

## Modeling Financial Performance District/City in East Java

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Article Info	Abstract
<p><i>Article history:</i> Received December 05, 2020 Revised December 22, 2020 Accepted January 01, 2021 Available online January 01, 2021</p>	<p><i>This study aims to determine the relationship between Local Own-Source Revenue, Capital Expenditure, and Leverage on District/City Government's Financial Performance in East Java Province. The data used is the District/City Government's financial report data in East Java Province 2014-2018. The method used is panel data regression with the parameter estimation method, namely Generalized Least Square (GLS). The results obtained are the appropriate estimation model is the REM model. The variables that significantly affect districts/cities' financial performance in East Java are Capital Expenditure and Leverage, while Local Own-Source Revenue does not significantly affect.</i></p>
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## INTRODUCTION

East Java Province is one of the large provinces in Indonesia. East Java Province has a significant role in supporting the Indonesian economy. Nearly 15% of Indonesia's Gross Domestic Product comes from East Java's Gross Regional Domestic Product (Badan Perencanaan Pembangunan Daerah Provinsi Jawa Timur, 2018). Despite experiencing a decline in economic growth from 2013 to 2017, East Java Province's economic growth is still above the national economic growth rate (Badan Perencanaan Pembangunan Daerah Provinsi Jawa Timur, 2019). It can be said that East Java Province is the center of economic activity for the population of Eastern Indonesia.

In 2019, East Java Province named the province with the best implementation of regional autonomy based on the 2018 regional administration performance evaluation results. This award was not only won by the East Java Provincial government. Several district and city governments in East Java Province also received similar recognition, namely Sidoarjo Regency, Pasuruan Regency, Banyuwangi Regency, Madiun City, and Surabaya City. The success of East Java Province in winning the award was not without obstacles. At the beginning of the regional autonomy policy implementation, the Province of East Java's blocks resulted from a misunderstanding of regional autonomy.

Regional autonomy is the right, authority, and obligation of the central government to provincial governments to take care of their government and the community's interests based on the applicable laws. The application of regional autonomy policies requires regional governments to optimize the potential that exists in the regions to develop and develop their areas. Therefore local governments must be careful in managing local finances and budgets. The

ability of the areas to manage their finances is reflected in their financial performance.

Financial performance is a measure that shows the extent to which an organization conducts financial management by applicable regulations (Fahmi, 2012). Finance Performance is an indicator that is used as a measure to reinforce regional capabilities in implementing proper financial implementation rules. Government Finance Performance can be known through the Regional Government Financial Report. Government financial performance can be observed in two aspects: income and expenditure aspects (Lucky, 2013). In the income aspect, financial performance can be regarded from how significant local governments are to explore potential revenue in their region, or other words, optimize their regional revenue sources (PAD) so that financial performance from the income aspect can be measured using the level of fiscal decentralization ratios, efforts fiscal, and regional autonomy (Reksohadiprojo, 1999). Investors can consider implementing good financial performance to invest in the area (Saraswati & Rioni, 2019).

The successes achieved by districts and cities in East Java Province have encouraged several researchers to research communities and cities' financial performance as aspects of the successful implementation of regional autonomy policies. Some researchers are interested in exploring the factors that affect district/city governments' financial performance in East Java. Amrozi (2016) conducted a study on Capital Expenditure's effect on financial performance growth with Local Own-Source Revenue as an intervening variable. His research shows that capital expenditure has a positive and significant impact on Local Own-Source Revenue and Local Own-Source Revenue has a positive and significant effect on the growth of financial performance in districts/cities in East Java. In his research Aziz (2016) found that local government and Intergovernmental Revenue size positively and significantly affect districts/cities' financial performance in East Java, while capital expenditure does not affect. Nugroho & Prasetyo (2018) concluded that the Size of Local Government and Capital Expenditure has a negative effect, while Intergovernmental Revenue positively impacts district/city governments' financial performance in East Java. Yasin & Kasino (2018) revealed that only Local Own-Source Revenue affects economic performance, while Development Expenditures do not act. Heryanti (2019), using empirical data from the district/city government financial reports in East Java from 2015 to 2017, concluded that Local Own-Source Revenue and Intergovernmental Revenue had a significant effect. Economic Growth and Capital Expenditures had no significant impact. Meanwhile, Oktavian & Astuti (2020) show that Local Taxes, General Allocation Funds, and Retributions have a considerable effect, while capital expenditures do not significantly affect.

