



Flypaper Effect in PAD, DAU, & DAK on the Regional Expenditure in 2019-2023

Ida Noviati Kusuma¹, Haryo Kuncoro Wiralaga², Puji Yuniarti³

^{1,2,3} Universitas Negeri Jakarta, Indonesia

Jl. Rawamangun Muka Raya No. 11 Rawamangun,
Kec. Pulo Gadung, Kota Jakarta Timur.

Author correspondence: idanoviatikusuma@gmail.com

Abstract. Fiscal decentralization is a tool to achieve maximum public welfare and the provision of essential public services. The essence of fiscal decentralization is the provision of transfer funds to local governments. In addition, through transfer funds, it is hoped that there will be equity and fiscal balance vertically and horizontally. However, the existence of transfer funds caused a response that the central government responded to as the main fund for regional spending. The purpose of this study is to determine the effect of the flypaper effect on the balance fund and local revenue on education spending, health spending, and infrastructure spending. Using data from 2019-2023 in municipalities and cities on the island of Java and regression using a fixed effect model, it shows the occurrence of a flypaper effect on education and infrastructure spending through DAK. As a result, every increase in DAK will encourage an increase in education and infrastructure spending. Meanwhile, different results are shown in health spending, that every increase in DAU decreases health spending. Different tests were carried out using dummy variables in the year before and after the implementation of the latest policy. As a result, the regulation of the DAU Specific Grant was able to increase health spending, but not as much as the influence of PAD.

Keywords: DAK, DAU, Fiscal Decentralization, Flypaper Effect

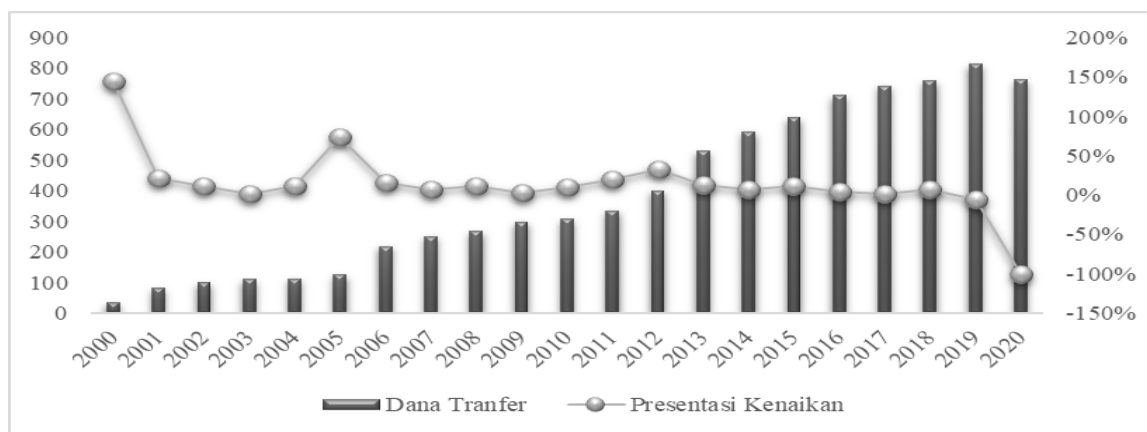
1. INTRODUCTION

The transformation of the relationship between the central government and local governments has occurred in almost all developing countries. The capabilities that were previously fully granted to the national government have shifted to local governments. This intention is to achieve a more effective and efficient delegation, economic stability, and the realization of economic growth. (Martinez-Vazquez & McNab, 2003). The encouragement to move to a more independent pattern of local government relations also occurs in Indonesia because improving community welfare and economic growth is only in place if the authority to regulate regions is managed only by the central government. (Sirot & Atmaja, 2020).

The reform in 1998 became the culmination of public dissatisfaction with the centralist government. As a result, the reform was able to bring about a change in the relationship between central and local governments through decentralization and regional autonomy. (Azikin, 2018). Act No. 22 of 1999 on Regional Governments and Act No. 25 of 1999 on the Financial Balance between Central and Regional Governments are the initial journey of reform. Thus, the new era of regional autonomy is a momentum for changes in regional fiscal management in terms of revenue and spending through the delivery of authority to the regions.

Act No. 25 of 1999, later amended by Act No. 33 of 2004 on the Financial Balance between the Central and Regional Governments, is a sustainability of the delegation of duties and responsibilities passed to local governments. The provision of assistance is carried out to achieve economic stability and fiscal balance vertically and horizontally.

