Intergovernmental Transfers Reduction Policy and Flypaper Effect: Case of Covid-19 Pandemic in Indonesia

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Abstract

This study empirically examines the influence of intergovernmental transfers and the fall of it to local government's expenditure in Indonesia as well as the possibility of flypaper effect occurrence over pandemic. Over the years, in general, intergovernmental transfers in Indonesia was increasing since decentralization was applied in 2000 till the pandemic hit the country which made the regulator for the first time in 20 years decided to cut overall transfers for municipalities in order to recover economically. A set of cross-section data used in this study is the year 2020 from 34 provinces, 417 regencies, dan 91 cities. The result of pooled OLS regression model shows that flypaper effect does appear for all types of expenditures, such as total expenditure, capital expenditure, and operational expenditure of the local government. Asymmetric response of those three are quite varied. Total expenditure shows asymmetry whereas capital and operational expenditures find the opposite.

Keywords: *flypaper effect; intergovernmental transfers reduction; pandemic; policy; Indonesia.*
JEL Classification: H77; H30; E62; D81

INTRODUCTION

Decentralization plays a significant role in embracing local economic efficiency (Khusaini, 2006). It reduces transaction and administration costs while adjusting to higher producer efficiency. Musgrave (1984) believes that the presence of local government can identify and allocate resources much better, easier, and clearer due to their approximate closeness. Regardless, local officials' accountability is urgently required to achieve such a goal. Moreover, local policies as one of the key local developments should consider endogenous development elements of such locality, e.g., human, natural, and artificial resources (Nurkholis & Khusaini, 2019). Hence, local government's budget and spending shall represent local needs. Intergovernmental transfer is a paramount source of funding for local government to run central government's policies in their respective constituents, increase public services efficiency, and guard the visibility of local government's fiscal condition.

In the US, half of state revenue and 60% of municipalities' revenue are from intergovernmental transfers (Fisher, 1996). Moreover, in other countries, such as South Africa, Nigeria, and Mexico, intergovernmental transfers' as local source of revenue amounted to 85%, 67% – 95%, and 70% - 90%, respectively (Prakosa, 2004). Meanwhile, in Indonesia, as stated by the Statistics Indonesia (BPS) from 2006 to 2020, in average, 65% of overall municipals' revenue is from transfers by the central government between 58% and 82%. In detail, unconditional transfer contribution can be seen in figure 1 below. Hence, financial governance of local government is very much influenced by the number of intergovernmental transfers they received annually. A heavy reliance on local officials' money management should be monitored carefully. As studied by Khusaini (2007), one of the concerns in decentralization practices locally is the low awareness of local government to be capable in raising its financial capacities.

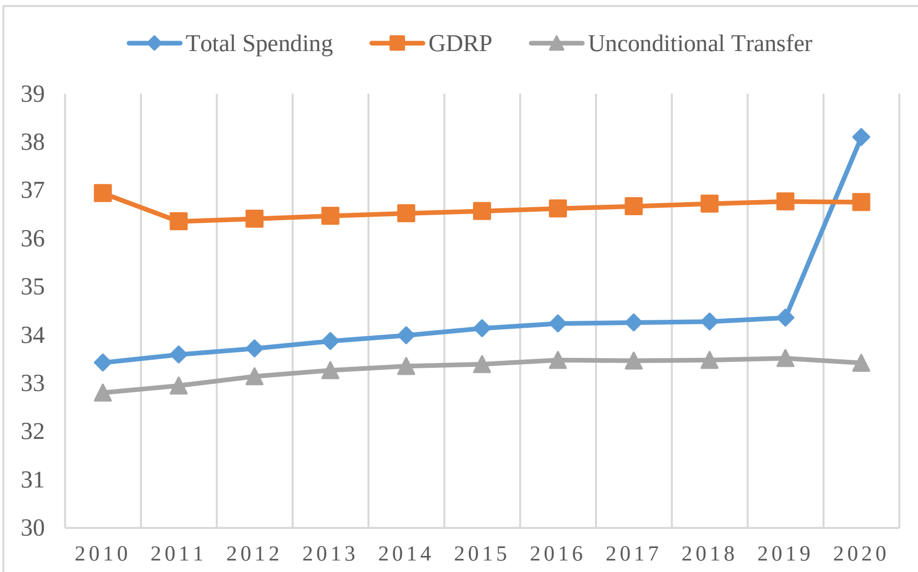

Figure 1. Financial Situation of Locality in Indonesia
Source: Directorate of Financial Balance, Ministry of Finance (processed, 2022)

Prior research (Gamkhar dan Oates, 1996; Samal, 2018) showed that unconditional transfers from the central government has more influence in the increase of local government's expenditure compared to private income or else called flypaper effect. Intergovernmental transfers are given and managed by the government thus the benefit of such funds will be limited to its recipients or called money sticks where it hits. Theoretically, intergovernmental transfers which are given to the government is expected to flow to the private sectors by tax reduction. Such assumption appears based on the median voters' preference will influence local government's spending decision. On the other hand, the allocative and distributive effect of intergovernmental transfers given to the municipalities shall equal to the impact of such funds given directly to the citizens in its constituents. Gennari & Messina (2014) stated that expenditures are more sensitive to the increase of intergovernmental transfer than the reverse.

