

# Fiscal Decentralization and Government Size: The Case of Indonesia

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## *Abstract*

*This paper tries to estimate the relationship between fiscal decentralization and government size in Indonesia by employing de Mello's model. The impact of fiscal decentralization on government size is estimated by doing a regression on the government size indicator (as a dependent variable) that is affected by: the decentralization indicator, local government collusion indicator, and the control variable (as independent variables). The results indicated that there is a positive relation between the government size and decentralization indicators when we use the relative size of local government expenditures and fragmentation ratios as a proxy. On the other hand, the author found an irrelevant and even negative relationship between tax/non-tax autonomy and the government size.*

**Keywords:** Fiscal Decentralization-Government Size-Intergovernmental Relations-Indonesia  
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## 1. INTRODUCTION

After the fall of the New Order regime following the resignation of President Soeharto in May 1998, Indonesia went through a national reform process covering various aspects, including the relations between the central and local governments. The pressure for fiscal decentralization was becoming stronger, due to growing dissatisfaction in some regions with the highly centralized government administration during the Soeharto era. During the Habibie administration two laws on regional autonomy were enacted, namely Law no. 22/1999 and Law no. 25/1999 concerning local government and intergovernmental fiscal balance respectively. These two Laws went into effect in early 2001.'

Thus as from January 1, 2001 Indonesia enjoyed a new era of fiscal decentralization which could be considered as a great event in public financial management in Indonesia when the Law of Fiscal Decentralization went into effect. This Law required the central government to transfer some expenditure items and sources of revenue to local governments. In this regard the question arises whether or not the fiscal decentralization has had an impact on the size of government.

Some studies have focused on the relation between fiscal decentralization and government size, such as *Luiz de Mello* (1999) on Moldova's case<sup>ii</sup> and *Ernesto Stein* on Latin America's (1998)<sup>iii</sup> case. It is undeniable that Indonesia –experiencing decentralization when the national economy was in crisis– is a unique case in the implementation of fiscal decentralization.

The question about the relationship between fiscal decentralization and government size can be explained by formulating some hypotheses, such as developed by De Mello (1999). De Mello formulated three hypotheses which can be tested, namely:

- 1) Fiscal decentralization leads to a decrease of central government expenditures due to the increase of local government size (including districts (*kabupaten*), municipalities (*kota*) and provincial governments). The delegation of expenditure functions to local governments in turn will increase total government expenditures.
- 2) Although there is a decrease in central government expenditures since local governments have the autonomy and freedom to set its fiscal policy and to decide on the tax rates and the tax basis, competition among local governments would decrease the government size.

- 3) If the local governments collude to eliminate competition among them caused by the fiscal decentralization, it will in turn increase the government size.

## **2. FISCAL DECENTRALIZATION IN INDONESIA**

Law No.22/1999 concerning local government divides local governments into two tiers, namely provincial and district or municipal governments. The number of local governments increased, caused by the aspirations of local communities to form new local governments, both at the provincial and municipal/district level. In general, the function of local government expenditures is the delegation of responsibilities from the central to local governments in several sectors, excluding six responsibilities which remain with the central government<sup>iv</sup>. However, the implementation of fiscal decentralization in Indonesia will change in line with the need to revise Law No.22 /1999.<sup>v</sup>

On the revenue side, a local government has the right to collect its taxes which is divided based on the tier of the local government itself, as regulated by Law No.34/2000. The provincial government is entitled to levy some taxes, including the Land and Water, Vehicle Taxes, Ownership Transfer Fees of Land and Water Vehicles, Motor Vehicle Fuel Tax, and Water Levy Taxes. The municipal/district governments are also entitled to levy some taxes, including the Hotel Tax, Restaurant Tax, Recreation Tax, Billboard Tax, Road Light Tax, C Mining Extraction Tax, and Parking Tax. Besides collecting the local taxes, a local government also has the right to collect local user charges, including User Charges for General Services, User Charges for Business Services and User Charges for Certain Permits. In addition to its right to collect regular local taxes and user charges, a local government is also authorized to explore new sources of taxes and user charges in accordance with the existing regulations<sup>vi</sup>

Besides earning its income from local taxes and user charges which are classified as Local Owned Revenues, the local governments also obtain intergovernmental fund transfers from the central government. These intergovernmental transfers include the General Allocation Fund (DAU), Specific Allocation Fund (DAK), and revenue sharing both for taxes and natural resources.<sup>vii</sup> The central government itself has the authority to collect some important taxes, namely the Land and Building Tax (PBB), Fee on Gaining Land and Building Title (BPHTB), Value Added Taxes (PPN), Income Taxes (PPH), and taxes related to

international trade.<sup>xiii</sup> For the PBB, BPHTB and PPh taxes, the central government has devised a revenue sharing mechanism from the central to the local government. According to the regulation, at least 25% of total domestic revenues have to be transferred to local governments as General Allocation Funds (DAU).