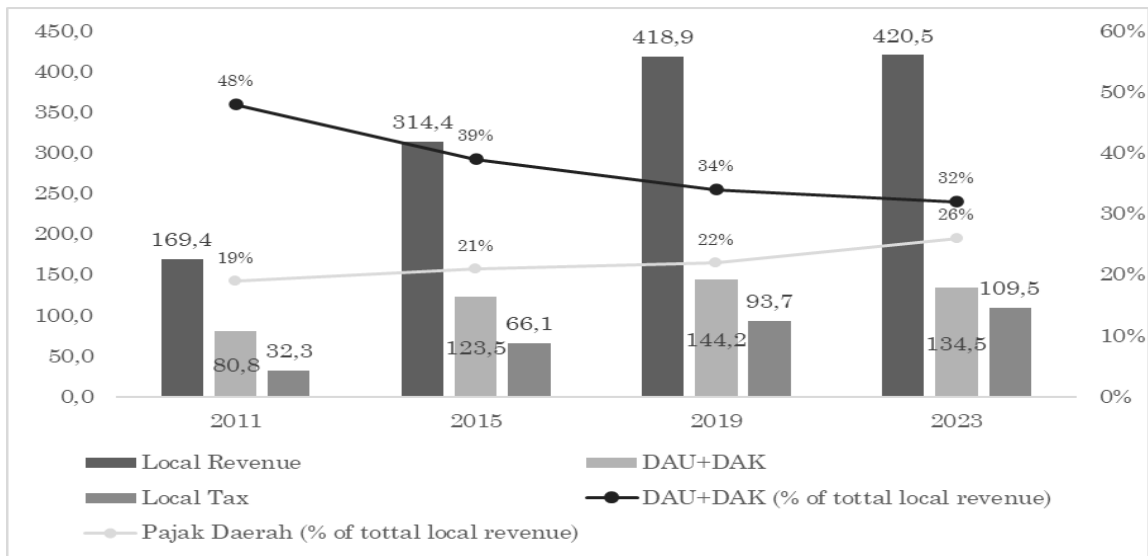
Not only are autonomy and decentralization important, but aid funds (transfers) are also provided by the central government to carry out the duties and responsibilities of local governments. The transfer of funds to the implementation of autonomy and decentralization is the essence of the implementation of fiscal decentralization policies. Transfers to local governments, or so-called balance funds form (Boex, 2002) general allocation fund (DAU), specific allocation fund (DAK), and revenue sharing fund. The amount of funds distributed makes the balance of funds the primary source of funding in the provision of public services. Data from the Directorate General of Fiscal Balance (DJPK) of the Ministry of Finance show an increasing trend in the transfer of balance funds.



Source: DJPK in 2000-2020

Figure 1. Growth of Balance Fund 2001-2020

The trend of increasing the amount of transfer funds began in 2001, when the implementation of fiscal decentralization began. The Indonesian Budget (APBN) in 2000 reached 33.07 trillion rupiah and experienced a sharp increase in 2001 to 81.05 trillion rupiah, which means an increase of 145.06%. Further, compared to 2019, the increase in the state budget increased significantly, namely 812.97 trillion rupiah. According to the Central Bureau Statistic (BPS), there is a similar trend in the provinces on the island of Java. In 2023, the contribution of municipalities and cities on the island of Java contributed 57.05%, while Java Island was the largest recipient and migration compared to other islands in Indonesia, reaching 24.7 trillion rupiah, dominated by Central Java, East Java, and West Java.



Source: DJPK in 2011, 2015, 2019, 2023

Figure 2 Contribution of Transfer Funds and Local Tax to Local Revenue

However, the amount of transfer funds provided is not in line with efforts to increase PAD. Local government revenues derived from taxes contribute only an average of 12% of the original local revenue, while transfer funds contribute an average of 38%. This shows that the collection of PAD through local government taxes is still low. Even though local government taxes continue to show positive trends, the contribution to PAD remains low. The Directorate General of Regional Financial Development of the Ministry of Home Affairs said local governments are generally experiencing budget deficits. Since 2017, the total APBD deficit has been recorded to reach 47 trillion rupiah, and in 2021, the deficit reached 73.22 trillion rupiah. The dominance of the role of transfer funds in financing regional expenditures reflects a high dependence on transfer funds, so local governments tend to plan regional revenues too high. In this way, there was a budget deficit due to incompatibility or higher income compared to the level of spending in the region. This fact shows that the fiscal movement of local governments in transfer funds is the main factor in encouraging the effectiveness of transfer policies.

Based on the explanation, this study tries to examine in depth the positive relationship between the fiscal balance funds, region own source revenue, and region spending, especially in education spending, health spending, and infrastructure spending in municipalities and cities on the island of Java. This study will also examine the status of flypaper's impact on the influence of the balance of funds and local income on education spending, health spending, and infrastructure spending in municipalities and cities on the island of Java. However, in this study, the sample and period used were only in the municipalities and cities on the island of

Java from 2019 to 2023, so it is not possible to show the flypaper effect phenomenon widely to accommodate the flypaper effect phenomenon that may arise.

2. LITERATURE REVIEW

Fiscal decentralization is a tool to achieve community welfare and essential public services (Kis-Katos & Sjahrir, 2017). The role of local governments is important in the realization of the provision of public services because the costs incurred by the central government to obtain information relating to local communities will certainly be more expensive than the costs paid by local governments about the effectiveness of providing essential public services (Tiebout, 1956). In addition, through decentralization, the decision-making process will become more democratic. (Suyanto, 2015).

Research conducted by (Tim Penulis Badan Kebijakan Fiskal, 2021) A difference was found in the effect of the period before the implementation of decentralization (before 2001) and after decentralization (after 2001) on public services. The outcomes in the educational field, including School Participation Rate (APS), School Length Expectations (HLS), and Average School Length (RLS), showed improved achievements in the period after decentralization. Meanwhile, the health sector shows different results. The indicators used were the incidence of Diphtheria vaccination, Pertussis and Tetanus (DPT), Infant Mortality Rate (AKB), Life Expectancy Rate (AHH), and Death Rate. The outcomes of DPT immunization coverage showed better centralization policies, and the outcomes of AKB and AHH showed no significant effects before and after decentralization. However, the outcome in the death rate shows a positive relationship because the decentralized policy reduces the death rate from 7.2 deaths to 6.8 deaths per 100 people.

