Flypaper Effect and Factors Affecting Regional Government’s Expenditure at Districts of Yogyakarta Special Region Province 2008 - 2014

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Abstract
This research aims to determine the factors influencing local government’s expenditure as well as to confirm the occurrence of flypaper effect at the local government’s expenditure at the districts/city of Yogyakarta Special Region Province. The study surveyed all districts and city in the province during the period of 2008 – 2014. The analysis technique used was panel data regression. The results of this study indicate that the Locally-generated Revenue (Indonesian term: PAD) and the General Allocation Fund (the DAU) have positive and significant effect on local government’s expenditure (the Regional Expenditure). The result also shows that there is flypaper effect on local government’s expenditure at districts of Yogyakarta Special Region Province.

Keywords: Flypaper Effect, Regional Expenditure, Locally-generated Revenue, General Allocation Fund.

1. INTRODUCTION

Indonesian Law (Indonesian term: Undang-undang) Number 32 of 2004 and Number 23 of 2014 about regional government gives wide autonomy to all districts and cities in the country to develop their own regions. Assumption basing the regulation is that local governments know best about their region. With the autonomy each region is expected to be independent in providing services to improve the welfare of the people in the region. The Law Number 23, 2014 further states that the Central Government will transfer the Balancing Fund (Indonesian term of Dana Perimbangan) consisting of General Allocation Fund (Dana Alokasi Umum/ DAU), Special Allocation Fund (Dana Alokasi Khusus/ DAK), and Revenue Sharing Fund (Dana Bagi Hasil/ DBH) to local government with a purpose of inter-regional equality in the financial capacity.

The problem that occurs is that local governments still rely on central government allocation in financing their regional expenditures and not optimizing the potential of the region (Wulansari 2015). Kuncoro (2007) mentioned that the Locally-generated Revenue (PAD) only contributes about 20% to finance the local government’s expenditure. Problems arising from the dependence of local governments on the transfer funds from the central government triggered the flypaper effect phenomenon in local government’s finance (Putra and Dwirandra 2015).

Flypaper effect occurs when the local government responds to spend more for its regional expenditure by using the central government’s balance fund proxied by the General Allocation Fund (DAU), the Special Allocation Fund (DAK), and the Revenue Sharing Fund (DBH) rather than using the Locally-generated revenue (Pendapatan Asli Daerah/ PAD) (Maumunah 2006). Flypaper effects will imply that the transfers will increase...
local government spending greater than the transfer itself (Turnbull, 1992 in Kuncoro 2007). The flypaper effect is an asymmetric response to the increase and decrease of the use of the government transfer funds.

Several studies have indicated the tendency of local governments reliance on the central government transfers such as in West Sumatra (Ferdian 2013), East Java, Central Java and West Java (Wulansari 2015). The flypaper effect study in Yogyakarta Special Region with its 5 regencies will add the literature and thus motivates this study. The research problem is “What factors influence the district/ city’s expenditure in Yogyakarta Special Region Province?” and “Does flypaper effect occur?” The independent variables used in this analysis are limited to the Locally-generated Revenue (PAD) and General Allocation Fund (DAU).

2. LITERATURE REVIEW

2.1. Flypaper Effect

The term of flypaper effect was first introduced by Courant, Gramlich, and Rubinfeld (1979) to articulate Arthur Okun's (1930) thought that "money sticks where it hits" (Kuncoro 2007). Flypaper effect is a condition in which local governments respond too much in spending the grants transfers procured by DAU (General Allocation Funds) rather than using their own capabilities, proxied with Locally-generated Revenue (PAD) (Maimunah 2006). Kuncoro (2007) discloses the flypaper effect phenomenon leading to the elasticity of spending on higher transfers than the elasticity of spending on local tax revenues. The phenomenon of flypaper effect brings wider implications that transfers will increase local government spending greater than the transfer receipts themselves (Turnbull, 1998 in Kuncoro 2007). Flypaper effect shows that transfers from central government significantly increase public expenditure when compared to regional income.

The flypaper effect may occur in two versions: the increased local taxes and the excessive government spending leads to a higher elasticity of spending on transfers than the elasticity of spending on local tax revenues (Gorodnichenko 2011 in Oktavia 2014). Flypaper effect that implies increasing local government spending greater than the transfer receipts itself raises the tendency to wait for help from the central government in the appeal of managing its own regional resources. Wulansari (2015) states that the flypaper effect can be indicated from the effect of DAU on Regional Expenditure which is greater than the effect of PAD to the expenditure.