Coronavirus disease 2019 or COVID – 19 was officially announced as a pandemic by World Health Organization (WHO) on March 11, 2020, and for the first time entered Indonesia on March 2, 2020. The pandemic made both central and local government in Indonesia to adjust their work arrangement as well as budget and spending. As an expression of overcoming the pandemic, Indonesia has a set of programs to recover national economy, not to mention the latter regulations. President of the Republic of Indonesia released a Presidential Instruction Number 4 Year 2020 about Program Refocusing, Budget Reallocation, as well as Public Goods and Services Procurement in relevance to Fasten Corona Virus Disease 2019 (COVID-19) Control in March 20, 2020 and later on followed by the issuance of a higher regulation, namely Government Regulation in Lieu of Law No. 1 Year 2020 on National Financial Policy and Financial System Stability to Overcome *Corona Virus Disease 2019* (COVID-19) Pandemic and/or to Oversight Dangerous Threat to National Economy and/or Financial System Stability in March 31, 2020.

In general, there is an increase in national spending for the Year 2020 from Rp2.540,04 billion to Rp2.739,16 billion rupiah. Indonesia's decision to reduce transfer seems to differ from other countries' approaches even though every nation faces similar situation, i.e., coping with the pandemic. On the other hand, intergovernmental transfer is reduced to stabilize the financial system, especially unconditional ones by 9,34%. This policy seems quite the opposite to other countries' approach. The People's Republic of China and the Republic of Philippines chose to increase their intergovernmental transfer during the respective year by 12% and 10,75%, respectively. Moreover, in comparison to the National Gross Domestic Product, China rose by 2,98% meanwhile Indonesia and Philippines fall for 3,7% and 4,23%, respectively.

Even though there is no evidence whether the rise or fall of intergovernmental transfer is the most suitable approach for certain countries, it is still questionable whether one policy will bring more benefit than the other. Intergovernmental transfer plays a significant role in elevating fiscal disparity regardless since year 2006 such role has been declining (Akita, Riadi, & Rizal, 2019). In contrast, poverty and unemployment are increased over the years in Indonesia. This study will be quite like the motives of Gamkhar & Oates (1996) who analyzed during fiscal retrenchment in the 1980s. This research has nothing to do with health issues yet mainly focuses on the fiscal decisions which never been carried out since the issuance of local autonomy, i.e., decreasing transfer to local governments dramatically.

