

## ***The Moderation Role of Budget Ratcheting: The Relationship Between Fiscal Decentralization and Regional Spending***

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**Abstract:** *This research aims to determine whether there is a relationship between fiscal decentralization and local government public spending in Indonesia. This research also aims to determine how budget ratcheting can strengthen the relationship between fiscal decentralization and local government regional spending in Indonesia. This research is a development of a which was modified by adding a Budget Ratcheting variable as moderation. The method used in this research is quantitative by analyzing data collected from provincial-level regional expenditure budget reports in Indonesia from 2018 to 2022. The research results show a significant influence of Fiscal Decentralization (TKDD) on Regional Expenditures (BD). Still, there is no significant influence of Fiscal Decentralization (TKDD) on Regional Expenditures (BD), which is moderated by the Budget Ratcheting (RB). There is a significant influence of Fiscal Decentralization (TKDD) on Regional Expenditures (BD) after adding control variables (PAD and PL). However, there is a moderating influence of the Budget Ratcheting (RB) in strengthening the influence of Fiscal Decentralization (TKDD) on Regional Expenditures (BD) after the control variables (PAD and PL) remain insignificant, so it can be stated that the Budget Ratcheting has not been able to strengthen the positive relationship between fiscal decentralization and regional spending after adding the control variables (PAD and PL).*

**Keywords:** Budget Ratcheting; Fiscal Decentralization; Regional Spending

**JEL:** H61, H39, H50

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### **1. INTRODUCTION**

Indonesia has areas spread from Sabang to Merauke. The broad coverage of the Indonesian state government makes development one of the most critical factors in driving the nation's economy. Regional development is part of national development. Development causes the central government to delegate some tasks and authority to provincial governments by handing over some financial resources to finance the implementation of development in the regions (Aswar & Surbakti, 2013). Development causes a relationship between the central and regional governments due to the delegation of duties and authority between both parties to create effective and efficient development.

The first regulation that regulates regional government and the relationship between central and provincial government is Law No. 5 of 1974. This law governs the main points of regional government. UU No. 5 of 1974, which holds the basic principles of the provincial government, summarizes the three basic principles of the relationship between central and provincial government: decentralization, deconcentration, and assistance (medebewind) (Kuncoro, 2004). Kuncoro (2004) further explains the three fundamental principles where decentralization is related to the delegation of government affairs from the central or upper-level regional government to regional governments, which are their household affairs. Next is deconcentration, which is the delegation of authority from the government or regional heads or heads of top-level vertical agencies to provincial officials. The last one is the task of assistance (medebewind), where there is a coordination of the two previous principles, namely decentralization, and deconcentration, by the regional head, who has a dual function as the sole authority in the region and central representative in the region. Kuncoro (2004) also stated in his research that implementing this law was not optimal because centralization dominated planning and implementing development.

The regional autonomy and fiscal decentralization policies implemented in Indonesia influence state financial management (Abdullah & Junita, 2016). Halim & Abdullah (2006) also stated that provincial governments are given the authority to regulate and manage their government, which results

in delegating authority between parties related to regional budgeting. This policy is given to regional governments to regulate and manage their government affairs, including provincial finances (Abdullah & Junita, 2016). Thus, regional governments that manage their budgeting must ensure that the budget processing strategy is appropriate for implementing government programs and activities and providing public facilities, infrastructure, and services to the community in the area. Article 1 Government Regulation No. 58 of 2005 concerning Regional Financial Management explains that the regional income and expenditure budget in Indonesia consists of income, expenditure, and financing (Rubin, 1993). Rubin (1993) states that the budget reflects regional spending priorities, which lead to public services. Abdullah & Junita (2016) said that, in carrying out government affairs, which are the authority of regional governments, regional expenditure is used.

Lee & Plummer (2007) found a positive relationship between the budget variance for the current period and the budget for the next period. This variance is used to determine the next budget, called budget ratcheting. Governments have incentives to increase their budgets, which are related to the previous year's government spending. There are indications that budget ratcheting can increase the government budget in response to excessive spending in the previous year (Lee & Plummer, 2007). Thus, this indicates that budget ratcheting allows local governments to enlarge the current year's budget based on the previous year's budget. Therefore, budget ratcheting is seen as a negative rather than a positive thing regarding local government budget planning.

This research examines how budget ratcheting is related to implementing fiscal decentralization, which, in principle, is the transfer of authority from the central government to regional governments regarding regional spending carried out by provincial governments. Budget ratcheting plays a planning role in preparing the budget used by local governments to implement fiscal decentralization. As fiscal decentralization increases, regional spending also increases.

