



Original Research Article

# Regional expenditure: Analysis of flypaper effect in South Sumatera Province

Received 24 April, 2023

Revised 23 May, 2023

Accepted 5 June, 2023

Published 30 July, 2023

Mukhtaruddin<sup>1\*</sup>,  
Rika Henda Safitri<sup>1</sup>,  
Asfeni Nurullah<sup>1</sup>,  
Abu Kosim<sup>1</sup>  
and  
Zapira Oktavianti<sup>1</sup>

<sup>1</sup>Accounting Department, Faculty  
of Economics, Universitas  
Sriwijaya, Indonesia.

\*Corresponding Authors Email:  
[mukhtaruddin67@unsri.ac.id](mailto:mukhtaruddin67@unsri.ac.id);  
[yuditz@yahoo.com](mailto:yuditz@yahoo.com)

This study investigates the influence of flypaper effect on regional generated revenue, general allocation fund, fiscal capacity, and excess of budget calculation towards the local expenditure in regency and municipality in South Sumatera. This research uses the secondary data that are published by Indonesia Supreme Audit Institution. The object of this research is 14 districts and 4 cities in South Sumatera. This research uses panel data regression analysis. The result showed that regional generated revenue has no influence on local expenditure; meanwhile general allocation fund, fiscal capacity, and excess budget calculation have an influence on local expenditure. This study also showed the occurrence of flypaper on the management of the local expenditure in district and city in South Sumatera province over five years. We recommend the local government consider the general allocation fund, fiscal capacity, and excess budget calculation to prepare the local government expenditure. In preparing of local government budget avoid the flypapers effect behaviors.

**Keywords:** Regional generated revenue, flypapers effect, fiscal capacity, excess budget calculation, local expenditure

**JEL Codes:** H11, H71, H72, M41

## INTRODUCTION

The reform era brought changes in government policy in Indonesia from a centralized system to a decentralized system which was effective starting on January 1, 2001. Based on Indonesia Regulation number 32/2004, decentralization is defined as the transfer of authority from the central government to local governments to regulate government affairs in their own regions. With decentralized system, local governments have the right, authority, and obligation to manage their own government affairs and the interests of the local community in accordance with statutory regulation. This application is known as regional autonomy. Indonesia implements decentralization on the expenditure side which is the main source of transfer funds by the central government to local governments (Haryanto, 2015). With the implementation of the essence of regional decentralization autonomy, the local government is very flexible to spend funds according to priority regional needs. In the relationship between the central government and

regional governments, the fiscal decentralization policy wants to encourage regional independence through existing potentials.

In the implementation of autonomy, the regional government prepares a regional revenue and expenditure activity plan which is contained in the Regional Revenue and Expenditure Budget (RREB). This RREB is a reference for implementing the tasks of the decentralized system which aims to provide direction to local governments to achieve the expected goals (Solikin, 2016). One of the functions of the budget is as a planning tool used to formulate policy goals and objectives, plan various programs and activities, plan alternative sources of financing, and allocate funds to various programs and activities that have been prepared (Mardiasmo, 2018).

Budget planning in the form of government revenues and expenditures for one fiscal year is included in the RRED. Based on Indonesia Government Regulation Number

13/2006 which has been changed to Regulation Number 59/2007 and Regulation Number 21/2011 stated that the structure of the RREB has three components. First, regional income consists of Regional Generated Revenue (RGR), Transferred Funds consisting of: General Allocation Fund (GAF), Special Allocation Fund (SAF), Revenue Sharing Fund, and other legalized regional income. Second, Regional Expenditure (RE) is grouped into direct spending and indirect spending. Third, Financing Sources are consists of financing receipts and expenditures. One of the components of financing receipts comes from the previous year's Excess of Budget Calculation (EBC).

The central government's purpose of transferring funds to local governments is to change from fiscal externalization to fiscal internalization, improvement of the tax system, correction of inter-regional fiscal inefficiencies (Oates, 1999). However, the allocation of transfer funds in developing countries refers more to the expenditure aspect but does not pay attention to the potential of the region. As a result, local governments always depend on transfer funds that are larger than the central government each year (Naganathan and Sivagnanam, 2000). EBC used as an indicator that can describe the efficiency or not of local government spending, because EBC will only arise if there is a surplus in RRED as positive net financing, which means that the revenue component is greater than the expenditure and financing component (Kusnandar and Siswantoro, 2012). The Regulation Number 13/2006 states that EBC is used to cover the budget deficit if the realization of income is smaller than the realization of expenditure (Solikin, 2016). Furthermore, the results of the evaluation of fiscal balance in Indonesia show that local governments are very dependent on transfer funds to finance the limited RGR gap to the level of local government spending (Hofman et al., 2006). This is the problem of regional fiscal dependence on transfer funds.

Based on data from the Directorate General of Fiscal Balance of the Ministry of Finance stated that the Budget Realization Report in regencies/cities in South Sumatra Province in 2018 showed an average RGR realization value of IDR 161,088 million, an average GAF realization value of IDR 625,500 million, the average realization value of EBC is Rp 40,708 million, and the average realized value for RE is Rp 1,543,778 million. From these data, it can be seen that on average, regencies/cities in South Sumatra respond to their RE more from central government transfers than the RGR; it is an indication of the flypaper effect. Amril et al. (2015) stated that it is necessary to increase regional fiscal capacity (FC) to overcome the flypapers effect. Increasing FC is done by increasing the potential of RGR sources to balance the effectiveness of central government transfers to regional governments. This is done to trigger sustainable development in order to achieve regional independence through increasing the FC of the region concerned. This regional FC is one of the determining factors in a region whether or not there is a flypaper effect phenomenon on the use of regional spending, apart from seeing the GAF response is greater than RGR. Based on Regulation number 119/PMK.07/2017, regencies/cities in South Sumatra have an average category of regional FC, which is high. If the FC of a district/city is categorized as low or very low and the

response to the use of RE is greater than GAF than RGR, then the district/city is indicated to have a flypaper effect phenomenon in the relevant fiscal year.