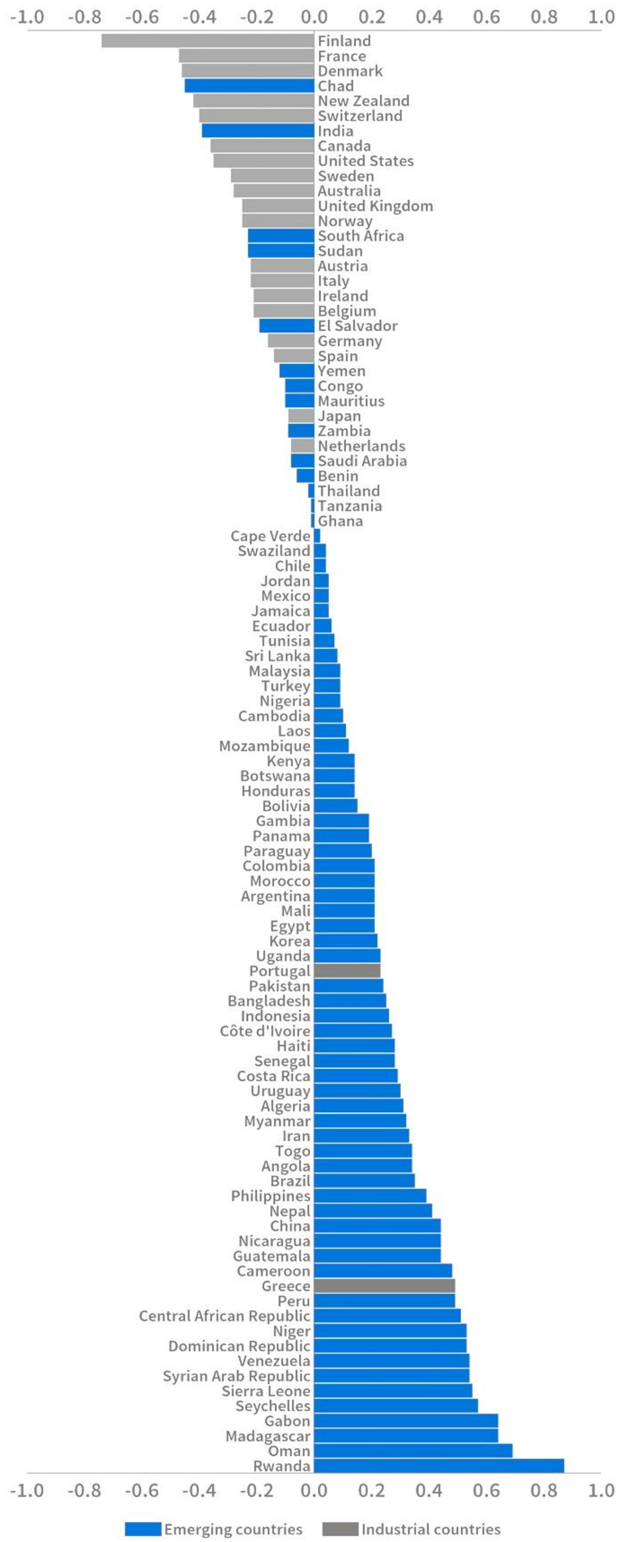

Figure 2. Correlations of Cyclical Components to Public Spending and GDP between 1960 and 2014.
Source: G. Kaminsky, C. Reinhart, and C. Vegh, NBER Working Paper No. 10780

Emerging economies seem to have procyclical government spending, as denoted by the positive correlation in the blue bar, figure 2 above. Manasse (2006) finds that even in a bad one, developing nations tend to have procyclical policies. Procyclical policy is governments' decision to be expansionary during good times and contradictory in bad ones. It happens due to limited opportunity to enter international credit market during recession. A little room of external help during bad times put the government little to no choice but cutting spending or raise taxes. Meanwhile, the encouragement of excessive spending mainly caused by political interest and institutional fragility. The presence of flypaper effect also shows such restriction to external funding since local governments heavily rely on transfer from central government.

Study of flypaper effect was first carried out by Henderson (1968) and Gramlich (1969). There are different kinds of causes for such a phenomenon to happen. It could be due to misclassification of intergovernmental transfer (Hines & Thaler, 1995), heavy burden on the government (Hamilton, 1986), and fiscal illusion (Logan, 1986; Oates, 1979). Flypaper effect has evolved as comprehensively stated by (Oates, 2005) and (Gamkhar & Shah, 2007) where its first-generation theory explains the findings of unconditional transfers compared to the rise of private income has a bigger influence on local government's spending.

Unconditional transfer is assumed to substitute the local government's revenue (such as tax base) without changing the relativity price of public goods hence it is assumed to have equal influence on government's expenditure as regards to the increase of private income. It is caused by the illusion of the citizens that public budget will increase (Courant, Gramlich, & Rubinfeld, 1979). The presence of intergovernmental transfer will make local government substitute such fund with local owned revenue, in this regard local tax by decreasing local tax rate. Hence, local government's budget will not change entirely due to intergovernmental transfers received, so does spending (Canare, 2019).

The second-generation theory focusses on the impact of intergovernmental transfer on equity and efficiency (Gamkhar & Shah, 2007). There are three main themes of the second theory. First, local government's competition increases along with the higher its power to manage natural resources of its constituents hence such competition potentially diminishes central government's power in general which then could result in hindering overall governmental growth governance. Second, the dependence of local government to central ones. Third, possible hazards occurred due to the nature of unconditional transfers which makes central government seems to guarantee local government to have zero fiscal problems.

This study focuses on the first generation of flypaper effect which analysis the tendency of local government to make more spending as a result of an increase in intergovernmental transfers compared to reducing local tax by the same amount of the raise. The presence of intergovernmental transfer reduction policy to local government in 2020 makes this study evaluates the spending response of the local government compared to private income. Hence this study is different from prior researches in Indonesia (Ahmad, Mattalatta, Zainal, Nasirin, & Kurniawan, 2021), (Tanjung, et al., 2021), (Wulandari, Mulyanto, & Riyanto, 2019), (Nugroho, 2017), (Siregar & Badrudin, 2017), which use the second generation theory of flypaper effect, especially the dependence rate of local to central government. These studies only see flypaper effect from the perspective of an increase in unconditional transfer and assume the same thing when there is a decrease. This research could find the truth whether such assumption is correct by analyzing a special case during retrenchment in 2020. A fall of transfers not only individually but also in aggregate figure may give a better examination of the supposedly best possible policy for local governments.

