the regression estimation results between the common effect model, fixed effect model, and random effect model by testing the model using the Chow test, Hausman test and Lagrange multiplier test, the random effects model was chosen with the following equation:

$$BD_{it} = -0.661944 + 0.095569\ PAD_{it} + 0.914900\ DAU_{it} + 0.037677\ DBH_{it} + 0.010949\ DAK_{it} + e_{it}$$

The PAD coefficient value of 0.095569 can be interpreted that every 1% increase in PAD will increase regional spending by 0.095569 with the assumption that other variables are constant. The DAU coefficient value of 0.914900 means that every 1% increase in DAU will increase regional spending by 0.914900 with the assumption that other variables are constant. The DBH coefficient value of 0.037677 can be interpreted that every 1% increase in DBH will increase regional spending by 0.037677 with the assumption that other variables are constant. The DAK coefficient value of

0.010949 means that every 1% increase in DAK will increase regional spending by 0.010949 with the assumption that other variables are constant.

### 4.3 Hypothesis Test

To test the first hypothesis, it was carried out through the F test. The F test was carried out in this study based on the F-statistic and Ftable values and compared the probability value with an alpha of 0.05.

**TABLE. 4** F TEST RESULTS

| F-statistic | Prob(F-statistic) |
|---|---|
| 992.7222 | 0.000000 |

Based on the results of the F test in table 4. It is known that the F-statistic value is 992,7222, while the Ftable value is 2.39. In the table above, it is also known that the probability value of the F-statistic is 0.000000. Assuming if F-statistic > Ftable and probability > 0.05, it can be concluded that the first hypothesis is that PAD, DAU, DBH and DAK have a significant influence on regional spending, meaning that simultaneously the variables PAD, DAU, DBH, and DAK have a positive and significant effect. to regional expenditures in regencies/cities in the Sulawesi Region in the 2015-2019 period. The results of testing the first hypothesis are in line with the research of [7], [12] and [4].

To test the second, third, fourth and fifth hypotheses, t-test was carried out. The t-test in this study was carried out based on the t-count and t-table values and compared the probability value with an alpha of 0.05.

**TABLE. 5** T TEST RESULTS

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.661944 | 0.719543 | -0.91995 | 0.3582 |
| LNPAD | 0.095569 | 0.009777 | 9.774938 | 0.0000 |
| LNDAU | 0.914900 | 0.034470 | 26.54164 | 0.0000 |
| LNDBH | 0.037677 | 0.009015 | 4.179408 | 0.0000 |
| LNDAK | 0.010949 | 0.002948 | 3.713417 | 0.0002 |

Based on the results of the T test in table 5, the t table value is 1.96. it can be concluded that the Regional Original Revenue (PAD) variable has a tstatistic value greater than the ttable value $(9.774938 > 1.96)$ and a probability of 0.0000 less than an alpha level of 0.05 $(0.0000 > 0.05)$ so it can be interpreted that the PAD variable has a significant influence on the Regional Expenditure variable. The General Allocation Fund (DAU) variable has a tstatistic value greater than the ttable value $(26.54164 > 1.96)$ and a probability of 0.0000 less than an alpha level of 0.05 $(0.0000 > 0.05)$ so it can be interpreted that the DAU variable has a significant influence on the Regional Expenditure variable. The Profit Sharing Fund (DBH) variable has a

tstatistic value greater than the ttable value (4.179408 > 1.96) and a probability of 0.0000 less than an alpha level of 0.05 (0.0000 > 0.05) so it can be interpreted that the DBH variable has a significant influence on the Regional Expenditure variable. The Special Allocation Fund (DAK) variable has a tstatistic value greater than the ttable value (3.713417 > 1.96) and a probability of 0.0002 which is smaller than an alpha level of 0.05 (0.0002 > 0.05) so it can be interpreted that the DAK variable has a significant influence on the Regional Expenditure variable.

To answer the sixth hypothesis, namely the effect of the General Allocation Fund on Regional Expenditures is greater than the effect of Regional Original Income on Regional Expenditures, it can be seen that the DAU variable which has a coefficient value of 0.914900 with a statistic value of 26.54164 indicates that the value of the DAU variable is greater than the PAD variable. which only has a coefficient of 0.095569 with a tstatistic value of 9.774938 meaning that the DAU has a greater influence on Regional Expenditures than the influence of Regional Original Income. So it can be concluded that there has been a flypaper effect phenomenon.

## 5. CONCLUSION

Based on the results of data analysis and discussion that has been described by the researcher, the conclusions obtained from the results of the discussion are as follows:

1. The results of testing the first hypothesis to determine the simultaneous effect of local revenue, general allocation funds, profit sharing funds and general allocation funds on regional expenditures in districts/cities in the Sulawesi Region, it can be concluded that simultaneously PAD, DAU, DBH and DAK has a positive and significant impact on regional spending in each district/city in the Sulawesi Region in 2015 to 2019.

2. The results of testing the second hypothesis to determine the partial effect of regional original income on regional expenditures in districts/cities in the Sulawesi Region, it can be concluded that partially PAD variables in districts/cities in the Sulawesi Region have a positive and significant effect on regional expenditures in districts/cities. cities in the Sulawesi Region in 2015 to 2019.

3. The results of testing the third hypothesis to determine the partial effect of general allocation funds on regional expenditures in districts/cities in the Sulawesi Region, prove that the PAD variable in the districts/cities in the Sulawesi Region has a positive and significant effect on regional expenditures in the districts/cities in the Sulawesi Region in 2015 to 2019.

4. The results of testing the fourth hypothesis to determine the partial effect of revenue-sharing funds on regional expenditures in districts/cities in the Sulawesi

Region, prove that partially the DBH variable has a positive and significant effect on regional expenditures in districts/cities in the Sulawesi Region in 2015 to 2019 .

5. The results of testing the fifth hypothesis to determine the partial effect of general allocation funds on regional expenditures in regencies/cities in the Sulawesi region, prove that partially the DAK variable has a positive and significant effect on regional expenditures in regencies/cities in the Sulawesi Region in 2015 to 2019 .

6. The results of testing the sixth hypothesis to find out whether there is a flypaper effect phenomenon on district/city regional expenditures in the Sulawesi Region in 2015-2019, proves that there has been a flypaper effect phenomenon on district/city regional expenditures in the Sulawesi region in 2015-2019 p. This is evidenced by the test results which show that the value of the DAU coefficient > the value of the PAD coefficient on regional spending. The results of this study also prove that local governments in regencies/cities in the Sulawesi Region have not been able to optimize income originating from their regions as a form of implementing the regional autonomy pattern which has the aim of achieving independence in every region in Indonesia

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