As a province with the second largest Gross Regional Domestic Product in Indonesia, it turns out that the Local Own-Source Revenue of districts and cities in East Java has significant disparities. Some industrial centers such as Pasuruan Regency, Sidoarjo Regency, and Surabaya City certainly have considerable Local Own-Source Revenue compared to other districts/cities in

East Java. High income in several regions has not made economic growth in East Java increase because of the enormous government expenditure is for personnel expenditure. From 2010 to 2018, it was noted that government spending on personnel spending reached more than 50% of the total spending each year. Meanwhile, capital expenditure is only in the range of 15% to 20% (Badan Perencanaan Pembangunan Daerah Provinsi Jawa Timur, 2019). This phenomenon encourages this research to remodel districts/cities' financial performance in East Java Province using independent variables, namely Local Own-Source Revenue and Capital Expenditures. In this study, the Leverage variable's influence on districts/cities' economic performance in East Java will also be examined. Leverage is a measure that shows the proportion of government debt to equity (Weill, 2003). The greater the Leverage value of an area, the worse the financial performance of that area. Conversely, if the smaller the Leverage value of a site, the better its financial understanding (Sesotyanningtyas, 2012).

Modeling of local government financial performance in previous studies uses a lot of multiple linear regression methods. The data used for modeling local government financial performance is in panel data, namely, data from several districts/cities observed during a specific period. So that a more precise modeling method is to use panel data regression. Panel data regression has the advantage of reducing collinearity between independent variables (Rahmadeni & Eka, 2016). Based on this description, this study aims to model the financial performance of district/city governments in East Java Province with the independent variables, namely Local Own-Source Revenue, Capital Expenditure, and Leverage variables. The modeling method used is the Panel Data Regression method.

## RESEARCH METHODS

In this study, the financial performance modeling of 38 districts/cities in East Java Province will be carried out using data from the 2014 to 2018 time period. There are a total of 190 observations—data obtained from Badan Pusat Statistik. Before modeling, the data is first screened to meet the assumptions in the panel data regression. One of the premises in the panel data regression is the assumption that the residuals are normally distributed. One of the reasons for not fulfilling the normality assumption is the outlier data. Therefore, in the data screening stage, outlier data were excluded from this analysis. So that of the 38 districts/cities studied, only 33 districts/cities were analyzed. Five (5) districts/cities that were not included in the analysis were Bangkalan Regency, Gresik Regency, Sidoarjo Regency, Pasuruan City, and Surabaya City. The five districts/cities are considered to have very different characteristics than other districts/cities, causing normality to be not fulfilled. After the outlier data were removed, the total data analyzed were 112 observations. Because several periods of data are lost because they are outlier data, there is an imbalance in each observation's period, so that the panel regression model uses an unbalanced panel.

This study's data transformation was also carried out on Local Own-Source Revenue, Capital Expenditures, and Financial Performance variables. This is done because the data on these variables have a substantial value so that it will affect the assumption of normality and are challenging to interpret. The data transformation is carried out on the Local Own-Source Revenue, Capital Expenditure, and Financial Performance variables using the Natural Logarithm or Ln transformation.

The dependent variable (Y) used is financial performance. Financial performance is assessed based on efficiency. Efficiency is formulated in the following form (Sumarjo, 2010):

$$Efficiency = \frac{Total\ Expenditure}{Total\ Revenue} \times 100\% \dots\dots\dots(1)$$

There are three independent variables (X) in the study, namely Local Own-Source Revenue (X<sub>1</sub>), capital expenditure (X<sub>2</sub>), and Leverage (X<sub>3</sub>). The Leverage used in this study is proxied by the Debt to Equity Ratio (DER)

The method used in this research is panel data regression. Data regression using panel data will result in differences in intercept and slope in each district/city and each period. Slope, intercept, and the disturbance variables require assumptions that must be fulfilled.

Widarjono (2007) explains that three techniques can estimate model parameters in panel data regression. The three methods are the Common Effect Model, Fixed Effect Model, Random Effect Model.

The panel data regression model in this study is as follows:

$$\hat{Y}_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it} \dots\dots\dots(2)$$

Where,  $\hat{Y}_{it}$  is financial performance,  $X_{1it}$  is Local Own-Source Revenue,  $X_{2it}$  is Capital Expenditure, and  $X_{3it}$  is Leverage. Whereas  $\alpha$  is constant,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  are regression coefficients, and  $e_{it}$  is the standard error.

