Advanced Science Letters
Vol. 23, 9013–9019, 2017

Degree of Fiscal Decentralization and Flypaper Effect: Evidence from Indonesia

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The existence of flypaper effect phenomenon in Indonesia has not been fully answered completely because the findings of the studies on this subject were no unidirectional. Some researchers discovered the existence of flypaper effect, while some other studies did not find the phenomenon. This study investigates the presence of flypaper effect and its impact on public welfare using data covering all counties and cities in Indonesia from 2010 to 2013. To test hypotheses, we first group districts based on the degree of fiscal decentralization and than test the existence of the flypaper effect and its impact on public welfare simultaneously on each of fiscal decentralization degree. Partial Least Square release 5 is used to test hypotheses. The results show that the general allocation fund effects significantly on capital expenditure for all of the degree of fiscal decentralization. District own-source revenue significantly affects the capital expenditure only for the districts with an extreme degree of fiscal decentralization. The phenomenon of flypaper effect is really happening in the autonomous districts of Indonesia. The positive impact of capital expenditure on the welfare of the community is also found in district with extreme degree of fiscal decentralization.

Keywords: General Allocation Fund, District Own Resource Revenue, Capital Expenditure, Public Welfare, Flypaper Effect.

1. INTRODUCTION

The Act No. 23 of 2014 on Local Government states that Indonesia adheres to the principle of decentralization, deconcentration, and co-administration task in the implementation of regional autonomy. All authorities, except monetary, justice, religion, foreign affairs, defense and security functions, are delegated to local governments. Local governments can be freely to govern in accordance with the region's own initiative in order to create a just and prosperous society. In order to be able to carry out a wide range of delegated authorities, local governments need financial resources. Act No. 33 of 2004 on Fiscal Balance Transfers states that the central government transfers funds to districts either in the form of block or conditional grants.

There are three types fiscal balance transfers given by the central government to autonomous districts, namely the Revenue Sharing Fund, General Allocation Fund, and the Special Allocation Fund. Revenue Sharing Fund aims to reduce fiscal imbalances vertically through tax and natural resource sharing between the central and local governments. General Allocation Fund is block grant aimed at reducing fiscal imbalances between regional governments. Special Allocation Fund is conditional grant intended to equalize the autonomous district's ability to provide basic services to the community.

This study aimed to test the existence of flypaper by linking the General Allocation Fund and district own-source revenue to capital expenditure as well as capital expenditure connecting with the public welfare. The tests are performed for each category of the degree of fiscal decentralization. This study differs from previous studies on flypaper effect for several reasons. First, the data of this study include as many as 92% of counties and cities in Indonesia so that a comprehensive picture of the occurrence of flypaper effect can be known. Secondly, this study takes into account the various levels of the degree of fiscal decentralization. Third, the occurrence of flypaper effect associated with the objectives of regional autonomy that is the welfare of society. Fourth, this study uses a structural model with PLS (Partial Least Square) as analytical tools with the concept that the factors were tested against capital spending may be related to the ultimate goal of regional autonomy that is public welfare.

2. MATERIALS AND METHODS

Money should follow function principle has to be followed in order for local autonomy can be implemented properly. The meaning of the principle is that any delegation of authority and functions are also demanding the provision of financial resources so that those authority and the functions can be carried out. Number of governmental functions and responsibilities of bureaucracy

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in every district is relatively the same. But the success of implementing autonomy may differ. Such differences may be caused by local conditions, effectiveness of leadership, the effectiveness of the implementation of the budget, as well as the ability to explore the sources of income.

Policies on financial balance transfer between central and local governments are a derivative of the regional autonomy policy. The more authority delegated, the greater the cost required by the region. The functions to be carried out are a lot but the financial resources are limited. Decentralization must be well managed through the implementation of efficient and effective budget. Type of fiscal decentralization in Indonesia is decentralization on the expenditure side. The expenditure side is funded through transfers and districts own source revenue. This fiscal decentralization design focuses on the discretion to spend funds according to the needs and priorities of each district. The main sources of revenue are still largely controlled by the central government. The purpose of controlling those sources of revenue is to maintain the integrity of the nation within the framework of the unitary state of Indonesia.