2.2. Regional Expenditure, Locally-generated Revenue and Balancing Funds

Regional Expenditures (Indonesian term: Belanja Daerah/ BD) consists of direct and indirect spending. Direct spending is a budgeted expenditure directly related to the implementation of certain programs and activities such as Employee Expenditures, Shopping for Goods and Services, and Capital Expenditures. Indirect spending is a budgeted expenditure not directly related to the implementation of certain programs and activities such as: Interest Expense, Subsidy, Grant Expenditure, Social Aid, Unpredicted Revenue Sharing, Financial Aid and Other Expenditures.

Locally-generated revenue (Pendapatan Asli Daerah/ PAD) is income earned by the district which is levied according to legislation (Law No. 23 of 2014). The PAD is sourced from local taxes, regional levies, the result of separated regional wealth management and other legitimate local revenue. The PAD actually reflects the local government ability to fund the implementation of regional autonomy in accordance with the potential of the region as a manifestation of decentralization. PAD is derived from: Regional Taxes, Regional Retributions, Results of Management of Separated Regional Wealth and Other Legal Locally-generated revenue such as Unearned Regional Sales; Current account service; Interest income; Gain on foreign exchange; and commissions, deductions, or other forms as a result of the sale and / or procurement of goods and / or services by the region.

Balancing Funds are funds sourced from the state budget (Indonesian term: APBN) revenues allocated to regions to fund regional needs in the context of decentralization (as regulated by the Indonesian Law Number 23, 2014). The Balancing Fund aims to reduce the fiscal gap between the government and local governments and between local governments. Balancing Funds consist of revenue-sharing, general allocation funds, and special allocation funds. Revenue Sharing Funds are funds sourced from APBN/ state-budget revenues allocated to regions based on certain percentage to fund regional needs in the context of decentralization implementation. Revenue Sharing is sourced from taxes and the wealth from natural resources. General Allocation Funds (DAU) are funds sourced from APBN/ state-budget revenues allocated for the purpose of equitable inter-regional financial capacity to fund the needs of the Region in the context of decentralization implementation. The total amount of DAU is set at least 26% of Net Domestic Revenue specified in the state-budget. Special Allocation

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Funds (DAK) are funds sourced from APBN/ state-budget revenues allocated to certain regions with the aim of assisting in funding specific activities in accordance with national priorities.

2.3. Flypaper Effect in Indonesia Context

Igna (2015) undertook research on the effects of PAD, Balancing Funds, and Other Legal Revenue on the regional expenditure of Bengkayang Regency during six years period (2009-2014). The data were analyzed using multiple linear regression. The results indicated that equity funds together with other legitimate regional revenues have a positive and significant effect on local spending. The variable that has the most dominant influence on the regional expenditure is the balancing fund.

Putra and Dwirandra (2015) conducted research on the effect of general allocation funds, revenue-sharing funds, special allocation funds, and Locally-generated Revenue to Regional Expenditures to confirm the occurrence of flypaper effect in the district government's finance in Bali Province. The results showed that the general allocation fund, profit sharing fund, and the original revenue of the region have a positive and significant impact on local expenditure, whereas the special allocation fund has no significant positive effect on local expenditure. The flypaper effect phenomenon does not occur at the district / city in the province of Bali as proved by the regression coefficient of general allocation fund that is smaller than the value of regression coefficient of original income area. Other study conducted by Adiputra (2014) examines the flypaper effect of general allocation funds and local revenue on regional expenditure in Karangasem Regency, Bali Province. The results showed that during the period of 6 (six) years from 2005-2010 there is no flypaper effect phenomenon.

Santoso, Suparta, and Saimul (2015) conducted research on flypaper effect in Lampung Province. The results showed that the variables of PAD, DBH, and DAU together have a significant effect on Regional Expenditure. Partially, PAD and DAU influence the regional expenditure, while the DBH does not affect the expenditure. Furthermore, as the DAU coefficient greater than the PAD coefficient, it indicates the occurrence of flypaper effect on the district’s spending in Lampung Province.

Wulansari (2015) undertook research on the influence of local revenue and balancing funds on regional expenditure in the districts / cities in the provinces of East Java, Central Java and West Java in 2012-2013. The results show that local revenue, general allocation fund, and revenue sharing influence the local expenditure, while special allocation fund has no effect on local expenditure. The study also proved the occurrence of flypaper effect on regional expenditure in the regencies / cities being surveyed.

