

Model for Improving Regional Tax Revenue in Jambi Province

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Abstract. Penelitian ini bertujuan untuk merumuskan model peningkatan pajak daerah di provinsi Jambi. Model yang digunakan dalam penelitian ini adalah model persamaan simultan. Hasil penelitian menunjukkan terdapat pengaruh positif dan signifikan investasi daerah, jumlah penduduk, pertumbuhan ekonomi, jumlah unit usaha komersial, wajib pajak dan sumber daya alam terhadap penerimaan pajak daerah. Sedangkan sumberdaya pajak tidak berpengaruh signifikan terhadap penerimaan pajak daerah. Khusus untuk investasi daerah turut pula dipengaruhi secara signifikan oleh dana alokasi khusus sedangkan infrastruktur tidak berpengaruh signifikan terhadap investasi daerah.

The purpose of this research is to develop a model for increasing municipal taxes in Jambi province. The simultaneous equation model was employed in this investigation. The study's findings indicate that regional investment, population, economic growth, the number of commercial company units, taxpayers, and natural resources all have a positive and significant impact on municipal tax collections. Meanwhile, tax resources have little impact on municipal tax income. Special allocation funds, in particular, have a considerable influence on regional investment, whereas infrastructure has no significant impact on regional investment.

Keywords: Tax, Simultaneous, Receipt

1. INTRODUCTION

Indonesia is a unitary state that adheres to the principle of decentralization in administering government by providing opportunities and flexibility to the regions to carry out regional autonomy. In its implementation, regional governments need to improve efficiency and effectiveness by paying more attention to aspects of the relationship between the Central Government and the regions and between regions. Regional potential and diversity, as well as opportunities and challenges of global competition also deserve attention in the administration of regional government.

The implementation of real and responsible regional autonomy requires authority and the ability to explore its own financial resources. Regional government financial revenues originating from regional own-source revenue (PAD) receipts as well as financial balance receipts need to be managed and accommodated for these sources of revenue receipts to run good local government wheels.

Regional autonomy has the implication that the implementation of regional tasks in the context of implementing decentralization is financed at the expense of the APBD, on the other hand development funding will gradually become the burden on the regional government. This situation will further strengthen internal pressure on regional finances because the role of central assistance in financing regional development will be smaller. Central assistance in development financing will only be provided to support government spending, particularly for personnel spending and development programs to be achieved.

Granting autonomy to regions in planning, exploring, managing and using regional finances in accordance with regional conditions, PAD can be seen as one of the indicators or

criteria for reducing a region's dependence on the center. In principle, the greater the contribution of PAD to the APBD, the less dependence the regions have on the center. In addition, regional governments can realize broad, real and responsible autonomy. Granting broader authority to regional governments is an effort to empower regional potential in various development fields. Thus, regional governments are ready to accept the burden and responsibility of managing and managing regional houses according to their capabilities.

To achieve this goal, relatively large financial readiness is required. Local governments need to explore various potentials to increase local revenue (PAD). This regional original income is seen as one of the indicators to measure the fiscal capacity of a region. The greater the contribution of PAD to the APBD, the greater the regional fiscal capacity to manage development in the region itself and the less dependent the region is on the central government.

In fact, the problems faced by the regions now are the different economic conditions between regions. Regions that lack economic potential will face difficulties in increasing Regional Own Revenue. This difference ultimately led to great expectations of subsidies from the central government as a source of financing in the regions.

To carry out regional development, a very large source of financing is needed, especially for investment which is expected to come from public funds. Investment funds from the public are still very limited, so government intervention is needed, especially to finance infrastructure development such as roads and bridges, electricity, transportation and others. One of the most important and potential sources of local government funding is Local Own Revenue which is expected to continue to increase.

Sanusi, A. (2002) states that Local Own Revenue can be seen as one of the indicators or criteria for measuring the dependence of a region on the central government, which in principle is that the greater the contribution of the Regional Original Revenue to the APBD, the smaller the region's dependence on the central government. In addition, high local original revenues illustrate a growing economy as seen from regional economic growth.

Economic growth is a measure of the economy of a region. High and sustainable economic growth is the main condition or a must for the continuity of economic development and increased welfare. Economic growth is a process of increasing regional per capita income in the long term, and is one of the important objectives of macroeconomic policy to determine the progress of a region's economy.