With regional autonomy in Indonesia, local government spending is increasing because of the increasing activities of government that require financing.[1] This is called as the Law of Ever Increasing State Activities. The more activities the more needs and further increasing expenditures. An increase in the state activity followed by an increase in the country's needs and further increased state spending. District expenditures can be classified into two: the routine and capital expenditure. Routine expenditures are expenditures used to fund day-to-day governance, such as personnel, operations and maintenance spending, as well as official travel expenditures. Capital expenditure is expenditure that is used to fund the improvement of the quality of public services, such as construction of public infrastructure and facilities. Capital expenditure has always been a major focus in the analysis of public expenditure because expenditure is directly related to improving the quality of public services. The allocation of capital expenditure by local governments is determined on the interests and needs of the region.[2] The purpose of capital expenditure is not only economic objectives but also other objectives such as social and moral purposes. In other words it can be said that investment spending has a very broad spectrum. Indeed, as a form of public sector investment, capital expenditure is one of the focuses of the government policies.

General Allocation Fund has a stronger influence on district expenditure rather than the effect of district own source revenue to the regional expenditure.[3] When local government response is greater to transfer than the district own source revenue, it is called flypaper effect.[4–7] Moreover, flypaper effect not only occurs in district with lower revenue but also in districts with high revenue. There is no difference in the occurrence of flypaper effect between high and low own source revenue districts. Flypaper effect can be happened because of political agreement and asymmetric behavior. Flypaper effect symptoms occur due to problems related to politics. Flypaper effect seen as a result of a political agreement between political institutions and incentives related to the district head. Legislative members do political corruption through the realization of their discretionary power in budgeting. Local legislature makes budget decisions by utilizing the increase in the budget as a source of financing for new activities.[8] An increase in the transfer followed by higher excavation of district own source revenue.[9−14] For the central government, the transfer is expected to be a driving force for regional government intensively explores local revenue sources in accordance with their authority. However, extracting district own source revenue based solely on incremental factors will have a negative effect on the local economy. This indicates an overactive attitude of local governments on the importance of the transfer. This asymmetric behavior occurs when local government tried to make expenditures as high as possible without having to seek the maximization of district own source revenue and this indicates that the districts need a greater transfer from center government.[15−19] However, this action will cause the level of dependence of local governments on the central government becomes higher.

Other evidences show that there is no flypaper effect in Indonesia.[20,21] General Allocation Fund and district own source revenue have positive effect on capital spending.[9,21] But the influence of district own source revenue to capital expenditures is even greater than the effect of General Allocation Fund to capital expenditures. Furthermore, there is no phenomenon of flypaper in the local government of Indonesia.[21] The flypaper symptom happen may be caused by problems of data, econometrics, and specifications in the study. Some studies have disputed the existence of flypaper effect. This effect is simply an econometric problem becahse the estimation of the flypaper is sensitive to functional form.[22,23] Flypaper effect also occurs because of the political process. Flypaper effect can be seen as a result of a political agreement between political institutions and associated incentives of elected officials or heads of districts. Based on agency theory, the effective supervision can encourage agents to better manage local government finances. Effective supervision from the principal to the agent may reduce the wasteful use of government grant funds transfer and therefore removes flypaper effect.

The ultimate purpose of regional autonomy is creating a prosperous society. An indicator of public welfare is human development. UNDP introduced Human Development Index in 1990. This index is used to measure the success of economic development. Human Development Index is composed of three components: life expectancy, education level (combination of literacy rate in the population 15 years and over with and average length of school), and the decent standard of living as measured by adjusted per capita spending (purchasing power parity). Thus, the concept of public welfare by incorporating aspects of health and education along with aspects of food, clothing, and housing into a unitary income levels have been integrating the approach of the quantity and quality of life. However fiscal decentralization has not been beneficial to the welfare of society so far.[24] Some problems occur regarding to the implementation of regional autonomy, including flypaper.

It has been described above that the results of the above studies are not unidirectional. Some researchers discovered the existence of flypaper effect, while some other studies did not find the phenomenon. Using data covering all counties and cities in Indonesia, and consider the level of fiscal decentralization, and tested simultaneously, we test these hypotheses General Allocation Fund effects on capital expenditures (hypothesis 1), District Own Source Revenue effects on capital expenditure (hypothesis 2), and capital expenditure affects the welfare of the community (hypothesis 3).

Table I. Variable measurements.

