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Flypaper Effect Analysis on Regional Expenditure in East Java Province, Indonesia

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Abstract: The application of fiscal decentralization as an implementation of regional autonomy will have an effect on regional financial management. The current problem is that local governments are too dependent on the allocation of transfer funds from the central government to finance regional expenditures without optimizing the potential revenue they own. The condition that often occurs is when the allocation of transfer funds from the central government is obtained large, the local government will tend to try to maintain the amount of the transfer in the next period. This fact is what often leads to asymmetric behavior in local governments and waste in regional spending. Therefore, this study aims to analyze the possibility of a flypaper effect on regional spending in the Province of East Java, Indonesia. In this study, the independent variable is proxied by the General Allocation Fund (GAF), Revenue Sharing Fund (RSF), and Local Government Revenue (LGR). Meanwhile, the dependent variable is proxied by regional expenditure. This study uses panel data regression analysis. The findings in this study generally show that from 38 districts / cities in East Java Province in 2011-2018, there was a flypaper effect. Then other findings prove that GAF, RSF, and LGR have a significant and positive effect on Regional Expenditure.

Keywords: Flypaper Effect; GAF; RSF; LGR; Regional Expenditure

JEL Classification: R5; H2; H27; H7; H71; H72

Introduction

Regional governments are too dependent on allocating transfer funds from the central government to finance regional spending and development without optimizing its Local Government Revenue (LGR). The problem that often occurs is that when the allocation of transfer funds from the central government is obtained, the regional government will keep the central government's transfer funds in nominal value for the next period. This fact often leads to asymmetric behavior in local governments as a statement from Kuncoro (2011). LGR can only finance local government spending at a maximum of 20%. It means strengthening the indication of inefficiencies in transfer funds from the center, which can be seen from local government spending. Added by Ndadari and Adi (2008), the comparison of the use of transfer funds from the central government (GAF and RSF) to local revenue (LGR) is still too high.

Based on the previous explanation, an essential step in implementing regional autonomy and fiscal decentralization is to calculate the potential of Local Government Revenue (LGR) and increase regional fiscal capacity.

Referring to Kuncoro's (2011) statement, LGR can only finance 20% of regional expenditure, which causes asymmetric behavior and inefficiencies in transfer funds.

Therefore, to analyze indications of inefficiency in allocating transfer funds from the central government, one can see from the response of regional government spending, which is generally known as "flypaper effect analysis." According to Oates (1999), in Oktavia (2014), the response of Regional Expenditure is more significant to transfer funds than local revenue (LGR), and there is a Flypaper effect. He further explains that the Flypaper effect is a condition in which the Regional Government responds more to regional spending originating from transfers (mostly unconditional transfers) than Local Government Revenue (LGR) to result in waste in regional expenditures asymmetric behavior of regional governments.

The flypaper effect is strongly suspected to occur in the province of East Java, Indonesia. The empirical findings are based on the still-dominant use of transfer funds to finance many East Java regional expenditures, as seen in the table 1.

Table 1 Realization of Revenue and Expenditure of East Java Province in 2018 (Rupiah)

Account	Realization
Local Government Revenue (LGR)	Rp37,092,833,285,157,00
Transfer Funds	Rp71,560,586,476,023,00
Other Legal Local Revenue	Rp17,473,234,939,411,00
Regional Expenditure	Rp112,812,291,481,401,00

Source: <http://www.djpk.kemenkeu.go.id>

Table 1 shows that the realization of LGR in East Java in 2018 is smaller than the realization of transfer funds (balanced funds). Realization of LGR is Rp37,092,833,285,157.00 while the realization of transfer funds is Rp71,560,586,476,023, and the realization of other legal income is Rp17,473,234,939,411. Furthermore, based on the data, the realization of Regional Expenditure is Rp112,812,291,481,401. It implies that the amount of regional expenditure will be dominated by transfer funds (balance) because the transfer fund is higher than the LGR. This fact shows that development funding in East Java still predominantly depends on transfer funds, which is likely to lead to asymmetrical behavior in local governments and ultimately can lead to inefficiencies in the transfer funds. This situation could indicate a flypaper effect on the management of regional expenditures sourced from transfer funds.