Many studies on the flypaper effect have been carried out in Indonesia and outside Indonesia. The results of previous studies stated that there was a condition where RE was more influenced by transfer funds than by regional financial capacity, which in this case was said to have occurred the phenomenon of the flypaper effect. Then research in other countries also shows that there is a flypaper effect in the management of inter-governmental transfer funds, for example in India (Lalvani, 2002), Italy (Gennari and Messina, 2009), and Mexico (Sour, 2013). In previous studies, there were still inconsistent results regarding the existence of a flypaper effect on the effect of TF and RGR on regional spending. Nurdini et al. (2014), Solikin (2016), Junaidi et al. (2018) found that there was a flypaper effect on local government financial management in the studied districts/cities. This indicates that there is a greater dependence on transfer funds than on revenue from the potential results of the region itself. However, there are contradictory results with Khoiri (2015) and Ekawarna (2017) who did not find the results of the flypaper effect phenomenon on local government spending in the districts/cities studied, because the effect of RGR on RE is greater than the effect of GAF.

Judging from the above explanation which found inconsistencies in the results of previous studies, the researchers combined other variables into the study, namely FC and EBC (Handoko, 2015; Maryadi, 2014; and Solikin, 2016). These studies show that FC and EBC will likely affect the phenomenon of the flypaper effect on regional financial management, especially on RE.

## Literature review and hypothesis development

### Agency Theory

Agency theory is defined as a theory that explains the relationship between parties who make decisions and those who give mandates to other parties. In the application of this theory, the agent will exercise his authority for decision-making in carrying out a planned activity based on a mandate or order from the principal (Jensen and Meckling, 1976). According to Halim (2012) the use of agency theory in the public sector is identified if the executive is the party that gives authority to the agent and the legislature who exercises authority and makes decisions from the principal. The legislature is the representative of the community to convey the aspirations of the community with the main goal of improving the welfare of the community.

Based on agency theory, if it is connected between the occurrence of the flypaper effect and RE on local governments at a certain time, it can be identified that the community as the principal gives trust to the central government to give authority to local governments as agents to maximize regional resources or potential. In order to bring results for the independence of their respective regions, and the central government provides transfer

funds as a balance between each region to local governments according to expectations for the future (Saputra et al., 2012).

### Regional autonomy

Law Number 32/2004 which was revised to Law Number 12/2008 explains, Regional Autonomy as a right, authority and obligation given to regions by the center to regulate and manage their own government affairs in accordance with statutory regulations. With the implementation of autonomy in the region, it is hoped that the region can achieve its independence. Regional governments are given the authority to manage their own regional potential to generate their own income to finance all the implementation of government affairs in their own regions. Halim (2012) states that the conditions for a region to be said to be able to carry out regional autonomy, namely (1) a region must exercise its authority and be able to manage its potential to produce its own finances that are adequate enough to fund the process of administering its government affairs and (2) dependence on Central government assistance must be kept to a minimum, it is hoped that RGR can be the main source of regional income so that the role of regional governments becomes greater (Ramadhani, 2016).

### Regional Expenditure (RE)

Regulation Number 13/2006 was concerning Guidelines for Regional Financial Management which has been amended by Regulation Number 59/2007 and Number 21/2011, regional spending is an obligation of regional governments which is recognized as a deduction from the value of net assets, which is used to finance the administration of government affairs under the authority province or district/city which includes mandatory affairs, optional affairs and affairs which are handled in certain sections or fields that can be carried out jointly between the central government and regional governments or between regional governments which are stipulated in accordance with statutory regulations.

Expenditures for the mandatory category are affairs at the most basic level related to rights and basic services for the community by local governments. This spending is prioritized to protect and improve the quality of life which includes improving education, health, social and public facilities that are appropriate and realizing work performance in accordance with by the standard. Expenditures for the elective category include government activities with the main focus on achieving the welfare of the people in accordance with the potential advantages of each region (Amalia, 2015). Based on Government Accounting Standard Number 2, the expenditures are classified by economic classification (type of spending), organization and function. Economic classification is a grouping of spending based on the type of spending to carry out an activity (Erlina et al., 2015). Meanwhile, Regulation Number 13/2006 states that the grouping of expenditures consists of direct expenditures and indirect expenditures.

### Regional Generated Revenue (RGR)

Regulation Number 33/2004 concerned with Financial Balance explains the income generated from regional collections in accordance with applicable legal rules used to fund government activities in accordance with the potential of each region, this is called RGR. In this case, local governments have the flexibility to manage their own regional potential in order to achieve regional independence in accordance with decentralization and regional autonomy to obtain income whose main sources are regional taxes and regional levies. The results of the management of this regional potential include: regional taxes, regional levies, management of separated regional assets, and other legitimate RGR (Halim, 2012). This RGR can be used as a benchmark for a region's ability to provide funds from within the region by realizing regional economic potential into a form of economic activity that can generate funds to develop sustainable regions in order to create regional financial independence (Junaidi et al., 2018).

### General Allocation Funds (GAF)

GAF is a fund that comes from the national revenues budget are given by the central government to regions with the aim of equalizing financial capacity among regions to fund regional needs (Regulation number 33/2004). GAF is generally set at 26% (twenty six percent) of the total Net Domestic Revenue as stipulated in the RREB. The distribution is set at 10% for provincial areas and 90% for districts/cities. The GAF for a region is allocated on the basis of the calculation of the fiscal gap and the basic allocation. The fiscal gap is the difference between fiscal need and FC. Fiscal needs are measured using the variables of population, area, construction cost index, gross regional domestic product per capita, and human development index. FC is measured based on RGR and sharing funds. The basic allocation is calculated based on the salary of regional state civil servants (Solikin, 2016).