Ferdian (2013) undertook research on the effects of local income, balancing funds, and other legal revenues on regional expenditures. The population in this study is all districts and municipalities in West Sumatera in 2007-2011. The result of hypothesis testing shows that the Locally-generated revenue and Balancing Fund have significant and positive effect on regional expenditure while Other Legal Revenues have a significant and positive impact on local spending. It can be seen from each variable that its significance value is 0.000 or less than the α = 0.05.

Masdjojo and Sukartono (2009) conducted research on the influence of local revenue and balancing funds on regional expenditure and analysis of flypaper effect in the Regency / City in Jawa Tengah 2006-2008. The research concludes that PAD, DBH, and DAU have a significant and positive influence to regional expenditure, while DAK has no significant effect on the regional expenditure. Furthermore the study indicates a flypaper effect on the regional expenditure in Central Java Province.

2.4. Hypothesis Development

Locally-generated Revenue (PAD) is revenue derived by the region from sources within its own territory levied under the Local Regulations and in accordance with the prevailing rules. According to Mardiasmo (2004) a high local revenue will increase its local expenditures.

H1: Locally-generated Revenue (PAD) affects Regional Expenditure (BD).

Balancing Fund which consists of Profit Sharing Funds (DBH), General Allocation Fund (DAU) and Specific Allocation Fund (DAK) are funds sourced from APBN/ state-budget revenues allocated to regions to fund local needs in the context of decentralization implementation. Widjaja (2004) states that increased transfer of equity funds to regions will increase local government spending through their Regional Budget (Indonesian term: APBD). The increase in government spending in the decentralization era is more due to the flow of equity funds that also increased from the central government to the local government (Riyanto, 2005). Legrenzi and Milas
(2001) in Syukriy and Halim (2003) stated that in the long term, the transfer affects local expenditure. Based on the above description

H2: Profit Sharing Funds (DBH) influences Regional Expenditure (BD).
H3: General Allocation Fund (DAU) affects Regional Expenditure (BD).
H4: Specific Allocation Fund (DAK) affects Regional Expenditure (BD).

Holtz-Eakin et al (1985) in Maimunah (2006) states that there is a very close relationship between transfers from the central government and local government spending. Specifically they assert that local government policy are then adjusted to the received transfer, allowing for a non-linear and asymmetric response. This is reinforced by Oktavia (2014) which states that Regency / City in East Java generally experience flypaper effect.

H5: There is flypaper effect on the regional expenditure in Regency / City in Yogyakarta Province

3. RESEARCH METHODS

This research is a causal study, with the dependent variable is Regional Expenditure (BD) and the independent variables are Locally-generated Revenue (PAD), General Allocation Fund (DAU), Profit Sharing Fund (DBH), Special Allocation Fund (DAK) of the regency / municipality in Yogyakarta Special Region Province in 2008 - 2014. As there are 4 districts and 1 city in the province, there are 35 district-year data to process (5 districts-city x 7 years).

The data were collected using using documentation technique. The data were then analyzed by panel data regression analysis (Widarjono 2009) with 95% confidence level. The data is a panel data of data which combines cross-sectional data with time series data (Kuncoro, 2011; Widarjono, 2009).

The model of the study are as follows.

\[ BD = \alpha + \beta_1 \text{PAD} + \beta_2 \text{DBH} + \beta_3 \text{DAU} + \beta_4 \text{DAK} + e \] (1)

\[ BD = \alpha + \beta_1 \text{PAD} + \beta_2 \text{DAU} + e \] (2)

where:

\( \alpha \) : Intercept
\( D_{2,\ldots,4} \) : Dummy Variables which were used for 4 districts / city
(Note: one district / city (D_1) is used as a comparative district / city)
\( \beta_1, \ldots, \beta_4 \) : Regression coefficient
BD : Belanja Daerah (Regional Expenditure)
PAD : Pendapatan Asli Daerah (Locally-generated Revenue)
DBH : Dana Bagi Hasil (Profit Sharing Fund)
DAU : Dana Alokasi Umum (General Allocation Fund)
DAK : Dana Alokasi Khusus (Special Allocation Fund)
e : Error Term

The model (2) is used to determine the occurrence of the flypaper effect. The regression coefficient of each variable, which is the coefficient value of PAD and DAU are compared. If the coefficient value of DAU exceeds the coefficient value of PAD, then it can be concluded that the flypaper effect occurs. The statistical analysis was done using SPSS 21 application.

