Fiscal Illusion Detection on The Financial Performance of Central Sulawesi Regional Government Within the Period of 2016-2020

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Abstract—*This study aims to detect the phenomenon of fiscal illusion on the financial performance of local governments in Central Sulawesi Province for the 206-2020 period. This research is derived from secondary data obtained from the Central Sulawesi Provincial Statistics Agency website and sites that provide regional financial data. This study uses panel data regression analysis with fiscal illusion detection method using an income measurement approach (Revenue Enhacement). The results showed that in 7 regencies in Central Sulawesi Province, fiscal illusions were detected in the component of regional retribution, which was indicated by a value of -0.016782 which means that the contribution of regional retribution is still relatively low.*

Keywords—*Fiscal Illusion, Balancing Fund, Regional Tax, Regional Retribution, and Regional Expenditure*

I. INTRODUCTION

The implementation of fiscal decentralization is expected to generate local revenue as the main component of regional finance or regional fiscal formation by means of the central government providing transfer funds to the government in the form of balancing funds which should be an incentive to increase regional income. There is a tendency for local governments to manipulate financial reports to obtain large balancing funds compared to efforts to increase their original regional income, which is called the Fiscal Illusion phenomenon. Detection of fiscal illusions can be done in various ways, including by measuring income. The emergence of an increasing imbalance between Regional Original Income (PAD) and balancing funds which causes regional expenditures to be dominated by balancing funds, especially General Allocation Fund (DAU), is indicated as a fiscal illusion[1].

In Central Sulawesi, based on data from the Central Sulawesi BPS for 2016-2020, all components of Regional Original Income (PAD), Balancing Funds (DP), and Regional Expenditures (BD) have increased. However, if we look closely, the PAD component has increased which is not too significant compared to the regional expenditure component, which has a significant increase, which tends to follow the increase in balancing funds. In this case, it shows that BD is not affected by PAD, but an increase in BD is influenced by an increase in DP. This can be clarified again the increase in DP is faster than PAD. Based on this, it can be said that there is a symptom of fiscal illusion which is characterized by the development of transfer funds that are more dominant than the development of PAD. This is due to the efforts of local governments that tend to look for ways to obtain transfer funds rather than developing PAD to meet spending needs.

Balancing funds (DP) and local revenue are the two largest sources of revenue for local governments. The total DP received by the Central Sulawesi Government in 2016 was 2,210 trillion rupiah. This experienced a significant increase of 3.184 trillion rupiah in 2020. The significant development of DP is inversely proportional to the condition of PAD. In 2016, the total PAD received by the Central Sulawesi Government was 939,092 billion rupiah, with a fairly slow increase compared to the increase in DP, namely in 2020 the total PAD received was only 1.041 trillion rupiah.
Central Sulawesi Province Central Sulawesi, which is the province with the largest area on the island of Sulawesi and has quite a lot of natural resources compared to other Sulawesi regions. So with this, they can indirectly obtain an independent source of income for the region. The existence of political issues regarding the 7 eastern districts of Central Sulawesi Province which will separate themselves and form a new province is the author's consideration for choosing these 7 districts as research locations.

Based on the description of the background above, the research question that needs to be answered in this study is whether the phenomenon of fiscal illusion occurs in the financial performance of the regional government of Central Sulawesi Province for the 2016-2020 period.

The purpose of this study is to analyze and detect the phenomenon of fiscal illusion in the financial performance of the regional government of Central Sulawesi Province for the 2016-2020 period.

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II. LITERATURE REVIEW

The implementation of regional autonomy in Indonesia as stipulated in Law Number 32 of 2004 concerning Regional Government which was later revised into Law Number 23 of 2014 concerning Regional Government which regulates regional autonomy and fiscal decentralization has led to a change in the centralized government system to a decentralized system. Decentralization is the transfer of political, fiscal and administrative power to local government that emerges as one of the most important policy development trends[2].

Fiscal decentralization describes an instrument used by the government to develop development to advance the regional or central economy. The freedom of local governments to manage transfer funds provided by the central government must facilitate financial management so that regional development can be carried out fully to improve welfare[3]. Meanwhile, fiscal decentralization is one of the mechanisms for transferring state budget funds related to national fiscal policy, with the aim of achieving fiscal sustainability and encouraging people's economic activities. Through fiscal decentralization, it is hoped that equitable fiscal capacity will be formed which is proportional to the strength of the autonomous regions in inter-regional government affairs.