Regional development is generally focused on economic development through efforts to increase economic growth. Development is identified with efforts to increase per capita income, or popularly called an economic growth strategy. Increasing income per capita can solve problems such as unemployment, poverty, and inequality in income distribution.

To realize community welfare through improving services, empowerment and community participation, as well as increasing regional competitiveness in Jambi Province, a sizable fiscal capacity is needed in Jambi Province so that it can meet all fiscal needs in Jambi Province generated from PAD and profit sharing funds. from the center, in this case it is hoped that the proportion of PAD in meeting fiscal needs in Jambi Province can be higher which can reflect fiscal independence in Jambi Province.

With economic growth every year, the tax base will also increase which will have an impact on increasing regional income of a region so that the level of fiscal dependence of an area can be reduced. Jambi province's economic growth in 2015 amounted to 4.21% and continued to increase until 2018 of 4.74%. However, starting in 2019 Jambi province's economic growth has decreased by 4.40% and in 2020 it is -0.46%. The decline was due to the decline in commodity prices for rubber and palm oil, which are the main commodities of Jambi Province. It is hoped that economic growth in Jambi Province will experience better growth, because with economic growth the tax base in Jambi Province will also increase so that it will have an impact on increasing local revenue in Jambi Province, with an increase in regional income it is expected to reduce the level of Jambi Province's fiscal dependence on aid funds from the central government.

In order to increase local own-source revenue in order to reduce the level of fiscal dependence, it is necessary to intensify and extensify local-origin revenue, these efforts are urgently needed to be able to increase the revenue base from regional-origin revenue and must include all elements, both improvements in terms of revenue administration and monitoring of activities, as well as improve coordination between related agencies in order to obtain more valid potential data and to increase effectiveness and efficiency in terms of receiving local revenue. The description of receipts for regional original income in Jambi province is described in table 2.

Tabel 1. Regional Revenue of Jambi Province Fiscal Year 2015 - 2020

Year	Regional Income		Total regional income
	Locally-generated revenue	Balancing Fund	
2015	1.241.240.979.650,28	1.419.079.798.364,00	2.660.320.778.014,28
2016	1.232.784.078.662,95	1.547.888.628.151,00	2.780.672.706.813,95
2017	1.578.972.908.933,33	2.723.260.588.950,00	4.302.233.497.883,33
2018	1.656.569.597.282,27	2.754.346.967.999,00	4.410.916.565.281,27
2019	1.651.089.944.335,33	2.896.753.806.401,00	4.547.843.750.736,33
2020	1.535.185.805.549,67	2.862.888.575.956,00	4.398.074.381.505,67
Rata-rata	1.482.640.552.402,30	2.367.369.727.636,83	3.850.010.280.039,14

Source : Jambi Province Regional Finance Agency, 2021.

From table 1. it can be seen that the PAD value during 2015-2018 has increased. However, in 2019 the value of PAD decreased by -0.003% compared to 2010. Meanwhile, the Jambi province balance fund has increased for 5 years. If you look at the contribution of PAD, there is Jambi Province regional income of 39.3%, while the contribution of the Balancing Fund is 61% of the Provincial regional income. This means that the contribution of PAD is still relatively low for regional income, while most of regional income is still dominated by balancing funds.

One source of local revenue derived from Law No. 28 of 2009 concerning regional taxes and levies is regional taxes in addition to regional levies, BUMD profits and regional asset management results. Especially for regional taxes in Jambi province for the last 5 years (2015-2019) it seems to have stagnated. This means that it is necessary to work hard to increase local tax revenues. In the future, it is hoped that there will be an increase in the contribution of regional tax revenues to PAD. This can be seen from the exposure to regional tax revenue data and their contribution to PAD which is contained in table 2 below.