The period in this research is 2018 to 2022. This was done because, in 2015, there was a government policy that distributed transfer spending funds to regions that were larger than ministry/institution spending funds. This research develops research conducted by Aswar & Surbakti (2013) and Sacchi & Salotti (2016), which examined the relationship between fiscal decentralization and regional spending. The difference with the research we conducted is that we added the Budget Ratcheting variable as a moderating and research measurement variable, and we adjusted the research context in Indonesia.

This research shows that apart from the fiscal decentralization policy, which frees up the government to manage its finances, budgeting practices are carried out to increase the funds entering regional government treasuries. This research adds a moderating variable, namely Budget Ratcheting, as another perspective on fiscal decentralization. It is hoped that the research results will show that budget ratcheting strengthens the relationship between fiscal decentralization and regional spending. This research examines local governments throughout Indonesia, which previous studies have never examined within the scope of Indonesia.

The contribution of this research is that this research is a development of the study conducted by Aswar & Surbakti (2013) and (Sacchi & Salotti, 2016), by adding budget ratcheting variables (Choi et al., 2021) and taking different research locations, namely regional governments throughout Indonesia. Apart from that, the variables in this research also adjust to the conditions of the area where the study takes place, namely local governments in all regions in Indonesia.

## **2. LITERATURE REVIEW**

### **2.1. Fiscal Decentralization**

The government issued Law No. 5 of 1974, which regulates the basic principles of regional government. UU no. 5 of 1974 summarizes three basic principles of central and regional government relations, namely decentralization, deconcentration, and assistance tasks (*medebewind*) (Kuncoro, 2004). Kuncoro (2004) further explains the three basic principles where decentralization is related to the delegation of government affairs from the central or upper-level regional government to regional governments, which are their household affairs.

The implementation of decentralization, which began with the issuance of Law Number 22 of

1999, is expected to increase economic growth in regions by the characteristics inherent in the region (Hendra, 2016). This implementation is a delegation or handover of government authority with consequences for the budget required to carry out that authority. This way, a balance arises between the authority or affairs, and responsibilities delegated to the region and its funding sources.

#### 2.1.1. Realization of Central Government Transfers

Providing equitable public services is one of the government's obligations in serving the community. One way to provide equitable public services is through intergovernmental transfers from the center to the regions. Intergovernmental transfers are an inseparable part between the central and regional governments (Murniasih & Mulyadi, 2011). Within the framework of fiscal decentralization in Indonesia, this funding policy is implemented to reduce fiscal imbalances. Fiscal imbalances can occur between central and regional governments (vertical fiscal imbalances) and also between regional governments themselves (horizontal fiscal imbalances). The realization of central government transfers needs to be implemented to reduce fiscal imbalances.

#### 2.1.2. Budget Ratcheting

Budget Ratcheting in budget preparation appears to be opportunistic executive behavior (Susanto & Halim, 2018). The principal can use the agent's performance in the current period to update beliefs regarding the performance of the next period, which are formed through the negotiation process for the future period's budget (Fisher et al., 2006). Budget Ratcheting makes the budget for the next period the same as the budget for the current period plus adjustments (ratcheting budget) originating from the difference between the actual budget and the budget for the current period (Lee & Plummer, 2007).

Budgets in government organizations have fundamental differences compared to company budgets. This difference consists of two things. First, budgeting carried out by the government is carried out to make expenditures or, in other words, budgeting government spending, while budgeting in companies is carried out to budget profits. Second, Budget Ratcheting in the company budget is related to bonuses based on achieving the company's profit targets, which benefit the company. Budget Ratcheting in the government budget is related to losses received by society due to inefficient budget growth (Lee & Plummer, 2007).

## 2.2. Regional Spending

Law Number 32 of 2004 states that regional expenditure is all regional obligations recognized as a reduction in net assets in the relevant fiscal year period. The primary sources of regional financing in implementing fiscal decentralization consist of regional income, balancing funds, and regional loans (Mahendra, 2018). Regional government spending used to finance regional development activities is called regional spending (Rahmawati & Fajar, 2017). Local governments are required to manage these spendings well. Unproductive spending, such as personnel expenditures, can hamper development and economic growth (Rackauskas & Liesionis, 2013). Regional governments can conduct analyses to determine spending priorities that need to be carried out and adjusted to the needs of the regional government (Manik, 2023; Toubeau & Vampa, 2021).

## 2.3. Regional Original Income

Regional original income, better known as PAD, is income obtained from activities carried out by the region. Regional income functions to finance economic activities and various kinds of regional expenditure (Manik, 2023). The excellent functioning of regional autonomy is reflected in high regional income (Olusola, 2011). The high percentage of original regional income in the APBD indicates that regional governments have minimized their dependence on the central government (Putra et al., 2020). In this way, the region can be declared independent in managing its regional income (Asfar et al., 2021). Regional spending will increase if regional original income also increases. This will impact increasing spending aimed at improving the welfare of society (Fan & Zhang, 2008).