Variables	Categories	Symbols	Measurements
General allocation fund	Endogenous	GAF	Natural logarithm of the value of general allocation fund
District own source revenue	Exogenous	DOSR	Natural logarithm of the value of district own source revenue
Capital expenditure	Mediation	CEX	Natural logarithm of the value of capital expenditure
Society welfare	Endogenous	HDI	Score of human development index

The focus of this study is to identify the existence of flypaper on district budget and its effect on public welfare. Therefore, this study use district as the unit of analysis. In 2013 there were as many as 33 provinces, 398 counties, and 93 cities in Indonesia. Data obtained from the district include district own source revenue, General Allocation Fund, Revenue Sharing Fund, capital expenditure, and Human Development Index. This study uses data of all those local governments with only one condition that is available during the study period. The data is obtained from the Central Statistics Agency for the period of 2010 to 2013. The researchers assume that four years is a sufficient period to observe the phenomenon of regional autonomy and flypaper effect.

There are three categories of variables in this study, namely the exogenous, intervening, and endogenous variables. The names, categories, symbols, as well as the measurements of these variables are presented in Table I. Exogenous variable is variable whose value is not influenced by other variable in the model. Exogenous variable is variable whose value is not influenced by other variable in the model. Exogenous variable is always positioned as an independent variable. There are two exogenous variables in this study include the General Allocation Fund (GAF) and district own source revenue (DOSR). GAF is measured by the natural logarithm of the value of the General Allocation Fund. DOSR is measured by the natural logarithm of the value of district own source revenue. Endogenous variable is a variable whose value is influenced by other variable in the model. An endogenous variable always plays as the dependent variable. Endogenous variable in this study is the welfare of society which is symbolized as PWR. Public welfare is a latent variable which is indicated by Human Development Index (HDI). HDI variable is measured by the Human Development Index score. Intervening variable is variable that mediate the relationship between exogenous and endogenous variables. Intervening variable is sometimes referred to as mediating variable. Intervening variable in this study is a capital expenditure (CEX). This variable is measured by the natural logarithm of the value of capital expenditure.

Figure 1 depicts the research model. The research model illustrates the relationship between the exogenous, intervening, and endogenous variables. Testing the hypothesis is done by using

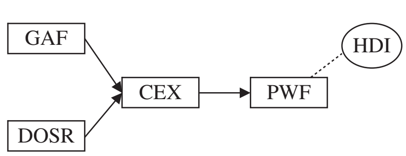

Fig. 1. Research model.

the Partial Least Square (PLS). PLS is a kind of regression used to determine the specification of the relationships between constructs and the constructs with their indicators. This study use both latent and non latent variables. Each variable has one indicator. PWR is the only latent variable that is indicated by Human Development Index. While the non latent variables include FAG, DOSR, and CEX. With such variable characteristics, the researchers decided to use the PLS in testing hypotheses.

Researchers conducted a sensitivity test to obtain robust results. Sensitivity test is done by categorizing local governments based on the degree of fiscal decentralization. The degree of fiscal decentralization is measured by comparing between DOSR and revenue sharing fund with total expenditures. Differences in the degree of regional autonomy illustrate the ability of inter-regional imbalances. Differences in the ability of the inter-district/city to implement regional autonomy have an impact on the effectiveness of achieving the goal of implementation of regional autonomy.

The degree of fiscal decentralization indicates the extent to which the region is able to carry out the authority given to improving the welfare of society. A high degree of fiscal decentralization is an indicator of high ability in managing the authority granted by the central government; and vice versa. Inter-regional differences in the ability to implement regional autonomy have an impact on the effectiveness of achieving the goal of implementation of regional autonomy. Based on the degree of fiscal decentralization, regions are grouped into six categories, namely: very low, low, slightly moderate, moderate, high, and very high.

3. RESULTS AND DISCUSSION

In 2013, Indonesia consists of 33 provinces, 398 counties and 93 cities. Autonomous districts that have complete information about GAF, DOSR, capital expenditure, and HDI for 2010 through 2013 are 364 counties and 88 cities spread across 33 provinces. Autonomous districts included in this study cover approximately 92% of Indonesia. Jakarta city is not included in the analysis because Jakarta is not only a city but also a province. The authority possessed by the government of Jakarta as a city and a province as well is different that that of possessed by other cities in Indonesia. There are as many as 1,506 years of observation were treated in this study.