In intergovernmental transfers related to revenue sharing, Indonesia has also introduced natural resource revenue sharing (BHSDA), which involves the transfer of funds from the central to local governments by using certain formulas. These formulas differ, depending on the type of natural resources, such as forestry, general mining, and fishery. The formula provides for a 20% share for the central government and an 80% share for the local government. In the case of oil revenues, the formula provides for a 85% share for the central government and a 15% share for the local governments, while the formula for natural gas revenues provides for a 70% share for the central government and a 30% share for the local governments.<sup>ix</sup> However, in 2004, the Megawati Administration revised both laws regulating local autonomy and fiscal decentralization by issuing Laws No. 32/2004 and 33/2004. Generally, from the fiscal decentralization side, the revised laws will take effect in 2008 (for General Allocation Funds) and 2009 (for Revenue Sharing).<sup>x</sup>

Indonesia has implemented an *asymmetric decentralization* system, as indicated by the granting of a special autonomy status for the province of Nanggroe Aceh Darussalam<sup>xi</sup> and Papua<sup>xii</sup>, which provide for a different revenue sharing mechanism as regards fuel and natural gas revenues.<sup>xiii</sup>

In the initial period of the implementation of fiscal decentralization in 2001, the dependency of the local governments on the central government was on the average relatively high. Approximately, 76.5% of the total local revenues came from intergovernmental transfers.<sup>xiv</sup> Moreover, the autonomy of local governments to collect taxes or non-tax revenues to finance local development is relatively low, which is evident from the fact that they comprise only 11.92% and 11.58% of total local revenues respectively (Table 1). The potential of local governments to finance local development from taxes and non-tax revenues varies depending on individual local characteristic. The share of taxes to total local revenues varies from 1.41% (North Maluku) to 36.25% (DKI Jakarta), while the share of non-tax revenues varies from 4.47% (Papua) to 23.25% (DKI Jakarta).

It should be noted that last year's budget surplus is also included as a non-tax revenue component. It should also be noted that last year's budget surplus contains a dependency element on the central

government. A study by LPEM FEUI (2003) indicated that the increase of last year's budget surplus was caused by the delayed disbursement of natural resources revenue sharing from the central to the local governments.<sup>xv</sup>

The high share of intergovernmental transfers to local revenues shows that the dependency of local governments on the central government is still high, especially with the municipal governments. Therefore, the local governments have to improve their capacity to increase their local revenues.<sup>xvi</sup> This lack of fiscal capacity also renders the process of decentralization in Indonesia, especially in regard to the intergovernmental transfers, vulnerable to political intervention. Brodjonegoro and Mahi (2003) indicated that the present fiscal decentralization scheme clearly shows that there is considerable political intervention due to insufficient confidence of the central government in the local governments.<sup>xvii</sup>

**Table 1**  
*Fiscal Decentralization Indicators in Indonesia, 2001*<sup>1)</sup>

Province	Decentralization Indicators (%)		
	Autonomy		Intergovernmental Transfers
	Taxes <sup>2)</sup>	Non Taxes <sup>3)</sup>	
Nanggroe Aceh Darussalam	2.36	7.69	89.95
North Sumatera	11.48	14.11	74.41
West Sumatera	7.45	12.58	79.97
Riau	5.91	7.81	86.28
Jambi	8.18	9.38	82.44
South Sumatera	7.67	9.62	82.71
Bengkulu	4.69	6.97	88.34
Lampung	7.09	6.67	86.24
DKI Jakarta	36.25	23.25	40.51
West Java	16.69	11.90	71.41
Central Java	1.59	9.81	78.60
DI Yogyakarta	12.79	20.32	66.88
East Java	13.50	11.38	75.12
West Kalimantan	6.51	10.55	82.94
Central Kalimantan	5.12	12.42	82.46
South Kalimantan	8.09	14.57	77.34
East Kalimantan	3.96	6.54	89.50
North Sulawesi	8.68	18.15	73.18

Continue...