(Lewis, 2017) His research shows that local government spending has a positive impact on education, health, and infrastructure services. However, there is inconsistency in the positive trend in regions that depend on intergovernmental transfers as a regional source of income. Local governments are spending their budget inefficiently or providing low-quality public services. The positive effects of decentralization become obscure due to corruption. In other words, the increase in government spending that causes a slump in public services is followed by an increase in corruption. Similar results were also found by (Sow, 2015) which conducted tests in 64 countries, including developed and developing countries during the period 1990-2012. As a result, decentralization can only increase the efficiency of public services under certain conditions, specifically, proper policy and institutional environment, budget

expenditure levels that align with post-budget needs, and the authority of local governments in regulating revenue sources.

(Legrenzi & Costas, 2021) Refers to the anomaly of reasonable behavior by local governments that manage fund transfers as additional income as well as taxes, to assume that moving funds receives the same treatment as spending transfer funds. This is because raising taxes is not a matter of public preference, so it will have an effect on electability during the general election (Niskanen, 1968). The condition that increases in transfer funds to local governments and continues to increase regional spending is called the flypaper effect. A local government experiences a flypaper effect in two conditions: it has a positive correlation between changes in local government spending and changes in regional revenue and has a greater balance fund effect than the region's original revenue. The impact of public spending funded by central government transfers should be as large as revenue increases (Kuncoro, 2007), (Ginting, 2019), and (Fachruzzaman et al., 2021). The dominance of roles and carry in local government spending funding can give hope to the transfer of central government because, in reality, this relationship is negative in the results of its management (Mello & Barenstein, 2001). Therefore, the wisdom of the local government is necessary in responding to the transfer funds sent by the central government.

3. RESEARCH METHODE

The purpose of this study was to determine the impact of the flypaper effect on balance funds and local income on education spending, health expenditure, and infrastructure spending. Answering this problem, the estimate used in this study is an estimate of panel data, which is a combination of cross section and time series data. The cross-section data covers municipalities and cities on the island of Java. Meanwhile, the data of the time series is the period 2019-2023.

The test of regional spending fund transfer, particularly in the fields of education, health, and infrastructure, was built on the results of previous research that there was a significant and positive relationship between the balance of funds and regional spending, such as (Fachruzzaman et al., 2021) and (Kis-Katos & Sjahrir, 2017).

The test of the occurrence of the flypaper effect was by comparing the values of the fund balance coefficients variables (DAU and DAK) and PAD referring to the research (Ginting, 2019) and (Armawaddin et al., 2017). The hypothesis is built on the view that local government policies on budgeting regional expenses rely more on the transfer of funds than on the use of PAD.

To determine the best model estimate, a series of tests were conducted to select the three models. There are three approach methods for panel data regression, there are pooled least square (PLS), fixed effect model (FEM), and random effect model (REM). The series of tests is the Chow test, the Hausman test, and the Lagrange Multiplier test. Based on the research objectives, the econometric model used in this study is:

$$Y_{edc(it)} = \alpha + \beta_1 PAD_{it} + \beta_2 DAU_{it} + \beta_1 DAK_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

$$Y_{heal(it)} = \alpha + \beta_1 PAD_{it} + \beta_2 DAU_{it} + \beta_1 DAK_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

$$Y_{serv(it)} = \alpha + \beta_1 PAD_{it} + \beta_2 DAU_{it} + \beta_1 DAK_{it} + \varepsilon_{it} \dots\dots\dots (3)$$

- Y_{edc} : Education spending
- Y_{heal} : Health spending
- Y_{serv} : Public services spending
- PAD : Local own-source revenue
- DAU : General allocation fund
- DAK : Specific allocation fund
- I : Municipality/city
- T : Year
- A : Constant
- B : Coefficient
- ε_{it} : *term error*

4. RESEARCH RESULT

Analysis of the Regression Model of PAD, DAU, and DAK on Education Expenditure, Health Expenditure, and Infrastructure Expenditure

Testing model in the first panel data is the Chow Test, which is to choose between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) against the three models can be seen in the table 1.

Table 1. Chow Test Result on Models

Model	Y _{edc}	Y _{heal}	Y _{serv}
Keterangan			
Prob	0.0000	0.0000	0.0000
Hasil	FEM	FEM	FEM

Source: Eviews 10 (processed)

Based on Chow's test of the three models, it can be concluded that the best model is FEM. This can be seen in all three models with a probability value of 0.0000 or less than the alpha value

of 5%, so H_0 is rejected. Next, it is to perform a Hausman test to choose between the FEM and the Random Effect Model (REM). The results of the Hausman test can be seen in Table 2.

Table 2. Hausman Test Results on Models

Model	Yedc	Yheal	Yserv
Keterangan			
Prob	0.0000	0.0000	0.0000
Hasil	FEM	FEM	FEM

Source: Eviews 10 (processed)

Based on Hausman's test of the three models, it can be concluded that the best model is FEM. This can be seen in all three models with a probability value of 0.0000 or less than an alpha value of 5%, so H_0 is rejected. Thus, the best model used in panel data regression is FEM. The coefficient estimation results are presented in Table 3.