Broad fiscal decentralization means that the central government delegates the power to implement fiscal policy to local governments in order to take advantage of potential resources and obtain their own income which will be a supporting factor in carrying out their functions in regional government affairs. The principle of the monetary compliance function is the result of the transfer of rights, authorities, and obligations according to the concept of regional autonomy or decentralization, thus handing over part of fiscal policy to local governments to obtain their own income to finance existing government affairs in the region[4].

In relation to fiscal illusion, several researchers have conducted research in several places, for example: in East Java[5]; Indonesia in relation to the financial performance of the Indonesian government[6]; DIY[7]; and West Sulawesi[8].

III. MATERIAL AND METHODS

The type of research used in this research is quantitative associative. Associative is a type of research with the aim of knowing the relationship between two variables. The data used in the research is quantitative data in the form of numbers. The following data are used in this study:

1. Regional Expenditures (BD) for Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Poso in 2016-2020
2. Regional Tax of Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Poso in 2016-2020
3. Regional Retribution for Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Post in 2016-2020
4. General Allocation Fund (DAU) for Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Poso in 2016-2020
5. Profit Sharing Funds (DBH) for Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Poso in 2016-2020
6. Special Allocation Funds (DAK) for Banggai Regency, Banggai Islands, Banggai Laut, Morowali, North Morowali, Tojo Una-Una, and Poso in 2016-2020

A. Data Collection Method

Browsing techniques and literature studies at the Central Statistics Agency along with linked websites are techniques for collecting data in this study which will then be processed according to research needs.

B. Data Analysis Method

1. Fiscal Illusion Detection Method

Detection of fiscal illusions in this study using the income measurement approach (Revenue Enhancement)[9]. This model can be formulated in the following equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \ldots\ldots + \beta_n X_n \quad (1)$$

Based on the above equation, the model in this study is:

$$BD_t = \beta_0 + \beta_1 PD_{t-1} + \beta_2 RD_{t-1} + \beta_3 DAU_{t-1} + \beta_4 DBH_{t-1} + \beta_5 DAK_{t-1} + \varepsilon \quad (2)$$

Then it is transformed in the form:

$$LnBD_t = LnPD_{t-1} + LnRD_{t-1} + LnDAU_{t-1} + LnDBH_{t-1} + LnDAK_{t-1} + \varepsilon \quad (3)$$

Information :

BD_t = Regional shopping
β_0 = Constant
β = Independent Variable Regression Coefficient
PD_{t-1} = Local Tax
RD_{t-1} = Regional Retribution
DAU_{t-1} = General Allocation Fund
DBH_{t-1} = Profit Sharing Fund
DAK_{t-1} = Special Allocation Fund
ε = *Error Term*

If there is a negative relationship between the independent and dependent variables, the hypothesis in this study is accepted.

IV. RESULT

A. Test Model

Model testing was conducted to select the most appropriate model used in the study. The model test was carried out in

three stages, namely the Chow test, Hausman test, and LM test.

1. Chow test
This test was conducted to determine which model is more appropriate to use between CEM (Ho) and FEM (H1). The output of eviews produces a probability value of 0.07 > 0.5 so that H1 is rejected, then CEM is more appropriate to use.

2. Hausman test
This test is carried out to determine between REM (H0) and FEM (H1) which is most appropriate to use. The results of the e-views test show the probability from the Hausman statistic is 0.11 > 0.5 so that H0 is accepted, which means that the right model used is REM

3. LM test
Based on the Chow test and the Hausman test, which chose different models, namely CEM and REM, to determine the most appropriate model, the LM test was necessary to select CEM (H0) and REM (H1). The LM test shows BP with a probability of 0.425 > 0.05, so it can be concluded that H1 is rejected so that the correct model used is CEM.

