THE EFFECT OF INCOME ON CAPITAL EXPENDITURE WITH BUDGET SURPLUS AS A MODERATING VARIABLE

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ABSTRACT
The realization of capital expenditure of regencies/cities in North Sumatra Province during the 2019-2020 period decreased by more than 25%. Similarly, the realization of local indigenous income (PAD) in the province decreased in 2019-2020 by 4.75%. This decrease is thought to be caused by poor budget planning at the beginning of the budgeting year. This study aims to determine the effect of local income and general allocation funds on capital expenditure moderated by budget surplus in districts/cities in north Sumatra province in 2016-2020. This study uses descriptive quantitative method. The population of this study is all regencies/cities in North Sumatra Province which amounts to 33 regencies/cities. This study used multiple linear regression techniques to determine the influence between research variables. The results showed that local original income had a positive effect on capital expenditure, the general allocation fund had a positive effect on capital expenditure, the budget surplus moderated the effect of local original income on capital expenditure, and the surplus budget moderated the effect of the general allocation fund on district/city capital expenditure in North Sumatra Province 2016-2020. The increase in PAD and DAU will have a positive impact on Capital Expenditure of Regencies/Cities in North Sumatra Province. The increase in PAD and DAU will provide sufficient budget for local governments to finance the necessary development projects. This can have a positive impact, including the availability of sufficient budgets, improving community welfare, increasing economic growth, and increasing regional competitiveness.

Keywords: a surplus of budget financing, capital expenditure, general allocation fund, own-source revenue.

INTRODUCTION
Regional expenditure is divided into two: Operational Expenditure and Capital Expenditure. Operational expenditure is an expense to finance non-investment activities that have a usefulness of less than one year. In contrast, Capital Expenditures are investment expenditures in the form of costs so that they are recognized on the balance sheet. Regional expenditure management must be the focus of local governments so that regional financial management can be optimised (Defitri, 2018). Capital expenditure is government spending aimed at procuring tangible fixed assets that have a useful life of more than one year that can be used to support government operations for better public services (Pinem et al., 2020). Adding assets will result in additional routine, operational, and maintenance costs. The utilization of fixed assets can directly intersect with public services or be used by the community, and some are utilized by local governments (Suparta, 2021).

Based on the Central Bureau of Statistics (BPS) data, the average capital expenditure allocation for Sumatra Utara Province and regencies/municipalities in Sumatra Utara Province during 2018-2019 was still below 30%, around 18.81% and 20.12% (Daulay, 2020).
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The realization of regencies/municipalities’ capital spending in Sumatra Utara Province based on regencies/municipalities’ Budget Realization Reports (LRA) during the 2019-2020 period has decreased by more than 25%. The realization of local own-source revenue (PAD) based on the 2019 and 2020 LRA in Sumatra Utara Province decreased in 2019-2020, amounting to IDR 128,136,593,961.00 or 4.75%. The decline and realization that we still have not reached the target are allegedly due to poor budget planning at the beginning of the budget preparation year. The realization of regencies/municipalities’ capital spending in Sumatra Utara Province based on regencies/municipalities’ Budget Realization Reports (LRA) during the 2019-2020 period has decreased by more than 25% in several regencies/municipalities, with details in the following table.

### Table 1. Decrease in the Realization of Capital Expenditure in Regencies/Municipalities in Sumatra Utara Province in 2020