## 2.4. Other Income

Law Number 23 of 2014 concerning Regional Government defines other regional income as all regional income other than original regional income and transfer income. Other income includes grants,

emergency funds, and other income following statutory provisions.

### 2.5. Previous Research

Previous research conducted by Aswar & Surbakti (2013) explains that fiscal decentralization has a positive relationship with the amount of regional spending. Transfers of balancing funds to regions and other legitimate revenues influence the amount of regional public spending. In this way, regional governments are given the authority to manage and regulate regional resources following the interests of regional communities and reduce disparities between regions.

Abdullah & Junita (2016) explained that budget ratcheting reflects an agency problem in regional budgeting, which is seen when the budget proposer and the approver of the budget proposal have their interests, which are then accommodated in the budget (moral hazard). Lee & Plummer (2007) found a positive relationship between the budget variance (the difference between actual and budgeted income) for the current period and the budget for the next period. Positive variance reflects good performance, so the pattern can be imitated for determining performance targets for the following year (Abdullah & Junita, 2016). Lee & Plummer (2007) further explained that Budget Ratcheting behavior is an attempt to enlarge the budget by using previous budget items that are not needed in the budget.

## 3. METHOD

### 3.1. Data type and source

The data used in this research comes from provincial-level APBD reports in Indonesia. Data was taken from the website of the Directorate General of Fiscal Balance of the Ministry of Finance regarding Provincial APBDs in Indonesia (<https://djpk.kemenkeu.go.id/portal/data/apbd>).

### 3.2. Research Object

The object of this research is the regional government at the provincial level (34 provinces) in Indonesia in the 2019-2022 period.

### 3.3. Panel Data Estimation Method

The analytical approach in this research uses panel data regression analysis because there is a time series component 2019 - 2022 and a cross section of 34 provinces in Indonesia. To be able to find out the results of the influence of the independent variable on the dependent variable, you must carry out several stages of testing. First, to be able to see which model is the best between the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), it is necessary to carry out Chow, Hausman, and Lagrange Multiplier tests. Next, classical assumption tests included autocorrelation, heteroscedasticity, and multicollinearity tests. Meanwhile, the results of panel data regression analysis can use the results of the selected model types, including CEM, FEM, and REM. From the model chosen, it can be seen the influence of the independent variable on the dependent variable can be seen from the F-stat prob value. The effect of each variable can be seen from the T-stat prob value.

### 3.4. Variable Operationalization

The following is the operationalization of the variables in this research:

**Table 1.** Explanation of Variable Operationalization

Variable	Explanation	Measurement
<b>Dependent Variable</b>		
Regional Spending	Regional spending is a resource used in carrying out regional government functions, which is a regional obligation and is recognized as a deduction from the value of net assets in a budget year (Abdullah & Junita, 2016).	Regional spending in this study is measured by the total regional expenditure (Aswar, 2013) from each province for the 2019-2022 budget year.
<b>Independent Variable</b>		

Fiscal Decentralization (Realization TKDD)	Fiscal decentralization is the transfer of authority from the central government to regional governments to regulate and administer their regions based on regional conditions (Christian et al., 2019).	Fiscal decentralization in this study is measured by transfers to regions and village funds (TKDD) (Christian et al., 2019).
<b>Moderating Variable</b>		
Ratcheting Budget	Budget ratcheting is a phenomenon of moral hazard behavior by agents in determining performance targets using the previous year's targets as a benchmark (Abdullah & Junita, 2016).	$TKDD_t - TKDD_{t-1} = \beta_0 + \beta_1 (TKDDR_{t-1} - TKDD_{t-1}) + \varepsilon$ <p>Information:                      TKDD<sub>t</sub> = Central government transfer income of the year t                      TKDD<sub>t-1</sub> = Central government transfer income of the year t-1                      β<sub>0</sub> = constant                      β<sub>1</sub> = regression coefficient                      TKDDR<sub>t-1</sub> = Realization of central government transfer income for the year t – 1                      ε = error terms</p> <p>TKDD<sub>t</sub> – TKDD<sub>t-1</sub> measure the increase in the current year's TKDD budget compared to last year's TKDD budget; as a reflection, there is ratcheting in determining the DP target (Abdullah, 2016). Budget Ratcheting in this research is measured from TKDD data from each province for the 2019-2022 budget year.</p>
<b>Control Variable</b>		
Regional Original Income	PAD is income obtained from activities carried out by the region (Manik, 2023).	Original Regional Income in this study is measured by the original regional income from each province for the 2019-2022 budget year.
Other Income	Other income includes grants, emergency funds, and other income by statutory provisions (UU No. 23 of 2014).	Other income in this study is measured by the amount of other income from each province for the 2019-2022 fiscal year.