A. Analysis of FEM Model (Fixed Effect Model)

Based on the results of panel data regression analysis using Eviews 9, the equation for the common effect model covering 7 districts in Central Sulawesi Province is obtained as follows:

$$BDt = 3.816141 + 0{,}099538\ PD_{t-1} - 0{,}016782\ RD_{t-1} + 0{,}729013\ DAU_{t-1} + 0{,}068235\ DBH_{t-1} + 0{,}020875\ DAK_{t-1} + \varepsilon \quad (4)$$

The results of the above equation show that if the independent variable is considered constant then the BD variable will increase by 3.816141. This equation also describes the relationship between DAK, DAU, DBH, PD, and RD variables with BD variables. In the previous period, local taxes (PD) led to an increase in regional spending of 0.099538 percent for the next period assuming other variables were constant. The previous period of regional levies (RD) caused a decrease of 0.016782 percent in regional expenditures for the coming period assuming other variables were held constant. In the previous period, the DAU had an impact on increasing regional spending for the next period of 0.729013 percent based on the assumption that other variables were held constant. DBH in the previous period led to an increase in regional spending by 0.068235 percent in the future period based on the assumption that other variables were held constant. The DAK variable in the previous period will cause a decrease in regional spending in the future period by 0.020875 percent based on the assumption that other variables are held constant.

Classic Assumption Test

1. Normalitas Test

Jarque-Bera Test (J-B) is a test carried out to see if the residuals are normally distributed or not. The following can be seen the results of the Jarque-Bera Test provided in the TABLE I.

TABLE I. NORMALITY TEST RESULTS

Jarque-Bera	8.343081
Pribability	0.015428

Source: Appendix 8

Normality test obtained p-value <0.05 or 0.015428 <0.05. Jarque-Bera obtained a result of 8.343081 > 0.05 but it is still said that the data is not normally distributed. The purpose of the normality test is to determine whether the data in the study are normally distributed or not[10]. However, to achieve BLUE (Best Linear Unbiased Estimator) the normality test is not a requirement, so the normality test is not mandatory in the OLS approach.

Multicollinearity Test

Multicollinearity test is used to obtain results whether or not there is a correlation between independent variables in a model. The results of the multicollinearity test can be seen in the TABLE II.

TABLE II. MULTICOLLINEARITY TEST RESULT

	PD	**RD**	**DAU**	**DBH**	**DAK**
1	2	3	4	5	6
PD	1.00000	0.56315	0.732133	0.81542	0.57353
RD	0.56315	1.00000	0.152258	0.43190	0.23151
DAU	0.73213	0.15225	1.00000	0.66268	0.67319
DBH	0.81542	0.43190	0.6626881	1.00000	0.45356
DAK	0.57353	0.231517	0.673193	0.45356	1.00000

Source : Appendix 9

Variance Inflation Factor (VIP) which has a VIF value > 10 indicates the existence of multicollinearity in a model[11]. Based on table 4.15 the analysis results obtained there are no numbers > 10 so it can be concluded that the model does not have a multicollinearity problem.

Heteroscedasticity Test

Heteroscedasticity test is used to test whether there is inequality of variance in the regression model. The Glesjer test is the method used in this study. The test results obtained in this study that provided in the TABLE III.

TABLE III. HETEROSCEDASTICITY TEST RESULT

Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
1	2	3	4	5
C	-4.032939	1.644966	-2.451686	0.0205
PD	-0.048361	0.031681	-1.526515	0.1377
RD	0.022985	0.015679	1.465957	0.1534
DAU	0.181345	0.080826	2.243635	0.3327
DBH	-0.003633	0.02719	-0.133613	0.8946

DAK	-0.004606	0.030786	-0.149625	0.8821

Source: Appendix 10

The alternative used to detect the heteroscedasticity problem is the Glesjer test. The decision criterion that underlies the Glesjer test is Sig (α) > 0.05 which means that there is heteroscedasticity. Based on table 4.16 the model used does not have heteroscedasticity problems.

Autocorrelation Test

The autocorrelation test is used to test whether there is a correlation of variables in the regression model due to changes in time susceptibility. In detecting autocorrelation in this study using the Durbin Watson (DW) method by comparing the dL and dU values in the Durbin Watson table. In this study dW = 1.376956 The values of dL and dU in the dW table with N = 35 and K = 5 so that dL = 1.2221 and dU = 1.7259. Based on this data, it can be concluded that there is an autocorrelation problem.