The GAF acts as a financial balancer between regions in accordance with their respective fiscal considerations and fiscal needs (Linawati, 2019). GAF allocations for regions with large fiscal potential but small fiscal needs will receive relatively small GAF allocations. On the other hand, regions that have small fiscal potential but large fiscal needs will receive a relatively large GAF (Amalia, 2017).

### Fiscal Capacity (FC)

Based on Regulation Number 119/PMK.07/2017, it is stated that FC is used as an indicator to see whether or not a region is able to manage its finances as measured by regional income minus revenue whose use has been determined, profit sharing expenditures, financial aid expenditures. and personnel expenses. The calculation of is based on the realization data of revenue and expenditure, for provincial and regency/city regions it can be used with the following formula:

$$RFCI_i = \frac{RFC_i}{(\Sigma RFC_i)/n}$$

Whereas; RFCI<sub>i</sub>: Regency Fiscal Capacity Index; RFC<sub>i</sub>:

Regency Fiscal Capacity; N: Number of Regency/City

General revenue comes from RGR, Provincial Revenue Sharing, Revenue Sharing Funds, GAF, Special Autonomy Funds, and Teacher Income Allowances/Additional Income. Revenues whose use has been determined come from Special Transfer Funds, and other receipts whose use has been determined. Meanwhile, expenditures can be seen through Revenue Sharing Expenditures, Revenue Sharing for New Autonomous Regions, Village Funds, Village Fund Allocations, Special Autonomy Funds, Personnel Expenditures, and Interest Expenditures.

The level of FC in an area is influenced by the number of poor people. If the average population is poor, then this will not increase the level of local tax revenue because they are unable to pay taxes (Khoiri, 2015). This has an impact on the FC of the region being low, because the region is less able to balance the welfare of its people. If the region has a low FC, the region will be given a relatively large amount of transfer by the center with the aim that the region can generalize its fiscal readiness between regions in order to achieve the implementation of regional autonomy (Urip and Indahyani, 2017).

### Excess of Budget Calculation (EBC)

EBC is the difference in the calculation between the realization of the budget revenue component and the budget expenditure component during one budget period. The EBC for the previous fiscal year was all financial transaction activities which included receipts, financing, expenditures and the rest of the realized activity funds (Megasari, 2015). EBC is obtained from the difference in the use of the budget in the previous year and is allocated to cover direct and indirect expenditures for the following year (Simamora, 2014). If the RREB of a region produces a surplus which means there is a EBC, it is possible to increase the allocation of capital expenditure in the next budget period (Megasari, 2015).

This EBC can be used as an indicator that can describe the efficiency or not of local government spending, because EBC will only arise if there is a surplus in the RREB and at the same time there is positive net financing. This means that the revenue component is greater than the expenditure and financing component (Kusnandar and Siswanto, 2012). The Regulation Number 13/2006 states that EBC is used to cover the budget deficit if the realization of income is less than the realization of expenditure, finance the implementation of follow-up activities at the expense of direct expenditure, and finance other expenses until the end of the fiscal year has not been completed (Solikin, 2016).

### Flypaper Effect

The Flypaper Effect is a phenomenon that occurs when local governments respond to regional expenditures more from unconditional transfers (unconditional grants) than their regional potential such as RGR. Flypaper effect is the dependence of local governments on transfer funds rather than using local revenue (Hamilton, 1983). This transfer fund by the central government is given based on a certain

period of time. The phenomenon of the flypaper effect can also be interpreted as the provision of transfers which will have an impact on ineffectiveness in regional expenditures, which is reflected in the increase in taxes and excessive government spending and the elasticity of spending on transfers which is higher than the elasticity of spending on local taxes (Purbarini and Masdjojo, 2007).

The flypaper effect has an impact on the tendency of local governments to depend on the central government in receiving assistance through transfer funds. The impact of this flypaper effect phenomenon will make local government's waste money on the expenditure side that is used to overcome RGR disparities caused by the low of RGR (Zulfan and Mustika, 2018). According to Walidi (2009), there are impacts that will occur due to the flypaper effect phenomenon on district/city RE, including: causing fiscal gaps to remain, utilization of potential RGR sources is not optimal, increasing regional dependence on the center, and causing financial independence is decreasing (Solikin, 2016).

### Theoretical Framework

This study uses agency theory, because according to previous research proposed by Marlina et al. (2012) stated that the practice of the flypaper effect in the perspective of agency theory explains that if it is associated with government spending for a certain period, the local government as an agent will allocate resources. based on their expectations of the future economic environment (Figure 1).

### Hypothesis Development

Wati and Fajar (2017) stated that RGR is a source of regional finance generated from the regional area itself which includes regional taxes, regional levies, separated regional wealth management results and other legitimate income. If RGR has a high category level, it will affect the size of the level of RE district/municipal in South Sumatra. This means that it can be assumed that there is no flypaper effect phenomenon on RE. On the other hand, if RGR has a low category level, then there are other variables besides the results of RGR that fund RE district/cities in South Sumatra. This means that there is a flypaper effect phenomenon on RE. The hypotheses raised are;

**H1:** RGR has a significant effects on RE

Putra and Dwirandra (2015) stated that GAF is a transfer fund originating from the national revenue and expenditure budget given by the central government to regional governments to finance regional needs in the implementation of decentralization. If the realization of GAF is greater than the realization of RGR on RE, it is suspected that a flypaper effect will occur in RE district/city in South Sumatra. On the other hand, if the realization of GAF is smaller than the realization of RGR on RE, it is suspected that there will be no flypaper effect phenomenon on RE district/city in South Sumatra. The proposed hypothesis is

**H2:** RGR has a significant effects on RE

In line with Urip and Indahyani's research (2017) stated

that if the level of FC of districts/cities in South Sumatra is high, this means that the regencies/cities in South Sumatra do not have the flypaper effect phenomenon, because they are able to finance their regional needs with the potential themselves. If the level of FC of regencies/municipalities in South Sumatra is low, this means that the regencies/cities in South Sumatra have a flypaper effect phenomenon, because they are unable to finance their regional needs with their own regional potential.