<table>
<thead>
<tr>
<th>Local Government Name</th>
<th>Realization in 2019 (Rp)</th>
<th>Realization in 2020 (Rp)</th>
<th>Decrease Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asahan Regency</td>
<td>304,478,575,304.52</td>
<td>146,983,023,065.25</td>
<td>51.73</td>
</tr>
<tr>
<td>Labuhan Batu Selatan</td>
<td>220,503,868,788.16</td>
<td>136,042,412,265.68</td>
<td>38.30</td>
</tr>
<tr>
<td>Labuhan Batu Regency</td>
<td>238,729,009,917.30</td>
<td>136,621,343,879.00</td>
<td>42.77</td>
</tr>
<tr>
<td>Labuhan Batu Utara</td>
<td>258,116,878,081.37</td>
<td>103,416,243,036.59</td>
<td>59.93</td>
</tr>
<tr>
<td>Padang Lawas Regency</td>
<td>241,420,449,752.03</td>
<td>143,366,541,808.00</td>
<td>40.62</td>
</tr>
<tr>
<td>Padang Lawas Utara</td>
<td>247,484,629,027.00</td>
<td>152,155,180,883.00</td>
<td>38.52</td>
</tr>
<tr>
<td>Pak-Pak Barat Regency</td>
<td>145,937,021,774.00</td>
<td>63,702,287,295.00</td>
<td>56.35</td>
</tr>
<tr>
<td>Simalungun Regency</td>
<td>381,344,591,277.00</td>
<td>107,214,562,374.00</td>
<td>71.89</td>
</tr>
<tr>
<td>Toba Regency</td>
<td>135,339,350,834.00</td>
<td>66,583,199,217.00</td>
<td>50.80</td>
</tr>
<tr>
<td>Tanjung Balai Municipality</td>
<td>96,299,502,045.52</td>
<td>53,907,690,820.07</td>
<td>44.02</td>
</tr>
<tr>
<td>Medan Municipality</td>
<td>992,661,245,694.74</td>
<td>308,278,278,057.33</td>
<td>68.94</td>
</tr>
<tr>
<td>Padang Sidempuan Municipality</td>
<td>137,812,393,423.59</td>
<td>66,379,049,476.14</td>
<td>51.83</td>
</tr>
</tbody>
</table>

Source: LRA LKPD TA 2019 and 2020 (Statistik, 2023)

The decrease in capital spending in 2020 can also be caused by the Covid-19 pandemic, which requires the Regional Government to refocus the budget on implementing Covid-19 disaster management. The budget refocusing is regulated in Government Regulation instead of Law (Perpu) Number 1 of 2020 concerning State Financial Policies and Financial System Stability for Handling the 2019 Corona Virus Disease (Covid-19) Pandemic and/or in the Context of Facing Threats that Endanger the National Economy and/or Financial System Stability (Juliani, 2020). Based on the Government Regulation instead of Law, Regional Governments are given prioritize the use of budget allocations for certain activities (refocusing), change allocations, and use the Regional Revenue and Expenditure Budget (APBD). With this budget refocusing, most local governments make budget changes by reducing the allocation of capital expenditures.

Following Government Regulation (PP) Number 12 of 2019, Capital Expenditure is a regional expenditure component funded by regional income; The size of regional income influences the size
of the allocation for Capital Expenditure (Waskito et al., 2019). Based on Law Number 12 of 2008, local governments have local revenue sources in the form of Local Own-Source Revenue (PAD) (Nasir, 2019). In addition, the central government will also transfer balance funds consisting of the local government's General Allocation Fund (DAU). The contribution of PAD in budget allocation is quite large, as is the Balance Fund, which consists of DAU and Special Allocation Funds, which are transfer funds from the central government and the Budget Surplus (SiLPA) (Mentayani, 2013).

Several previous studies have examined the factors that influence Capital Expenditures, such as (Muttaqin et al., 2021), (Amran & Abdullah, 2015), (Mentayani, 2013), (Junaedy, 2015) (Lourine Talluta et al., 2018), (Kasdy et al., 2018), (Asari & Suardana, 2018). This study stated that the factors influencing Capital Expenditures include PAD, DAU, DBH (Revenue Sharing Fund), fiscal balance transfers, and budget financing surpluses. However, there is a difference between this study and previous research. This study uses the DAU variable as an independent variable moderated by SiLPA, which previous researchers have never studied.

Based on the background that has been presented, it is necessary to formulate a problem that will be resolved in this study: Whether PAD affects capital expenditure, whether DAU affects capital expenditure, whether SiLPA affects capital expenditure, whether SiLPA moderates the effect of PAD on capital expenditure, and whether SiLPA moderates the effect of DAU on capital expenditure.

Based on the formulation of the problem above, the purpose of this study is to determine: the effect of PAD on capital expenditure, the effect of DAU on capital expenditure, the effect of SiLPA on capital expenditure, the effect of SiLPA moderation on the relationship between PAD and capital expenditure, and the moderating effect of SiLPA on the relationship between DAU and capital expenditure.