**RESULT AND DISCUSSION**

Local Own-Source Revenue is a source of regional revenue from regional revenue potential and is used for government administration and regional development. Based on the table above, it is known that the highest Local Own-Source Revenue was obtained by Pasuruan Regency in 2014, amounting to 974,620,052 or Rp. 974,620,052,000.00 and the lowest Local Own-Source Revenue was Batu City in 2014 amounting to 77,328,244 or Rp. 77,328,244,000.00. The mean Local Own-Source Revenue data is 270,197,018.45 or Rp. 270,197,018,450.00 with a standard deviation of 153,084,610,323 or Rp. 153,084,610,323.00. A substantial standard deviation indicates that income diversity in districts/cities in East Java is huge. Regions with large revenue potential will also generate large Local Own-Source Revenue. Industrial centers such as Pasuruan Regency have a large potential income compared to Batu City, which only relies on the tourism sector.

**Table 1. Statistics Descriptive of Each Variable**

Variable	N	Mini mum	Maxi mum	Mean	Std. Deviation
Local Own- Source Revenue (X1)	112	77,328 ,244	974,6 20,05 2	270,197, 018.45	153,084,610.3 23
Capital Expenditure (X2)	112	69,465 ,799	776,7 93,14 4	348,907, 198.12	141,090,526.9 45
Leverage (X3)	112	0.0001 81	0.039 547	0.008046 48	0.007438187
Financial Performance	112	377.81 07	2,564. 9410	987.8856 73	197.2353104

Capital Expenditures are local government expenditures that are used to obtain fixed assets or other assets. The assets purchased by the local government are used for services to the community. Based on the results of descriptive statistical analysis, it is known that the Capital Expenditure of Bondowoso City in 2017 is the highest compared to other districts/cities in East Java, amounting to 776,793,144 or Rp. 776,793,144,000.00. The smallest capital expenditure was owned by the City of Mojokerto in 2017, amounting to 69,465,799 or Rp. 69,465,799,000.00. The average capital expenditure of districts/cities in East Java is 348,907,198.12 or Rp. 348,907,198,120.00 with a standard deviation of 141,090,526,945 or Rp. 141,090,526,945.00. The standard deviation value indicates a fairly large gap in local governments' capital expenditures in districts/cities in East Java.

Leverage is a ratio that shows the proportion of local governments' debt to external parties with their capital—the greater the provincial government's leverage value, the greater the financial risk. The highest Leverage value of 0.039547 was owned by the City of Blitar in 2017. The smallest Leverage value of Magetan Regency in 2014 was 0.000181. The average leverage value for districts/cities in East Java is 0.00804648 with a standard deviation of 0.007438187. The small, moderate Leverage indicates that local government finances in East Java are still at a safe level. Financial performance shows the ability of local governments to carry out regional autonomy following applicable regulations. Table 1 shows the average financial performance of 987.885673 with a standard deviation of 197.2353104. The lowest financial performance occurred in Ngawi Regency in 2018, while Blitar Regency obtained the highest in 2014.

### Selection of the Best Panel Data Regression Model

The first step in conducting panel data regression modeling on districts/cities' financial performance in East Java Province is selecting the appropriate panel data regression model. Panel data regression models in general that can be chosen are the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). In this study, the parameter

estimation method used is Generalized Least Square (GLS). Selection of the appropriate model is made by performing the Chow test, Hausman test, and Lagrange Multiplier (L.M.) test.

### Chow Test

Chow test is used to compare the CEM and FEM models. If the Chow test hypothesis is rejected, then the financial performance modeling of districts/cities in East Java Province uses the CEM model.

**Table 2. Chow Test Results of District / City Financial Performance Modeling in East Java**

Test	Statistic	df	Prob.
<i>Period F</i>	0.708493	(3.105)	0.5490

The Chow test results in the table above show that the significance value is 0.5490. At the significance level ( $\alpha$ ) of 0.05, the Chow test hypothesis is rejected because it is  $0.5490 > 0.05$ , so modeling using CEM is more appropriate than the FEM model.

