

Determinants of Regional Revenue Collection: A Case Study of Equipment and Machinery Rental at The Public Works and Public Housing Office of Jambi Province

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ABSTRACT

The purpose of this study is to examine the relationships of fixed asset value, equipment and machinery asset inventory, retribution tariff, and infrastructure spending with revenue from equipment and machinery rental retribution at the Public Works and Public Housing Office of Jambi Province. The study uses secondary data and a quantitative descriptive approach. The independent variables are fixed asset value, equipment and machinery asset inventory, retribution tariff, and infrastructure spending, while the dependent variable is equipment and machinery rental revenue. Multiple linear regression is performed in EViews 9, along with F-tests, t-tests, and the coefficient of determination. The reported results indicate positive coefficients for fixed asset value, retribution tariff, and infrastructure spending, while asset inventory is positive but reported as not statistically significant. Because several reported p-values are not consistent with the corresponding t-statistics, the inferential results should be verified against the original EViews output before strong significance claims are retained.

Keywords: Fixed Asset Value, Equipment and Machinery Asset Inventory, Retribution Tariff, Infrastructure Spending, Equipment and Machinery Rental Revenue

How to Cite

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1.0 INTRODUCTION

One source of regional own revenue is regional retribution, which is expected to help finance local governance and enable greater autonomy, allowing it to manage its own affairs beyond reliance on government subsidies and assistance. Additionally, regional retribution can be defined as payments for specific services or permits provided by local governments for the benefit of individuals or entities. Sources of regional retribution include general service retribution, business service retribution, and specific permit retribution. According to Law Number 33 of 2004 on the financial balance between the central and local governments, regional retribution is established as a revenue source originating within the region and can be developed in accordance with local conditions.

The sources of Business Service Retribution include services provided by local governments based on commercial principles, such as services that utilise regional wealth that has not been optimally utilised and/or services that the private sector does not adequately provide (Yunita & Adriana, 2020). One type of Business Service Retribution is the retribution for the Use of Regional Wealth (PKD). PKD retribution significantly impacts regional development and increases local revenue (Muslimin et al., 2022).

The Public Works and Public Housing Office of Jambi Province, through the ALKAL Division, manages regional retribution payments, particularly for the rental of equipment and machinery (heavy equipment). Given the important role of regional retribution in supporting local development, implementing heavy equipment rental retribution payments managed by the ALKAL Division requires optimisation and efficient administration. Equipment and machinery rental retribution is part of the retribution for the utilisation of regional wealth, categorised as the use of local government property for revenue-generating activities. Jambi Province, as a central city focused on infrastructure development, needs heavy equipment to support construction. However, this contribution remains limited and has not significantly impacted revenue from equipment and machinery rentals.

Effective management of regional assets is important because it can support local revenue, public service delivery, and more orderly financial reporting (Rahmawati & Kitta, 2023). Government-owned equipment and machinery are strategically important assets for infrastructure development and may also contribute to regional revenue when they are managed and utilised productively through rental mechanisms. Accordingly, professional asset administration, utilisation, and control are important for strengthening accountability and improving the economic use of regional assets.

Transparent, accountable retribution policies aligned with community purchasing power will encourage high participation rates in equipment rentals, thereby increasing local revenue. However, these policies must be based on careful calculations to ensure that the retributions imposed do not become a heavy burden for the community or businesses. Local governments can leverage local potential to provide services at lower costs. With good management, equipment and machinery can be rented out more frequently, increasing revenue through retribution. Policies that improve public access to equipment and machinery can stimulate local economic growth by boosting productivity in key sectors.

The equipment and machinery rental sector, particularly managed by the Public Works and Public Housing Office of Jambi Province, plays a vital role in supporting various infrastructure development projects and other operational activities at the local level. This sector's importance is increasingly relevant given the demands for efficiency and effectiveness in public development projects. As the need for quality infrastructure rises, the demand for efficient, reliable, and economical equipment rentals also grows. This requires a rental system that is not only transparent and easy for users to access but also guarantees high-quality service.