#### 4. RESULTS AND DISCUSSION

##### 4.1 Regression Analysis Results

This research will analyze the relationship between fiscal decentralization and regional spending moderated by Budget Ratcheting and how the relationship between fiscal decentralization and regional spending moderated by Budget Ratcheting is if control variables are added for 2018-2022 in provinces throughout Indonesia. The following is the panel data regression research model used:

$$BD_{it} = \beta_0 + \beta_1 DF_{it} + \beta_2 RB_{it} + \beta_3 DF*RB_{it} + \varepsilon_{it} \quad (1)$$

$$BD_{it} = \beta_0 + \beta_1 DF_{it} + \beta_2 RB_{it} + \beta_3 DF*RB_{it} + \beta_4 PAD_{it} + \beta_5 PL_{it} + \varepsilon_{it} \quad (2)$$



Keterangan:

$\beta$  = constant

BD = Regional Spending (TKDD)

DF = Fiscal Decentralization

RB = Budget Ratcheting

PAD = Regional Original Income

PL = Other Income

$\varepsilon$  = error

There are three analysis methods for regression with panel data, namely the Common Effect Model (ECM), Random Effect Model (REM) and Fixed Effect Model (FEM). The following are the estimation results for the three methods:

**Table 2.** Estimation Results for Hypothesis 1

Variable	Common Effect Coefficient (Std.Error)	Fixed Effect Coefficient (Std.Error)	Random Effect Coefficient (Std.Error)
Fiscal Decentralization (TKDD)	1.742656*** (0.0589707)	0.6124428*** (0.1240666)	1.356688*** (0.0865821)
Budget Ratcheting (RB)	-0.9219898 (2.290548)	1.667697*** (0.3973824)	1.656476*** (0.492039)
Fiscal Decentralization (TKDD)*Budget Ratcheting (RB)	0.000088 (0.0000555)	-0.0000128 (0.0000101)	$2.01 \times 10^{-06}$ (0.0000123)
_cons	-4561.528** (1852.622)	20614.86*** (2726.89)	4305.77* (2594.607)

Source: Processed with Stata 14 (2023)

Information : significant at \* 10%, \*\* 5%, and \*\*\* 1%

**Table 3.** Estimation Results for Hypothesis 2

Variable	Common Effect Coefficient (Std.Error)	Fixed Effect Coefficient (Std.Error)	Random Effect Coefficient (Std.Error)
Fiscal Decentralization (TKDD)	1.015254*** (0.0201662)	0.636236*** (0.1156331)	1.015254*** (0.0201662)
Budget Ratcheting (RB)	0.6985098* (0.3865795)	1.271685*** (0.3851815)	0.6985098* (0.3865795)
Fiscal Decentralization (TKDD)*Budget Ratcheting (RB)	$3.60 \times 10^{-06}$ ( $9.50 \times 10^{-06}$ )	$-3.82 \times 10^{-06}$ (0.0000102)	$3.60 \times 10^{-06}$ ( $9.50 \times 10^{-06}$ )
Regional Original Income (PAD)	0.9342688*** (0.018852)	0.3829383*** (0.1095945)	0.9342688*** (0.018852)
Other Income (PL)	1.042317*** (0.101018)	0.5233058 (0.3165259)	1.042317*** (0.101018)
_cons	519.8932 (335.9188)	15295.55*** (3009.767)	519.8932 (335.9188)

Source: Processed with Stata 14 (2023)

Information : significant at \* 10%, \*\* 5%, and \*\*\* 1%

#### 4.2 Selection of Panel Data Regression Models

Panel data regression can be carried out with three models, namely common effect, random effect, and fixed effect; each model has its advantages and disadvantages. The choice of model depends

on the assumptions used by the researcher and the fulfillment of the conditions for correct statistical data processing so that the results can be justified statistically. Therefore, the first step that must be taken is to choose a suitable model from the three available models.

### 1. Chow Test

The Chow test is used to determine individual effects in the panel regression estimation model, whether the model is estimated using Fixed Effect (FEM) or Common Effect (CEM) as the following hypothesis :

$H_0$  : *Common Effect Model*

$H_1$  : *Fixed Effect Model*

The test criteria state that if the statistical significance is smaller than the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is rejected, meaning that the effect in the panel regression estimation model used is the Fixed Effect Model; conversely, if the significance is greater than or equal to the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is accepted, meaning that the effect in the panel regression estimation model that matches the empirical data is the Common Effect Model.