Arrangement of this study is as follows; second part of the research will explain methodology dan data used in this study. Moreover, the next part will examine the findings and evaluate empirical analysis. In the last part, summary and conclusion will be drawn.

METHOD

This research is a quantitative study by analyzing secondary data. Research's sample consists of socio-demography and financial data from 34 provinces, 417 regencies, and 91 cities for the year 2020. (Roscoe, 1975) explained that an adequate size of sample for research shall be in the range between 30 and 500 with a minimum of 30 samples for each category, if the sample is described further by smaller elements. Hence, this study has passed the criteria. A cross section study in 2020 is administered due to the anomalous schedule of budget and spending adjustments throughout the year. Regardless budgeting plan of 2020 has been passed in the late 2019 and supposedly adjustment of the plan carried out once during the year, pandemic made central government issued a new regulation called refocusing and reallocation plan of local governments' budget and spending.

There are at least seven regulations issued by the Ministry of Finance, e.g., Minister of Finance Regulation Number 19/PMK.07/2020, 35/PMK.07/2020, 76/PMK.07/2020, 101/PMK.07/2020, 145/PMK.07/2020, 219/PMK.07/2020, and 222/PMK.07/2020, regarding local governments' budget and spending adjustments. The focus of those regulations is to prioritize economic recovery by centralizing budget management of paramount sectors, especially related to healthcare. Thus, for the first time in 20 years, there is a huge decline of aggregate unconditional transfer to local governments. Pandemic makes local governments' finances in terms of economic and fiscal impact remain uncertain at least in the next five years as expenditures will be reprioritized towards providing better and more responsive health systems (Rao, 2021). Source of financial data is from the Directorate General of Fiscal Balance; Ministry of Finance meanwhile socio-demography data is taken from Indonesia Statistics.

When the study conducted, local government financial report for the year 2021 is still under reviewed by the Audit Board in respective regions. As a result, analysis during the pandemic can only be conducted using available data, i.e., local government financial report year 2020. It is highly recommended to perform further analysis regarding economic policies, i.e., related to intergovernmental transfers, as such fund is predicted to be declining until the economy in Indonesia could recover by 2026 as predicted by the World Bank.

This study refers to a model by prior study (Gamkhar & Oates, 1996), as follows:

$$lnExp_{it} = \alpha + \beta_1 lnTransf_{it} + \beta_2 D * [lnTransf_t - lnTransf_{t-1}] + \beta_3 lnGDP_{it} + \beta_4 Unemp_{it} + \beta_5 Dens_{it} + \mu_{it}$$

Exp_{it} is local government expenditures such as total expenditure, capital expenditure, and operational expenditure, where i represents entity and t is time. Government's spending is calculated by its natural logarithm from the value represented in the local government's financial report. $Transf_{it}$ is a natural logarithm of unconditional transfer, where i represents entity and t is time. D describes dummy variable of the difference in current unconditional transfer and the year prior where D= 1 if $[lnTransf_t - lnTransf_{t-1}] <0 = 1$ when there is a fall in unconditional transfer and $[lnDAU_t - lnDAU_{t-1}]>=0$ for the reverse condition. GDP_{it} is a natural logarithm of private disposable income per kapita illustrated by gross domestic regional product, where i represents entity and t is time. $Unemp_{it}$ is the percentage of open unemployment rate for the age of 15 and above, where i represents entity and t is time. $Dens_{it}$ describes population density, where i represents entity and t is time. Control variables in this study as stated in the model are open unemployment rate ($Unemp_{it}$) and population density ($Dens_{it}$). Unemployment rate and low opportunities to be employed can be minimized by reassuring local government's expenditure being spent on encouraging the initiation of new jobs to be widely available for the society (Imamah, Suman, Susilo, & Khusaini, 2019).

Unemployment will create a social diversity which then will be a burden for political contract to local government expenditure (Heyndels, 2001). In the case of 2020, the central government issues pre-work card which facilitates unemployed workers due to pandemic which never happen before. This scheme has been part of the required documents for local governments to sort prospective recipients of subsidies as unqualified. Density is a socio-economic aspect which can influence government's spending in terms of related cost occurred due to provide public goods will be much dependent on economies of scale (Gennari & Messina, 2013). Moreover, population density and private income per capita could describe the demand of public services. Unemployment will create a social diversity which then will be a burden for political contract to local government expenditure (Heyndels, 2001). These two control variables have been used in prior studies (Mehiriz & Marceau, 2014; Gennari & Messina, 2013; Bastida, Benito, & Guillamón, 2009; Gamkhar, 2003; Heyndels, 2001).