Sustainable economic development in a region heavily depends on infrastructure spending. Infrastructure budgets must support the procurement of fixed assets, such as machinery and equipment, for local development projects. Adequate infrastructure will enhance productivity, competitiveness, and public services. As more projects require heavy equipment for development, appropriate infrastructure spending will increase the profits from equipment and machinery rentals by the Public Works and Public Housing Office of Jambi Province. Therefore, effective infrastructure spending can boost community revenue and economic growth.

Research on the contributions of taxes and regional retribution shows that increasing local retribution revenue can significantly affect overall regional income. For example, a study conducted in Manado categorised local payments into three main types: general service payments, business service payments, and specific permit payments. According to this research, each type of retribution plays a crucial role in creating a stable, sustainable revenue source for the region. One of the key factors supporting development and public services among these categories is business service payments, which include the rental of local assets such as machinery and equipment.

With increased regional retribution, effective asset management, and appropriate tariff setting, retribution revenue may rise. Therefore, one primary way to strengthen local fiscal capacity is to optimise revenue potential from the business services sector. Previous studies show that increasing retribution revenue from business services, particularly heavy equipment rentals, not only strengthens local governments' financial stability but also improves the infrastructure that supports economic growth.

The successful management of equipment and machinery rental retribution plays a vital role in boosting local revenue, which can be used to finance development, provide public services, and improve community welfare. Optimal management, especially in rental policies, can serve as a key strategy to strengthen local finances and analyze the impact of rental retribution management on increasing local income, as well as its contribution to inclusive and sustainable economic growth

2.0 LITERATURE REVIEW

Assets

Assets, derived from the English word "asset," refer to items or objects that have economic, commercial, or other value owned by individuals, organisations, companies, or institutions. According to the Government Regulation of the Republic of Indonesia Number 71 of 2010 on Government Accounting Standards, an asset is a resource owned or controlled by the government as a result of past events, expected to provide economic or social benefits in the future. These assets can be measured in monetary terms and include non-financial resources used to provide public services as well as resources retained for historical or cultural reasons.

Asset Inventory

Inventory is the process of recording assets owned by an organisation, including physical assets such as land, buildings, vehicles, equipment, and machinery. Its purpose is to provide accurate information on asset quantity and condition so that assets can be managed more efficiently and effectively (Arif Wicaksana, 2021).

Retribution tariffs

Retribution tariffs are amounts of money or percentages set to determine the payments individuals or entities must make for services provided by local governments. According to Regulation of Jambi Province Number 8 of 2019 on Business Service Retribution, these tariffs are set based on principles of fairness, community affordability, and the costs required to provide the services. Thus, the setting of retribution tariffs takes into account not only financial aspects but also the social and economic impacts on the community of service users

Infrastructure spending

Infrastructure spending, or capital expenditure, according to Nordiawan (2006), refers to government expenditures aimed at acquiring specific fixed assets. Its primary purpose is to obtain fixed assets such as equipment, buildings, and infrastructure. There are three ways to acquire fixed assets: by purchase, by exchange for other assets, or by self-construction.

Rental Fees for Equipment and Machinery

Article 1, point 64 of Law Number 28 of 2009 concerning Regional Taxes and Regional Levies defines regional levies as charges imposed by regional governments as payment for specific services or permits provided for the benefit of individuals or entities. In the context of this study, equipment and machinery rental

revenue represents revenue derived from the use of regional government assets through an authorised rental mechanism.

3.0 METHODOLOGY

This study used a descriptive quantitative approach based on secondary data to examine the relationship between equipment and machinery rental retribution revenue and four explanatory variables: fixed asset value, equipment and machinery asset inventory, retribution tariff, and infrastructure spending. The study focuses on the Public Works and Public Housing Office of Jambi Province.

Multiple linear regression was used to estimate the relationship between the four independent variables and equipment and machinery rental retribution revenue. The dependent variable was equipment and machinery rental revenue, while the independent variables were fixed asset value, asset inventory, retribution tariff, and infrastructure spending.

The regression model was used to estimate the direction and magnitude of the relationships between the independent variables and rental retribution revenue while holding the other variables constant. The analysis was conducted as a completed empirical analysis rather than a proposed model.

