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Dichotomy between Decentralization and Local Government Revenue: An Empirical Analysis for Indonesia

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Abstract: *This paper provides an empirical analysis on the impact of government decentralization to local government fiscal capacities by investigating local government revenue models. It estimates econometric models with panel data involving 477 cities and districts for the period 2009-2012. The result shows that general purpose fund, and government spending strongly affect the revenues increase. In contrast, institution factor as a main decentralization implementation does not affect tax revenue. This means that decentralization has not been able to strengthen local institution capacity. It indicates the existence dichotomy between decentralization policy and local government revenues.*

Keywords: *revenue, tax, government, fiscal.*

JEL classification numbers: *H21, H53, H71.*

1. INTRODUCTION

The Indonesian central government has given its regional governments more autonomy to run their territories marked by the implementation of decentralization policy in 1999 based on Law No. 22/1999 about Local Government and Law No. 25/1999 about Fiscal Decentralization. This autonomy gave local governments to directly plan, initiate, and implement their policies. However, the implementation of decentralization that has been conducted for more than ten years did not show a significant success (Robiani, 2010). The implementation of this autonomy is even suspected to improve the welfare of a particular group of people only.

The implementations of political and fiscal decentralization policies in Indonesia have brought great changes in the central-local relationship. These policies are expected to foster the process of reform at the local level and provide broader space to politics, financial management and the uses of local resources for the benefit of local communities, so as to create new development patterns in the regencies.

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However, with more authorities in hand, the districts will need more funds. To accommodate such problems, the central government has given more sources of financing, namely granting local governments an authority to collect taxes or levies, as well as an authority to make loans. The central government has also transferred funds to the local governments in various schemes. These are key factors to maintain fiscal sustainability in the local government (Kiran, 2011).

A major problem in the implementation of decentralization policy in Indonesia is the failure in the regional fiscal management which is indicated by the low efficiency of budget allocations and the low productivity of local government spending, especially in public spending. Another indication is that an increase in government spending does not always create new government revenue sources.

Another problem with the implementation of decentralization policy is that the district's institutional capacity is not able to cope with the increase in funds transfers from the central government. These pose misallocation of local government budgets, which is an obstacle to the achievement of national development targets such as high and stable economic growth rate, high level of employment, and low poverty level (Harmadi & Iswandono, 2010).

Based on the aforementioned backgrounds and reasons, we analyze the determinants of government revenues in order to elaborate the impacts decentralization to local government fiscal capacity.

2. PREVIOUS RESEARCH

Many papers have focused on the research of government management and decentralization (Baghestoni & McNown, 1994; Robiani, 2010; Wibowo, Muljarijadi, & Rinaldi, 2010; Kurniawan, 2011; Safakli & Ertanin, 2012). The role of local governments can be accessed from their budget, which is a policy instrument to determine the directions and goals of their economic development. The instrument is expected to trigger the growth of regency economy. The size of development spending budgeted by the local governments will determine the magnitude of their economic growth rate. As pointed by Safakli & Ertanin (2012: 250):

> "........it should be pointed out that, budgetary discipline is not only important for meeting state expenditures but also macroeconomic stability and henceforth for the economic sustainability".

Budgetary discipline plays an important role in local governance to improve the effectiveness of fiscal policy at the local level. Argimon & Cos, (2011) noted that higher fiscal autonomy in local government can be associated with a more disciplined behavior. Decentralization policy in Indonesia is essentially a policy management reconstruction with greater authority given to the district governments to achieve more efficient and effective governance. Local governments are considered to be more aware of the needs, conditions, and the wishes of the people in their regencies compared to the central government. Local governments are also expected to spend their funds to better meet the needs of people in their regencies. Nevertheless, several phenomena in cities and districts in Indonesia do not present better economic performance as a result of decentralization implementation (Robiani, 2010).

The regional autonomy encourages local government to optimize their fiscal capacity, with the main purpose to finance development programmes. It is widely known that the policies to optimize such revenue are sometimes not accompanied by appropriate and careful policy analysis. We should noted that launching a higher tax rate will not necessarily increase tax revenue, as high tax rate might discourage local investments, so it lowers the local government income (Wibowo, Muljarijadi, & Rinaldi, 2010). These might even lead to a decrease in income, a decrease in investment and economic growth.