Table II presents a description of the study variables. GAF is a fund transfer from the central government that can be used in accordance with the local government policy. This fund is intended to reduce horizontal imbalances between regional governments. The average value of GAF is Rp463.45 billion. GAF standard deviation is quite large, namely Rp227.67 billion indicates that the financial capacity among the local governments have not been evenly distributed. In 2013, as much as 62% of districts receive GAF which amount less than average value of it nationally. In addition, the amount of GAF is not always in line with the degree of fiscal decentralization. It shows that GAF is smaller for a very high degree of fiscal decentralization category. But not the other way around that GAF is greater for areas that have a smaller degree of fiscal decentralization. Of course, this condition does not indicate that the central government allocated GAF unfairly. This is because the amount of GAF is influenced by factors such as the fiscal capacity and needs of the region as well as the value of government employee salaries.

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Table II. Description of research variables (in billion rupiah, except for the HDI).

	Degree of fiscal decentralization						
Variables	Very low	Low	Slightly moderate	Moderate	High	Very high	Total
GAF							
Minimum	43.65	64.26	71.86	181.74	180.69	1.08	1.08
Average	405.73	499.06	480.69	526.28	574.43	318.98	463.45
Maximum	1,303.91	1,563.83	1,730.06	1,672.61	1,485.94	1,160.03	1,730.06
St. deviation	161.98	232.96	231.85	271.18	318.20	197.41	227.67
DOSR							
Minimum	0.77	0.84	0.76	13.10	8.88	8.92	0.76
Average	19.69	57.78	97.86	200.17	325.74	208.11	80.74
Maximum	117.48	328.35	507.24	1,048.23	1,442.78	2,791.58	2,791.58
St. deviation	15.08	51.01	88.95	235.02	392.99	431.95	170.41
CEX							
Minimum	31.98	16.83	47.66	54.04	27.24	62.22	16.83
Average	139.72	149.43	180.42	242.11	442.67	437.12	186.77
Maximum	488.36	692.37	612.39	1,035.47	1,280.54	1,419.31	1,419.31
St. deviation	61.54	77.77	97.11	163.71	338.52	299.11	157.90
HDI							
Minimum	48.54	47.94	6.58	63.81	65.51	64.79	6.58
Average	70.43	71.38	71.73	72.37	72.77	73.78	71.44
Maximum	79.41	80.17	78.74	79.39	79.16	79.30	80.17
St. deviation	5.14	4.30	6.03	3.66	3.16	3.10	4.74

Note: GAF (general allocation fund), DOSR (district own source revenue), CEX (capital expenditure) and HDI (human development index).

DOSR variable indicates the amount of revenue sourced from the region itself. A high DOSR shows a high degree of fiscal decentralization as well. Districts that have a large DOSR are able to govern the region without depending upon central government transfers. On average DOSR is Rp80.74 billion. This value is relatively low compared with the GAF received from the central government. DOSR figure is an indication that many local governments that rely on transfers from the central government to run the government. District's ability to generate revenue is also varies among districts. Some districts have very high revenue. The highest own source revenue is Rp2,791.58 billion. There is a district that is only able to earn local revenue for Rp0.76 billion. In 2013, as much as 75% of the districts have DOSR lower than the nationally average DOSR. There is a tendency that the amount of DOSR varies according to the degree of fiscal decentralization. A high degree of fiscal decentralization associated with a high DOSR as well.

Capital expenditure is the expenditure made in the context of acquisitions of fixed assets that provide future benefits. Capital expenditure is the trigger economic activity and development. Capital expenditures are expected to boost the economy and development for the public welfare. The average capital expenditure of districts is Rp186.77 billion. In fact there is a district having only Rp16.89 billion capital expenditure while there is a district that has a capital expenditure of Rp1,419.91 billion. District economic development is crippled by the imbalance of capital expenditure. The proportion of capital expenditure compared to total regional spending is 22% Many districts have little capital expenditure. There are as many as 69% of the districts have capital expenditure below the average value of capital expenditure nationally. Data show that the amount of capital expenditures directly related to the degree of fiscal decentralization.

HDI is a figure that indicates the achievement of human development based on various components. English term of HDI is the Human Development Index (HDI). HDI is considered as an appropriate indicator to reflect the conditions of human development. HDI indicates longevity, knowledge, and decent living standards. Human development is considered low when the HDI is less than 50. Human development is considered lower middle when the HDI between 50 and 65.9 and the upper middle when the HDI are 66 up to 79.9. In 2013, the average HDI is 71.44. There are as many as 46.24% of districts that have HDI below the average. Human development is considered high if the HDI of at least 80. A total of 0.73% of districts has a population with low human development. Districts with lower middle human development category amount to as much as 6.84%. Generally, districts in Indonesia have a human development index in the upper middle range, which is about 92.43%. Data in the study period showed only one district that has a high HDI, at 80.17, namely Banjarnegara District. But the high score of HDI of this district is not consistent between periods.