If the coefficient of $\beta_1 > \beta_3$ then there is a presence of flypaper effect when local government's response to an increase of unconditional transfer has a higher influence on spending than the equal increase of private income. Elasticity of asymmetric response from local expenditure as a result of the rise in unconditional transfer can be seen from coefficient β_3. Null hypothesis for asymmetric response to the shift of unconditional transfer will be rejected if the coefficient is statistically significant. Symmetric hypothesis refers to the respond of local government spending on a fall in intergovernmental transfer is as much as the rise of it. As stated on basic economic theory, respond to the decrease of intergovernmental transfer from the central government will be more likely the equal to the respond of private income downfall. Despite that, prior research showed the opposite result of such theory (Samal, 2018). The shift of intergovernmental transfer's value was seen to have more influence significantly to budgeting behavior compared to the same amount of change in private income.

A decline in intergovernmental transfer will not reduce local spending which is apparently increasing due to asymmetry of fiscal changes. To make sure the absence of multicollinearity and heteroskedasticity problems, this study uses pooled ordinary least square (OLS) analysis, variance inflation factor (VIF) examination, and Breusch-Pagan/Cook-Weisberg test. When the result shows that no variables have more than 10 VIF means that the data has no multicollinearity. Meanwhile, the result of Breusch-Pagan/Cook-Weisberg test finds the absence of heteroskedasticity problem if it has a chi square more than 0,05.

RESULT AND DISCUSSION

Estimation Model

As explained beforehand, this study examines the influence of flypaper effect in local government's spending pattern during pandemic, especially after the application of intergovernmental transfer reduction policy from the central government to the local ones. Descriptive statistics of the variables can be seen on table 1. Sample of the study is 34 provinces, 417 municipalities, and 91 cities. Even though hierarchically different, these samples will give a better view on local governments approach in general since most of them are facing similar situation, i.e., downfall of transfer.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
TotalExp	542	28.03	.656	26.919	31.584
CapExp	542	26.134	.66	24.212	28.786
OpExp	542	27.62	.673	26.272	31.411
Transf	542	27.175	.43	26.16	28.929
ChangeTransf	542	.978	.147	0	1
GDP	542	9.223	1.408	4.99	14.399
Unemp	542	5.517	2.643	.21	15.92
Dens	542	930.025	2123.163	1.26	15907

Source: processed data (2022)

Table 1 above presents the number of observed data, mean, standard deviation, minimum, and maximum value of variables used in empirical analysis. Total expenditure, capital expenditure, operational expenditure, and unconditional transfer each have a mean almost in the middle of the observed value. It shows that the spread of observed data is adequately balanced. Private income as pictured by gross domestic regional product has an average more than the maximum value observed. The unemployment rate is categorized quite varied. Pandemic makes the distribution of unemployment seem to be the main cause for such variation. In contrast, population density data is varied as shown on the table the difference between minimum and maximum value is a bit distance. All variables are examined to test for multicollinearity problem by variance inflation factor. As shown on table 2, VIF test result indicate that there is an absence of multicollinearity problem as the value is below 10. Whereas the result of pooled OLS regression is shown on table 3.

Table 2. Variance Inflation Factor

	VIF	**1/VIF**
GDP	2.701	.37
Transf	2.215	.451
Unemp	1.635	.611
Dens	1.384	.723
ChangeTransf	1.025	.975
Mean VIF	1.792	.

Source: *processed data (2022)*

Table 3. Result of Flypaper Effect Regression Model during COVID-19 Pandemic in Indonesia

	(1) **TotalExp**	**(2)** **CapExp**	**(3)** **OpExp**
Transf	0.761***	0.399***	0.718***
	(22.28)	(5.82)	(23.85)
ChangeTransf	-0.194**	-0.215	-0.0850
	(-2.74)	(-1.52)	(-1.37)
GDP	0.243***	0.240***	0.253***
	(20.08)	(10.27)	(24.66)
Unemp	-0.00851	-0.00328	-0.000623
	(-1.77)	(-0.34)	(-0.15)
Dens	-0.00000962	-0.0000283*	0.0000130*
	(-1.68)	(-2.46)	(2.57)
_cons	5.424***	13.33***	5.841***
	(6.37)	(7.80)	(7.78)
N	539	539	539
R-sq	0.872	0.505	0.905
adj. R-sq	0.871	0.500	0.905