As noted by Besley (2013), promoting more efficient tax system is an important part of debates in the evolution of tax systems. Another problem with the tax system in the context of national development and governance is the high economic cost which stems from the high administration cost. Several regencies issued a regulation to increase local revenues without considering its consequences to other regencies. Such regulation has reduced the cross-border economic transactions. It was also recommended by Dandan & Nawab (2013) that the government should efficiently manage their spending to achieve optimum economic growth. Becker, Jacob & Jacob (2013) also pointed out that a proper tax policy offers a tool for affecting the access to resources especially for firms. It will bring government policy become more effective in achieving its goals.

A recent study of causal relationship between the government expenditure and revenue is conducted by Goktas & Hepsag (2014) which indicate a unidirectional causality running from the government expenditure to revenue. They emphasized that the government should cut its spending to control the size of budget deficits and later raise taxes to increase government revenue. From this point, we can conclude that the local government institutions play an important role in increasing the revenue of local governments. The role of this institution may include aspects of leadership, organizational systems, and the capacity of staff in local government bureaucracy.

Along with the design of national economic policy, the central government has also made major policies by raising funds in the form of various transfer schemes, namely the General Purpose Fund, Special Purpose Fund, and Deconcentration Fund. However, in some cases, an increase in fiscal transfer could not improve economic performance in the local level (Harmadi & Iswandono, 2010). There is often a case of corruption and budget misuse in various regional governments. These have been the signs of the inability of the bureaucracy, both in terms of institutional and non institutional, in managing the government budget.

Based on these arguments, an in-depth analysis is needed to find the relationship between decentralization policy and local government revenue. This study designs three models of local government revenue involving tax, retribution, and local government own revenue. Several important independent variables will be included in these models; namely general purpose fund, operating spending, public spending, budget deficit, and institutional aspect.

3. RESEARCH METHOD

This study estimates empirical models of revenue, namely tax revenues (TAX), levies revenue/retribution (RET), and local government own revenue (GOR) in the regional governments involving districts and cities. According to Kurniawan (2011), Dahlby & Ferede (2012) and Besley (2013), factors that are suspected to determine behaviour of the dependent variables are block grand or general purpose fund (GPF), operating spending (OS), public spending (PS), budget defisit (BD), and institutional factor (INST). We assumed that there are a significant association between general purpose fund, operating spending, public spending, institutional factor and these all revenue models. Meanwhile, budget deficit is thought to have a negative correlation with the dependent variables. The appropriate model for this kind of analysis is a regression for panel data. For such purposes, three models will be constructed as follows:

$$TAX = f(GPF, OS, PS, BD, INST) \tag{1}$$

$$RET = f(GPF, OS, PS, BD, INST) \tag{2}$$

$$GOR = f(GPF, OS, PS, BD, INST) \tag{3}$$

To formulate econometric models assuming non-linear relationships and to obtain robust empirical models, some of the variables that appear in the model will be transformed into logarithmic form. For example LX means logarithm of X. Since our study involves unbalanced panel data, the model developed below is estimated using analysis for panel data approach. These are set as follows, with index *i* referring to local government *i* and *t* to period *t*.

$$TAX_{it} = \alpha_0 + \alpha_1 GPF_{it} + \alpha_2 OS_{it} + \alpha_3 PS_{it} + \alpha_4 BD_{it} + \alpha_5 INST_{it} + \varepsilon_{it} \tag{4}$$

$$RET_{ti} = \beta_0 + \beta_1 GPF_{it} + \beta_2 OS_{it} + \beta_3 PS_{it} + \beta_4 BD_{it} + \beta_5 INST_{it} + \xi_{it} \tag{5}$$

$$GOR_{it} = \gamma_0 + \gamma_1 GPF_{it} + \gamma_2 OS_{it} + \gamma_3 PS_{it} + \gamma_4 BD_{it} + \gamma_5 INST_{it} + \nu_{it} \tag{6}$$

4. RESULTS AND DISCUSSION

The data estimated in this study are panel data for 477 local governments consisting 385 districts and 92 cities in Indonesia for the period of 2009 to 2012. This period is based on the enactment of government regulation No. 26/2009 concerning the governance of local government finance. These data were taken from statistical reports of local governments. Data of government purpose fund, operating spending, public spending, budget deficit, tax, retribution and government own revenue are in real value in billion rupiah. Meanwhile, the data of institution is formulated as number of staff. In these models we also include an institutional factor, namely the institution capacity of each cities and districts which is represented by number of their staff. This variable is one of the key indicators of decentralization policy implementation in the local government bureaucracy in Indonesia.