**METHOD**

Based on the relationships between variables that have been described in the framework, the hypotheses in this study are:

- H₁: PAD affects Capital Expenditures.
- H₂: DAU affects Capital Expenditures.
- H₃: SiLPA affects Capital Expenditures.
- H₄: SiLPA moderates the effect of PAD on Capital Expenditures
- H₅: SiLPA moderates the effect of DAU on Capital Expenditures.

This descriptive quantitative research analysed PAD and DAU on Capital Expenditures with SiLPA as a Moderating Variable in regencies/municipalities in Sumatra Utara Province in 2016-2020. The unit of analysis in this study is the Budget Realization Report on the regencies/municipalities in the Government Financial Reports of Sumatra Utara Province, totalling regencies/municipalities in 2016-2020. Variable data are collected at two or more time limits to answer the research problem. A population can also be defined as a collection of data that a researcher may observe or record. This research was conducted using a census technique in which the entire population was used as the research unit. This study uses a multiple linear regression model with two tests, first without moderation and second with moderation. The equation used can be written as follows:
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Unmoderated equation:
$$BM = \alpha + \beta_1PAD_{it} + \beta_2DAU_{it} + \beta_3SiLPA_{it} + \epsilon_{it}$$
$$BM = \alpha + \beta_1PAD_{it} + \beta_2DAU_{it} + \beta_3SiLPA_{it} + \beta_4PAD_{it}*SiLPA_{it} + \beta_5DAU_{it}*SiLPA_{it} + \epsilon_{it}$$
$$BM = \beta_0 + \beta_1PAD + \beta_2DAU + \beta_3DO + \beta_4SiLPA + \beta_5PAD.SiLPA + \beta_6DAU.SiLPA + \epsilon$$

where $\alpha$ is a constant, $\beta_1$-$5$ are the regression coefficients, and $\epsilon$ is the error term.

RESULTS AND DISCUSSION

Research Results

The number of observations analyzed was 165, namely 33 local governments with five years of data (2016-2020). The data were processed using SPSS 25 and presented in Table 2 (descriptive statistics) below.

| Table 2. Descriptive Statistics on Budget Realization Data (N=165) |
|-----------------|-----------------|-----------------|-----------------|
| Variable        | Minimum         | Maximum         | Average         | Standard Deviation |
| BM              | 53907690820     | 997475991902    | 243445273352.77 | 15886394718.56     |
| PAD             | 15616742531     | 1829665882248   | 157483911181.67 | 296479349778.75    |
| DAU             | 10511999710     | 494507818421    | 56562737394.72  | 73089432216.93     |
| SiLPA           | 7007999807      | 329671878947    | 37708491596.46  | 48726288144.60     |

Classic Assumption Test

The classic assumption tests used in this study were the Normality Test, Multicollinearity Test, and Heteroscedasticity Test. The classical assumption test was analyzed using the SPSS program. The results of the classical assumption test using SPSS 25 are presented in Table 3 below.

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Instrument</th>
<th>Test Results</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality Test</td>
<td>Kolmogorov-Smirnov test</td>
<td>Asymp. Sig. (2-tailed) of 0.200</td>
<td>The sig value at 0.200 &gt; 0.05 means these variables have a normal distribution.</td>
</tr>
<tr>
<td>Multicollinearity Test</td>
<td>Variance Inflation Factor</td>
<td>Tolerance Value: PAD = 0.793; DAU = 0.439; SiLPA = 0.380 VIF Value; PAD = 1.261; DAU = 2.280; SiLPA = 2.632</td>
<td>Tolerance values &gt; 0.10 and VIF &lt; 10, so the multicollinearity of each variable is not found.</td>
</tr>
<tr>
<td>Heteroscedasticity Test</td>
<td>SPSS Scatterplot Graph</td>
<td>The dots denoting the variables’ the data is spread randomly, so it can be components spread randomly oncertained that there is no heteroscedasticity problem.</td>
<td></td>
</tr>
</tbody>
</table>