Notes: 1. TotalExp = total expenditure; CapExp = capial expenditure; OpExp = operational expenditure; Transf = unconditional transfer funds for municipalities; ChangeTransf = 1 if there is a fall in unconditional transfer or 0 if the reverse; GDP = gross domestic regional product with a constant price of 2010; Unemp = open unemployment rate; Dens = population density. 2. ***, **, * each indicates significance rate by 1, 5, and 10 percent.
Source: processed data (2022)

Table 3 shows the result of pooled OLS regression which determine the presence of flypaper effect, especially the responds of local government's spending due to the decline of unconditional transfer policy. F test result describes the model is significant at 1 percent. F test aims to see whether every coefficient in the model is not zero as well as representing the level of significance on the overall relationship between dependent and independent variables. In this regard, 99 percent of the relationship can be pictured by the model used in this study. On the other hand, the F test also can be used as an indicator whether to accept or reject null hypothesis. Result of adjusted R^2 (1) (2) (3) in the regression can be described as 87,1%; 50%; dan 90,5%. Table 3 also presents the t test result which tells the level of significance from dependent variable on each independent variable individually that represented by the star (*).

As seen, on the dependent variable of total expenditure (TotalExp), coefficient Transf (0,761) is higher compared to coefficient of GDP (0,243). It shows that an increase in unconditional transfer will significantly bring more influence on local government spending than an equivalent on the rise of private income. In other words, the urge for local government to spend more is stronger when there is an increase in unconditional grant compared to a typical rise of private income. Hence, there is a presence of flypaper effect. It is possible due to a collective increase in private disposable income make people spend less on public goods and services compared to the number of additional transfers received by the local government. Asymmetric variable (ChangeTransf) has a negative and significant coefficient, which shows that there is an asymmetric responds to the fall of unconditional transfer. When such funds declines, it does not affect spending, in this case local government total spending will continue to rise. The type of asymmetric in this case is fiscal replacement as could be seen from $\beta_1 + \beta_2 > 0$ and $\beta_1 + \beta_2 < \beta_1$. $\beta_1 + \beta_2$ equals to 0.761 + (-0.194) = 0.567 which is more than 0 and less then β_1 which is 0.761. Local government will strengthen their local owned revenue for example by widening their tax base to guard their total expenditure. Population density (Dens) and open unemployment rate (Unemp) indicate no significance on total expenditure.

In line with the previous result, there is a flypaper effect on municipal's capital expenditure which shown by the coefficient of Transf (0.399) is higher than GDP coefficient (0.240). It describes a rise in unconditional transfer from the central government will stimulate more on spending than an equivalent increase of private income. Moreover, there is an absence of asymmetric responds in the fall of intergovernmental transfer due to insignificance of ChangeTransf coefficient. Hence, there is an indication when transfers are falling, capital expenditure will be declining as well from the initial value as planned.

It is supported by fact that central government's policies strongly push local government to refocus and reallocate programs mainly with a purpose to fasten economic and health recovery of the region from the pandemic. Thus, many long-term projects, not to mention infrastructures related shall be put aside and create more short-term procurements with a COVID-19 agenda on mind. Population density has a significant and negative coefficient with an elasticity of 28,3 or in other words, an additional 28 person per km^2 will reduce local government's capital expenditure by 1%. Open unemployment rate is not significantly influencing capital expenditure.

Lastly, a flypaper effect also can be seen on operational expenditure, which Transf coefficient (0.718) is higher compared to GDP coefficient (0.253). An increase of unconditional grant will highly influence the value of municipal's operational expenditure than an equivalent increase of private income. Negative and insignificant coefficient of ChangeTransf illustrates a symmetric respond, when there is a fall in transfer will likely make operational expenditure decreases as well. The current policy on financial governance as part of solving COVID–19 pandemic issue challenge local government to reduce non-routine spending, such as travel related expenses as officials are restricted to travel anywhere; cost for food and beverages on meetings due to meetings are held online and not required to meet in person; and other operational activities due to a shift in working system which then divided into work from home and work from office era. In reverse to the previous result, population density on operational expenditure has a positive and significant coefficient which makes additional 13 person per km^2 will make operational expenditure increased by 1% meanwhile open unemployment rate does not have any impact.