The data are drawn from all provinces and special provinces in Indonesia under this investigation. Simple descriptive analysis to three types of local government revenues consist of the average value, minimum value and a maximum value is shown in Table 1. Some examples of the independent variable data such as General Purpose Fund and Government Own Revenue are described in Figure 1 and Figure 2.

Table 1
Descriptive Analysis of Local Government Revenue (Billion Rupiah)

Year	*Tax*			*Retribution*			*Government Own Revenue*		
	Mean	*Min.*	*Max.*	*Mean*	*Min.*	*Max.*	*Mean*	*Min.*	*Max.*
2009	10.1	0.98	988.0	12.6	0.04	994.0	27.6	1.1	1,376.9
2010	11.5	1.00	1061.0	13.2	1.04	878.6	41.6	1.2	1,690.0
2011	15.4	1.02	990.03	14.8	1.08	951.4	46.2	1.2	1,864.0
2012	17.0	1.01	1,111.9	19.4	1.21	1122.0	49.9	1.2	1,935.6

The data indicate that the level of income disparity across regions is very high. The average value for all types of income showed an increase in the period of analysis.

Figure 1. General Purpose Fund and Government Own Revenue in 2012

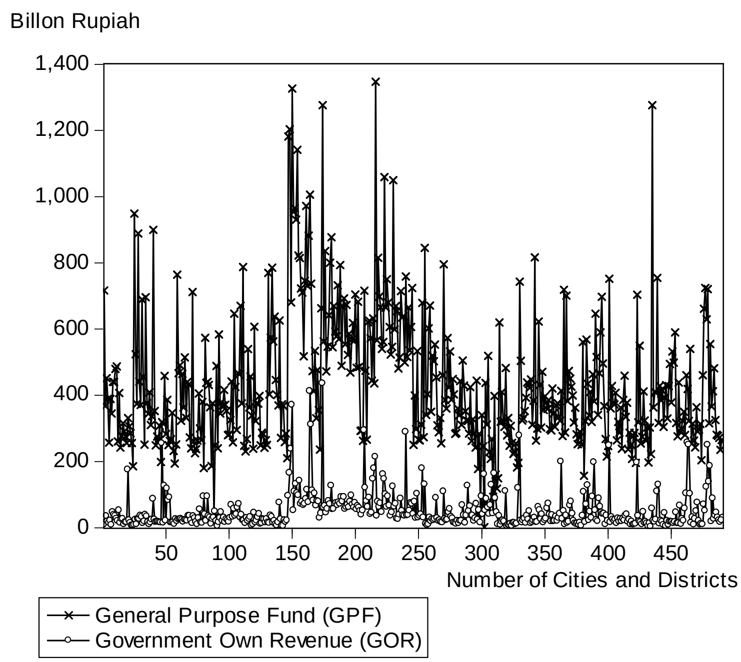
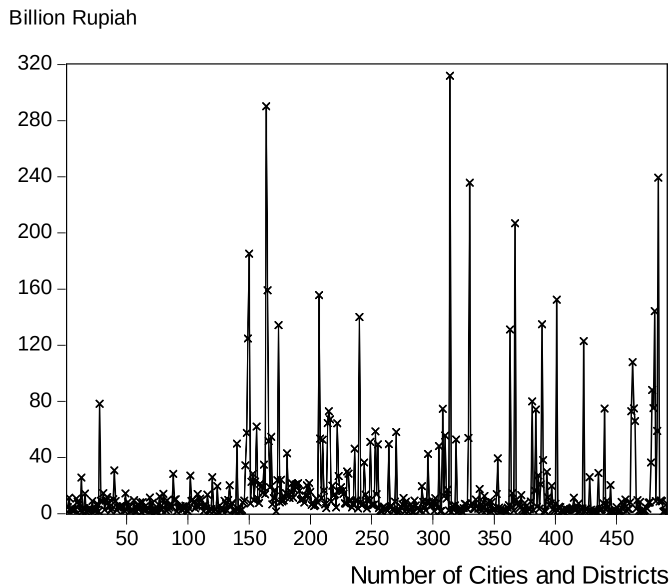


Figure 2. Tax Revenue in 2012



There is a big difference between the minimum and maximum values for all types of local government revenues. For the three types of local government revenues, the difference between the minimum values and the maximum values reached a thousand times. The average value of revenues for the three types of revenue is closer to the minimum value. It shows that most local governments have low level of incomes.