The trend of GAF, DOSR, CEX, and the HDI over time are presented in Table III. On average GAF increased from year to year since 2010 to 2013. The increase in GAF is approximately 58% in the last four years. DOSR trend also increased from year to year. The average revenue in 2010 is Rp51.59 billion, while the average revenue in 2013 was Rp120.41 billion. DOSR increased by 69% over the last four years. Human development in Indonesia also increased. HDI in 2010 has an average value of 71.06. While the average value of the HDI in 2013 was 72.29. There is an increase in the HDI by 23% in the last four years.

District autonomy is not solely lie in the acceptance of greater authorities from the central government to local governments, but also the extent to which the region is able to carry out those

Table III. Average Value of GAF, DOSR, CEX, and HDI.

Average	GAF	DOSR	CEX	HDI
2010	368,182,559,935	51,594,455,155	135,754,581,056	71.04
2011	406,256,439,014	62,393,793,086	162,463,306,003	70.98
2012	506,491,750,480	91,533,864,186	203,622,744,706	71.55
2013	581,109,744,941	120,414,878,439	249,916,874,624	72.26
Total	463,453,836,566	80,740,960,085	185,744,303,002	71.44

Table IV. Composition of degree of fiscal decentralization.

Degree of fiscal decentralization	N	Percentage
Very low	401	26.63
Low	668	44.36
Slightly moderate	199	13.21
Moderate	76	5.05
High	57	3.78
Very high	105	6.97
Total	1,506	100.00

authorities. A district said to be truly autonomous if the district is able to carry out development programs without depending too much on the central government. The ability to fund development programs independently can be seen based on the degree of fiscal decentralization. Fiscal decentralization degrees measured by total expenditures, own source revenues, and funds from revenue sharing fund. Total expenditure indicates all the programs and activities that will be carried out by local government. Own source revenue is tax and non-tax revenues that purely from the district itself. Revenue sharing fund is revenue generated from tax and natural resources which is shared between central government and local governments. Degree of fiscal decentralization is obtained from the comparison between the amount of own source revenue and revenue-sharing to total expenditure.

Degree of fiscal decentralization of counties and cities in Indonesia is presented in Tables IV and V. Approximately 80% of the districts classified as areas with a very low and low degree of fiscal decentralization. A total of 44.36% of the districts are in the slightly moderate classification of degree of fiscal decentralization. A total of 10.75% of districts and cities are classified as high and very high fiscal decentralization. Those districts are considered independent in carrying out local development. Districts that have very high fiscal decentralization amounted to only 6.97%. The explanations above show that generally counties and cities in Indonesia are not self-sufficient in running the government and economic development. They are still very dependent on the transfer of funds from the central government. Counties and cities receive greater autonomy to develop their own region. However, in order to exercise these powers they are still dependent on the financial resources of the central government.

Autonomous districts which have a degree of fiscal decentralization of very low category less in 2010 than in subsequent years. The shift in the classification of the degree of fiscal decentralization is not a consistent pattern rather fluctuate. Fluctuating trend occurred for all classifications degree of fiscal decentralization. The composition of the degree of fiscal decentralization is different in each year of observation. Trends shift of fiscal degree classification is not patterned as expected.

Table V. Fiscal decentralization degree in four years of observation.

Degree of fiscal decentralization	2010	2011	2012	2013
Very low	19.63	30.99	27.32	28.61
Low	50.93	40.89	43.36	41.91
Slighty moderate	15.65	11.46	13.03	12.72
Moderate	3.71	6.25	5.01	5.20
High	3.18	2.86	3.01	6.36
Very high	6.90	7.55	8.27	5.20
Total	100.00	100.00	100.00	100.00

Table VI. P value for each degree of fiscal decentralization.

	Degree of fiscal decentralization and P-value					
Hypotheses	Very low 0%–10%	Low 10,01%–20%	Slightly moderate 20,01%–30%	Moderate 30,01%–40%	High 40,01%–50%	Very high >50%
H1	$< 0,01^{*}$)	$< 0,01^{*}$)	$< 0,01^{*}$)	$< 0,01^{*}$)	$= 0,02^{*}$)	$= 0,04^{*}$)
H2	$= 0,04^{*}$)	$= 0,02^{*}$)	$= 0,25$	$= 0,28$	$= 0,37$	$< 0,01^{*}$)
H3	$< 0,01^{*}$)	$< 0,01^{*}$)	$= 0,20$	$= 0,31$	$< 0,01^{*}$)	$< 0,01^{*}$)

Note: *Significant at alpha 5%.