The multiple linear regression analysis was conducted using EViews 9. The estimated model is expressed as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + et$$

Description:

Y	= Equipment and Machinery Rental Revenue
X1	= Value of Fixed Assets
X2	= Asset Inventory
X3	= Retribution Tariff
X4	= Infrastructure Spending
A	= Constant Value
b	= Regression coefficient
et	= Disturbance term.

4.0 FINDINGS AND DISCUSSION

Multiple linear regression was used to examine the relationship between equipment and machinery rental retribution revenue and four independent variables: fixed asset value, equipment and machinery asset inventory, retribution tariff, and infrastructure spending. The regression coefficients indicate the estimated direction and magnitude of each relationship, subject to the statistical consistency of the reported EViews output.

Table 1
Results of Multiple Linear Regression Test

Dependent Variable: Equipment and Machinery Rental Revenue					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
Constant	-1.42E+08	1.63E+08	-0.872276	0.0403	
Value of Fixed Assets	0.004365	0.024121	0.180951	0.0168	
Asset Inventory	731780.0	18050970	0.040540	0.0968	
Retribution Tariff	67.73368	73.97523	0.915626	0.0381	
Infrastructure Spending	0.000175	0.000266	0.657410	0.0258	

Source: Data processed using the EViews 9 program

Table 1 reports the estimated coefficients, standard errors, t-statistics, and probability values. The reported coefficient signs are positive for fixed asset value, asset inventory, retribution tariff, and infrastructure spending, while the constant is negative. However, several reported probability values are not arithmetically consistent with the corresponding coefficient-to-standard-error ratios and t-statistics. Therefore, the significance of individual coefficients should be verified against the original EViews output before definitive inferential conclusions are made.

Based on the coefficients reported in Table 1, fixed asset value, asset inventory, retribution tariff, and infrastructure spending are positively associated with equipment and machinery rental revenue. The manuscript reports p-values of 0.0168 for fixed asset value, 0.0968 for asset inventory, 0.0381 for retribution tariff, and 0.0258 for infrastructure spending. These probability values, however, should be checked against the original EViews output because they are inconsistent with the t-statistics shown in the same table.

Results of the F Test (Simultaneous)

The F-test results in Table 2 show an F-statistic of 1.862866 with a probability value of 0.193672. Because the probability value is greater than 0.05, the regression model is not statistically significant at the 5% level as a whole. Accordingly, the joint effect of the four independent variables on equipment and machinery rental revenue is not supported at the 5% significance level in the reported model.

Table 2
Test Results F

Dependent Variable: Y			
R-squared	0.426982	Mean dependent var	1.91E+08
Adjusted R-squared	0.197775	S.D. dependent var	1.54E+08
S.E. of regression	1.38E+08	Akaike info criterion	40.58849
Sum squared resid	1.91E+17	Schwarz criterion	40.82451
Log likelihood	-299.4137	Hannan-Quinn criter.	40.58598
F-statistic	1.862866	Durbin-Watson stat	2.103853
Prob(F-statistic)	0.193672		

Source: Data processed using the EViews 9 program

The non-significant F-test indicates that the model, taken as a whole, does not provide sufficient evidence of a joint relationship at the 5% level. The R-squared value nevertheless shows that the model explains part of the observed variation in rental revenue. Given the small overall explanatory strength indicated by the adjusted R-squared and the inconsistencies in the reported individual p-values, the inferential results should be interpreted cautiously.

Results of the T-test (Hypothesis)

In a multiple regression model, the t-statistic is used to assess whether an individual regression coefficient differs statistically from zero, conditional on the other variables in the model. Table 3 reproduces the reported coefficient-level test results from EViews 9.

Table 3
Results of the t-test

Dependent Variable: Equipment and Machinery Rental Revenue				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-1.42E+08	1.63E+08	-0.872276	0.0403
Value of Fixed Assets	0.004365	0.024121	0.180951	0.0168
Asset Inventory	731780.0	18050970	0.040540	0.0968
Retribution Tariff	67.73368	73.97523	0.915626	0.0381
Infrastructure Spending	0.000175	0.000266	0.657410	0.0258

Source: Data processed using the EViews 9 program

For fixed asset value, Table 3 reports a coefficient of 0.004365, a t-statistic of 0.180951, and a probability value of 0.0168. The positive coefficient indicates a positive estimated relationship with rental revenue, holding other variables constant. However, the reported p-value is not consistent with the reported t-statistic and standard error; therefore, statistical significance should not be concluded until the original EViews output is verified.