Based on several indications of the findings of the problems mentioned, this research is related to the topic "Analysis of the flypaper effect on Regional Expenditures in the Province of East Java Indonesia." This research's novelty lies in the research object, the year of research, solutions raised from empirical findings, and explanation of the flypaper effect on regional conditions. In connection with this title, the research begins by asking several questions such as (1) How do Unconditional Transfers (GAF and RSF) and Local Government Revenue (LGR) affect Regional Expenditure in 38 districts/cities in East Java?; (2) Is there an effect of the flypaper on regional spending in 38 districts/cities in East Java Province? While this study aims to know how unconditional transfers and LGR on the

Regional Expenditure effect and explore whether there is a flypaper effect on Regional Expenditure districts/cities in East Java Province.

Research Method

Operationalization of Variables Definition

In this study, the dependent variable used was the Total Realization of Regional Expenditures. Regional expenditure is all the obligations of regencies/cities in the area of East Java Province recognized as a reduction in the value of net assets, namely the value of direct expenditure and indirect expenditure in the period of 2011 to 2018 in Rupiah. Data on regional expenditure realization came from the Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia. While the independent variable in this study used Local Government Revenue (LGR), General Allocation Funds (GAF), and Revenue Sharing Funds (RSF).

Analysis Model

This research's analytical method was the quantitative analysis method, an analytical technique used to estimate parameters. Data analysis was performed by statistically testing the collected variables. The analysis results are expected to determine the influence of several independent variables on the dependent variable. The econometric model was to determine the reciprocal relationship between theory formulation, testing, and empirical estimation. In econometric theory, panel data combines cross-section data (cross) and time-series data (time series). Therefore, the amount of observational data in panel data is the product of time series observation data ($t > 1$) with cross-section observation data ($n > 1$). The basic model used in this research is as follows.

$$RE_{it} = \alpha + \beta_1 GAF_{it} + \beta_2 RSF_{it} + \beta_3 LGR_{it} + \epsilon_t$$

Remarks:

RE_{it}	: Regional expenditure from region i in year t
α	: constant
GAF_{it}	: General Allocation Fund from region i in year t
RSF_{it}	: Revenue Sharing Fund from region i in year t
LGR_{it}	: Regional Government Revenue from the region i in year t
$\beta_1, \beta_2, \beta_3$: Regression Coefficient
ϵ_t	: Term error

Flypaper Effect Analysis

The Flypaper Effect is a condition that occurs when local governments respond more to their regional expenditures from transfers/grants or specifically to unconditional transfers rather than using their abilities, proxied by Local Government Revenue (LGR), resulting in waste in shopping areas. Unconditional grants are proxied by the General Allocation Fund

(GAF) and Revenue Sharing Funds (RSF).

Analyzing the flypaper effect on district/city regional expenditure in East Java Province is from the comparison between the Coefficient of Transfer Funds and the Coefficient of Local Government Revenue (LGR). If the Fund Transfer coefficient is greater than the LGR coefficient, there will be a flypaper effect. This statement is in line with several previous studies, for example, research from Santoso, Suparta, and Saimul (2015).

Result and Discussion

Chow Test

This test is used to determine which model is the most appropriate between CEM and FEM in the panel data estimation. The hypothesis in the Chow Test is as follows:

H₀: The model used is CEM

H₁: The model used is FEM

The guidelines used for concluding the Cow Test are as follows:

Prob. Chi-square cross-section ≥ 0.05 means that H₀ is accepted

Prob. Chi-square cross-section < 0.05 means that H₀ is rejected

Table 2 Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.299721	(37,263)	0.0001
Cross-section Chi-square	85.213063	37	0.0000

Source: Results of Eviews10

The test results in Table 2 come from the value of prob. Chi-square cross-section of 0.0000 or less than 0.05, which means H₀ is rejected. In this case, FEM is more suitable as an estimation model compared to CEM. The next step is to do the Hausman Test to get the best model.

Hausman Test

This test is to determine the most appropriate model used between REM and FEM to estimate panel data. At the same time, the hypothesis in the Hausman Test is in the following.