From the evaluation of panel data analysis using three models, namely common, fixed, and random on our data, we found that fixed effect presents the most preferred one. Estimation results of the three equations with dependent variables of are tax, retribution, and government own revenue is reported in Table 2.

For tax equation, we can see that t-statistic for all variables are statistically significant. Thus we can reject the null hypothesis that the value of the coefficient is zero for general purpose fund, operating spending, public spending, budget deficit, and institution variable. This means that these variables have strong association with tax revenue among regional governments. From these results we can also conclude that an increase in government transfer and local government spending will significantly affect tax revenue. The significance of institution variable means that the distinction between town and district, which is a proxy of institutional capacity in terms of human resources, play an important role to local fiscal capacity. A strong negative significant of this variable show that cities have lower tax revenue than that in districts due to the number of staff. Likewise, budget deficit has a positive effect on tax revenues. Thus, cities and districts with higher fiscal risk tend to have higher tax revenues.

Table 2
Fixed Effect Estimate Results

Variables	*Tax*	*Retribution*	*Government Own Revenue*
Constant	-160.788	51.560	53.062
	(-2.644)*	(7.910)*	(7.411)*
General Purpose Fund	0.448	0.076	0.057
	(4.632)*	(4.481)*	(17.902*)
Operating Spending	0.127	-0.053	-0.052
	(2.786)*	(-5.032)*	(-5.478)*
Public Spending	1.131	-0.268	0.115
	(1.811)*	(-2.211)*	(0.804)
Budget Deficit	2.532	-0.172	-0.523
	(6.988)*	(-3.462)*	(-15.03)*
Institution	-0.124	0.002	0.003
	(-4.981)*	(1.786)**	(0.999)
R-squared	0.922	0.515	0.617
F-statistic	7.756	2.462	5.724
Durbin-Watson stat	2.084	1.249	2.152

Note: 1. (*and **) denotes significant at 5 and 10 percent level of significant.
2. Figures in parentheses are *t*-statistic.

The estimation result of the retribution equation suggests different result. The conducted individual significance tests show that governemnt spending and budget deficit have negative correlation with retribution. This means that government spending and budget deficit rise will decrease retribution. Meanwhile intitution factor significantly influence retribution in a lower confidence level. Since institutional variable has a positive impact, cities and districts with more staff tend to improve their retribution revenue. As a consequence of decentralization policy implementation in Indonesia, retribution is generally a main source of local government revenue. It is very important for local government leaders to encourage institutional capacity improvement to improve their fiscal capacity. In fact, many factors affect local institution capacity in collecting retribution in Indonesia, such as regulations, human resources competency, information technology system, and the behaviour of bureaucracy organization.

The estimation of the government own revenue model provides different result with those of the two previous models. Individual significance tests for each variable show interesting implications. The estimation of the equation with government own revenue as the dependent variable suggests that all key variables significantly influence government own revenue, except institution variable. As a consequnce, cities and districts with differences staff number, actually does not affect their ability to increase revenue. This result is different from two previous models, in which the role of instituion is ambigue. This result also emphazie that the government transfer significantly affects local government revenue. We can thus infer that the local government spending which is funded by fiscal transfers can increase revenue sources of local governments.

Overall, our findings provide different perspectives for local public finance management. The findings are not in line with those of several previous researches such as Caldari & Masini, (2011), Bartels & Hall, (2012), and Besley, (2013). Meanwhile, a strong relationship between operating spending and tax revenue in our model is not widely debatable among economists. It is acceptable reason that increasing in government operating spending leads to government revenue increases.

This confirms that cities in Indonesia generally have more revenue than districts do. This status of local government, districts or cities, also affects revenue improvement performance. Cities in Indonesia usually have more qualified bureaucrats than districts do. The quality of government institution plays a very important role in the local government finance management (Caldari & Masini 2011; Widmer & Zweifel, 2011). Morever, Caldari & Masini (2011) pointed out that public authorities have a limited scope and mere occasional practise in the public good provision.