For equipment and machinery asset inventory, Table 3 reports a coefficient of 731,780.0, a t-statistic of 0.040540, and a probability value of 0.0968. The coefficient is positive, but the reported probability value exceeds 0.05. In addition, the p-value should be checked against the original EViews output because it is not consistent with the reported t-statistic and standard error.

For the equipment and machinery retribution tariff, Table 3 reports a coefficient of 67.73368, a t-statistic of 0.915626, and a probability value of 0.0381. The coefficient is positive, indicating a positive estimated relationship with rental revenue. Because the reported p-value is not consistent with the t-statistic and standard error shown in the table, its statistical significance should be verified using the original EViews output.

For infrastructure spending, Table 3 reports a coefficient of 0.000175, a t-statistic of 0.657410, and a probability value of 0.0258. The estimated coefficient is positive. However, the reported p-value is not consistent with the t-statistic and standard error, so the significance conclusion should be confirmed against the original EViews output before being treated as definitive.

Results of the Coefficient of Determination (R^2)

Coefficient of Determination (R^2) is a statistical measure used to assess the extent to which the independent variables in a model can explain the variation that occurs in the dependent variable. The value of R^2 ranges from 0 to 1; the closer it is to 1, the better the independent variables explain variation in the dependent variable. Conversely, if the R^2 value is close to 0, the model used is less capable of describing the variation in the dependent variable. This analysis is important in evaluating the quality of the regression model used in research.

Table 4
Results of the Coefficient of Determination (R^2)

Dependent Variable: Y			
R-squared	0.426982	Mean dependent var	1.91E+08
Adjusted R-squared	0.197775	S.D. dependent var	1.54E+08
S.E. of regression	1.38E+08	Akaike info criterion	40.58849
Sum squared resid	1.91E+17	Schwarz criterion	40.82451
Log likelihood	-299.4137	Hannan-Quinn criter.	40.58598
F-statistic	1.862866	Durbin-Watson stat	2.103853
Prob(F-statistic)	0.193672		

Source: Data processed using EViews 9 program

The R-squared value is 0.426982, indicating that approximately 42.70% of the observed variation in equipment and machinery rental revenue is explained by the four independent variables included in the model. The adjusted R-squared is 0.197775, indicating substantially lower explanatory power after adjustment for the number of predictors. The remaining variation is associated with factors not captured by the model and random error; it should not be interpreted as a direct percentage effect of omitted variables.

Analysis of the Influence of Fixed Asset Values on the Revenue from Equipment and Machine Rental Fees at the Public Works and Public Housing Office of Jambi Province

The fixed asset coefficient is positive (0.004365), suggesting that higher fixed asset values are associated with higher equipment and machinery rental revenue, holding other variables constant. This direction is consistent with the view that productive use of regional assets can support own-source revenue. However, because the p-value and t-statistic reported in Table 3 are internally inconsistent, the statistical significance of this relationship requires verification before a firm inferential claim is made.

Supporting research, such as Rahayu and Sunarti (2019), finds that an increase in the value of regional fixed assets positively contributes to increases in Local Revenue, particularly from the service fee sector. This is because the more fixed assets, such as heavy equipment and machinery, the greater the potential to use them for rental and generate fees.

Thus, the positive coefficient for fixed asset value is consistent with the economic expectation that a larger productive asset base may support higher rental revenue. However, because the reported inferential statistics are internally inconsistent, the study should not treat this relationship as statistically significant until the original EViews output is verified. Productive utilisation of fixed assets nevertheless remains an important managerial consideration for equipment and machinery rental revenue.

Analysis of the Impact of Asset Inventory of Equipment and Machinery on Revenue from Equipment and Machinery Rental Fees at the Public Works and Public Housing Office of Jambi Province

The asset inventory coefficient is positive (731,780.0), while the manuscript reports a probability value of 0.0968. On the basis of the reported p-value alone, the relationship would not be statistically significant at the 5% level. Substantively, inventory records may support asset planning and utilisation, but inventory activity by itself does not necessarily generate rental revenue unless the assets are available, serviceable, promoted, and actually rented.