Table 3. Estimation Result use Fixed Effect Model

Model	Model I Belanja Pendidikan	Model II Belanja Kesehatan	Model III Belanja Infrastruktur
Keterangan			
Constanta	5.85E+11	5.81E+11	6.61E+11
PAD	0.135602*	0.214127*	0.161382*
DAU	0.092859	(0.206684)*	(0.024403)
DAK	0.146220*	0.037547	0.170401*
R-square	0.943599	0.913433	0.893716
Adjusted R-squared	0.929150	0.891256	0.866488
Prob F-Stat	0.000000	0.000000	0.000000

**significant on alpha 5%*

Analysis of Flypaper Effect on Education Expenditure

The table shows that the results of the regression of the effects of PAD, DAU, and DAK showed different results. The table shows that PAD and DAK had positive effects on educational spending, with probability values of 0.002 and 0.017. Meanwhile, the DAU variable did not affect educational spending. The value of R_{square} 0.944 means that the education spending model can be presented by the PAD and DAK variables of 94%, while the remaining 6% is explained by other variables not included in the model (represented by the term error) *ceteris paribus*.

Results of regression analysis of panel data found that the determine of PAD on education expenditure resulted in a positive and significant coefficient value of 0.137. This means that every 1% increase in PAD will increase of 0.137% in education sector spending.

Meanwhile, the effect of DAK has a positive and significant coefficient of 0.146. These results show that every 1% increase in DAK will increase the growth of educational spending by 0.146%.

The coefficient of each independent variable is as follows: PAD=0.137 and DAK=0.146. Comparing the coefficients between PAD and DAK shows that DAK has a greater coefficient than PAD ($0.146 > 0.137$). Hence, the flypaper effect occurs in educational spending. The result of this study aligns as (Ginting, 2019), (Dissou et al., 2016) and (Wang et al., 2012) That Transfer funds encourage services in the education sector. As described, local governments have a lot of control over PAD. To increase or decrease the cost of education funded from DAK, local governments need to consider increasing or decreasing their PAD efforts in funding education expenditures other than those funded by DAK, considering that regional spending needs to change each year.

Analysis of Flypaper Effect on Health Expenditure

The table shows that the results of the regression of the effects of PAD, DAU, and DAK had different results. The table shows that PAD had positive and significant health spending, with a probability value of 0.000 and a coefficient of 0.21. This means that every 1% increase of 0.21% in health spending.

Meanwhile, the result of the regression of variable DAU is significant on health spending, yet had a negative coefficient, with a coefficient value of 0.21. This means that every 1% increase in DAU will decrease 0.215 in public services spending. In addition, DAK did not affect public services spending. The value of $R_{\text{square}} 0.91$ means that the public services spending model can be presented by PAD and DAU variables of 91% while the remaining 9% is explained by other variables not included in the model (represented by the error term) *ceteris paribus*. Based on the value of the negative coefficient in the DAU variable or mean that each increase in DAU decreases in health spending, it is necessary to look further into factors causing the reverse direction of the relationship.

The General Allocation Fund is a 'breath of fresh air' for local governments to fund regional spending. The Directorate General of Fiscal Balance noted that the regions use DAU for employee spending, which amounts to 64.8% of the total share of transfer funds from the central government. Meanwhile, average employee expenditure is dominated by 32.4% of national spending, while public infrastructure spending reaches only 11.5%. Therefore, the Ministry of Finance issued a regulation before entering the 2023 fiscal year, namely the Minister of Finance Regulation Number 211/PMK.07/2022 regarding the Third Amendment

to the Minister of Finance Regulation Number/139/PMK.07/2019. The regulation reads that the provision of DAU for each region is to consist of specific and not specific DAU to be used.

The General Allocation Fund that is determined to be used is listed in the Minister of Finance Regulation Number 212/PMK.07/2022, namely for the fields of education, health, and community, including priority activities and sub-activities as well as supporting activities and sub-activities. This means that local governments cannot use DAU except for proxies listed in the regulation. If this is not achieved, the portion of DAU in the next stage cannot be transferred to the regional treasury. The policy shows that the identified DAU is firm in the direction of regional development and community welfare.

Analysis of Flypaper Effect on Health Expenditure Using Time Lag Effect

In economics, the dependence of the variable Y (dependent variable) on the variable X (independent variable) very often responds at a time interval, this condition is called lag. The implementation of DAU cannot directly affect health spending in the same year. Therefore, to see the effect of DAU on health expenditure, a time lag is required. In this study, lag effects of t-1, t-2, and t-3 were used. The results of the reduction can be seen in Table 4.