More recent research about the influence of institutional readiness in the regional autonomy is conducted by Safakli & Ertanin (2012). In their conclusion, public finance management such as sequential budgeting process, that involve planning, programming and budgeting have not been institutionalized to assure quality of budgetary management. This means that the planning process for public good and services provision and budgeting does not match yet. In other point, government cannot provide a good accountability in performance based budgeting measurement. Other research by Bartels & Hall (2012) also supported the proposition that government budget may not be consistent across revenues and performance measures. The significant role of budget deficit in determining government revenues in our result has confirmed these findings, especially for Indonesia case. When the budget deficit grows up as a result of government spending increases, it will lead tax increases, but retribution and government own revenue do not. It means that deficit in local government needs a more government transfer from central government. In other words, local government, both cities and districts in Indonesia are not able to cover budget deficit with their own revenues. This is one an indicator of decentralization failure in Indonesia.

Another interesting result in our analysis is that the General Purpose Fund as an indicator of decentralization policy in Indonesia since 1999 does not significantly affect tax and retribution. Since General Purpose Fund is a main fiscal transfer from central to local government, it is expected to create new tax sources in local governments. But the fact is different from that notion. Increasing in central government transfer to cities and districts has not yet been followed by local tax revenue improvement. Dahlby & Ferede (2012) suggest that the equalization grant formula may reduce the perceived cost of public funds of the provinces, and that increases in provincial taxes can cause significant reductions in federal tax revenues. Argimón & Cos (2011) found that greater transfer of tax revenues to the local governments have generally improved fiscal performance. However, our finding gives an alternative way in explaining significant relationship between fiscal transfer and local government revenue reduction. Although several causes may be addressed to this issue, but for Indonesia case, corruption problem should be put first. The issue of corruption in Indonesia has dominated the debates of the quality of government sector management since last three decades (Syamsudin, Sriyana, & Prabowo, 2012). The opportunities for conducting corruption in Indonesia are generated from many factors such as large number of public services, both in central and local levels.

Since corruption is the main obstacle in local government finance management in Indonesia, it needs to be eradicated. In their research, Altunbas & Thornton (2012) concluded that countries in which a larger share of fiscal revenues and expenditures are located at the level of sub-national governments appear to be less corrupt. In contrast, Sriyana, Prabowo, & Syamsudin (2014) found that corruption usually occurs in the provincial bureaucracy, caused by a number of factors that exist in particular within the public sector environment. Corruption in Indonesia occurs in almost all parts and levels of the government system.

The goals of decentralization policy in Indonesia are to give more authority to local governments in public services provision, to encourage local development, and to improve local fiscal capacity, and to increase tax revenue. For this purposes, central government has been transferring more amounts of funds to local government since 2004. Based on this research, increasing in government transfer has been able to create tax revenue improvement in the local government.

5. CONCLUDING REMARKS

This study provided empirical analysis on the impact of decentralization policy to local government fiscal capacity. For this purpose, we analyzed the determinants of local government revenues, namely tax revenues, retribution revenue, and local government own-source revenue. Factors thought to be important in determining revenue behaviour are general purpose fund, operating spending, public spending, budget deficit, and institutional factors.

This research found that general purpose fund and loca government expenditures strongly influence revenues. Likewise, institution capacities which is measured by the number of staff, does not significantly affect tax revenue. This means that the distinction between cities and districts which have different institutional capacity in terms of human resources, significantly influence tax revenue. Furthermore, budget deficit significantly influences tax revenues. Thus, cities and districts that have high fiscal dependence tend to have higher tax revenues as well.

Retribution is one of the important local government revenues. This paper found that this revenue is strongly influenced by fiscal transfer and institution capacity. In contrast, government spending and budget deficit significantly reduce retribution. This means that institutional factors and fiscal transfers do not affect the ability of cities and counties to increase retribution revenue. One of the goals of decentralization in Indonesia is to give authority to local governments to create a regulatory retribution as a source of local government revenue. However, this finding indicates that decentralization has not yet reached these goals.

The estimation result for local government own revenue model shows that local government institution capacity has not been able to create new revenue sources. These results also provide information that fiscal transfer is very important in promoting local government revenues. As in the retribution, budget deficit has negative effect on government revenue. This shows the importance of fiscal capacity in influencing the government own revenues. As an important conclusion of this study both central and regional governments need to give more attention to this issue. It is necessary to improve the quality and capacity of institutions of local government bureaucracy.

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