Tabel 2. Jambi Province Regional PAD and Tax Revenue for 2015-2020

Year	PAD (Rp)	Local tax (Rp)	Tax contribution to PAD (%)
2015	1.241.223.028.011,76	1.010.318.979.969,00	81,39
2016	1.233.514.664.109,54	966.519.347.102,57	78,35
2017	1.580.304.867.342,36	1.316.162.467.485,16	83,28
2018	1.656.569.597.282,27	1.374.289.409.975,47	82,96
2019	1.651.089.944.335,33	1.345.106.684.308,21	81,47
2020	1.535.185.805.549,67	1.292.729.048.514,00	84,21
Rata-rata	1.482.981.317.771,82	1.217.520.989.559,07	81,94

Source : Jambi Province Regional Finance Agency, 2021

Table 2 shows that regional tax revenues in Jambi province tend to be stable except in 2016 it decreased by -0.04% when compared to 2015. From the table it can also be seen that the contribution of local taxes to Jambi province's PAD averaged 81.94 %. This means that the majority of PAD sources come from Regional Taxes.

Based on Law No. 28 of 2009 concerning regional taxes and fees, Jambi province has the authority to collect 5 types of taxes. The five types of taxes are Motor Vehicle Tax (PKB), Motor Vehicle Transfer Fee Tax (BNKB), Motor Vehicle Fuel Tax (PBBKB), Surface Water Tax (PAP), and Cigarette Tax (PR). The five taxes have the potential to increase regional tax revenues very much, especially those related to motorized vehicles which increase every year. Details of Jambi province regional tax revenues based on the 5 types of taxes collected can be seen in table 3 below

Tabel 3. Jambi Province Regional Tax Revenue 2015 – 2020

Year	Vehicle tax	Transfer fee for motorized vehicles	Motor vehicle fuel tax	Surface water tax	Cigarette tax
2015	321.805,01	270.301,44	282.231,17	1.290,83	134.772,53
2016	339.443,75	243.963,1	249.250,03	1.193,16	132.669,34
2017	416.706,23	329.507,75	300.364,9	1.227,05	268.356,52
2018	444.056,62	406.098,31	332.619,00	1.401,95	190.113,52
2019	457.833,10	374.039,16	315.579,37	1.503,02	196.161,04
2020	465.129,29	253.463,17	329.689,33	1.339,93	243.057,27
Rata-rata	407.495,67	312.895,49	301.622,30	1.333,02	194.188,37

Source : Jambi Province Regional Finance Agency, 2021

Table 3 above shows that the majority of local tax revenues come from 3 types of taxes related to motorized vehicles. The three types of taxes are motor vehicle tax, motor vehicle transfer fee, and motor vehicle fuel tax. During 2015 - 2020 the contribution of the three types of taxes referred to was 83.94% of total local tax revenues. This means that efforts to increase regional tax revenues must prioritize these three types of taxes and must also pay attention to the growing number of motorized vehicles in Jambi province.

During the last 6 years, the average annual increase in motorized vehicles was 1,925,688.67 units. In 2020, the number of wheeled motor vehicles was recorded > 4261,833 units and 1,712,681 two-wheeled vehicles. Of the five types of taxes that can be collected by the government, three are related to motorized vehicles, while the other 2 types of taxes are not related to motorized vehicle taxes. This means that the increase in the number of motorized vehicles will potentially increase regional tax revenues. An overview of the number of motorized vehicles in Jambi province from 2015 – 2020 can be seen in table 4.

Tabel 4. Number of motorized vehicles in Jambi Province in 2015-2020

Year	Car (unit)	Motorcycle (unit)	Number of motorized vehicles (unit)
2015	167.134	1.474.807	1.641.941
2016	180.653	1.545.244	1.725.897
2017	200.476	1.652.724	1.853.200
2018	223.403	1.771.810	1.995.213
2019	244.546	1.879.680	2.124.226
2020	261.833	1.951.822	2.213.655
Rata-rata	213.008	1.712.681	1.925.689

Source : Jambi Province Regional Finance Agency, 2021

In order to increase the regional tax of Jambi province in the future, it is necessary to explore the factors that influence it. Such tracing must be carried out simultaneously and comprehensively in order to capture the main factors influencing local tax revenues. Comprehensively, it can be seen that macro and micro economic variables will affect regional tax revenues. From a macro perspective, the economic conditions reflected in the

GRDP and regional investment also affect local tax revenues. Besides, on a micro basis the development of business units, human resources, natural resources and taxpayers will certainly also affect local tax revenues.