H₀: The model used is REM

H₁: The model used is FEM

The guidelines used in concluding the Hausman Test are as follows:

The random cross-section probability value ≥ 0.05 then H₀ is accepted

The random cross-section probability value < 0.05 then H₀ is rejected

Table 3 Hausman Test Results

Effects Test	Chi-Sq Statistic	Chi-Sq d.f.	Prob.
Cross-section random	16.665504	3	0.0008

Source: Results of Eviews10

The test results in Table 3 come from the value of prob. Random cross-section of 0.0008 or less than 0.05, which means H_0 is rejected. In conclusion, FEM is considered more suitable than REM. Based on this processor's results, the regression analysis model in the first stage of testing in this study is FEM (Fixed Effect Model). Therefore, for the next step (LM Test), it is not necessary.

Regression Estimation Results

Based on the model testing results in the previous discussion, FEM (Fixed Effect Model) was chosen as the most suitable model to use. The following are the results of the first stage regression estimation using Eviews10.

Table 4 Regression Estimation Results

Variable	Coefficient	Prob. (T-Test)
GAF	1.864781	0.0000
RSF	0.625683	0.0000
LGR	1.229391	0.0000
LGR	-2.80E+11	0.0000
R-Squared = 0.980333		
Prob. (F Test) = 0.000000		

Regression estimation results from 38 districts/cities in East Java Province shows an R-squared value of 0.980333. This result means that the independent variable consisting of GAF (General Allocation Fund), RSF (Revenue Sharing Fund), and LGR (Local Government Revenue) can explain the variance of the dependent variable namely Regional Expenditure of 98%, while the remaining 2% is explained by variables which were not examined in this study.

F Test Results obtained a probability value of 0.000000, and the value is smaller than the level $\alpha = 5\%$ (0.05). It means that simultaneously, the independent variables consisting of GAF, RSF, and LGR significantly affect the independent variable in Regional Expenditure in 38 districts/city of East Java Province. As for the partial T-test results, all independent variables significantly affect the dependent variable (Regional Expenditures) with the probability value of each independent variable consisting of GAF, RSF, and LGR of 0.0000, and the value is less than $\alpha = 5\%$ (0.05).

The coefficient value of each independent variable has a different magnitude of coefficient values. For example, the GAF variable with a coefficient value of 1.864781 means the positive influence of the GAF on Regional Expenditure. If assumed that the other variable is zero (0), for every increase of one million Rupiah (Rp1,000,000) at the GAF, the Regional Expenditure will increase by Rp1,864,781. Then, the RSF variable coefficient value of 0.625683 means that the RSF variable positively influences Regional Expenditure. If

assumed that the other independent variable has a value of zero (0), then every increase of one million Rupiah (Rp1,000,000) to the GAF will increase Regional Expenditures by Rp625,683. While the LGR variable shows a coefficient value of 1.229391, the LGR variable positively influences Regional Expenditure. If the other variables' coefficient value is zero (0), an increase in the LGR variable of one million Rupiah (Rp1,000,000) will increase Regional Expenditures by Rp1,229,391.

Based on the explanation, an equation can be written as follows:

$$RE_{it} = 1.864781GAF_{it} + 0.625683RSF_{it} + 1.229391LGR_{it} + \epsilon_t$$

The equation is data processing from all 38 districts/cities in the province of East Java, Indonesia. The influence of the unconditional grants variable, GAF (1.864781), is higher than the LGR variable (1.229391). Then, in the partial t-test, the GAF variable significantly affects the Regional Expenditure variable. So, there is a flypaper effect in the districts/cities in the province of East Java, Indonesia, proved by how the GAF coefficient is higher than the LGR.

Discussion of Research Results

The flypaper effect was first put forward by Mieszkowski, and Oakland (1979) to articulate the thought of Arthur Okun (1930) who stated that "money sticks where it hits". The occurrence of flypaper effects in regencies/cities in East Java Province is in line with the theory of "money sticks where it hits." The transferred fund only moves from the central government to the regional government without impacting and achieving the transfer fund's actual purpose. The transfer funds should stimulate private investment and the regional economy through regional spending to create fiscal potential (levies, taxes, dividends, etc.).

The method of determining the flypaper effect in this study is to compare the two coefficients of the independent variables. The independent variables are the unconditional transfer variable (GAF and RSF), as well as the Local Government Revenue (LGR) variable. Flypaper effect occurs when the coefficient value of the unconditional transfer variable is greater than the coefficient value of the LGR variable and both have a positive and significant relationship. This means that if the coefficient value of the independent variables is greater than the others, it can be interpreted as a high level of contribution of these variables to the dependent variable. Another way to detect the flypaper effect can also be seen from the LGR variable. If the LGR variable is insignificant and not positive for regional expenditure, it can indicate a flypaper effect in local government (Cárdenas & Sharma, 2015).

