FLYPAPER EFFECTS ANOMALY OF WEST PAPUA CAPITAL PUBLIC EXPENDITURE

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Abstract

In fiscal decentralization, local governments should be able to provide public service facilities for all communities. This study aims to determine the existence of flypaper effect in the total capital public expenditure and capital expenditure on education, health and infrastructure in districts in West Papua, 2003-2006. Tools of analysis used is panel data regression. The General Allocation Fund (DAU), the Special Allocation Fund (DAK) and the Special Autonomy Fund (DOK) partially and simultaneously have positive impact on total capital spending and capital expenditure in education, health, and infrastructure. It is also indicated the anomaly of flypaper effect in DAU, DAK, and DOK.

Keywords: Flypaper effect, anomaly, fiscal decentralization, capital expenditures
JEL classification numbers: H50, H75

Abstrak

Dalam desentralisasi fiskal, pemerintah daerah harus mampu memberikan fasilitas pelayanan publik dengan baik untuk seluruh masyarakat lokal. Studi ini bertujuan untuk menganalisis ada tidaknya flypaper effect pada belanja modal pelayanan publik bidang pendidikan, kesehatan dan infrastuktur di Papua Barat pada periode 2003-2006. Alat analisis yang digunakan adalah model regresi data panel. Dana Alokasi Umum (DAU), Dana Alokasi Khusus (DAK) dan Dana Otonomi Khusus (DOK) berdampak positif baik secara parsial maupun simultan terhadap total belanja modal pemerintah maupun belanja modal bidang pendidikan, kesehatan dan infrastuktur. Hasil penelitian juga mengindikasikan adanya anomali flypaper effect pada DAU, DAK dan DOK.

Kata kunci: Flypaper effect, anomali, desentralisasi fiskal, belanja modal
JEL classification numbers: H50, H75

INTRODUCTION

Regional development is a process in which regional government together with the society manage its human resources and establish partnership between government and private sectors to create new vacancy and to stimulate economic improvement and growth in that area. The main purpose of every regional development effort is to improve the total and type of vacancy for the community (Arsyad, 2005).

To realize the purpose of economic development, regional government should have autonomy to act as the board coordi-nator and facilitator which is in accordance with its function and role in assigning every new policy and strategy.

This, then, is responded by the central government by issuing UU No. 22 in 1999 on regional government. Unfortunately, there is weakness on the Act materially. Thus, it is renewed by UU No.32 in 2004 with an emphasizing on the regional autonomy enforcement (Halim and Damayanti, 2007)

Regional autonomy is local right, authority, and duty to manage its region and its community's necessities based on the Act

concerned. The application of government policy is considered democratic. It meets the decentralization aspects whose aim is to improve people's prosperity and service, democratic situation, justice, and to maintain the partnership between the central government and local government, and also intra-regional government (Maimunah, 2006).

Many arguments proposed to describe the needs of autonomy and decentralization. As said by Oates and Litvack, Ahmad, and Bird, for example, that the most efficient public service should be managed by those with geographic control because one of inter-region competition is to provide public service to the society that will support local government to increase its innovation (Wiralaga, 2005).

Providing the facility of public service by the government is the realization of UU No. 33 in 2004 that is financed by APBD. The local government's current asset comes from income and cost, the regional income (PAD) and from the central government in the form of balancing fund. The regional government's income is dominantly received from tax and local retribution, while the balancing fund is dominantly received from General Allocation Fund (DAU) and Special Allocation Fund. In Papua, its regional government's income also comes from Special Autonomy Fund (DOK) which amounts to 2% from General Allocation Fund (DAU) as written in UU No. 21 1999

Furthermore, to maintain the public trust towards the ongoing good governance, the local government should allocate regional expenditure for public necessities, especially, for education, health, transportation, and infrastructure as the realization of the regional budget. The allocation should be based on the regional needs either to realize the government's duty or to fulfill public needs. In fact, the regional budget is always spent for unproductive routine expenditure (Darwanto and Yustikasari, 2007)