Table 4. Estimation Result Use Time Lag Effect

Model	t-1	t-2	t-3
Keterangan			
Constanta	3.510.814	4.772.837	4.772.837
PAD	0.328706*	0.054546	0.054546
DAU	(0.782210)*	(0.981423)*	(0.981423)*
DAK	0.170169	0.177410	0.177410
R-square	0.886145	0.922338	0.962387
Adjusted R-squared	0.847167	0.882277	0.923049
Prob F-Stat	0.000000	0.000000	0.000000

**significant on alpha 5%*

Based on the results of the regression, in the effect of the t-1 time lag, PAD has a positive and significant influence on health spending. Unfortunately, the DAU coefficient that was tried to be cured using the effect of time lag still has a negative value, although the results are significant for health spending. It is also related to the regression results of the effects of t-2 and t-3 time lag, although the results are significant. Thus, it can be concluded that the negative coefficient of DAU or the increase in DAU decreases with health spending cannot be cured using the effect of time lag.

Analysis of Flypaper Effect on Health Expenditure Using Dummy Variable a Year Before and After Issued Regulation of Ministry Finance 212/PMK.07.2022

The General Allocation Fund, which has not had a positive and significant impact on regional spending in the short term, needs to explore the possible impact of DAU policy on the DAU budget as identified. Based on Regulation of the Minister of Finance No. 212/PMK.07/2022, the allocation for the health sector has been determined for its use. Starting in 2023, the central government will limit the 'movement' of local governments to DAU spending unrelated to pre-defined priority areas. Therefore, to predict the impact of DAU policy changes on health expenditure, a dummy variable is used in the year after the Ministry of Finance Regulation changes are implemented. In the provision, a value of 0 is the year before 2023, and a value of 1 is 2023.

Table 5. Estimation Result Use Dummy Variable

Yheal	C	PAD	DAU	DAK	DUMMY	R-square	Adjusted R-squared	Prob F-Stat
	3.313	0.273*	(0.467)*	(0.027)	0.054*	0.880	0.850	0.000000

**significant on alpha 5%*

The results of the dummy variable year after the policy change have a positive and significant effect on health spending, which means that DAU after the policy change will be able to increase health spending, as well as on the PAD variable that has a significant positive influence on health spending. The value of R-square 0.88 means that the health spending model can be presented by the PAD and DAU policy on the budget variables of 88%, while the remaining 12% is explained by other variables not included in the model (represented by the term error) ceteris paribus.

Results of regression analysis of panel data found that the determine of PAD on health expenditure resulted in a positive and significant coefficient value of 0.27. This means that every 1% increase in PAD will increase of 0.27% in health sector spending. Meanwhile, the effect of the DAU policy has a positive and significant coefficient of 0.05. These results show that every 1% increase in DAU will increase the growth of health spending by 0.05%. Comparing the coefficients between PAD and DAU policy shows that PAD has a greater coefficient than DAU policy (0.27>0.05). Hence, the flypaper effect does not occur in health spending.

This shows that DAU regulation, whose component is identified, has a positive effect on DAU absorption. The results of this test are in line with research conducted by Sow (2015) that improving the efficiency of public service is only under certain conditions, that is, a sufficient political and institutional environment, as well as the level of budget spending adjusted to post-budget needs. The consequences given by the central government to local governments if they cannot spend according to the predetermined fields/activities result in local governments limiting expenditures and not being able to use budgets that are not priorities.

Analysis of Flypaper Effect on Infrastructure Expenditure

The table shows that the results of the regression of the effects of PAD, DAU, and DAK showed different results. The table shows that PAD and DAK had positive effects on public services spending, with probability values of 0.002 and 0.035. Meanwhile, the DAU variable did not affect public services spending. The value of R-square 0.89 means that the public services spending model can be presented by the PAD and DAK variables of 89%, while the remaining 11% is explained by other variables not included in the model (represented by the term error) *ceteris paribus*.

Results of regression analysis of panel data found that the determine of PAD on public services expenditure resulted in a positive and significant coefficient value of 0.16. This means that every 1% increase in PAD will increase of 0.16% in public services sector spending. Meanwhile, the effect of DAK has a positive and significant coefficient of 0.17. These results show that every 1% increase in DAK will increase the growth of public services spending by 0.17%.

The coefficient of each independent variable is as follows: PAD=0.16 and DAK=0.17. Comparing the coefficients between PAD and DAK shows that DAK has a greater coefficient than PAD ($0.146 > 0.137$). Hence, the flypaper effect occurs in public services spending. The result of this study align as (Maulana & Abdullah, 2022) Transfer funds encourage services in the education sector.

Implication of Minister of Finance Regulation Number 212/PMK.07/2022

The reform of the regional financial system began with the enactment of Act No. 1 of 2022 on Financial Relations Between Central and Regional Governments. The law replaced Act No. 33 of 2004, which no longer aligned the financial management of central government and local governments. The law is to consider the need for public services for the allocation of DAU. Funding needs are calculated based on the estimated unit cost multiplied by the number of service target units for each item and multiplied by the adjustment factor, also considering the regional civil apparatus salary needs, with a balance of 14.1% for the province and 85.9%

for the district/city. The geographical location and economic situation of the region also became the basis for calculation based on clusters.

In depth, the provisions for the use of the DAU Specific Grant are contained in Minister of Finance Regulation No. 212/PMK.07/2022 regarding the Regional Performance Level Indicators and General Provisions for the General Allocation Fund Section as determined for the 2023 Fiscal Year. In regulation, priority activities and sub-activities, as well as those supporting activities and sub-activities funded by DAU Specific Grant, are mentioned. Thus, local governments cannot use DAU-specific grants except for financing activities and sub-activities that are regulated in Minister of Finance Regulation Number 212/PMK.07/2022. To see the implications of the DAU Specific Grant on public services, the output of the education, health, and public infrastructure sectors will be compared with the years before and after the Ministry of Finance Regulation No. 212/PMK.07/2022. The data used was at the provincial level on the island of Java from 2021 to 2023 because there was no complete data at the municipal and city level.