**H3:** FC has a significant effects on RE

Solikin's research (2016) stated that EBC is the difference in the realization of budget revenues and expenditures for one fiscal year. This EBC can be allocated to cover the budget deficit, implement the next year's expenditures, and finance other obligations that have not been resolved until the end of the fiscal year. The hypotheses raised are;

**H4:** EBC has a significant effects on RE

Megasari's research (2015) the flypaper effect is a condition that shows spending on local governments is more inclined to transfer funds than RGR. Based on previous research, there are results showing that in several countries it has become characteristic that local governments depend on transfer funds by the central government because the RGR in an area is smaller than the transfer funds provided by the central government (Solikin, 2016). The proposed hypothesis is;

**H5:** the flypaper effect occurs in local government financial management

## MATERIALS AND METHODS

### Population and Sample

The population in the research conducted by the researcher is all districts/cities consisting of 13 districts and 4 cities in South Sumatra Province for the 2014-2018 fiscal year. The sampling technique in this study used a purposive sampling technique, namely sampling with certain considerations (Sugiyono, 2017). The reason the researcher chose this population was due to various considerations, among others, the budget realization reporting which had been audited by Supreme Audit Institutions (SAI) South Sumatra Representative had more accurate data, the budget-realization reporting from the SAI South Sumatra Representative had the availability of the data needed for hypothesis testing that the researchers did. during the period 2014-2018.

### Variable Definition and Measurement

RGR is income obtained from regional collections in accordance with applicable legal rules with the aim of funding the implementation of regional autonomy in accordance with the potential of the region itself (Solikin, 2016). The measurement of the RGR is the realization of the RGR by each district/city in the year concerned (Solikin, 2016). The RGR uses the RE realization for 2014-2018 published on the website of the Ministry of Finance's and budget realization reporting have audited by SAI South Sumatra Representative.

GAF is a fund that comes from national budget revenues provided by the central government to regions with the aim of equalizing financial capacity between regions to fund regional needs (Nurdini et al., 2014). The measurement of the GAF is the amount of GAF obtained by each district/city in the year concerned (Solikin, 2016). The GAF uses the realization value of RE for 2014-2018 published on the website of the Ministry of Finance's and budget-realization reporting audited by SAI South Sumatra Representative.

FC is measured by the formula for calculating the regional FC index, including: calculating the regional FC of each district/city divided by the average regional FC of all districts/cities (Regulation number 54/PMK.07/2014). The FC uses data on the realization of RE published in budget-realization reporting audited by SAI South Sumatra Representative and the Ministry of Finance's website.

EBC is one of the sources of RE financing which is one component of regional financing receipts in the local revenue and spending budget structure (Solikin, 2016). The measurement of the EBC is the realization of the EBC of each district/city in the year concerned. The EBC uses the amount of RE realization year 2014-2018 published on the website of the Ministry of Finance's and budget realization reporting audited by SAI South Sumatra Representative (Solikin, 2016).

RE is an obligation issued by the regional government to finance regional needs originating from RGR as well as transfer funds from the central government to the regions determined in accordance with statutory regulations (Amalia, 2015). The RE is measured by the size of the realization of the regional budget for each district/city in the local revenue and spending budget in the year concerned (Solikin, 2016). The RE uses the amount RE realization for 2014-2018 published on the website of the Ministry of Finance's and budget-realization reporting audited by SAI South Sumatra Representative.

### Data analysis method

#### Panel Data Regression Analysis

This research is a quantitative study with the data analysis method used, namely panel data analysis using time series data from the 2014-2018 fiscal year and cross-section data consisting of 13 districts and 4 cities in South Sumatra. Panel data analysis was carried out by observing a series of cross-section observations in a certain period of time (Ariefianto, 2012).

The regression equations that researchers use in this study include:

$$RE_{it} = \alpha + \beta_1 RGR_{it} + \beta_2 GAF_{it} + \beta_3 FC_{it} + \beta_4 EBC_{it} + e_{it} \dots \dots (1)$$

Whereas:  $\alpha$ : intercept,  $\beta_1 - \beta_4$ : regression coefficient,  $i$ : *Cross-section*,  $t$ : *Time Series*,  $RE$ : Regional Expenditure,  $RGR$ : Regional Generated Revenue,  $GAF$ : General Allocation Fund,  $FC$ : Fiscal Capacity,  $EBC$ : Excess of Budget Calculation and  $e$ : *Error term*

There are three approaches in estimating panel data before testing the hypothesis, namely 1) the usual OLS approach (Pooled Least Square), 2) the fixed effect

**Table 1.** Chow Test

Redundant Fixed Effects Tests			
Equation:Untitled			
Test cross-section fixed effects			
Effect Test	Statistic	d.f	Prob.
Cross-section	38.239201	(16.64)	0.0000
Cross-section Chi-square	200.349621	16	0.0000

Sources: Result of data process analysis using e-views (Mukhtaruddin et al., 2023)

approach (Fixed Effect Model), and 3) the random effects approach (Random Effect Model) (Ariefianto, 2012).

### Chow test

The Chow test was conducted to find out what model to use in the estimation between the Pooled Least Square (PLS) or Fixed Effect Model (FEM) (Usman and Nachrowi, 2006). The hypotheses used in the Chow test include:

H0: PLS model is the best model approach

H: FEM model is the best model approach

If the probability value (P-value) is greater than the significant level of 5%, then H0 is accepted, which means the PLS model is used. If the probability value (P-value) is smaller than the significant level 5%, then H0 is rejected, which means the FEM model is used, but this FEM model still has to be retested through the Hausman test.