Research by Maharani and Supriyanto (2021) shows that inventory data not followed up with optimal asset utilization, such as rental systems or equipment promotion, fails to significantly enhance regional revenue. Therefore, the Public Works and Public Housing Office of Jambi Province should not only focus on inventory activities but also ensure this data is used strategically for planning, rental promotion, and asset optimization. By doing so, inventory will not merely be an administrative task but will serve as an important foundation for improving regional revenue performance from the service fee sector.

Analysis of the Influence of Equipment and Machinery Retribution Rates on the Receipts of Equipment and Machinery Rental Retribution at the Public Works and Public Housing Office of Jambi Province

The retribution tariff coefficient is positive (67.73368), indicating that higher tariffs are associated with higher rental revenue, holding other variables constant. This relationship is economically plausible, but tariff increases may also affect demand and user compliance. Because the reported p-value is inconsistent with the corresponding t-statistic, the statistical significance of the coefficient should be verified against the original EViews output.

The positive tariff coefficient suggests that fee-setting may be related to rental revenue, but the reported statistics do not provide a sufficiently consistent basis for accepting the significance hypothesis without verification of the original EViews output. From a policy perspective, transparent and competitive tariff setting remains important for balancing revenue objectives with service accessibility and user demand.

This conclusion is supported by Wulandari and Yusnita (2020), who indicate that fee-rate adjustments, along with improved services and asset management, can increase public interest in using regional equipment and machinery services and ultimately boost regional revenue.

Accordingly, the retribution tariff is an important instrument of local fiscal management, and its establishment should consider cost recovery, users' purchasing power, service quality, and the economic value of the rented equipment and machinery. Regular tariff evaluation may help maintain a balance between revenue objectives and public-service considerations.

Analysis of the Impact of Infrastructure Spending on Equipment and Machinery Rental Revenue at the Public Works and Public Housing Office of Jambi Province

The infrastructure spending coefficient is positive (0.000175), suggesting a positive association with equipment and machinery rental revenue. Infrastructure activity may increase the demand for equipment and machinery and improve the productive use of regional assets. Nevertheless, the reported p-value is inconsistent with the corresponding t-statistic, so the statistical significance of this relationship should be verified before strong conclusions are drawn.

This result aligns with the research by Rini and Prabowo (2020), which states that infrastructure spending is a key driver of regional revenue, particularly from the service sector. The study explains that as the condition and accessibility of public infrastructure improve, the intensity of local facility utilization by the public and businesses also increases. Therefore, infrastructure spending strategies should focus not only on physical provision but also on enhancing asset productivity to maximize contributions to Local Revenue (PAD).

5.0 CONCLUSION

The regression model reports positive coefficients for fixed asset value, equipment and machinery asset inventory, retribution tariff, and infrastructure spending. The overall F-test is not statistically significant at the 5% level ($F = 1.862866$, $p = 0.193672$), while the model explains 42.70% of the observed variation in rental revenue ($R^2 = 0.426982$; adjusted $R^2 = 0.197775$). The individual coefficient table contains inconsistencies between several reported t-statistics and p-values; therefore, conclusions regarding the statistical significance of fixed asset value, retribution tariff, and infrastructure spending should be confirmed using the original EViews output. The findings nevertheless highlight the practical importance of productive asset utilisation, transparent tariff management, and infrastructure planning in managing equipment and machinery rental revenue.

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7.0 CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper.

8.0 AUTHOR CONTRIBUTION STATEMENT

Ade Saputra contributed to the conceptualization, research design, data analysis, and writing of the original draft. Zulfanetti contributed to methodological review, interpretation of results, and critical revision of the manuscript. Candra Mustika contributed to supervision, critical review, and editing of the final manuscript. All authors have read and approved the final version of the manuscript.

9.0 ETHICS STATEMENT

This study used secondary administrative and financial data concerning regional assets, retribution tariffs, infrastructure spending, and equipment and machinery rental revenue. The research did not involve direct interaction with human participants, the collection of personal data, clinical procedures, or experiments involving humans or animals. Accordingly, informed consent was not applicable. The data were analysed and reported solely for academic purposes in accordance with principles of research integrity, accuracy, and responsible reporting.

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