The magnitude of the influence of LGR in Regional Expenditure financing explains the level of financial independence of a region. Regions with high LGR rates should not rely on transfer funds from the center. However, based on empirical findings in this study, this did not happen. Therefore, it is suspected that there are indications of asymmetrical behavior from officials in the government. The situation that occurs is related to the fiscal illusion

case studied by Dollery and Worthington (1996). The two researchers emphasized that various forms of income must provide benefits in the form of increased service activities which in turn are expected to increase regional revenues. However, if the reality is the opposite, then this situation can indicate a fiscal illusion. Furthermore, the occurrence of deviations from what it should be in the financial transfer relationship between the central government and the regions is usually called the flypaper effect. If there is a deviation because the increase in expenditure is greater than local taxes in response to a transfer, it is called the physical replacement effect (Hines & Thaler, 1995).

Other causes of this study's results are obstacles to fiscal decentralization, characterized by low LGR and high regional dependence on the central government in the form of transfer funds. As explained by Setyono (2011) is as follows.

1. Regional Owned Enterprises (BUMD) 's contribution is still weak for LGR caused by several problems, such as tax regulations from the government that does not favor the BUMD. Then, determining product prices that are not profit-oriented because the purpose of BUMD is broad public service—hampering factors of production due to increasingly difficult to reach and human resources that do not meet the qualifications.
2. The high degree of fiscal decentralization in taxation, so that local governments will find it difficult to maximize their local revenue (LGR) because the central government still manages the potentially large taxes.

The flypaper effect will have implications in the form of an increase in regional expenditure that is greater than the receipt of the transfer itself, and there is a tendency to expect assistance from the central government compared to optimizing the original revenue of the region.

Based on the causes of the flypaper effect, fiscal decentralization in East Java Province must still be optimized, especially from regional own-source revenue (LGR). According to Khusaini (2010), the way to increase regional revenue is to expand the regional revenue base by doing the following.

1. Identifying tax payments and a new rate of tax, then put it in the tax net
2. Increasing the tax object database
3. Improving valuation (revaluation of tax objects)
4. Calculating the reception capacity more rationally for each type of levy

Besides, according to the theory of regional autonomy and fiscal decentralization, the fiscal sector in regional finance can be divided into two (management of regional revenue and management of regional expenditure). Both of these components determine a regional government's position in the context of implementing regional autonomy (Sudirman, 2011). Therefore, the regional government must further improve the regional revenue and expenditure management system.

Conclusion

The purpose of the study is to find out how the influence of Unconditional Grants (GAF and RSF) on Regional Expenditure and the possibility of a Flypaper Effect. This chapter will describe some conclusions from the results of tests and analyses, as follows (1) Based on the results of the discussion, in general, from 38 districts/cities in East Java Province, Indonesia, the GAF (General Allocation Fund), RSF (Revenue Sharing Funds), and LGR (Local Government Revenue) had a positive contribution to Regional Expenditure. (2) Based on the results of discussions from all 38 regencies/cities in East Java Province, Indonesia, the flypaper effect proved the dominant influence of Unconditional Grants (GAF) on regional expenditure compared to Local Government Revenue (LGR).

Based on the results of the discussion, some suggestions as recommendations from this study are as follows: (1) Local governments should improve their local financial management systems. Changing the Traditional Budgeting system into an entrepreneurial government aims to focus more on the decentralization of revenue than the expenditure. Whereas in the budgeting system, it is better to use Performance Budgeting as high as an indicator of success, achieving the desired output and precise outcomes. (2) As a related party, the government must optimize and further explore revenue potential by intensifying and extending income sources such as industry, agro-industry, tourism, etc. (3) In this case, the regional government needs to prioritize capital expenditure allocation compared to other expenditures to improve the economy. So that the region is not too dependent on funds transfer from the center. (4) Subsequent research can develop other variables outside the model, such as SILPA, and add the flypaper phenomenon's effect on regional economic growth.

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