**Table 4.** Chow Test Results

Model	Statistic	Prob.
Model 1 H1	122.99	0.0000
Model 1 H2	2.12	0.0051

Source: Processed with Stata 14 (2023)

As shown in Table 4, the results showed that the statistical results of the Chow test in model 1 for both hypotheses 1 and 2 produced a significance value smaller than the degree of significance ( $\alpha=5\%$  or 0.05), so  $H_0$  was rejected. Thus, based on the Chow test, the panel regression estimation model in model 1 (hypotheses 1 and 2) in this study is the Fixed Effect Model. Meanwhile, the statistical results of the Chow test in model 2 produce a significance value greater than the degree of significance ( $\alpha=5\%$  or 0.05), so  $H_0$  is accepted. Thus, based on the Chow test, the panel regression estimation model in model 2 in this study is the Common Effect Model.

### 2. Hausman Test

Next, the Hausman test is used to determine individual effects in the panel regression estimation model, whether the model is estimated using Fixed Effect (FEM) or Random Effect (REM) as per the following hypothesis:

$H_0$  : *Random Effect Model*

$H_1$  : *Fixed Effect Model*

The test criteria state that if the Hausman test statistic with significance is smaller than the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is rejected, meaning that the effect in the panel regression estimation model used is the Fixed Effect Model. On the other hand, if the significance value is greater than or equal to the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is accepted, meaning that the effect in the panel regression estimation model that matches the empirical data is the Random Effect Model. The results of testing the model effect using the Hausman test can be seen in the following table:

**Table 5.** Hausman Test Results

Model	Statistic	Prob.
Model 1 H1	69.99	0.0000
Model 1 H2	40.67	0.0000

Source: Processed with Stata 14 (2023)

As shown in Table 5, the results showed that all models produced significance values from the Hausman test statistic that were less than the degree of significance ( $\alpha=5\%$  or 0.05), so  $H_0$  was rejected. Thus, based on the Hausman test, the best panel regression estimation model is the Fixed Effect Model (FEM).

### 3. Lagrange Multiplier Test

The Lagrange Multiplier test is used to choose between the Common Effect Model (CEM) or Random Effect Model (REM), which is most appropriate for panel data regression equation models. The hypothesis of this test is as follows:

$H_0$  : Common Effect Model

$H_1$  : Random Effect Model

The test criteria state that if the Lagrange Multiplier test statistic with significance is smaller than the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is rejected, meaning that the effect in the panel regression estimation model used is the Random Effect Model. On the other hand, if the significance value is greater than or equal to the degree of significance ( $\alpha=5\%$ ), then  $H_0$  is accepted, meaning that the effect in the panel regression estimation model that matches the empirical data is the Common Effect Model. The results of testing the model effect using the Lagrange Multiplier test can be seen in the following table.

**Table 6. Lagrange Multiplier Test Results**

Model	Statistic	Prob.
Model 1 H1	87.11	0.0000
Model 1 H2	0.00	1.0000

Source: Processed with Stata 14 (2023)

As shown in Table 6, the results show that the statistical significance value of the Lagrange Multiplier test in model 1 hypothesis 1 produces a probability smaller than the degree of significance ( $\alpha=5\%$  or 0.05), so  $H_0$  is rejected. Thus, based on the Lagrange Multiplier test, model 1 hypothesis 1 produces the best panel regression estimate in the model, namely the Random Effect Model (REM). Furthermore, the significance value of the Lagrange Multiplier test statistic in model 1, hypothesis 2, and model 2 produces a probability greater than the degree of significance ( $\alpha=5\%$  or 0.05) so that  $H_0$  is accepted. Thus, based on the Lagrange Multiplier test, model 1, hypothesis 2, and model 2 produce the best panel regression estimates in the model, namely the Common Effect Model (CEM). In summary, the results of selecting the best model are as follows:

**Table 7. Best Model Selection Results**

Model	Chow Test	Hausman Test	Lagrange Multiplier Test
Model 1 H1	Fixed Effect Model	Fixed Effect Model	Random Effect Model
Model 1 H2	Fixed Effect Model	Fixed Effect Model	Common Effect Model

Source: Processed with Stata 14 (2023)

Based on the results of selecting the best model, it is known that model 1, hypotheses 1 and 2, from the results of the Chow and Hausman tests, it was found that the best model was the fixed effect model, so the model selected for model 1, hypotheses 1 and 2 was the fixed effect model.

### 4.3 Classic Assumption Test

After determining the panel data regression model used, the next step is to test the assumptions needed for panel data. The tests required are heteroscedasticity, autocorrelation, and multicollinearity tests.