Consistency of finding flypaper effect seems to support the empirical literature of procyclical trap in developing country. These results are in line with prior study by (Samal, 2018) who found flypaper effect on total spending and operational expenditure as well as asymmetric respond on total expenditure of 14 provinces in India within 30 years. Despite that, the study did not find any flypaper effect on capital expenditure and presented an asymmetry on both capital and operational expenditure which are quite the opposite of this study's results. It is possibly due to occasional difference. This study focusses on the time when there is a force major in Indonesia, i.e., during pandemic, which makes a shift in policies issued by the government that restrict and restructure the way financial governance works. On the other hand, (Gamkhar & Oates, 1996) also found flypaper effect on 66 municipalities in Pennsylvania for about 10 years. However, they did not find any asymmetry which is different from this study. The difference could possibily happen due to opposed characteristics of the nature in intergovernmental grant's fall decision. In the US, it was the time for the state to follow retrenchment policy meanwhile in Indonesia focus more on reallocation of local finances.

Robustness Check

Structural model validity test or robustness check is conducted to make sure the structural model has considered all necessary variables. This study employs robustness check model by Langer & Korzhenevych (2019) who added two matching grants as control variables. The presence of additional transfer funds from central government supposes lower local government's dependence on unconditional transfer. Decreasing flypaper effect is than expected. In the case of Indonesia, we include two matching grants, i.e., revenue sharing grant (DBH) and special purposes grant (DAK), which may also have an impact on local government's spending, see Table 4. Such estimation will give evidence of the robustness of key results.

Table 4 discusses the stability of regressions' result. The result of robustness estimation confirms the initial predictions. Flypaper effect appears in both key estimates and robustness estimation slightly decreases when two matching transfers added as control variables for total and operational expenditure. There is a significant and positive relationship between unconditional transfer and local government, unless capital expenditure. No significance on capital expenditure due to the nature of two added matching grants strongly affecting local governments' developmental plans. The first type of matching grant is allocated with a special purpose of use which related to national and local governments' priority or otherwise called DAK.

Table 4. Robustness Check

	Key Estimates			Other Transfers Added as Control Variables		
	(1) TotalExp	(2) CapExp	(3) OpExp	(4) TotalExp	(5) CapExp	(6) OpExp
Transf	0.761***	0.399***	0.718***	0.531***	0.00262	0.555***
	(22.28)	(5.82)	(23.85)	(15.56)	(0.03)	(16.76)
ChangeTransf	-0.194**	-0.215	-0.0850	-0.158**	-0.155	-0.0567
	(-2.74)	(-1.52)	(-1.37)	(-3.06)	(-1.34)	(-1.13)
GDP	0.243***	0.240***	0.253***	0.0887***	-0.00798	0.142***
	(20.08)	(10.27)	(24.66)	(8.15)	(-0.33)	(13.42)
_cons	5.424***	13.33***	5.841***	2.241**	7.939***	3.246***
	(6.37)	(7.80)	(7.78)	(3.29)	(5.20)	(4.90)
N	539	539	539	539	539	539
R-sq	0.872	0.505	0.905	0.932	0.673	0.939
adj. R-sq	0.871	0.500	0.905	0.931	0.668	0.938

Notes: 1. TotalExp = total expenditure; CapExp = capial expenditure; OpExp = operational expenditure; Transf = unconditional transfer funds for local governments; ChangeTransf = 1 if there is a fall in unconditional transfer or 0 if the reverse; GDP = gross domestic regional product with a constant price of 2010. 2. ***, **, * each indicates significance rate by 1, 5, and 10 percent.
Source: Data processed

As mentioned by Fadliya & McLeod in Akita, Riadi, & Rizal (2020), DAK was initially used to finance reforestation. Over the years, the program was eliminated in 2005 and many other activities listed, such as infrastructure, rural infrastructure, education, roads, health, governance, marine and fishery, agriculture, water and sanitation, family planning, environment, and trade. The second one (DBH) also happens to have been redistributed accordingly by the central government to rejuvenate local environments, e.g., DBH – natural resources. Diaz-Rioseco (2021) argues that rich in natural resources districts most likely more profitable as they earn hidden rents which contribute to be the main source to patronage financing and governance. Thus, the elimination of unconditional transfer's dependence on capital spending is expected. Like main regression results, the same results are found in the case of asymmetry.

Local Autonomy's Initial Goal and Local Official's Behavior

Local autonomy in Indonesia is initiated to achieve public sector's efficiency, effectivity, and accountability. Fiscal decentralization supposed to give local's additional authority to gain alternate source of funding other than transfers from the central government, strengthen their creativity to be successfully widen their development, strongly gather local aspirations, and use public funds regarding meeting local needs and priorities. Fiscal decentralization in Indonesia involves additional chances for local government to have more local taxing power, expenditure assignment, budget discretion, and borrowings to invest (Khusaini M. , 2018).