2. LITERATURE REVIEW

2.1. Tax

Taxes are people's contributions to the state treasury based on law (which can be enforced) by not receiving reciprocal services (contra Achievements) that can be directly shown and used to pay public expenses (Halim, 2001). Regional taxes are taxes collected by local governments that are coercive and used to the maximum extent possible to run the government. Meanwhile, regional taxes are collected by the regions based on the strength of regional regulations (Perda), so regional tax collection can be forced on people who are obliged to pay within their administrative power levy (Hidayat, 2016).

Provincial tax collection authority lies with the provincial regional government and provincial taxes are limited to certain types of taxes. Included in the provincial tax are:

- a. Vehicle tax
- b. Motorized Vehicle Transfer Fee Tax
- c. Motor Vehicle Fuel Tax
- d. Surface Water Tax
- e. Cigarette Tax

2.2 Locally-generated revenue

In law no. 32 of 2004 concerning regional autonomy, states that local revenue (PAD) comes from the results of regional taxes, regional levies, results of separated regional wealth management and other legitimate PAD. Apart from that, Regional Original Income based on Law Number 33 of 2004 concerning Financial Balance between the Central Government and Regional Governments, namely regional original income (PAD) is revenue obtained by regions from sources within their own regions which are collected based on regional regulations in accordance with applicable laws and regulations. Regional original revenue is revenue received by a region from sources within its own territory which is collected based on regional regulations in accordance with applicable laws and regulations. PAD sources consist of several elements, namely; regional taxes, regional levies, results of regionally owned companies, and other regional wealth management results that are separated, and other legitimate income (Wulandari & Iryanie, 2018)

3. RESEARCH METHODS/METHODOLOGY

The method used in this study is a quantitative descriptive method using secondary times series data for the period 2007 – 2021. The analytical model used in this research is the Simultaneous Equation Model. This model is a development of the regression model. The simultaneous equation model has the advantage of overcoming the occurrence of relationships between independent variables or independent variables being influenced again by other variables. This statistical model is used to avoid bias, inconsistency and inefficiency when using the ordinary least squares (Koutsoyiannis, 1977). For this reason, the simultaneous equation model is solved through Two Stage Least Square (TSLS). With TSLS, the problem of bias, inconsistency and inefficiency will be changed to be unbiased, consistent and efficient through 2 stages of least square calculation. Secara matematis, faktor-faktor yang mempengaruhi pajak daerah provinsi Jambi dapat dirumuskan sebagai berikut :

$$PD = a_0 + a_1SDM + a_2PDK + a_3WJP + a_4\widehat{IVD} + a_5PEJ + a_6UUK + a_7SDA + \mu_1$$

$$\widehat{IVD} = a_0 + a_1INF + a_2DAK + \mu_3$$

Which are :

- PD : Regional Income
- SDM : Tax human resources
- WJP : Taxpayer
- PDRB : PDRB constant price
- SDA : Natural Resource Potential
- IVD : Regional Investment
- UUK : Commercial Business Unit
- INF : Infrastructure
- UMKM : Micro small and Medium Enterprises
- Penduduk : Total population
- DAK : Special Allocation Fund
- U₁,u₂,u₃ : error term
- a₁, a₂, a₃ a₄, a₅, a₆ : Regression coefficient

4. RESULTS AND DISCUSSION

Analysis of the factors affecting regional tax revenues in Jambi Province was carried out using a simultaneous equation model. The results of the simultaneous equation are carried out in 2 stages, namely exposure to the results of the sub-hypothetical regression equation and exposure to the results of the main hypothesis regression equation.

A. Simultaneous sub-equation results obtained results

Dependent Variable: IVD
Method: Least Squares
Date: 01/17/23 Time: 08:35
Sample: 2007 2021
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	937.0763	15403.61	0.060835	0.9525
INF	3.47E-08	2.20E-08	1.575430	0.1411
DAK	3.48E-08	8.69E-09	4.008810	0.0017
R-squared	0.637470	Mean dependent var		37573.80
Adjusted R-squared	0.577048	S.D. dependent var		24175.44
S.E. of regression	15722.44	Akaike info criterion		22.34042
Sum squared resid	2.97E+09	Schwarz criterion		22.48203
Log likelihood	-164.5532	Hannan-Quinn criter.		22.33891
F-statistic	10.55035	Durbin-Watson stat		1.272164
Prob(F-statistic)	0.002270			

From the table above, the simultaneous sub equation can be formulated as follows

$$IVD = 937,0763 + 3,47E-08INF + 3,48E-08DAK + e_1$$

Overall, infrastructure variables (INF) and special allocation funds (DAK) have a significant effect on regional investment at P = 0.002270 and R² = 0.0637470. While partially only the special Allocation Fund variable has a significant effect on regional investment with a probability of 0.0017. The infrastructure variable has no significant effect on regional investment at P=0.1411.