#### 1. Heteroskedasticity

The first assumption is the absence of heteroscedasticity. The heteroscedasticity assumption test determines whether the residuals have a homogeneous variance. Testing the assumptions in this research is seen through the Breusch-Pagan and Wald tests. The hypothesis for testing the heteroscedasticity assumption is as follows:

$H_0$ : Residuals have a homogeneous variety

$H_1$ : Residuals do not have homogeneous variance



The test criteria state that if the probability resulting from the Wald test is  $\geq$  level of significance ( $\alpha=5\%$  or 0.05), then the residual is declared to have a homogenous variance. The following are the results of testing the heteroscedasticity assumption via the Wald test:

**Table 8.** Heteroscedasticity Testing Table

Model	Statistic	Prob.
Model 1 H1	30218.80	0.0000
Model 1 H2	41602.02	0.0000

Source: Processed with Stata 14 (2023)

Testing the heteroscedasticity assumption shows that all models produce probabilities smaller than the significance level ( $\alpha=5\%$  or 0.05). This means that the residuals are declared not to have a homogeneous variance. Thus, the assumption of no heteroscedasticity in all models is not fulfilled.

## 2. Autocorrelation

After testing the heteroscedasticity assumption, the autocorrelation assumption was then tested. To determine the presence of autocorrelation, the Wooldridge test is carried out, as presented in the results of data processing with Stata 14 below:

**Table 9.** Autocorrelation Test Table

Model	Statistic	Prob.
Model 1 H1	4.591	0.0396
Model 1 H2	2.059	0.1607

Source: Processed with Stata 14 (2023)

Based on the summary in Table 9, it is found that the Wooldridge test value in model 1, hypothesis 1, and model 2 has a value smaller than alpha significance of 5% or 0.05. Thus, the residuals resulting from model 1, hypothesis 1, and model 2, which have been estimated, are stated to have autocorrelation. Then, the results of the Wooldridge test in model 1 hypothesis 2 have a value greater than alpha significance 5% or 0.05. Thus, the residuals resulting from model 1 hypothesis 2, which have been estimated, are stated to have no autocorrelation.

## 3. Multicollinearity

After testing the autocorrelation assumption, the next step is testing the multicollinearity assumption. To determine the existence of multicollinearity, a test was carried out by looking at the Variance inflation factors (VIF) values. The test criteria are if the independent variable produces a VIF of less than 10. It is stated that there is no multicollinearity, as presented in the results of data processing with Stata 14 below:

**Table 10.** Multicollinearity Testing Table

Model	Model 1 H1	Model 1 H2
Fiscal Decentralization (TKDD)	1.49	6.14
<i>Ratcheting Budget</i> (RB)	3.44	3.47
Regional Original Income (PAD)	-	2.69
Other Income (PL)	-	5.62
Fiscal Decentralization (TKDD)* <i>Budget Ratcheting</i> (RB)	4.13	4.28

Source: Processed with Stata 14 (2023)

Based on the summary in Table 10, it is found that the multicollinearity test values for all models produce VIF values smaller than 10. Thus, all models do not indicate multicollinearity.

Several tests on selecting a regression approach appropriate to the research show that the chosen model is a fixed effect model. However, testing classical econometric assumptions shows that model 1, hypothesis 1, is proven to be statistically significant, experiencing problems of heteroscedasticity and autocorrelation. Violations of these classical assumptions make the estimation results biased and their validity doubtful, resulting in incorrect analysis. Based on these facts, using a fixed effect model is not possible as a basis for analysis, so in this study, it was decided to use Regression with Driscoll-Kraay standard errors. Regression analysis with Driscoll-Kraay standard errors is a method or estimator that can be used to overcome the problem of heteroscedasticity, the serial correlation between individuals (cross-section correlation) developed by Driscoll and Kraay (1997). The Driscoll-Kraay estimator can be used in both fixed effect models and common effect models and works under the assumption of a heteroscedastic error structure and autocorrelation. Then, for model 1, hypothesis 2 was proven to be statistically significant, only experiencing the problem of heteroscedasticity, so the analysis used was generalized least squares panels (hetero). This method can be used to overcome heteroscedasticity problems in fixed effect models and common effect models.

#### 4.4 Hypothesis testing

Hypothesis testing is used to determine whether or not there is an influence of independent variables partially (individually) or simultaneously (together) on the dependent variable. The test criteria state if the probability value < sig. Alpha 5% or 0.05 means there is a significant influence. The results of hypothesis testing can be explained as follows:

**Table 11.** Hypothesis Test Results Model 1 Hypothesis 1

Variabel	Coef.	t	P> t
Fiscal Decentralization (TKDD)	0.6124428	6.17	0.025
<i>Ratcheting Budget</i> (RB)	1.667697	4.41	0.048
Fiscal Decentralization (TKDD)* <i>Budget Ratcheting</i> (RB)	-0.0000128	-1.20	0.354
f-statistic	23.20		
Prob.	0.0416		

Source: Processed with Stata 14 (2023)

Testing the effect of Fiscal Decentralization (TKDD) on Regional Spending (BD) moderated by Budget Ratcheting (RB) produces a t probability value of 0.354. The probability value is > level of significance (α=5% or 0.05), indicating that there is no significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) moderated by Budget Ratcheting (RB).