West Papua Province consists of nine districts/cities since its regional validity as a new province. It keeps on improving its administration and its regional income, developing and providing facility for public service for the community. Ideally, in the frame of autonomy every local government has capability of supporting the local necessities such as the facility of public service with its major source of fund from regional income, including PAD. In the reality, the major source of fund comes from the central government. It is clearly seen in the proportion of capital expenditure for public service towards the regional income and expenditure in West Papua in 2003-2006. It shows the financial ability in providing public service. It is figured in the following graphic.
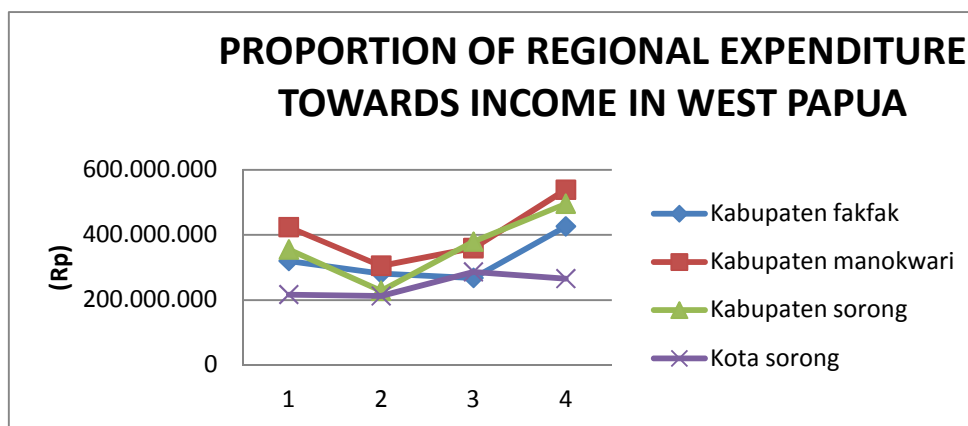
Source: BPS and Regional Income Agency of West Papua Province, 2009
Figure 1: Proportion of Regional Expenditure towards Income in West Papua

The above graphic shows that the proportion of total regional expenditure for public service towards the total local government income and expenditure in West Papua in 2003 – 2006 is only in the range of 13.1 – 48.9 % that mostly comes from the central government, either from General Allocation Fund or Special Allocation Fund.

The inter-regional or inter-province financial ability in Indonesia is, relatively, different. It has close relationship with the potential of their natural resource and human resource because it has impact to the total of local government income and expenditure, although the fund source is still obtained from the central government.

On the other hand, an indication shows that there are different responds among local governments in West Papua on the prediction of regional expenditure realized by balancing fund from the central government or by regional income. It means when regional income is dominantly received from the central government, the stimulation on local expenditure will be different from the stimulation on regional income (tax & retribution).

The contrast indication found in West Papua is called *flypaper effect (anomaly)*. It means that the response of local expenditure in West Papua is not only depended on the central government such as Special allocation Fund (DOK) or Special Autonomy Fund (DOK). Apparently, many books do not describe the concepts of flypaper effect seriously. Hyman (2005) said that flypaper effect is political process from local government in anomaly condition. It means that the subsidiary from the central government to local government is not utilized to reduce the tax of the people in public service usage but it is used for the sake of the elite politicians.

Flypaper effect is also defined as marginal effect that is dominantly fulfilled by subsidiary that is bigger than personal income on the local expenditure (Tovmo and Falc, 2000). It means that the marginal effect of the local expenditure, largely, comes from the central government not from the local income. This study finds that flypapers effect depends on the appeal of political power among the minor parties and the mayor parties on public sector expenditure of local government.

Roomer and Silvestre (2005: 15) who supposed that flypaper effect is understood as an effect of inequality between public expenditure of the federal government and the improvement of local income with the same amount as subsidized. A state or district in term of autonomy will be independent when it has capability of supporting all of the needs in developing the region with its own regional income, not from the central government.

Referring to the fact, two questions arise in this study. (1) What is the effect of DAU, DAK, and DOK to capital expenditure of local government in West Papua, especially in education, health, and infrastructure? (2) Does flypaper happen on the effect of capital expenditure of public service in district/city in West Papua?

This study aims to observe whether or not there is effect of DAU, DAK, and DOK towards capital expenditure on public service in West Papua in education, health, and infrastructure, and to observe the possibility of flypaper occurrence on the effect of DAU, DAK, and DOK towards the capital expenditure in West Papua.

Autonomy, in the regime of President Suharto, hierarchically, was centralized. It means that every district should refer to the master plan of the central government in developing its region. Thus, there is no independence of the local government. In fact, local government recognizes better of what is needed by its region.

There is good chance to develop district when UU No.22 and UU No. 25 in 1999 were issued followed by UU No. 32 in 2004 as their replacement. It is about regional government and balancing fund between central and regional government. It

emphasizes that local government has full authority to manage its region with its right and duty as it is written on the Act. In UU No. 32 in 2004, article 1, verse 7, it is said that decentralization is to transfer authority from the central government to local government to manage its duty dealing with national business in the system of the country.