Education Sector

In Regulation of the Minister of Finance No. 212/PMK.07/2022, one of the priority tasks in the field of education at the provincial level is the management of special education. Special education is education organized for students with special needs in the form of physical, emotional, mental, social, intellectual, and unique talent. The competence of teachers and school principals is a key indicator of improving the quality and development of children. Treatment for children with special needs requires detailed and careful design, taking into account the different complex and unique aspects of each child (Saadah & Harsiwi, 2024). Therefore, capable teachers are required to provide good and targeted teaching.

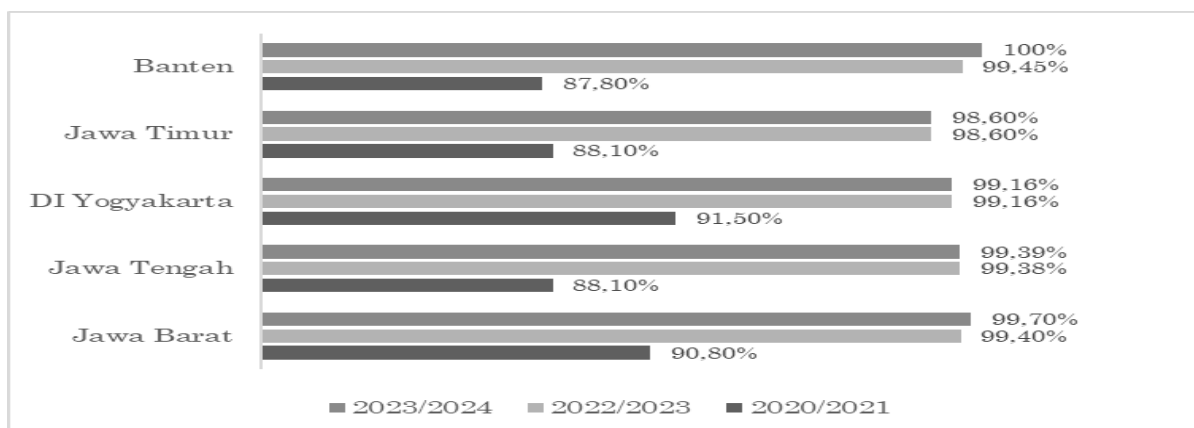


Figure 3. Percentage of teachers and principals eligible for special education at the elementary level for the school year 2020/2021-2023/2024

Based on Figure 3, in the 2022/2023 school year, the percentage of teachers and school principals should have an increasing trend. Banten Province rose to 99.45%, followed by West Java at 99.4%, Central Java at 99.38%, DI Yogyakarta at 99.16%, and East Java at 98.6%. In the 2023/2024 school year, only Banten Province will reach 100%, followed by West Java at 99.7%, Central Java at 99.39%, DI Yogyakarta at 99.16%, and East Java at 98.6%. Thus, the percentage of decent teachers and principals who are part of the management of special education or priority activities funded by the DAU Specific Grant also increased.

Health Sector

The priority of the activities funded by the 2023 DAU Special Grant at the provincial level is the provision of referral service facilities for individual health units (UKP) and public health units (UKM). This is in line with the government's efforts contained in the 2020 2024 National Medium Term Development Plan (RPJMN), which is ensuring access, independence, and quality of pharmaceutical preparations and medical devices. The government strives to provide quality, equitable, and affordable medicines, vaccines, and health supplies to government service facilities. The target indicator is the percentage of Puskesmas with an availability of essential drugs of 80% of the 40 indicators of drug items at the time of monitoring. The drugs selected are drugs that support tuberculosis, malaria, family health, vaccination, nutrition, and essential medicines in the core services contained in the National Formulary.