Simultaneous testing of the influence of Fiscal Decentralization (TKDD) on regional Spending (BD), which is moderated by Budget Ratcheting (RB), produces a probability value of f of 0.0416. The test results show a probability < level of significance (α=5% or 0.05). This means that there is a significant simultaneous influence of Fiscal Decentralization (TKDD) on regional Spending (BD), which is moderated by Budget Ratcheting (RB).

**Table 12.** Hypothesis Test Results Model 1 Hypothesis 2

Variabel	Coef.	Std. Err.	z	P> z
Fiscal Decentralization (TKDD)	0.654252	0.0528444	12.38	0.000
<i>Ratcheting Budget</i> (RB)	0.8620219	0.2205597	3.91	0.000
Fiscal Decentralization (TKDD)* <i>Budget Ratcheting</i> (RB)	7.69×10 <sup>-06</sup>	9.38×10 <sup>-06</sup>	0.82	0.412
Regional Original Income (PAD)	0.4834813	0.0707683	6.83	0.000
Other Income (PL)	0.3029299	0.1034282	2.93	0.003
f-statistic	93515.63			
Prob.	0.0000			

Source: Processed with Stata 14 (2023)

Testing the effect of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL) produces a z probability value of 0.000. This probability value is < level of significance ( $\alpha=5\%$  or 0.05), indicating that there is a significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL). The resulting coefficient value is 0.654252 (positive), meaning that if Fiscal Decentralization (TKDD) increases by 1 million rupiahs, Regional Spending (BD) will increase by 0.654252 million rupiahs, assuming other variables are constant. Thus, hypothesis 2 is accepted.

However, the moderating influence of Budget Ratcheting (RB) in strengthening the influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL) remains insignificant ( $\text{prob} = 0.412 > \alpha = 0.05$ ), so it can be stated that Budget Ratcheting has not been able to strengthen the positive relationship between fiscal decentralization and regional spending after adding control variables (PAD and PL).

Simultaneous testing of the effect of Fiscal Decentralization (TKDD) on regional Spending (BD), which is controlled by Original Regional Income (PAD), Other Income (PL) and moderated by Budget Ratcheting (RB), produces a probability value of f of 0.0000. The test results show a probability <level of significance ( $\alpha=5\%$  or 0.05). This means that there is a significant simultaneous influence of Fiscal Decentralization (TKDD), Original Regional Income (PAD), and Other Income (PL) on regional Spending (BD) and is moderated by Budget Ratcheting (RB).

## 4.5 Discussion

### 1. The Relationship between Fiscal Decentralization and Regional Spending Moderated by Budget Ratcheting

$$BD_{it} = 20614.86^{**} + 0.6124428 DF_{it}^{**} + 1.667697 RB_{it} + (-0.0000128 DF \cdot RB_{it}) + \varepsilon_{it}$$

Based on the results of data analysis, it shows that there is a significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD). The resulting coefficient value is 0.6124428, meaning that if Fiscal Decentralization (TKDD) increases by 1 million rupiahs, Regional Spending (BD) will increase by 0.6124428 million rupiahs, assuming other variables are constant. This follows Murniasih & Mulyadi's (2011) statement that fiscal decentralization is carried out to provide services to the community through increasing regional spending so that it can improve community welfare.

Fiscal Decentralization (TKDD) has a significant effect on Regional Spending (BD) because the majority of regional income comes from Fiscal Decentralization (TKDD) so this greatly influences Regional Spending in Indonesia's provinces. This situation shows that the financial condition of the provinces in Indonesia is still very dependent on transfers from the central government, in other words that the provinces in Indonesia have not been able to meet the needs of their respective regions.

However, the effect of Fiscal Decentralization (TKDD) on Regional Spending (BD), which is moderated by Budget Ratcheting (RB), is not significant. The resulting coefficient value is -0.0000128, meaning that if fiscal decentralization increases by 1 million rupiahs, it will reduce regional spending by 12.8 rupiahs. In other words, Budget Ratcheting has not been able to strengthen the positive relationship between fiscal decentralization and provincial spending, and this is to Lee & Plummer's statement (2007). Budget Ratcheting is related to losses received by society due to inefficient budget growth.

The results of this research follow research by Aswar & Surbakti (2013), which states that fiscal decentralization has a positive relationship with the amount of regional spending. It is not pursued study by Lee & Plummer (2007), which found that there was a positive relationship between fiscal decentralization and the amount of regional spending which was moderated by budget ratcheting, meaning that budget ratcheting did not strengthen the relationship between fiscal decentralization and provincial spending so that budget ratcheting was not needed in the budget.

The influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) which is moderated by Budget Ratcheting (RB) is not significant because the size of the Regional Spending

budget (BD) is currently only influenced by Fiscal Decentralization (TKDD) in the current year and is not influenced by Fiscal Decentralization (TKDD) last year. This is caused by frequent budget changes from the central government so that transfer funds to regions have to be adjusted. For example, during the Covid-19 pandemic, transfer funds to regions were reduced because the central government needed funds to handle the Covid-19 pandemic.

## **2. The Relationship between Fiscal Decentralization and Regional Spending Moderated by Budget Ratcheting with the control variables PAD and Other Income**

$$BD_{it} = 17751.93^{**} + 0.654252 DF_{it}^{**} + 0.8620219 RB_{it}^{**} + 7.6999999 DF*RB_{it} + 0.4834813 PAD_{it}^{**} + 0.3029299 PL_{it}^{**} + \varepsilon_{it}$$

The results of data analysis show that there is a significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL). The resulting coefficient value is 0.654252, meaning that if Fiscal Decentralization (TKDD) increases by 1 million rupiahs, Regional Spending (BD) will increase by 0.654252 million rupiahs, assuming other variables are constant. This follows the statement by Adrian and Yasa (2015) that regional spending will increase if original regional income also increases, which will impact increasing expenditure aimed at improving the community's welfare.

After adding control variables, Fiscal Decentralization (TKDD) still has a significant effect on Regional Spending (BD). This shows that the source of regional income from Fiscal Decentralization (TKDD) is greater than local original income (PAD) and other income (PL) so that it greatly influences the Regional Spending of provinces in Indonesia. This situation shows that the financial condition of the provinces in Indonesia is still very dependent on transfers from the central government so that there is a need for regional government policies in the provinces in Indonesia to increase sources of income from local original income (PAD) and other income (PL) so that it is not too relies on transfers from the central government.

However, the moderating influence of Budget Ratcheting (RB) in strengthening the influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL) remains insignificant. The resulting coefficient value is 7.6999999, meaning that if fiscal decentralization increases by 1 million rupiah, then regional spending will increase by 7.7 million rupiah however Budget Ratcheting has not been able to strengthen the positive relationship between fiscal decentralization and provincial spending after adding control variables (PAD and PL), This is under the statement by Lee & Plummer (2007) Budget Ratcheting is related to losses received by society due to inefficient budget growth.

The results of this research follow research by Aswar & Surbakti (2013), which states that transfers of balancing funds to regions and other legitimate revenues influence the amount of regional spending. This also follows research by Lee & Plummer (2007), which found a positive relationship between fiscal decentralization and the amount of provincial spending moderated by budget ratcheting. However, budget ratcheting did not strengthen the relationship between fiscal decentralization and regional spending, so budget ratcheting was not needed in the budget.

The effect of Fiscal Decentralization (TKDD) on Regional Spending (BD) which is moderated by Budget Ratcheting (RB) after adding control variables remains insignificant because the size of the Regional Spending budget (BD) is currently influenced by the size of Fiscal Decentralization (TKDD) in the current year and not influenced by Fiscal Decentralization (TKDD) last year. This is caused by frequent budget changes from the central government so that transfer funds to regions have to be adjusted. For example, during the Covid-19 pandemic, transfer funds to regions were reduced because the central government needed funds to handle the Covid-19 pandemic.

## **5. CONCLUSION AND SUGGESTION**

### **CONCLUSION**

From the results and discussion regarding the relationship between Fiscal Decentralization and Regional Spending moderated by Budget Ratcheting, it can be concluded as follows:

1. There is a significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD). Still, there is no significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD), which is moderated by Budget Ratcheting (RB); in other words, Budget Ratcheting has not been able to strengthen the positive relationship between fiscal decentralization and regional spending.
2. There is a significant influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after adding control variables (PAD and PL). However, there is a moderating influence of Budget Ratcheting (RB) in strengthening the influence of Fiscal Decentralization (TKDD) on Regional Spending (BD) after plus the control variables (PAD and PL) remain insignificant, so it can be stated that Budget Ratcheting has not been able to strengthen the positive relationship between Fiscal Decentralization (TKDD) and Regional Spending (RB) after adding the control variables (PAD and PL).

## **SUGGESTION**

From the results of this research, the following suggestions can be given:

1. It is hoped that the provincial government can determine policies to increase fiscal decentralization (TKDD), regional original income (PAD), and other income (PL) so that regional spending can also be improved.
2. For further research, you can modify this research by extending the analysis year, adding new variables, and using other analysis tools (such as SPSS and EViews) to provide better results.

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