Using a time series whose data is observed over a period of time will usually cause auto- correlation problems in research using the panel data regression method[12].

Hypothesis testing

1. F-Statistic Test

F-Statistic test is used to determine whether simultaneously the independent variables have a significant effect on the dependent variable. The results of the F-statistic test in this study that provided in TABLE IV.

TABLE IV. F-STATISTIC RESULT

F-Statistik	Prob.(F-Statistik)
56.67307	0,000000

Source: Appendix 5

Based on the results of the statistical F-Test analysis where p-Value 0.00000 < 0.05 which means that the variables PD, RD, DAU, DBH, and DAK simultaneously affect regional expenditure variables.

2. T-Statistic Test

T-Statistic test is used to determine whether the independent variable partially affects the dependent variable. The T-statistical test in this study that provided in TABLE V.

TABLE V. T-STATISTIC RESULT

Variable	coefficient	Std.Error	t-Statistic	Prob
C	3.816141	2.602215	1.466497	0.1533
PD	0.099538	0.050116	1.986147	0.0565
RD	-0.016782	0.024803	-0.67661	0.504
DAU	0.729013	0.127826	5.701582	0.0000
DBH	0.068235	0.043012	1.58641	0.1235
DAK	0.020875	0.048701	0.428632	0.6714

Source: Processed results of research data

Based on the table above, it can be seen that partially, the PD variable with a probability of 0.05665 <0.05 so it can be interpreted that the PD variable has a significant influence on the BD variable. The RD variable with a probability of 0.504 > 0.05 so it can be interpreted as having an insignificant effect on the BD variable. DAU variable with a probability of 0.0000 <0.05 so it can be interpreted that the DAU variable has a significant influence on the BD variable. DBH variable with a probability of 0.1253 > 0.05 so it can be interpreted as having an insignificant influence on the BD variable. DAK variable with a probability of 0.6714 > 0.05 so it can be interpreted that the DAK variable has no significant effect on BD.

Result and Discussion

Fiscal Illusion Phenomenon

The phenomenon of fiscal illusion assumes that local governments will manipulate financial statements in such a way that it will encourage certain assumptions or judgments. Detecting fiscal illusions can be done by looking at the revenue and expenditure side of a region. The situation that occurs Local governments take advantage of the situation where the central government does not fully understand the fiscal capacity of the regions so as to encourage regions to increase their fiscal needs (expenditures) with the aim of obtaining larger transfer funds (especially DAU). It was emphasized by several experts that revenue should provide benefits for an area which will have an impact on increasing revenue in the area itself. If this is not the case, it can be indicated that a fiscal illusion has occurred. The transfer funds provided are expected to be able to encourage the regions to be better at minimizing their regional expenditures, so as to be able to achieve the level of regional independence in the context of the Indonesian state, DAU is identified as transfers and independence is intended for PAD. Holtz-Eakin, Dauglas, Rosen and Tilly (1985) show that central government transfers and local government spending have a very close relationship. There is a tendency for local governments to not try to optimize PAD as a way to get DAU in a fixed amount or even increase the amount. This is an indication that there is a fiscal illusion within the local government.

Fiscal Illusion Detection Results

This study uses the income measurement method to see the phenomenon of fiscal illusion. This method is focused on seeing the relationship between the income component and the expenditure component, in this method it is emphasized that if the income variable has a negative relationship to the regional expenditure variable, it is indicated that there is a fiscal illusion in the area. The results of the fiscal illusion analysis in this study can be seen in TABLE VI.

TABLE VI . FISCAL ILLUSION DETECTION RESULTS

Variable	Coefficient	Prob.	Information

C	3.816141	0.13		
$LnDAK_{t-1}$	0.020875	0.65	Not significant	No Fiscal Illusion
$LnDAU_{t-1}$	0.729013	0,00	Significant	No Fiscal Illusion
$LnDBH_{t-1}$	0.068235	0.1	Not significant	No Fiscal Illusion
$LnPD_{t-1}$	0.099538	0.04	Significant	No Fiscal Illusion
$LnRD_{t-1}$	-0.016782	0.48	Not significant	Fiscal Illusion occurs