State finance according to UU No.17 in 2003 is state's right and duty valued by nominal and material. In article 1 verse 1, state's right includes the tax, spreading the fund, and taking loan, while state's duty includes the realization of public service and paying the bill of the third parties; State Income; State Expenditure; Regional Income; Regional Expenditure. State's assets include cash, obligation, allowance, and material. It also includes the assets separated from the state's assets and local's assets, asset of other owner in which the state has authority to manage it for public necessity, and other asset that comes from the payment for the state's facility. Principally, State Finance will be managed well, efficiently, economically, effectively, transparently, with responsibility on justice and appropriateness.

In PP No. 58 in 2005 and PERMEN No.13 in 2006 on Finance Guidance of Local Government, said that local government finance is the right and duty to manage local improvement.

METHODS

The sample of this study is in the form of districts. They are Manokwari, Sorong, Fakfak and Sorong City. The data of this study is panel data. It is the combination of *time series* and *cross section* in 2003 – 2006 which are obtained from BPS of West Papua, Depkeu, and Depdagri.

The instrument used in this study is *Panel Data Regression Model* with three methods, they are Common *Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM). It uses *Fixed Effect* Approach to find the coefficient

among the models of each area. In this approach, the constantan of each similarity in every area is unequal. The approach adopts dummy variable with score amount to 1 for the area and 0 for other area. Another approach is *Random Effect*, that results different constantan for each area and it is assumed as *random*. The random constantan is determined by the interference which interplays among the districts and periods. To meet the best model for this study, they are tested by Hausman Test by comparison. the following is Regression Equality:

$$InY_{it} = \beta_0 + \beta_1 lnDAU_{it} + \beta_2 lnDAK_{it} + \beta_3 lnDOK_{it} + \varepsilon_{it} \quad \text{.........................} (1)$$

$$lnY_{pddkit} = \beta_0 + \beta_1 lnDAU_{it} + \beta_2 lnDAK_{it} + \beta_3 lnDOK_{it} + \varepsilon_{it} \quad \text{...................} (2)$$

$$lnY_{kshtit} = \beta_0 + \beta_1 lnDAU_{it} + \beta_2 lnDAK_{it} + \beta_3 lnDOK_{it} + \varepsilon_{it} \quad \text{...................} (3)$$

$$lnY_{infrastrit} = \beta_0 + \beta_1 lnDAU_{it} + \beta_2 lnDAK_{it} + \beta_3 lnDOK_{it} + \varepsilon_{it} \quad \text{....................} (4)$$

Where
Y_{it} is Total Capital Expenditure in District i in year t
Y_{pddkit} is Expenditure for Education in District i in year t
Y_{kshtit} is Expenditure for Health in District i in year t
$Y_{infrastrit}$ is Expenditure for Infrastructure in District i in year t
β_0 is Intercept/Constanta
$\beta_1, \beta_2, \beta_3$ is Regression Coefficient
DAU is General Allocation Fund in District i in year t
DAK is Special Allocation Fund in District i in year t
DOK is Special Autonomy Fund in District i in year t
ε is *Error Term*

Our initial step is to test the significance of *Common effect, fixed effect* and *random effect*, followed by testing the classic assumption (to test the heteroskedastisitas: Park Test, Autocorrelation: Durbin Watson

Test, and to test multicollinearty: Partial Correlation Test) and to test the statistic (t-test, F-test and R^2- test). T-test is calculated by comparing the *t-value* and *t-table*. When *t-value > t-table*, then Ho is rejected, F-test is adopted to find whether independent variable and dependent variable have the same effect to the model, while R^2-test is used to describe the variation of dependent variable (Widarjono, 2007).

RESULTS

To find the best model using Panel Data Regression Model, this study adopts Hausman Test. However, the fact, software E-Views finds that the model used in this study cannot be applied for further works because the *cross section data* should be larger than those in *time series.* Therefore, this study turns to *common effect* approach as an estimation of panel data regression as it is seen in table 1.

The calculation of panel data with the first model is seen when the three variables (DAU, DAK, and DOK) are in null position. It means that there is no subsidiary from the central government and the total capital expenditure in public service amounts to 8,04. If DAU arises up to 1%, it means that there is positive effect to Sorong and Fakfak as 1.33% and 1,14%, and there is negative effect to Manokwari and Sorong City because there reduction that amounts to 1,98% and 0,38%. If DAK arises up to 1%, it gives positive effect to Manokwari and Sorong that amounts to 0,79% and 0,67 % , and it gives negative effect to Fakfak and Sorong City because there is reduction amounting to 0,17% and 0,02%. If DOK arises up 1%, it will give positive effect to Manokwari and Sorong City as 2,06% and 1,12%, and it gives negative effect to Sorong and Fakfak with reduction up to 1,37% and 0,37%.