### Hausman test

Tests using the Hausman method can also be used in decision-making with the use of FEM and REM (Basuki, 2016). The following is the hypothesis in testing:

H0: Random Effect Model (REM)

H1: Fixed Effect Model (FEM)

If the probability value (P-value) is greater than the significant level of 5%, then H0 is accepted, which means the REM model is used. If the probability value (P-value) is smaller than the significant level 5%, then H0 is rejected, which means the FEM model is used

### Hypothesis Testing

#### Partial Test

This t-test is used to determine whether or not the relationship between the independent to the dependent variable and significant or not. This test can also be known whether variable X and variable Y, there is a partial or separate significant relationship (Priyastama, 2017). The basis for decision-making is used in the t-test, namely: If the probability value is significant  $> 0.05$ , it means that hypothesis H0 is accepted, meaning that the independent variable has no significant effect on the dependent variable. If the probability value is significant  $< 0.05$ , it means that the H1 hypothesis is accepted, meaning that the independent variable has a significant effect on the dependent variable (Priyastama, 2017).

### Simultaneous Test

The F test is to examine the relationship of the independent variable simultaneously with the dependent variable. The use of the significant level in this study is 0.05, so if the significant value  $< 0.05$  means that there is a simultaneous significant relationship between the independent variable and dependent variable. If the significant value  $> 0.05$  means that there is no simultaneous significant relationship between the independent variable and to the dependent variable (Priyastama, 2017).

### Coefficient of Determination Test

The coefficient of determination test is a tool that is useful for testing the relationship between the independent variable and the dependent variable with the condition that the F test results above produce significant results. The range value of the coefficient of determination is 0 to 1. If  $r = 0$  or close to 0, then the relationship between these variables is weak. If  $r = 1$  or close to 1 then the correlation between the two variables is said to be positive or getting stronger (Priyastama, 2017).

## RESULT AND DISCUSS

### Panel Regression Analysis

There is a regression model approach that must be determined before carrying out the testing phase to analyze the effect of RGR, GAF, FC, and EBC on regional expenditures. The regression model approach consists of: CEM, FEM, and REM. After determining the regression model used, the next step is hypothesis testing.

### Panel Regression Model Selection

#### Chow test

The Chow test was used to determine the best model between the CEM and FEM models. The hypothesis used in this test is as follows:

H0: PLS model is the best model approach

H: FEM model is the best model approach

The prob-value  $> 5\%$  then H0 is accepted which indicates that the PLS model is better used. However, if the prob-value (P-value)  $< 5\%$ , then H0 is rejected, which means a

**Table 2.** Hausman Test

Correlated Random Effect-Hausman Test			
Equation:Untitled			
Test cross-section random effects			
Test Summary	Chi-sq. Statistic	Chi-Sq.d.f	Prob.
Cross-section random	51.923553	4	0.0000

Sources: Result of data process analysis using e-views (Mukhtaruddin, et, al, 2023)

**Table 3.** Partial Test

Variable	Coefficient	Std. Error	t-statistic	Prob.	
Constant	-0.571919	0.169986	-3.364504	0.0013	Significant
RGR	0.445481	0.344339	1.293730	0.2004	No Significant
GAF	2.944283	0.299180	9.841170	0.0000	Significant
FC	0.115055	0.0297573	3.890524	0.0002	Significant
EBC	1.644132	0.224484	7.324036	0.0000	Significant

Sources: Result of data process analysis using e-views (Mukhtaruddin, et, al, 2023)

better FEM model is used. Based on Table 1, the prob-value of the cross-section F on the test results is  $0.0000 < 0.05$ , which means  $H_0$  is rejected and it is concluded that the FEM model is used.

### Hausman test

Hausman test is used to determine the best model between REM and FEM. The hypothesis used in this test is as follows:

$H_0$ : REM model is the best model approach

$H_1$ : FEM model is the best model approach

Based on Table 2, the prob-value of a random cross-section on the test results is  $0.0000 < 0.05$ , which means  $H_0$  is rejected and it can be concluded that the FEM model is used.

### Hypothesis test

#### Partial Test

The t test in panel data regression is used to partially test the effect of the independent variables on the dependent variable. The results of hypothesis testing can be seen in the following table;

Based on the Table 3 above, some conclusions are obtained as follows:

1) The prob-value of RGR is obtained at 0.2004 with a positive coefficient. The prob-value of  $RGR > 0.05$ , it can be concluded that  $H_0$  is accepted, which means that RGR has no significant effect on RE.

2) The prob-value of GAF is 0.0000 with a positive coefficient. The prob-value of  $GAF < 0.05$ , it can be concluded that  $H_0$  is rejected, which means that GAF has a significant effect on RE.

3) The prob-value of FC is 0.0002 with a positive coefficient. The prob-value of  $FC < 0.05$ , it can be concluded that  $H_0$  is rejected, which means that FC has a significant effect on RE.

4) The prob-value of EBC is 0.0000 with a positive coefficient. The prob-value of  $EBC < 0.05$ , it can be

concluded that  $H_0$  is rejected, which means that EBC has a significant effect on RE.

### Simultaneous Test

This F test in panel data regression is used to test the effect of the independent variables simultaneously on the dependent variable. The test results can be seen in the following table;

Based on Table 4, the prob-value on the test results is  $0.000000 < 0.05$ , which means  $H_1$  is accepted. So it can be concluded that the independent variables (RGR, GAF, FC and EBC) simultaneously affect RE.

### Coefficient of Determination Test (R<sup>2</sup>)

The coefficient of determination test in panel data regression is used to test how significant the influence of the independent variable on the dependent variable is.

Based on Table 5, the R-squared value in the test results is 0.979599 which indicates that the contribution of the independent variables (RGR, GAF, FC, and EBC) simultaneously to RE is 97.96%. This means that there are still remaining percentages of other variables that affect RE in South Sumatra.