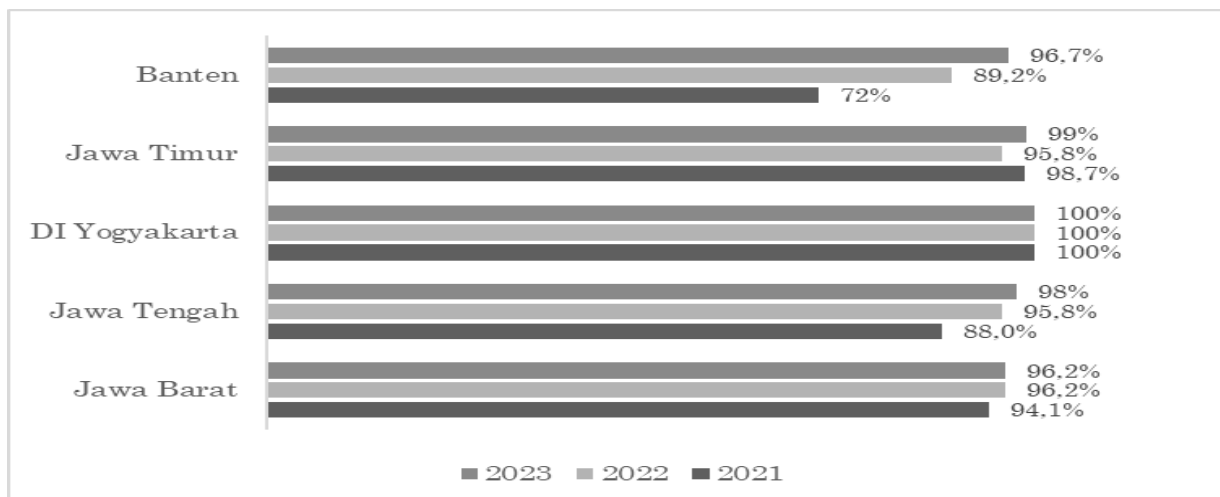


Figure 4. Percentage of Puskesmas with the Availability of Essential Drugs in 2021-2023

Based on the above figure 4, in 2022, the availability of essential drugs has increased; only East Java has decreased from 98.7% to 95.8%, while DI Yogyakarta has continued since 2021. In 2023, the availability of essential drugs in health centers showed an increasing trend in four provinces. East Java almost got a perfect figure of 99%, followed by Central Java at

98% and Banten at 96.7%, while West Java was stuck at 96.2%. Thus, the availability of essential drugs, which is the priority task of the DAU Specific Grant, has also increased.

Public Infrastructure Sector

Bridge construction and revitalization are one of the priority sub-activities funded with DAU Specific Grant. The construction and revitalization of bridges aim to improve connectivity, mobility, and economic growth of the community. With good infrastructure, the distribution of goods and services will be easier, faster, and more efficient, so it can reduce operating costs. Moreover, access to remote areas can be reached, and people can also access better health services, education, and jobs.

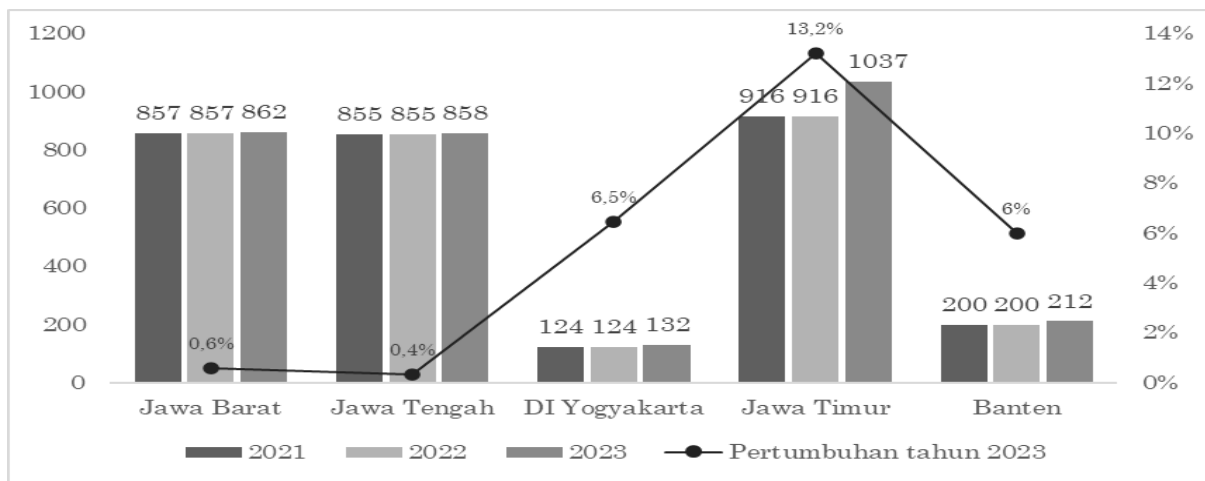


Figure 5. Development of Bridge Construction and Revitalization in 2021-2023

Based on the above figure, in 2021 and 2022, the construction and revitalization of bridges experienced stagnation. The increase in the number of bridge construction and revitalization will take place in 2023. East Java Province experienced an increase of 13.2%, DI Yogyakarta of 6.5%, Banten Province of 6%, West Java Province of 0.6%, and Central Java Province of 0.4%. Thus, the construction and revitalization of the DAU Specific Grant funded bridges has also increased.

The development strategy through regional autonomy is one of the most effective strategies compared to centralism because local governments are more familiar with the needs of each region. Through the DAU Specific Grant, local governments can use funds obtained in a targeted way to finance physical and/or non-physical activities in predefined fields so that DAU is no longer focused on employee spending but leads to the improvement of services and regional development.

5. CONCLUSION AND SUGGESTIONS

This study aimed to determine the influence of balance funds and PAD on education, health, and infrastructure spending, as well as to examine the phenomenon of the flypaper impact on this relationship. The data used is secondary data for 2019-2023 at the municipality/city level on the island of Java derived from the General Director of Financial Balance, the Central Statistics Agency, and Information and Documentation Management Officers.

Based on the results of the analysis, it can be concluded that the balance fund has a significant influence on each expenditure. Similar results were found in education spending and infrastructure spending, with PAD and DAK having a positive and significant impact on education and infrastructure spending, while DAU did not. Local governments depend more on DAK to spend on education and public services than on PAD, so there is a flypaper effect on education and infrastructure spending through DAK.