Regression Analysis Results

Regression analysis was used to determine whether there is an influence between the independent variables on the dependent variable. Multiple linear analysis was used to obtain a regression coefficient to determine whether the hypothesis would be accepted or rejected. The results of the regression analysis of budget realization data in Sumatra Utara Province can be seen in table 4 below.
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Table 4 Test Results of Multiple Linear Regression Analysis on Budget Realization Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Value</th>
<th>t-Value</th>
<th>Sig.Value</th>
<th>F/Sig.Value</th>
<th>R/R²/Adj.R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD</td>
<td>0.041</td>
<td>2.635</td>
<td>0.020</td>
<td>0.968/0.000</td>
<td>0.935/0.936</td>
</tr>
<tr>
<td>DAU</td>
<td>0.121</td>
<td>2.528</td>
<td>0.009</td>
<td>789.220/0.000</td>
<td>0.936/0.935</td>
</tr>
<tr>
<td>SiLPA</td>
<td>0.641</td>
<td>12.214</td>
<td>0.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>6.739</td>
<td>16.314</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of data processing using the SPSS program, as shown in table 4, the multiple linear regression equation is obtained as follows:

\[ BM = 6,739 + 0.041PAD + 0.121DAU + 0.641SiLPA + e \]

The results of hypothesis testing can be explained as follows:

The regression coefficient of the PAD variable is 0.041, which means that a change in the PAD variable by one unit will cause a change in the BM variable by 0.041 units. This effect is significant or cannot be ignored at the 5% (α) significance level. This means that statistically, PAD has a significant impact on Capital Expenditures. The test results show that the regression coefficient value of the PAD variable (X1) is \( \beta_1 = 0.041 \) with a significance of 0.020. Hypothesis testing shows that if \( \text{sig} < 0.05 \), \( H_a \) is accepted, meaning PAD affects Capital Expenditures.

This study's results align with the research (Nainggolan & Hantono, 2018), proving that PAD affects Capital Expenditures. These results indicate that the higher the PAD, the higher the Capital Expenditure. This research aligns with (Lourine Talluta et al., 2018), which state that the PAD variable affects capital expenditures. Research on the effect of PAD on Capital Expenditures has been conducted (Daulay, 2020), where the results prove that there is an influence of PAD on Capital Expenditures with the explanation that the higher the PAD, the higher the Capital Expenditures that the local government can allocate. Increased PAD will provide benefits to increase the provision of public facilities through the development of facilities and infrastructure, especially infrastructure development. Another study was conducted by (Abba et al., 2015) on local government in the State of Adamawa, Nigeria, from 2003-2012, where PAD affects Capital Expenditures.

The results of regression testing for the second hypothesis in this study were conducted to determine whether DAU affects Capital Expenditures. The test results show that the regression coefficient value of the DAU variable is \( \beta_2 = 0.121 \) with a significance of 0.009. Hypothesis testing shows that if \( \text{sig} < 0.05 \), \( H_a \) is accepted, meaning that DAU affects Capital Expenditures. This research aligns with (Mentayani, 2013), who states that DAU affects Capital Expenditures. This research was conducted in 46 regencies/municipalities in the provinces on the island of Borneo from 2010-2012. In addition, a study (Nainggolan & Hantono, 2018) states that DAU affects Capital Expenditures.

However, some studies do not align with the current study's results. Research (Sholikhah & Wahyudin, 2014) states that DAU does not affect Capital Expenditures. This difference may be due to the difference in the number of samples used in this study, namely 93 regencies/municipalities with a span of one year, namely in 2010.

The results of regression testing for the third hypothesis in this study were conducted to determine whether SiLPA affects Capital Expenditures. The test results show that the regression coefficient value of the SiLPA variable is \( \beta_3 = 0.641 \) with a significance of 0.012. Hypothesis testing shows that if \( \text{sig} < 0.05 \), then \( H_a \) is accepted, meaning that SiLPA affects Capital Expenditure. This study's results align with research by (Angelina et al., 2020) with a sample of 33
regencies/municipalities in Sumatra Utara Province, showing that SiLPA significantly affects capital expenditure (Kasdy et al., 2018) also found that SiLPA affects capital expenditure. The research was conducted with a broader sample, namely in 311 regencies/municipalities in Indonesia during 2013-2015.