Source: Results of data processing

The results of statistical processing above indicate that this study uses the common effect model. Table 6 shows that there are income variables that have a negative relationship with regional spending, which indicates that 7 districts in Central Sulawesi Province have a fiscal illusion. This result is in line with the theory which states that if there is a variable that has a negative relationship with government spending[13], it indicates a fiscal illusion and research namely regional levies has a negative relationship to regional spending[14]. Because it is shown that the role of regional levies on regional expenditures is relatively smaller than other variables because the value of regional retribution is the component of income with the lowest value compared to other components so that regional governments do not maximize the use of regional retribution in their expenditure components. This also indicates that the regional government does not make efforts to increase the sources of retribution in order to support the increase in regional levies in supporting regional expenditures because regional retribution is one of the components that form PAD which is a benchmark for regional independence. Optimizing the existing economic potential in the region is the task of the regional government in increasing PAD, especially in the regional retribution component.

The results of Fiscal Illusion Detection also show that the PD variable has a positive and significant effect on the BD variable. The results of the analysis also provide an illustration if the PD variable has increased by 1 percent in the previous period, then the next period BD has increased by 9 percent. These results indicate that the role of local taxes is relatively larger than that of DAK and DBH so that local taxes in 7 districts in Central Sulawesi Province are quite large in supporting their regional expenditures. However, local governments need to further increase local taxes because increasing taxes will significantly increase regional spending so that they become the main supporting component of regional spending.

The results of the analysis on the DAU variable indicate that the DAU variable has a positive and significant effect on the BD variable. The results of the analysis also provide an illustration if the DAU increased by 1 percent in the previous period, then in the next period the value of BD increased by 73 percent. The significant influence of the DAU on the regional expenditure component shows that the DAU has a very important role in shaping regional spending and is the main source of regional income. The granting of the DAU is expected to be a stimulant for local governments in developing their regions and increasing sources of local revenue. However, this also indirectly illustrates that the magnitude of the influence of the DAU shows that the government has not achieved success in implementing regional autonomy because most of the components of regional spending still depend on the DAU which will determine the amount of regional spending in the next period.

The results of the analysis on the DBH variable indicate that the DBH variable has a positive and insignificant effect on the BD variable. The results of the analysis also provide an illustration if the DBH increased by 1 percent in the previous period, then the next period BD increased by 6 percent. The positive effect of this result is because DBH is one of the components of large regional income. DBH is one of the funds that actually comes from the region itself, but the portion obtained for regional governments has been determined by laws and regulations. The purpose of the DBH itself is to improve the vertical balance between the central and regional governments by taking into account the potential of DBH producing regions.

The results of the analysis on the DAK variable indicate that DAK has a positive and insignificant effect on the BD variable. The results of the analysis also illustrate that if the previously received DAU increases by 1 percent, then the next period the value of BD will increase by 2 percent. The positive influence of the DAK variable indicates that the DAK component can be utilized properly by local governments in meeting regional spending needs. This also shows that the government's goal in providing DAK to local governments has been achieved, namely that DAK is expected to be able to have a positive impact on regional finances in carrying out development in order to support the success of regional autonomy in order to reduce the number of fiscal dependence.

The large role of the transfer fund component in regional expenditures in 7 districts in Central Sulawesi Province is due to the lack of regional attention in managing regional original resources in order to support the region so that it can be fiscally independent. This problem has resulted in a fiscal illusion in the financial performance of local governments in 7 districts in Central Sulawesi Province due to the high dependence of the regions on transfer funds. This is also due to the inefficient use of transfer funds in their allocation to develop existing productive sources in the regions in supporting the increase in PAD according to the purpose of providing transfer funds.

V. CONCLUSION

The conclusions of this study are: 1) Local governments have a fairly high financial dependence on the central

government. This is shown in the coefficient owned by the DAU variable which is very high in influencing regional expenditures compared to income originating from the potential of the region. This condition illustrates that the implementation of regional autonomy has not been fully successful; 2) There is a fiscal illusion on the financial performance of local governments in seven districts in Central Sulawesi province on the component of regional retribution. The emergence of fiscal illusions indicates that the provincial government has not allocated its revenue sources (including balancing funds) efficiently.

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