The calculation of regression with the second model shows that if DAU, DAK, and DOK are in null position, it means that there is no subsidiary from the central government and the capital expenditure in education will reduce up to 5,72. DAU, DAK, and DOK coefficient gives positive and negative effects, especially, to Sorong. When the coefficients give positive effect when the three variables arise up to 1%, then the capital expenditure in public service in education will increase its coefficient. The educational improvement in every district is at positive contribution of the variables in the form of capital expenditure in public service to increase human resource for better advance in that area.

Tabel 1: Calculation of 1st Regression Model with *Common Effect*

Variable	Coeffisien	(Probability)
C	8.044719	(0.2400)
_MW--LN(DAU_MW)	-1.976598	(0.0462)
_SRG--LN(DAU_SRG)	1.332521	(0.1677)
_FF--LN(DAU_FF)	1.142992	(0.1701)
_KS--LN(DAU_KS)	-0.383172	(0.7941)
_MW--LN(DAK_MW)	0.791020	(0.0177)
_SRG--LN(DAK_SRG)	0.673298	(0.0092)
_FF--LN(DAK_FF)	-0.172390	(0.7046)
_KS--LN(DAK_KS)	-0.022363	(0.9661)
_MW--LN(DOK_MW)	2.064137	(0.0282)
_SRG--LN(DOK_SRG)	-1.367815	(0.2631)
_FF--LN(DOK_FF)	-0.365782	(0.5029)
_KS--LN(DOK_KS)	1.117864	(0.4214)
R-squared	0.919454	
Adjusted R-squared	0.781374	
F-statistic	6.658865	
Prob(F-statistic)	0.009194	

Source: calculated data

The calculation of regression with the third model shows that if DAU, DAK, and DOK are in null position, it means that there is no subsidiary from the central government and the capital expenditure in health will reduce up to 33,67. The equal regression of capital expenditure in education and health are almost the same. It indicates that education and health are at the same level in term of significance. They are vital for human resource improvement, especially, in the isolated area in which the population distribution is not prevalent. When the facility for education and health is fulfilled, then there will be interconnection between them in creating qualified human resource as the agent of regional economic development.

The calculation of regression with the fourth model is to realize qualified and equal project that spread to isolated area. Infrastructure construction is one choice for the first step to connect the isolated area with the city to reinforce the economical growth. If the regression calculation of DAU, DAK, and DOK is at null position, it means that capital expenditure in infrastructure is 24,02. It shows that construction and enlarging area are governmental fixed program on economical growth in West Papua.

In Classic assumption test of this study, we apply Park Test to detect heteroskedastity. The result shows that t-statistic < t-table (α = 1% is 2,921 and α = 5% is 2,120). It concludes that heteroskedastity is not found in the model. To know the autocorrelation in this study, we apply Durbin-Watson Test. The d-value or the DW-test value is 2.771. in the D-W table, n = 20 and k = 3, then dL- value is 0.773 and 0.998 (α =0.01 and α = 0.05), dU- value is 1.411 and 1.676 (α =0.01 and α = 0.05). it concludes that model is in the skepticism. To detect the multicollinearty, we can see the indication in R^2-value as the calculation of regression auxiliary among the independent variables. The indication shows that there is no multicollinearty.

In statistical test, t-test results t-table as 1.746. Based on the regression calculation using *common effect* approach, it is found that there are only some variables that are significant in every district in West Papua. They are DAU, DAK, and DOK in Manokwari, and DAK in Sorong. Based on the calculation of F-test, the f-value is 6.658 and f-table is 3.01. therefore, f-value > f-table. It means that H_0 is rejected and Ha is accepted. It means that all independent variables equally affect the dependent variable, is accepted.

In R^2-test, the R^2-value is 0.91. it means that the model used is able to explain the variation of dependent variable as 91% , and the 9% will be explained by other factor out of the model. Therefore, the model quality is good.

Anomaly Flypaper Effect Analysis

The indication of *flypaper effect* can be formulated as follows: 1) One of the coefficient value of independent variable is bigger than coefficient value of two other independent variables; 2) The coefficient value of other independent variables is not significant (negative sign on coefficient). To see clearly the flypaper effect in West Papua, we present in table 2.

The obtained data from the coefficient of independent variable in each district above might be replaced by non-district average coefficient of independent variable by using panel data regression model to know the appearance of flypaper and its anomaly. Each model is eligible for the appearance of flypaper. The first model has bigger coefficient than the others in regression model, and the fourth model has negative mark which means that it is not significant.