Three hypotheses were tested in this study. Hypotheses are GAF and DOSR influence on capital expenditures and the impact of capital expenditures on public welfare. All these hypotheses are tested simultaneously by using PLS. Hypotheses tested for each category of the degree of regional decentralization. P-value for each test is presented in Table IV.

Findings on flypaper presented in Table VII. Flypaper effect phenomenon occurs when p-value and t-test in testing the influence of GAF with capital expenditure is greater than the p-value and t test in testing the effect of DOSR to capital expenditure; and vice versa. GAF significantly effect on capital spending for all categories of the degree of fiscal decentralization. DOSR significantly effect on capital expenditures for district with fiscal decentralization category are very low, low, and very high. Capital expenditure significantly effect on public welfare for the districts with the category of fiscal decentralization are very low, low, high, and very high. Because the p-value and t test are different in testing GAF and DOSR to capital expenditure, it can be said that the flypaper happen for all categories except district with very high degree of fiscal decentralization.

Hypothesis 1, which states that there is influence of GAF to capital expenditures, fully supported by the data for all level of fiscal decentralization. This result is consistent with GAF data in Table III in which the average value of GAF steadily increased from 2010 to 2013. Relating to GAF impact on capital spending, this finding is consistent with other findings.[25] In another studies, flypaper did not happen.[20, 21] The difference in empirical finding is maybe caused by differences in location, the condition of the budget, and time.

The main sources of tax revenues are the income tax and value added tax. Both of these taxes are revenues for the central government. Natural resource revenues are also including in central government revenues. At the provincial level, the largest tax revenue is derived from taxes on motor vehicles. Hotel tax, restaurant tax, advertisement tax, entertainment tax and parking levies are examples of taxes and levies that can be charged by the county and city governments. There are other types of taxes and other levies, but their values are relatively very small. These local taxes and levies are called district own source revenues. Relying

Table VII. Findings on flypaper effect.

Degree of fiscal decentralization	Flypaper occurrence
Very low	Yes
Low	Yes
Slightly moderate	Yes
Moderate	Yes
High	Yes
Very high	No

to much on local taxes and levies make it's difficult for certain districts to self-sufficient in funding. Some natural resource and employee income tax revenue are transferred into districts with certain formulas. With this transfer, the vertical imbalances is expected be reduced. Transfer funds from revenue sharing, in particular of natural resources, received by the district with value of very varied in accordance with the conditions of natural resources. In order for inter-regional financial capability horizontally equitable, the central government provides GAF. Thus GAF intended to reduce imbalances horizontally. The value of own source revenue is small. However, funds for capital expenditures remained relatively greater with the GAF. Personnel expenditure in the budget is still dominant. Although capital expenditure helped by the GAF, but the portion of capital expenditure was much lower than the portion of employee expenses.

Hypothesis 2 states that DOSR effects on capital spending. Table VI shows clearly that sometimes DOSR significant effect on capital expenditure and sometimes DOSR has no effect on capital spending. DOSR positively effect on capital expenditure for districts with very low, low, and very high degree of fiscal decentralization. The positive influence of DOSR on capital expenditure is also found in other studies.[25,26] DOSR influence on capital expenditure is not significant for the district with slightly moderate, moderate, and high degree of fiscal decentralization. The influence of the DOSR to capital expenditures found in the district that has a degree of fiscal decentralization is relatively extreme. It seems that these mixed findings related to trends in the changing of fiscal decentralization. The number of districts that have very low, moderate, high degree of fiscal decentralization is likely to increase. While the number of districts with low, moderate, and very high degree of fiscal decentralization tends to decline. In the calculation of the degree fiscal decentralization, the numerator is DOSR and revenue sharing fund, while the denominator is the total of expenditures. Changes in the value of those elements lead to changes in the degree of fiscal decentralization. Therefore, the influence of the DOSR to the capital expenditure varies according to the degree of regional autonomy.