### Panel Regression Model Results

Based on the results of the panel data regression analysis in Table 3, the equations of the panel data regression model formed are as follows:

$$RE = -0.571919 + 0.445481RGR + 2.944283GAF + 0.115055FC + 1.644132 EBC$$

Based on the above regression, it has been seen that the regression coefficient of  $GAF <$  regression coefficient of RGR. It can be concluded that the flypaper effect has occurred in districts/cities in South Sumatera province (Table 6). The summary of the result of hypothesis testing is as following:

**Tabel 4.** Simultaneous Test

R-squared	0.979599	Mean dependent var	1.434118
Adjusted R-squared	0.973224	S.D dependent var	0.708705
S.E of regression	0.115968	Akaike info criterion	-1.260656
Sum of squared resid	0.860708	Schwarz criterion	-0.657178
Log likelihood	74.57789	Hannan-Quinn criter.	-1.017920
F-Statistic	153.6571	Durbin-Watson stat	1.998978
Prob(F-Statistic)	0.000000		

Sources: Result of data process analysis using e-views (Mukhtaruddin et al., 2023)

**Table 5.** Coefficient of Determination Test (R2)

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.979599	Mean dependent var	1.434118
Adjusted R-squared	0.973224	S.D dependent var	0.708705
S.E of regression	0.115968	Akaike info criterion	-1.260656
Sum of squared resid	0.860708	Schwarz criterion	-0.657178
Log likelihood	74.57789	Hannan-Quinn criter.	-1.017920
F-Statistic	153.6571	Durbin-Watson stat	1.998978
Prob(F-Statistic)	0.000000		

Sources: Result of data process analysis using e-views (Mukhtaruddin et al., 2023)

**Tabel 6.** Summary of Hypothesis Testing

No	Hipotesis	t able	Prob.	Conclusion
1	RGR has a significant effect to RE	1.293730	0.2004	Rejected
2	GAF has a significant effect to RE	9.841170	0.0000	Acceptance
3	FC has a significant effect to RE	3.890524	0.0002	Acceptance
4	EBC has a significant effect to RE	7.324036	0.0000	Acceptance
5	RGR, GAF, FC have a significant effect to RE	-	0.0000	Acceptance
6	Flypaper effect has occurred in Regencies/Cities in South Sumatera	Coefficient of GAF > coefficient of RGR		Acceptance

Sources: Result of data process analysis using e-views (Mukhtaruddin et al., 2023)

## DISCUSSION

### The Effect of Regional Generated Revenue on Regional Expenditures in South Sumatra

Based on hypothesis testing, the first hypothesis (H1) in this study was rejected. It means that the RGR partially has no significant effect on RE. Referring to the agency theory, the community (principal) trusts the central government to give authority to the government (agent) to maximize the resources offered to generate of RGR to finance the needs of its area. Thus, local governments will be able to cover their regional budgets (Saputra et al., 2012).

The results are in line with research conducted by Haryani (2017) and Amalia et al. (2017) explained that regions that have low RGR but whose RE are increasing mean that the region in its financial management has not been fully independent of central transfer assistance. This is because the revenue from within the region in the form of RGR owned by the regional government has not been optimal. However, this realization is realized by the

research of Junaidi et al. (2018) which explains that the greater the RGR the greater the realization of RE issued.

However, this study obtained the result that the existing RGR is smaller than the amount of GAF transferred by the center of government to districts/cities in South Sumatra. This is due to the lack of district/city efforts in developing the potential of the region and its natural wealth to obtain maximum RGR sources. Thus, the amount of RGR cannot be added as a whole for high RE needs (Amalia et al., 2017).

### The Effect of General Allocation Fund on Regional Expenditures in South Sumatra

Based on hypothesis testing, the second hypothesis (H2) in this study was accepted. It means that the GAF partially has a significant influence on RE. Referring to agency theory, the community (principal) trusts the central government to transfer funds in the form of GAF to local governments (agents). In addition, when facing the Grand Design of Indonesia's fiscal decentralization, the government must be able to formulate a better GAF formulation. So that the GAF will be able to equalize finances between regions to make



regional budgets (Saputra et al., 2012).

The results are in line with the research conducted by Armawaddin et al. (2017) and Khoiri (2015) which state that the amount of GAF received from the center will affect the amount of RE. However, these results contradict the study by Sembel et al. (2018) which explains that the increase in RE has not been fully influenced by the GAF from the center. This is because other regional incomes those are able to finance RE.

In this study, the existing GAF is used to equalize finances between districts/cities in South Sumatra. This is due to the RGR being owned by different regions. Results from districts/cities still depend on central transfers in the form of GAF which are "block grants". This means that districts/cities can freely spend these funds according to regional needs (Linawati, 2019).

### **The Effect of Fiscal Capacity on Regional Expenditures in South Sumatra**

Based on hypothesis testing, the third hypothesis (H3) in this study was accepted. It means that the Fiscal Capacity variable partially has a significant influence on RE. Referring to the agency theory, the community (principal) gives trust through the central government with its authority to the local government (agent) to take care of all the needs of the region with existing resources and potential. Thus, the more independent the financial management of a region is increasing the FC of the region.

This result is in line with research conducted by Handoko (2015) and, Urip and Indahyani (2017) which explains that the FC of the region is low, meaning that the region has not been able to optimize the results of its resources and potential as a source of funding for RE. This indicates that the regions still depend on RGR from the center to balance revenues between regions.

In this study, it is known that districts/cities in South Sumatra have not been able to meet regional needs and still need assistance from outsiders to cover their fiscal gaps. This is because the regional needs are greater than the regional capacities. The low FC in districts/cities is caused by too large routine expenditures for employee salaries, as well as goods and services rather than capital expenditures which then become a source of income for public services and to stimulate the economy in the area itself (Urip and Indahyani, 2017).

### **The Effect of Excess Budget Calculation on Regional Expenditures in South Sumatra**

Based on hypothesis testing, the fourth hypothesis (H4) in this study was accepted. It means that the EBC partially has a significant influence on RE. Referring to the agency theory, the community (principal) trusts the central government to give authority to local governments (agents) to allocate the existing EBC for financing the RE current year's. Thus, the formation of a fairly high EBC in the next period will be reduced (Solikin, 2016).