B. Simultaneous Equation Master Analysis

In analyzing the effect of the 7 variables, the Eviews program version 8.0 was used. The results are shown in the following.

Dependent Variable: PD
Method: Least Squares
Date: 01/18/23 Time: 08:29
Sample: 2007 2021
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3137026.	1919445.	1.634340	0.1462
SDM	8533.534	4831.350	1.766284	0.1207
PDK	-1.685404	0.620230	-2.717384	0.0299
WJP	0.763976	0.289986	2.634529	0.0337
IVD_	10.27883	2.662172	3.861069	0.0062
PEJ	31792.62	11629.97	2.733679	0.0292
UUK	-58766.19	21463.59	-2.737948	0.0290
SDA	12.52602	6.430286	1.947973	0.0924
R-squared	0.989553	Mean dependent var	953541.3	
Adjusted R-squared	0.979106	S.D. dependent var	368776.2	
S.E. of regression	53305.93	Akaike info criterion	24.91001	
Sum squared resid	1.99E+10	Schwarz criterion	25.28764	
Log likelihood	-178.8251	Hannan-Quinn criter.	24.90599	
F-statistic	94.72043	Durbin-Watson stat	2.136741	
Prob(F-statistic)	0.000002			

From the results of the table exposure can be made mathematical simultaneous equations as follows:

$$PD = 3137026 + 8533,53 SDM - 1,685404 PDK + 0,763976 WJP + 10,27883 IVD + 3179,62 PEJ - 58766,19 UUK + 12,52602 SDA + e_2$$

From the F test as a whole it is found that the variables of human resources, population, taxpayers, regional investment, economic growth, commercial business units, and natural resources have a significant effect on local taxes at $P=0.00002$ and $R^2=0.989553$. This means that the seven variables influence and contribute to regional tax revenues of 98.95%, only 1.05% are influenced by other variables.

In the t (partial) test, there are 6 variables that influence local tax revenues, the six variables are.

1. Population has a negative and significant effect at $P=0.0249$
2. Taxpayers have a positive and significant effect at $P=0.0337$
3. Regional investment has a positive and significant effect at $P=0.0062$
4. Economic growth has a positive and significant effect at $P = 0.0292$
5. The commercial business unit has a negative and significant effect at $P=0.0290$
6. Natural resources have a positive and significant effect at $P=0.0924$

Based on the results of the analysis, it is necessary to take follow-up policies in the form of:

1. Increasing the number of regional investments made by local government, private sector and the community. Regional tax incentives are needed to encourage the growth and development of regional investment. Providing special intensive regional taxation will be an attraction for regional investors. And increase the special allocation fund (DAK)

2. Increase in the number of local taxpayers in the form of
 - a. It is necessary to expand the objects and taxpayers of PKB, especially for heavy equipment
 - b. Special incentives are needed for transfer of title (BBM) actors in an easy way and at a minimum cost
 - c. Need proper supervision and monitoring of fuel sales activities at gas stations and non gas stations
 - d. Supervision and monitoring of surface water is needed by private business actors and the government
 - e. Need strict supervision and calculation of the number of cigarettes sold in the area

3. Increasing the rate of regional economic growth through developing leading sectors outside the mining and quarrying sector so that it can have a positive impact on regional tax revenues.

CONCLUSION

Residential area investment, economic growth, commercial business units, taxpayers and natural resources have a significant effect on local tax revenues. Meanwhile, human resources have no significant effect on regional tax administration in Jambi Province. Especially for regional investment, it is also significantly influenced by special allocation funds and infrastructure, which does not have a significant effect on regional investment

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