Government spending has a high correlation with economic development. It is argued that when the spending increases, it will rise the aggregate demand of public goods and services, then economic growth will emerge (Khusaini M. , 2016). One of the goals of local autonomy as mentioned by Barzelay (1991) is the ability of local officials to enhance public services and welfare as local's involvement increases. Moreover, median voter theory stated the important role of local officials as they are elected by local citizens to represent and act according to their interests shall spend local resources which will only bring more welfare. Hence, it is expected that intergovernmental grants, one of local government's main resources, will not circulate only on public spending but it will bring benefit for private sector as part of the funds will be allocated as a tax reduction for the citizens of its jurisdiction. Such theory could also describe common behavior of localities, either local officials or citizens (Khusaini M. , 2019).

As mentioned, during pandemic, flypaper effect appears in all kinds of expenditures. In Indonesia, intergovernmental transfers on average contribute about 65% of local revenue. The presence of flypaper effect then strongly supports the idea that local government is very much dependent on transfers as part of their free money which then the circulation of such funds does not appear to be allocated to the private sector as part of tax reduction but as a free resource to spend more. Local government's tendency to increase spending more when transfers increases compared to an equal increase of private income also suggests that when it comes to free funds local officials' reaction will be more careless in spending than an increase of their tax base.

Supposedly, when private income increases, local government should react by amending their tax policy or other related public fees. Hence government's spending will be increased as their income risen. However, local government tends to be more careful and avoiding such policy as it against their political will. Elected local officials do not want to lose their voters' good attention. A study of Hussaini, Wahyudi, & Utama (2018) describes a similar situation. The benefit of tax collection in eradicating inequality only appears to be temporary and to some extent in a long period of time will hamper growth. Meanwhile, when the amount of grants declined, in this case due to a calamity, local government tends to increase their income from tax.

As seen from the slope of coefficient, the number is not far from 0 which means that the increase of tax does not equal to the loss of grants. It could be derived from the fact that many businesses need to change its direction and not to mention many of them report bankruptcy which makes the effort to rise local tax harder. As reported by the Ministry of Labor Republic of Indonesia (2020) from a survey to 1.105 companies by email and phone in 32 provinces, 9 out of 10 companies in Indonesia are impacted due to covid-19. Findings also in line with the criticism to the government by Khusaini (2018) that in managing their activities, local government tends to overspend yet have a very little to no ability in raising their local revenues to fund their expenditures.

As mentioned by Khusaini (2006, pp. 62-63) in his book, to achieve its initial goal, local government shall make a structural shift from traditional economy to a modern one which is seen to be applicable in this case. Several steps toward such change, are (1) giving more opportunity and wider access to production assets, especially to more funding; (2) strengthening transactional position and local business partnership schemes; (3) enhancing public education and health to boost human resources quality; (4) rearranging industrial development's policy to focus more on growing small and medium enterprises; (5) labor policies should embrace the growth of independent workers; and (6) widening local development. These approaches should be applied comprehensively and accordingly from planning and execution to evaluation aspects. Local stakeholders that are fully committed to guide participatory planning are also necessary to provide a consistent budgeting document (Khusaini M. , 2014). Hence, the presence of local autonomy will refocus to its initial goal, i.e., increasing local welfare.

CONCLUSION

The urgency of local government to respond quicker because of an increase in intergovernmental transfer more than an equivalent increase in private income is called the flypaper effect. Focus of this study is to examine local governments' behavior during COVID-19 pandemic in Indonesia by using cross-section data from the year 2020 for all municipalities and regions. Method to estimate the model uses pooled OLS regression. The result shows that there is flypaper effect on all kinds of municipal expenditures, namely total expenditure, capital expenditure, and operational expenditure. Asymmetric respond for those three are varied, where on total expenditure has an asymmetric respond meanwhile the opposite for the other two. The result influenced by the nature of year observed has many changes in financial governance which then affect local government to restrict budget and spending arrangement due to overcoming COVID – 19 pandemics.

Our results, furthermore, can stimulate future research. Particularly, further research can expand the analysis on the impact of different fiscal adjustment behaviors based on their local tax base on efficiency. Private income as a tax base in the jurisdiction does influence local governments' spending. Examining the impact of local tax bases by classifying it into certain classes can describe a clearer view on flypaper effect specifically. Despite the global shock of pandemic, local responses will much likely differ due to the influence of their resilience determinants, i.e., human capital, ability of homeworking, business characterization, length of lockdown, and many more. Evidence of different influence on efficiency may propose, in the end, normative implications through the most suitable policy for local governments based on current facts.

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