In terms of health expenditure, the reverse relationship is shown in DAU, where DAU shows a significant influence, but with each increase in DAU, it decreases in health spending. Based on the result, the test is answered in two different ways. First, using the time lag effect, the result does not change. Second, the addition of the dummy variable of the year before and after the issuance Act Ministry Finance about predetermined budget of DAU. As a result, the DAU policy has a positive influence on health spending.

The results of the study show the need for improvement so that transfer funds provided by the central government can be allocated according to the needs of a region. Local governments show a preference to rely on the transfer of funds as an additional expenditure in the region rather than collecting income derived from taxes. The allocation formula should refer to the realization of the PAD collection, not just taking into account the regional fiscal capacity to reduce the efficiency of local government spending. Local governments need to set minimum service standards in the implementation of government activities to improve the efficiency of budget utilization.

REFERNCES

Armawaddin, M., Rumbia, W. A., & Afiat, M. N. (2017). Analisis flypaper effect belanja daerah kabupaten/kota di Sulawesi. *Jurnal Ekonomi dan Pembangunan Indonesia*, 18(1), 77–91. <https://doi.org/10.21002/jepi.2018.05>

- Azikin, A. (2018). Makna otonomi daerah dalam penyelenggaraan pemerintah daerah pada era reformasi. *Jurnal Ilmu Pemerintahan*, 5(1).
- Boex, J. (2002). *An overview of intergovernmental fiscal relations and subnational public finance in Nigeria* [Working Paper]. Andrew Young School of Policy Studies, Georgia State University.
- Dissou, Y., Didic, S., & Yakautsava, T. (2016). Government spending on education, human capital accumulation, and growth. *Economic Modelling*, 58, 9–21. <https://doi.org/10.1016/j.econmod.2016.04.015>
- Fachruzzaman, F., Suranta, E., & Martini, E. (2021). Analisis flypaper effect pada belanja daerah kota dan kabupaten di Indonesia. *Jurnal Fairness*, 5(3), 123–138. <https://doi.org/10.33369/fairness.v5i3.15310>
- Ginting, A. M. (2019). Analisis pengaruh flypaper effect pada dana perimbangan dan pendapatan asli daerah terhadap belanja daerah di Provinsi Sumatera Utara. *Kajian*, 24(2), 113–130. <https://doi.org/10.22212/kajian.v24i2.1863>
- Kis-Katos, K., & Sjahrir, B. S. (2017). The impact of fiscal and political decentralization on local public investment in Indonesia. *Journal of Comparative Economics*, 45(2), 344–365. <https://doi.org/10.1016/j.jce.2017.03.003>
- Kuncoro, H. (2007). Fenomena flypaper effect pada kinerja keuangan pemerintah daerah kota dan kabupaten di Indonesia. *Simposium Nasional Akuntansi X*.
- Legrenzi, G., & Costas, M. (2021). Non-linear and asymmetric adjustment in the local revenue–expenditure models: Some evidence from the Italian municipalities.
- Lewis, B. D. (2017). Local government spending and service delivery in Indonesia: The perverse effects of substantial fiscal resources. *Regional Studies*, 51(11), 1695–1707. <https://doi.org/10.1080/00343404.2016.1216957>
- Martinez-Vazquez, J., & McNab, R. M. (2003). Fiscal decentralization and economic growth. *World Development*, 31(9), 1597–1616. [https://doi.org/10.1016/S0305-750X\(03\)00109-8](https://doi.org/10.1016/S0305-750X(03)00109-8)
- Maulana, H., & Abdullah, S. (2022). Pengaruh dana bagi hasil terhadap aset tetap infrastruktur dengan belanja modal infrastruktur sebagai mediasi (Studi pada pemerintah daerah kabupaten/kota se-Sumatera tahun 2018).
- Mello, L. R. de, & Barenstein, M. (2001). *Fiscal decentralization and governance: A cross-country analysis* (IMF Working Paper No. 01/71).
- Niskanen, W. A. (1968). The peculiar economics of bureaucracy. *American Economic Review*, 58(2), 293–305.
- Sirot, I., & Atmaja, H. T. (2020). Reformasi tahun 1998: Peranan dan dampaknya bagi Kota Solo.
- Sow, M. (2015). Fiscal decentralization and the efficiency of public service delivery. *IMF Working Papers*, 15(59), 1. <https://doi.org/10.5089/9781484351116.001>

- Suyanto, S. (2015). Flypaper effect theory dalam implementasi kebijakan desentralisasi fiskal. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi dan Pembangunan*, 11(1), 69. <https://doi.org/10.23917/jep.v11i1.335>
- Tiebout, C. M. (1956). A pure theory of local expenditures. *The Journal of Political Economy*, 64(5), 416–424.
- Tim Penulis Badan Kebijakan Fiskal, K. K. (2021). *Dua dekade desentralisasi fiskal di Indonesia*. Badan Kebijakan Fiskal.
- Wang, W., Zheng, X., & Zhao, Z. (2012). Fiscal reform and public education spending: A quasi-natural experiment of fiscal decentralization in China. *Publius: The Journal of Federalism*, 42(2), 334–356. <https://doi.org/10.1093/publius/pjr039>