These results are in line with research conducted by Solikin (2016), Mentayani and Rusmanto (2013), and Kusnandar and Siswantoro (2012). Previous researchers

explained that EBC was used as a source of funding for RE to cover the budget deficit. However, this result is not in line with research by Aditya and Dirgantari (2017) which states that the emergence of a large EBC means that the region indicated that there are still problems/obstacles in the financial management process in the budget period.

In this study, district/cities in South Sumatra are known to take advantage of EBC accumulated for capital expenditures, which consist of spending on land, equipment and machinery, buildings and structures, roads, irrigation and networks, construction in progress and other fixed assets. This can indicate that the district/city has not been fully successful in planning and budget absorption in previous years. This EBC arises because of the failure of districts/cities in realizing expenditures compared to the success of realizing income that exceeds the plan (Mentayani and Rusmanto, 2013).

### **The occurrence of the Flypaper Effect on Regional Financial Management in South Sumatra**

Based on the results of the t-test which obtained the results of each coefficient value, the sixth hypothesis (H6) was accepted. This means that the Flypaper Effect phenomenon occurs in the financial management of districts/cities in South Sumatra for the 2014-2018 fiscal years. The Flypaper Effect occurs when the value of the GAF coefficient on regional spending is greater than the value of the RGR coefficient on regional spending and the results of the analysis show that RGR is not significant (Hines and Thaler, 1995). These results indicate that one of the criteria for determining the occurrence of the Flypaper Effect phenomenon in districts/cities in South Sumatra is met, namely the GAF coefficient on RE is greater than the value of the RGR coefficient on RE.

These results are in line with previous research conducted by Hines and Thaler (1995), Lalvani (2002), Gennari and Messina (2009), Sour (2013), Marlina et al. (2012), Solikin (2016), Haryani (2017), and Armawaddin (2018). Previous research stated that the emergence of the flypaper effect in the regions could affect spending more than the regional revenue itself. Thus, making regions tend to expect GAF from the center government rather than managing RGR as a source of revenue from the potential of the region itself (Marlina et al., 2012).

However, this result contradicts research by Khoiri (2015) and Ekawarna (2017) which did not find the results of the flypaper effect phenomenon on financial management. Previous researchers mentioned that other variables can strengthen the test results to indicate whether an area has a flypaper effect or not in the realization of budgeting in the budget period.

In this study, the occurrence of the Flypaper Effect is influenced by the relatively low FC of most districts/cities in South Sumatra, so that the majority of regions receive relatively high GAF from the center government. This means that regional needs are greater than RGR from the results of their potential resources. This is the reason this research is not in line with previous research, because there are differences in the category of FC between regions (Urip and Indahyani, 2017).

## CONCLUSION

From the results of data processing, testing and analysis that has been carried out, several conclusions can be drawn, namely:

- RGR does not significantly affect RE in districts/cities in South Sumatra.
- GAF has a significant effect on RE in districts/cities in South Sumatra.
- FC has a significant effect on RE in districts/cities in South Sumatra.
- EBC has a significant effect on RE in districts/cities in South Sumatra.
- The test results can prove that in the management of RE district/city in South Sumatra, there has been a flypaper effect phenomenon over five years observation.

## Research Limitations

The limitations of this study are (1) The scope of the study only covers districts/cities in South Sumatra in the 2014-2018 fiscal years and (2) only uses the independent variables, namely RGR, GAF, FC, and EBC in explaining RE. The next study develops this research by adding the period of study and explores the other variables that have effect on the RE.