### Hausman Test

The Hausman test is used to determine whether the FEM model is more suitable than the REM model. If the Hausman test results result in a decision to reject the hypothesis, then the REM model is ideal for panel data modeling.

**Table 3. Hausman Test Results of District / City Financial Performance Modeling in East Java**

Test	<i>Chi-Square</i> Statistic	df	<i>Chi-Square</i>	Prob.
<i>Period Random</i>	2.775566	3		0.4275

The Hausman test results show a significance value of 0.4275, which is greater than the significance level ( $\alpha$ ) of 0.05. The decision is obtained that the REM model is more suitable than the FEM model. This result is also consistent with Chow's test that the FEM model is not ideal for modeling districts/cities' financial performance in East Java.

### Lagrange Multiplier Test

The L.M. test is used to compare the REM and CEM models. The Hausman test results show that the REM model is more suitable so that the L.M. test is not carried out because the CEM model is the same as ordinary linear regression, while the data used in this study is panel data, so the REM model is used.

### Modeling of District / City Financial Performance in East Java Province Using the REM Model

Panel data regression model estimates using the REM model are as follows:

**Table 4. REM Model Estimation**

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	7.745796	0.747709	10.35937	0.0000
Ln Local Own-Source Revenue (X <sub>1</sub> )	0.069191	0.039238	1.763380	0.0807
Ln Capital Expenditure (X <sub>2</sub> )	-0.109509	0.043791	-2.500704	0.0139
Leverage (X <sub>3</sub> )	-6.880125	2.069224	-3.324978	0.0012

Based on the table above, the estimation of the REM model for financial performance in East Java is obtained as follows:

$$\hat{Y}_{it} = 7,745796 + 0,069191X_{1it} - 0,109509X_{2it} - 6,880125 X_{3it} + e_{it} \dots\dots\dots(3)$$

In the estimation results of the REM model in Equation 3, it can be seen that the coefficient of the Local Own-Source Revenue variable is positive. This means that the higher the Local Own-Source Revenue of a district/city, the better its financial performance. As for the Capital Expenditure and Leverage variables, both have a negative sign on their coefficient. This indicates that the greater the Capital Expenditure and Leverage, the lower the financial performance of a district/city.

In the REM model that has been produced, it can be seen that the variables of Capital Expenditure and Leverage have a significant effect on the financial performance of districts/cities in East Java at the 5% significance level. This can be seen from the significance value of the t-test on the capital expenditure variable, and the leverage value is smaller than the significance level (α) of 0.05. Meanwhile, the Local Own-Source Revenue variable does not significantly affect the 5% significance level because the significance value is more than 0.05.

**Table 5. Statistics of REM Model Meaningfulness Test**

R-squared	0.117491	Mean dependent var	6.880090
Adjusted R-squared	0.092977	S.D. dependent var	0.173570
S.E. of regression	0.165305	Sum squared resid	2.951166
F-statistic	4.792788	Durbin-Watson stat	1.453889
Prob(F-statistic)	0.003569		

The value of R<sup>2</sup> in the table above is 0.117491, which means that the Local Own-Source Revenue can explain 11.7491% of the variation in financial performance variables, Capital Expenditure Leverage variables, other variables outside the model explain the remaining 88.2509%.

**Classical Assumption Testing Regression Model**

As with other classical methods, panel regression models also need to be examined against classical assumptions. In this section, the classic multicollinearity and autocorrelation assumptions are not carried out because the parameter estimation method uses the Generalized Least Square (GLS).

The classical assumption test that is carried out is only the normality test and the heteroscedasticity test.

### Normality Test

The normality test is used to see the distribution of the residuals. In panel regression, the assumptions that must be met are that the residuals are normally distributed. The residual normality test in this study used the Kolmogorov Smirnov test. The Kolmogorov Smirnov test results obtained a significance value of 0.098. This signature value is more significant than  $\alpha = 0.05$ , so it can be concluded that the residuals are normally distributed.

**Table 6. Kolmogorov Smirnov Test Results**

		Residual
N		112
Normal Parameters	Mean	0E-7
	Std. Deviation	0.16305546
Most Extreme Differences	Absolute	0.116
	Positive	0.113
	Negative	-0.116
Kolmogorov-Smirnov Z		1.228
Asymp. Sig. (2-tailed)		0.098

### Heteroskedasticity Test

Heteroscedasticity is a condition when the variance of the residuals is not homogeneous. The panel regression wants homogeneity in the residual variance. Heteroscedasticity testing in this study uses the Glejser test, which regresses the residuals' absolute value on the independent variable. Here are the test results.