From the calculation, it is clearly found that there is flypaper of DAK, and DOK towards capital expenditure of public service in education, health, and infrastructure in regional government in West Papua.

Table 2. The Analysis of *Flypaper Effect* towards Capital Expenditure in Public Service in Each District/City in West Papua

No	District/City	Regression Model	DAU	DAK	DOK	Result
1	Kab. Manokwari	First	- 1,98	0,79	2,06	DOK > DAU and DAK
		second	1,35	0,05	- 0,35	DAU > DAK and DOK
		third	1,79	- 0,38	1,13	DAU > DAK and DOK
		Fourth	0,16	- 0,67	0,43	DOK > DAU and DAK
2	Kab. Sorong	First	1,33	0,67	- 1,37	DAU > DAK and DOK
		Second	0,17	0,93	0,06	DAK > DAU and DOK
		Third	0,66	0,46	1,13	DOK > DAU and DAK
		Fourth	- 0,09	1,07	- 0,99	DAK > DAU and DOK
3	Kab. Fakfak	First	1,14	- 0,17	- 0,37	DAU > DAK and DOK
		Second	- 1,43	1,39	1,36	DAK > DAU and DOK
		Third	- 0,68	1,43	1,67	DOK > DAU and DAK
		Fourth	- 2,60	2,08	0,73	DAK > DAU and DOK
4	Kota Sorong	First	- 0,38	- 0.02	1,12	DOK > DAU and DAK
		Second	0,13	-0,08	1,09	DOK > DAU and DAK
		Third	1,68	- 0,45	0,92	DAU > DAK and DOK
		Fourth	2,19	- 0,98	- 1,43	DAU > DAK and DOK

Source: calculated data

Table 3. The Recapitulation of the Coefficient of Independent Variable per Regression Model

Model	Coefficient			Description
	DAU	DAK	DOK	
First	0,03	0,32	0,36	DOK > DAK > DAU
Second	0,05	0,57	0,54	DAK > DOK > DAU
Third	0,86	0,26	1,11	DOK > DAU > DAK
Fourth	- 0,08	0,38	- 0,31	DAK > DOK > DAU

Source: calculated data

It concludes that the above condition is the reason of the region's financial dependence to the central government on their expenditure. The writer calls such a condition as anomaly flypaper. It means that the previous research found that flypaper took place on DAU, while this research found that in West Papua flypaper took place in DOK and DAK towards the capital expenditure of public service.

The anomaly of regional fiscal dependence in West Papua is the effect of misunderstanding about financial management caused by the different perception on the utility of balancing fund from the central government. Other reason of the de-

pendence is that most of the expenditure, especially DAU flows for the apparatus' expenditure. Ironically, the legislative assembly does not pay attention control of regional government budget.

Ideally, that the expenditure on public necessity is realized in the right way, therefore, the it will reach the right receivers. Moreover when they are elected as the representative of the people to deliver public aspiration. In Indonesia, it is clearly stated on UU No. 32 in 2004, article 42. It states the duty and the authority of the members of Legislative Agency. One of the content is that they together with the government discuss and assent the draft of the

regional regulation on the Regional Income and Expenditure Budget (APBD), and have authority to control the application of the APBD to avoid the deviation in determining budget related to public service in term of their authority.

A research by Maimunah (2006) is about the effect of DAU and PAD towards capital expenditure in Sumatra and the tendency of *flypaper effect*. It described that the value of DAU and PAD affect the nominal of regional expenditure. It was also found that *flypaper effect* took place in Sumatra and gave positive effect.

Other research by Kusumadewi (2007) was done with two independent variables; DAU and PAD towards capital expenditure in Indonesia also indicated *flypper effect*, thus the implementation of decentralization does not run well.

CONCLUSION

DAU, DAK, and DOK both individually or collectively had significant effects toward total capital expenditure of public service in West Papua. DAU, DAK, and DOK col-lectively give significant effect on capital expenditure of public service in education, health, and infrastructure at 5% significance level.

Flypaper effect occurred on the effect of DAU, DAK, and DOK toward capital expenditure of public service in West Papua. Anomaly flypaper effect also occurred in which there was regional dependence which did not realize by PAD but by the balancing fund from the central government either in the form of DAU, DAK, or DOK.

The solution for such a condition was that the regional government should reduce its fiscal dependence from the balancing fund given by the central government by trying to search other source of income, especially regional tax and retribution to be able to manage the process of regional development as the realization of decentralization or autonomy.

Controlling towards the regional budget usage would effectively allocate the regional budget especially for the public necessity proportionally.

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