4. RESEARCH FINDINGS AND DISCUSSION

4.1. Panel Data Regression

The result of regression analysis of panel data to determine the effect of the independent variables to the dependent variable that is regional expenditure in all districts / city in Yogyakarta Special Region Province can be seen in Table 1 as follows.
Table 1. Regression Results of Model (1)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-47277479115,635</td>
<td>12553363623,636</td>
<td>-3.377</td>
<td>.710</td>
</tr>
<tr>
<td>PAD</td>
<td>1.233</td>
<td>.317</td>
<td>3.892</td>
<td>.001</td>
</tr>
<tr>
<td>DBH</td>
<td>2.099</td>
<td>1.535</td>
<td>1.367</td>
<td>.183</td>
</tr>
<tr>
<td>DAU</td>
<td>1.145</td>
<td>200</td>
<td>5.729</td>
<td>.000</td>
</tr>
<tr>
<td>DAK</td>
<td>.508</td>
<td>1,005</td>
<td>.050</td>
<td>.618</td>
</tr>
<tr>
<td>D2</td>
<td>17482480798,087</td>
<td>60617494956,112</td>
<td>.022</td>
<td>.755</td>
</tr>
<tr>
<td>D3</td>
<td>91801225922,749</td>
<td>115974383194,796</td>
<td>.117</td>
<td>.183</td>
</tr>
<tr>
<td>D4</td>
<td>138778034291,317</td>
<td>109561796460,491</td>
<td>.176</td>
<td>.000</td>
</tr>
<tr>
<td>D5</td>
<td>84569943241,656</td>
<td>136317695232,659</td>
<td>.108</td>
<td>.540</td>
</tr>
</tbody>
</table>

Dependent Variable: BD

The result as mentioned in Table 1 depicted the regression of each districts in the province as follows.

City of Yogyakarta:

\[ BD = -47277479115.635 + 1.233 \times \text{PAD} + 2.099 \times \text{DBH} + 1.145 \times \text{DAU} + 0.508 \times \text{DAK} \]

Sleman Regency:

\[ BD = -29794998317.548 + 1.233 \times \text{PAD} + 2.099 \times \text{DBH} + 1.145 \times \text{DAU} + 0.508 \times \text{DAK} \]

Kulon Progo Regency:

\[ BD = 44523746807.114 + 1.233 \times \text{PAD} + 2.099 \times \text{DBH} + 1.145 \times \text{DAU} + 0.508 \times \text{DAK} \]

Bantul Regency:

\[ BD = 138778034291.317 + 1.233 \times \text{PAD} + 2.099 \times \text{DBH} + 1.145 \times \text{DAU} + 0.508 \times \text{DAK} \]

Gunung Kidul Regency:

\[ BD = 84569943241.656 + 1.233 \times \text{PAD} + 2.099 \times \text{DBH} + 1.145 \times \text{DAU} + 0.508 \times \text{DAK} \]

Based on the above equation it can be seen that Bantul Regency has the highest coefficient among other regencies which means that if the PAD, DBH, DAU, and DAK variables have a value of 0 then the regional spending of Bantul is as much as Rp138,778,034,291.317.

The result of regression of the Model (2) to determine the occurrence of the flypaper effect phenomenon is as follows:

Table 2. The Regression of the Model (2) to determine the Flypaper Effect

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>119579062463,762</td>
<td>52724653029,608</td>
<td>2.268</td>
<td>.031</td>
</tr>
<tr>
<td>PAD</td>
<td>.913</td>
<td>.226</td>
<td>.397</td>
<td>4.049</td>
</tr>
<tr>
<td>DAU</td>
<td>1.256</td>
<td>.184</td>
<td>.631</td>
<td>6.834</td>
</tr>
<tr>
<td>D2</td>
<td>53334888857.234</td>
<td>52044186374.771</td>
<td>.068</td>
<td>1.025</td>
</tr>
<tr>
<td>D3</td>
<td>-20656169316.019</td>
<td>56890702309.983</td>
<td>-.026</td>
<td>-.363</td>
</tr>
<tr>
<td>D4</td>
<td>63845265915.487</td>
<td>71677699341.167</td>
<td>.081</td>
<td>.891</td>
</tr>
<tr>
<td>D5</td>
<td>-26798925717.380</td>
<td>78090834488.465</td>
<td>-.034</td>
<td>-.343</td>
</tr>
</tbody>
</table>

Dependent Variable: BD

The result as mentioned in Table 2 depicted the regression of each districts in the province as follows.