In general, the proportion DOSR to total revenue is relatively small, at about 15%. GAF is still the main source of development financing. It is therefore not surprising that the DOSR does not significantly affect capital spending, particularly in districts with slightly moderate, moderate, and high degree of fiscal decentralization. GAF significant effect on capital expenditure and insignificant effect of DOSR on capital expenditure indicatives the occurrence of flypaper effect. In addition, because the p-value and t test for testing the effect of DOSR on capital expenditure are lower than those of for testing the influence of GAF to capital expenditure, it can be said that there is a phenomenon of flypaper.

As shown in Table VI, the positive impact of capital spending to the welfare of society is found to districts with fiscal decentralization category of very low, low, high, and very high. Researchers do not find any effect of capital expenditure on the welfare of the people to districts with slightly moderate and moderate category of fiscal decentralization. The rejection of hypothesis 3 is in line with the findings of other studiies.[24] The positive effects of capital spending to the welfare of society seem to happen to districts that have extreme fiscal decentralization.

The portion of capital expenditures appears to be a one of the reasons of this mixed research findings. The proportion of capital spending is very small compared to the proportion of employee expenses. Low capital expenditure means slow development. In addition to the low proportion, other reasons for slow development are low quality of capital expenditures, unwell targeted of capital spending allocations, budget irregularities, as well as the fear of making capital expenditures. This fear is caused by the possibility of administrative error is considered as an act of corruption. Those reasons above cause capital spending has very minimal role in creating a prosperous society.

Flypaper effect is known from the results of testing the influence of GAF and DOSR to capital expenditures. Flypaper effect occurs when in testing the influence of GAF and DOSR to capital expenditures to produce different p-value and t test. Flypaper effect is found in all category of fiscal decentralization except in districts with a very high degree of fiscal decentralization. The local government response more spending comes from the unconditional transfer than district own source revenue, resulting in waste. Flypaper effect seen as a result of a political agreement between political institutions and incentives related to the head of district. Wastage expenditure resulted in failure to achieve the welfare of society. Therefore, flypaper effect cause suboptimal role of capital expenditure in reaching the public welfare.

4. CONCLUSIONS

Based on the analysis and discussion that has been described previously, the researchers draw some conclusions. First, flypaper effect phenomenon occurs in almost all districts of Indonesia. This phenomenon occurs when the degree of fiscal decentralization is very low, low, almost moderate, moderate, or high. Flypaper effect does not occur if the districts with very high category of fiscal decentralization. Secondly, GAF significantly effect on the capital expenditure. GAF significantly effect on capital expenditure for each category of the degree of fiscal decentralization. It can be understood easily as the funding of the GAF is very dominant in capital expenditure. Districts own source revenues have not been able to take over the dominance of GAF for capital expenditure.

Thirdly, DOSR significantly effect on the capital expenditure only if the degree of fiscal decentralization is very low, low, and very high. The data did not show any effect of DOSR to capital expenditure for districts with category degree of fiscal decentralization is slightly moderate, moderate, and high. Empirical evidence suggests that the phenomenon of flypaper effect occur in districts with extreme fiscal decentralization, low and high. This phenomenon does not occur in districts with a middle degree of fiscal decentralization. Fourthly, capital expenditures significantly effect on public welfare only for districts with degree of fiscal decentralization of very low, low, and very good. Capital expenditure does not significantly influence the welfare of the society if the degree of fiscal decentralization is slightly moderate, moderate, and high. It also shows that the impact of capital expenditures on public welfare only when the conditions of fiscal decentralization are extreme. Effect of capital spending on the welfare of society is not found when the fiscal decentralization is at the middle category.

The reason why capital spending does not always have a positive impact on the welfare of society needs to be studied further. According to researchers, among a variety of possible reasons are the proportion of capital expenditure is low, capital expenditure is not productive, budget deviation, and the use of capital expenditure is not for long-term investments that are beneficial to the economy. Another reason is that government officials are reluctant to carry out capital spending for fear of administrative errors can be considered as corruption.

Budgeting decision makers, the executive and the legislature, should understand this flypaper effect phenomenon. This phenomenon is an anomaly and should be avoided. The government officials also should know that the capital spending policies conducted so far does not have much impact to the welfare of society. The principles of good financial management must be applied in the planning and implementation of budgeting. Society expects that any expenditure beneficial to them. Suggestion for further research is that it is needed to examine further the occurrence of flypaper and its impact on social welfare by considering a variety of local conditions. One thing that may be used as a basis for further investigation is district grouping based Typology Klassen.

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Received: 6 December 2016. Accepted: 2 May 2017.