**Results of Linear Regression Analysis with Moderation**

The results of data processing using multiple linear regression models with moderation can be seen in Table 5.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Value</th>
<th>Sig.Value</th>
<th>F/Sig.Value</th>
<th>R/R²/Adj.R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD</td>
<td>0.065</td>
<td>3.951</td>
<td>0.000</td>
<td>520.678/0.000</td>
<td>0.971/0.942/0.941</td>
</tr>
<tr>
<td>DAU</td>
<td>0.136</td>
<td>2.951</td>
<td>0.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SiLPA</td>
<td>0.616</td>
<td>11.249</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAD*SiLPA</td>
<td>0.043</td>
<td>3.393</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAU*SiLPA</td>
<td>0.033</td>
<td>3.395</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>6.904</td>
<td>17.319</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of statistical calculations using the SPSS program, as shown in Table 5, the multiple linear regression equation is obtained as follows:

\[
BM = 6,904 + 0.065PAD + 0.136DAU + 0.616SiLPA + 0.043PAD*SiLPA + 0.033DAU*SiLPA + e
\]

The results of hypothesis testing can be explained as follows:

The results of regression testing for the fourth hypothesis in this study were conducted to determine whether SiLPA moderates the effect of PAD on Capital Expenditures. The test results show that there is a quasi-moderator. The results of subsequent tests found that the regression coefficient value was 0.043 if it is associated with the significance level of β4, which is insignificant (0.001 <0.05). So, it can be interpreted that SiLPA positively and significantly moderates PAD on Capital Expenditures.

Using SiLPA to finance capital expenditure (Surya & Darwanis, 2015) shows that SiLPA can be a PAD substitute, especially at the beginning of the relevant fiscal year. This is because, at the beginning of the year, not all the funds sourced from this income had entered the regional treasury, so it was handled first with SiLPA. This condition indicates that SiLPA can affect the relationship between regional revenue sources from PAD and capital expenditure. If SiLPA is large, then sources of funding such as PAD which SiLPA for capital expenditure replaces, are also considerable. On the other hand, if SiLPA is small, the funding sources to finance capital expenditures will also be small.

The results of regression testing for the fifth hypothesis in this study were conducted to determine whether SiLPA moderates the influence of DAU on Capital Expenditures. The test results show that there is a quasi-moderator. The results of subsequent tests found that the regression coefficient was 0.033 if it is associated with a significance level of β5, which is insignificant (0.001 <0.05). So, it can be interpreted that SiLPA positively and significantly moderates DAU on Capital Expenditures.

The amount of SiLPA is thought to be able to moderate the effect of DAU on capital expenditure. With increasing SiLPA from an area, the PAD and capital expenditure will increase. An increase in the capital investment (capital expenditure) of the Regional Government is expected to be able to improve the quality of public services and, in turn, be able to increase the level of public
participation (contribution) to development, which is reflected in an increase in PAD (Mardiasmo, 2009, p. 93). When linked to the contingency theory, local governments must behave differently to make PAD and SiLPA effective in forming high capital expenditures.

**CONCLUSION**

PAD affects Capital Expenditures; The higher the PAD, the higher the Capital Expenditures that the regional government can allocate; Increased PAD will provide benefits to increase the provision of public facilities through the development of facilities and infrastructure, especially infrastructure development. DAU affects Capital Expenditures. This shows that the greater the DAU, the greater the Capital Expenditures. DAU is one of the balance funds originating from the APBN, which is allocated with the aim of inter-regional financial equity to finance expenditure needs in the context of implementing decentralization. Thus, with significant transfers from the central government to regional governments, local governments can use these funds to carry out basic public service functions. DAU is also a source of financing for Capital Expenditure to procure facilities and infrastructure in the context of providing good public services. Local governments can allocate DAU to finance Capital Expenditures. SiLPA affects Capital Expenditures. SiLPA, based on applicable regulations, can fund activities and obligations that have not been completed by the end of the year. A high SiLPA at the end of the year can indicate high capital expenditure in the following year. SiLPA positively and significantly moderates PAD on Capital Expenditures. If SiLPA is large, then sources of funding such as PAD which SiLPA for capital expenditure replaces, are also large. On the other hand, if SiLPA is small, the funding sources to finance capital expenditures will also be small. SiLPA positively and significantly moderates DAU on Capital Expenditures. The amount of SiLPA is thought to be able to moderate the effect of DAU on capital expenditure. With the increasing amount of SiLPA from an area, the PAD and capital expenditure will increase.
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