City of Yogyakarta: \[ BD = 119579062463.762 + 0.913 \times \text{PAD} + 1.256 \times \text{DAU} \]

Sleman Regency: \[ BD = 172913951320.996 + 0.913 \times \text{PAD} + 1.256 \times \text{DAU} \]

Kulon Progo Regency: \[ BD = 89822893147.743 + 0.913 \times \text{PAD} + 1.256 \times \text{DAU} \]

Bantul Regency: \[ BD = 183424328379.249 + 0.913 \times \text{PAD} + 1.256 \times \text{DAU} \]

Gunung Kidul Regency: \[ BD = 92780136746.382 + 0.913 \times \text{PAD} + 1.256 \times \text{DAU} \]

Based on the above result it can be seen that the DAU coefficient (0.631) is higher than the PAD coefficient (0.397) and both are significant. It can be then concluded that a flypaper effect on regional expenditure occurs in the regions of Yogyakarta Special Region Province. The fifth hypothesis (H5) is supported.
4.2. Discussion

4.2.1. Factors affecting Regional Expenditure

Factors affecting regional expenditure are Locally-generated revenue (the PAD) and DAU, as depicted in Table 1. The analysis shows that PAD has a positive effect on local expenditure. An increased PAD will increase the District / City spending in the province. The result is in accordance with the theory put forward by Mardiasmo (2004) which states that high PAD will increase regional spending. The study support the findings of Santoso, Suparta, and Saimul (2015), Oktavia (2014), and Ferdian (2013). The DAU has also proven to influence regional expenditure. The increased DAU tend to increase the regional expenditure. The results of this study concerning the DAU differ from those of Putra and Dwirandra (2015), Santoso, Suparta, and Saimul (2015), Wulansari (2015), and Oktavia (2014) who conducted the study in different places. The DAU has the highest coefficient (1.145) among other observed factors. It indicates that the regency/ city in the province are still dependent on the DAU allocation from the central government.

Unconfirmed factors affecting regional expenditure are DBH and DAK. DBH has no effect on regional expenditure. The results of this study is similar to the study conducted by Santoso, Suparta, and Saimul (2015), but is in contrast to the studies of Putra and Dwirandra (2015) and Masdjojo and Sukartono (2009). The DAK also has no effect on regional expenditure. The results of this study concerning the DAK is similar to the study of Putra and Dwirandra (2015), Wulansari (2015) and Masdjojo and Sukartono (2009).

4.2.2. Flypaper Effect on regional expenditure

The second regression analysis shows that PAD and DAU have a positive effect on regional expenditure. DAU tends to be more dominant to finance the regional expenditure which can be seen from DAU coefficient value (1,256) which is bigger than PAD coefficient value (0.913). These results indicate that there has been a flypaper effect on regional expenditure in the Districts / City in Yogyakarta Special Region Province because the DAU coefficient is greater than the PAD. Table 2 also shows that all districts / city in the province experienced flypaper effect. The district depending on DAU revenue is Bantul Regency followed by Sleman Regency, City of Yogyakarta, Gunung Kidul Regency, and the latest Kulon Progo Regency.

5. CONCLUSION

Based on the data analysis it can be concluded that factors affecting regional expenditure are Locally-generated Revenue (the PAD) and General Allocation Fund (the DAU). Further analysis shows that there is flypaper effect to the expenditure of the district / city in the Yogyakarta Special Region Province. The regional expenditure response is still greater due to the transfer from the central government derived from the General Allocation Fund (the DAU) component compared to that caused by the Locally-generated revenue (the PAD). This indicates that district / city governments in the province are still dependent on the transfer of funds from the central government.

This study has several limitations. The data of this study is limited to the Locally-generated revenue (the PAD) and the Balancing Fund (the DBH, the DAU, and the DAK). The study did not examine other variables that may also affect the regional expenditure such as the previous year's regional government spending, the economic growth and the residual over year budget financing (Indonesian term: SILPA). The only 7 years’ timeframe of 2008-2014 may also affect the results of this study.

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