## REFERENCES

- Aditya NY, Dirgantari N (2017). Pengaruh Pendapatan Asli Daerah (PAD), Dana Alokasi Umum (DAU), Dana Alokasi Khusus (DAK) dan Sisa Lebih Pembiayaan Anggaran (SiLPA) Terhadap Belanja Modal Pada Kabupaten dan Kota di Jawa Tengah Tahun 2013-2015. *Kompartemen*, XV(1):42-56.
- Amalia F (2017). Flypaper Effect of Regional Expenditures and Its Impact to Regional Inequality in Indonesia. *Jurnal Ilmu Ekonomi*, 6(1):125-138. <https://doi.org/10.15408/sjie.v6i1.3293>
- Amril A, Erfit E, Safri M (2015). Flypaper Effect pada Kinerja Keuangan Kabupaten/Kota di Propinsi Jambi. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 2(3):135-146.
- Ariefianto AM (2012). *Ekonometrika Esensi dan Aplikasi dengan Menggunakan E-views*. Jakarta: Erlangga.
- Armawaddin M (2018). Flypaper Effect Using SEM and PLS Models. *Jurnal Ekonomi Dan Studi Pembangunan*, 10(2):192-201.
- Armawaddin M, Rumbia WA, Afiat MN (2017). Analisis Flypaper Effect Belanja Daerah Kabupaten/Kota di Sulawesi. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 18(1):77-91.
- Ekawarna SU (2017). Analisis Flypaper Effect pada Belanja Daerah (Studi Komparasi Daerah Induk dan Pemekaran kabupaten / kota di Provinsi Jambi ). *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 4(3):167-184.
- Erlina E, Rambe OS, Rasdianto R (2015). *Akuntansi Keuangan Daerah Berbasis Akrua*. Jakarta: Salemba.
- Gennari E, Messina G (2009). How sticky are local expenditures in Italy? Assessing the relevance of the flypaper effect through municipal data. *Public Choice e Political Economy*, 24-25.
- Halim A (2012). *Akuntansi Sektor Publik: Akuntansi Keuangan Daerah* (4th ed.). Jakarta: Salemba Empat.
- Hamilton BW (1983). The Flypaper Effect and Other Anomalies. *Journal of Public Economics*, 22:347-361.
- Haryani, H. (2017). Analisis Flypaper Effect pad Pemerintah Daerah Kabupaten Bireuen. *Jurnal Ekonomi Dan Bisnis*, 18(2):133-140.
- Hines JR, Thaler RH (1995). Anomalies The Flypaper Effect. *J. Economic Perspectives*, 9(4):217-226.
- Hofman B, Kadjatmiko K, Kaiser K, Sjahrir BS (2006). Evaluating Fiscal Equalization in Indonesia (No. 3911). Retrieved from <http://econ/worldbank.org>
- Inayati NI, Setiawan D (2012). Fenomena Flypaper Effect pada Belanja Daerah Kabupaten/Kota di Indonesia. *Jurnal Ekonomi Dan Keuangan*, (80):220-239. <https://doi.org/10.24034/j25485024.y2017.v1.i2.2062>
- Jensen C, Meckling H (1976). Theory of The Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3:305-360.
- Junaidi J, Diana N, Afifuddin A (2018). Flypaper Effect pada Dana Alokasi Umum (DAU) dan Pendapatan Asli Daerah (PAD) terhadap Belanja Daerah (BD) di Malang Raya tahun 2011-2017. *E-JRA*, 07(03):64-72.
- Khoiri RHA (2015). Flypaper Effect dan Belaanja Daerah di Propinsi Jawa Barat. *Signifikan*, 4(2):211-230.
- Kusnandar K, Siswantoro D (2012). Pengaruh Dana Alokasi Umum, Pendapatan Asli Daerah, Sisa Lebih Pembiayaan Anggaran dan Luas Wilayah terhadap Belanja Modal. (32):1-20.
- Lalvani M (2002). The Flypaper Effect : Evidence from India. *Public Budgeting & Finance*, 67-88.
- Linawati L (2019). Fenomena Flypaper Effect pada Pengelolaan Keuangan Daerah Kabupaten dan Kota di Jawa Timur. *Jurnal Akuntansi Dan Ekonomi Bisnis*, 8(1):20-29.
- Mardiasmo M (2018). *Akuntansi Sektor Publik*. Yogyakarta: Andi.
- Marliana M, Mukhtaruddin M, Ferina IS (2012). Analysis of Flypaper Effect Revenue Sharing Fund (DBH) and Regionally Generated Revenue (PAD) toward Capital Expenditure by District/Town in South Sumatera 2009-2011. *Jurnal Penelitian Dan Pengembangan Akuntansi*, 6(1):1-22.
- Megasari IAGS (2015). Pengaruh Pendapatan Asli Daerah, Selisih Lebih Perhitungan Anggaran dan Flypaper Effect pada Perilaku Oportunistik Penyusunan Anggaran. *Jurnal Buletin Studi Ekonomi*, 20(2):130-137.
- Mentayani I, Rusmanto R (2013). Pengaruh Pendapatan Asli Daerah, Dana Alokasi Umum dan Sisa Lebih Pembiayaan Anggaran Terhadap Belanja Modal Pada Kota dan Kabupaten di Pulau Kalimantan. *Jurnal InFestasi*, 9(2):91-102.
- Naganathan M, Sivagnanam KJ (2000). Federal Transfer and Tax Efforts of the States in India. *Indian Economic J*, 47(4):101-110.
- Nurdini R, Wiratno A, Farida YN (2014). Analisis Flypaper Effect pada Dana Alokasi Umum (DAU), Dana Alokasi Khusus (DAK), Dana Bagi Hasil (DBH), dan Pendapatan

- Asli Daerah (PAD) terhadap Belanja Daerah (BD) Kabupaten/Kota di Jawa Barat. *Jurnal Akuntansi Dan Keuangan (JAKA)*, 1(1):79-92.
- Oates WE (1999). An Essay on Fiscal Federalism. *Journal of Economic Literature*, XXXVII(September), 1120-1149.
- Priyastama R (2017). *SPSS Pengolahan Data & Analisis Data*. Yogyakarta: Standar UP.
- Purbarini E, Masdjojo GN (2015). Flypaper Effect Tracer on Operating Expenditure and Capital Expenditure of City Government in Indonesia. *South East Asia Journal of Contemporary Business, Economics and Law*, 7(3):9-15.
- Saputra D, Mukhtaruddin M, Pratiwi A, Yusrianti H (2012). Flypaper Effect on The Relationship of General Allocation Fund, Revenue Sharing Fund, and Regional Own Revenue To Infrastructure Expenditure in Regency/Municipality of South Sumatera Province Period 2008-2011. *Proceedings of Annual Paris Business and Social Science Research Conference*, 4-5.
- Sasana H (2010). Flypaper effect pada dana alokasi umum, dana bagi hasil, dan pendapatan asli daerah terhadap belanja daerah pada provinsi di indonesia. *Eko-Regional*, 5(2).
- Simamora S (2014). Pengaruh Sisa Lebih Perhitungan Anggaran (SiLPA), Penerimaan dan Pengeluaran Pembiayaan terhadap Belanja Daerah: Dalam Prespektif Teoritis. *Jurnal Riset Akuntansi Dan Bisnis*, 14(2):258-271.
- Solikin A (2016). Analisis Flypaper Effect pada Pengujian Pengaruh Dana Alokasi Umum (DAU), Pendapatan Asli Daerah (PAD), dan Sisa Lebih Perhitungan Anggaran (SiLPA) terhadap Belanja Pemerintah Daerah di Indonesia (Studi Tahun 2012-2014). *Jurnal Akuntansi Dan Bisnis*, 16(1):11-25.
- Sour L (2013). The Flypaper Effect in Mexican Local Governments. *Estudios Economicos*, 28(1), 165-186.
- Sugiyono SD (2012). *Statistika untuk Penelitian*. Bandung: CV Alfabeta.
- Urip TP, Indahyani R (2017). Analisis Flypaper Effect Pengelolaan Keuangan Daerah di Kota Jayapura. *Jurnal Manajemen & Bisnis*, 1(2):9-21.
- Usman UH, Nachrowi ND (2014). *Pendekatan Populer dan Praktis Ekonometrika untuk Analisis Ekonomi dan Keuangan*. Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.