**Table 7. Glejser Test Result**

Variable	Coefisien	t	P-value
Ln Local Own-Source Revenue (X <sub>1</sub> )	-0.029	-0.958	0.340
Ln Capital Expenditure (X <sub>2</sub> )	-0.012	-0.358	0.721
Leverage (X <sub>3</sub> )	3.019	1.820	0.072

Based on the table above, all variables' significance or p-value is more than  $\alpha = 5\%$ , meaning that the three variables have no significant effect on the absolute residual value. So it can be concluded that the residual variance is homogeneous, or there is no case of heteroscedasticity.

### Discussion of Research Results

The financial performance modeling of districts/cities in East Java based on the results of the Chow Test, Hausman Test, and Lagrange Multiplier shows that the Random Effect Model (REM) is the best compared to the Common



Effect Model (CEM) and Fixed Effect Model (FEM). The variables that significantly affect the financial performance of districts/cities in East Java are Capital Expenditures and Leverage. Meanwhile, Local Own-Source Revenue has no significant effect on districts/cities' financial performance in East Java. Based on the coefficient of determination generated from the REM model of 11.7491%, it can be concluded that the influence of Local Own-Source Revenue, Capital Expenditures, and Leverage on financial performance is 11.7491%. In comparison, other factors influence the remaining 88.2509%.

Regional Original Income is a source of Regional Original Income used to implement local government work programs. A region's Local Own-Source Revenue is getting bigger, so that region has sufficient cash to finance all its work programs to realize good regional financial performance. When viewed from the REM model's estimation results, it is found that the original regional income has a positive relationship with financial arrangement with a coefficient of 0.069191. With the increase in the actual regional income of a district/city in East Java, the financial performance will increase by 0.069191 units. This result is in line with [Amrozi \(2016\)](#) research and [Heryanti \(2019\)](#), which shows a positive relationship between Local Own-Source Revenue and the financial performance of districts/cities in East Java. When viewed from the test results, Local Own-Source Revenue has no significant effect on districts/cities' financial performance in East Java Province. This is in contrast to the results of research conducted by [Amrozi \(2016\)](#), [Yasin & Kasino \(2018\)](#), [Heryanti \(2019\)](#), and [Oktavian & Astuti \(2020\)](#). Districts/cities in East Java in developing their economies generally use the Gross Regional Domestic Income approach compared to the Local Own-Source Revenue approach. Increasing local income through the collection of taxes and retributions may discourage investors from investing in the area. Therefore, the Gross Regional Domestic Income approach can create a profitable business climate and positively impact the regional economy. This is why the Local Own-Source Revenue does not significantly affect financial performance in districts/cities in East Java.

Capital expenditures are routine expenditures used for public services. The better the public services of a region, the better the management of regional capital expenditures. This has an impact on a reasonable assessment of regional financial performance as well. However, the opposite occurs in districts/cities in East Java, where when capital expenditure increases, its financial performance decreases. The Capital Expenditure variable's coefficient indicates this in the REM model estimation, which is harmful. The t-test results also show that capital expenditure has a negative and significant effect on districts/cities' financial performance in East Java Province. The results of this study are in line with the findings of [Nugroho & Prasetyo \(2018\)](#). This is an evaluation material for district/city governments in East Java to re-evaluate capital expenditures that have not met the target.

Leverage is a ratio that shows how much local debt to external parties is compared to its capital. The higher the Leverage level in an area, the greater the dependence of the region on loans from outside parties. This condition will worsen regional financial performance. The REM model's estimation results

show that when the Leverage increases by one unit, the financial performance will decrease by 6.880125 units. This is following what was stated by [Sesotyaningtyas \(2012\)](#). The test results also show that Leverage has a negative and significant effect on districts/cities' financial performance in East Java Province.

## CONCLUSION

Based on the results of data analysis, it is concluded that the best model in modeling the financial performance of districts/cities in East Java is the REM model. In the REM model, capital expenditure and leverage variables significantly affect the financial performance of districts/cities in East Java. At the same time, the Local Own-Source Revenue variable has no significant effect. This shows that Local Own-Source Revenue has not fully contributed to the increase in districts/cities' financial performance in East Java.

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