Central Sulawesi	5.51	6.11	88.38
South Sulawesi	8.74	8.24	83.02
South East Sulawesi	3.96	12.35	83.69
Bali	23.18	20.55	56.27
West Nusa Tenggara	5.66	8.99	85.35
East Nusa Tenggara	2.69	11.02	86.29
Papua	1.96	4.47	93.57
North Maluku	1.41	12.93	85.66
Banten	17.52	10.09	72.39
Bangka Belitung	5.00	15.58	79.42
Gorontalo	3.63	8.39	87.97
<b>AVERAGE</b>	<b>11.92</b>	<b>11.58</b>	<b>76.50</b>

Sources: Ditjen PKPD MOF RI, LPEM FEUI Database, and the author calculation

1. The data were calculated by using Local Budget consolidation for all kabupaten/kota and the province in related provinces.
2. Tax Autonomy is calculated by dividing Local Taxes plus Local User Charges by total local revenues
3. Non Tax Autonomy is calculated by dividing Last Year Budget Surplus, Profits of Locally-owned Companies, other local revenues, Local Debt, and the other revenues by total local revenues.

### 3. THE ESTIMATION OF THE RELATIONSHIP BETWEEN FISCAL DECENTRALIZATION AND GOVERNMENT SIZE

#### 3.1 Model and Data

To estimate the relationship between fiscal decentralization and government size in Indonesia, the author will follow the specification made by de Mello for the case of Moldova (1999). The impact of fiscal decentralization on government size is estimated by doing a regression on the government size indicator (as a dependent variable) which is affected by the decentralization indicator, local government collusion indicator, and the control variable (as independent variables).

The form of the estimation equation to be tested is as follows:

$$S_i = \beta_0 + \beta_1 D_i + \beta_2 C_i + \beta_3 X_i + \varepsilon_i \dots \dots \dots (1)$$

Where,  $i$  indicates the local government indices in the sample,  $S_i$  shows the government size variable,  $D_i$  shows the fiscal decentralization indicator,  $C_i$  is a collusion indicator,  $X_i$  shows the control variable, and  $\varepsilon_i$  is an error term. The definition of the variables and the data used in this

estimation can be seen in Appendix 1. Appendix 2 will show the descriptive statistics for each variable to draw the variation of the used sample.

Equation (1) will be estimated by using cross section data for the provinces in Indonesia (except Maluku). The definition of government size used in the baseline model is the share of government expenditures in the Gross Domestic Regional Product by province rather than the total net local government expenditures per capita as used by de Mello. Decentralization is measured by using the relative size for each province, which is the share of local government expenditures to total government expenditures. The collusion indicator between central and local governments is measured by using the share of the intergovernmental transfers to the total local revenues, as shown in Table 1. The control variable is the size of population of each province drawn by a demand proxy against public services provision. Besides, the decentralization indicator also uses as indicators the share of local taxes and non-taxes to total local revenues, and the fragmentation ratio for each province (the number of municipalities/cities in one province).

From this estimation, by theory, decentralization has a positive relationship with the government size. This is based on the Wallis Hypothesis which states the positive relationship. This hypothesis is based on the logic that the pressure on the local government to provide adequate public services has an implication on the increase of government expenditures. The delegation of a mandate to the local government to meet its expenditure obligations is based on the consideration that the local government knows well what the local community needs. The level of satisfaction of the local community about public services is believed to be affected by culture, environment, and natural resources, economic and social conditions which vary among regions. From this point of view, the local government is believed to be able to identify its local needs more precisely. This pressure on local government expenditure will increase local government size and simultaneously decrease central government size.<sup>xviii</sup>

The effect of collusion between central and local government variables on the local government size is hypothetically positive. The hypothesis follows the Brennan/Buchanan Collusion Hypothesis which says that when decentralization can not foster competition among local governments, the local expenditures tend to increase. This is caused by the collusion among local governments with the central government, and also by the financing of local expenditures through revenue sharing.<sup>xix</sup>

The consideration not to use the net expenditure per capita as a proxy of government size, but use the data of government expenditure share to GRDP as a proxy of the government size variable is based on a study conducted by Grossman and West (1994).<sup>xx</sup> This paper also divides the impact of intergovernmental transfers by the various components. The components of intergovernmental transfers can be divided into grant components, including General Allocation Funds (DAU), Specific Allocation Funds (DAK) and the revenue sharing component. The division of this component also considers the hypothesis which states that the components of the allocation funds have a stronger positive impact on government expenditures than revenue sharing.<sup>xxi</sup>

### 3.2 Estimation Results

Due to the unlimited possibilities in using the data representing decentralization and collusion indicator variables, we need to make a number of estimation process possibilities. There are 12 estimation models the details of which can be seen in Appendix 3. The estimation will also test the probability of a heteroscedasticity problem on OLS (*Ordinary Least Square*) estimation by using the White Heteroscedasticity test. The basis for the test is white statistics (the value of  $Obs \cdot R^2$  from *White's specification*) to check whether there is a heteroscedasticity evidence compared with the *Chi Square Table*. The estimation results can be seen in Table 2, as follows.

**Table 2**  
*Estimation of the Relationship between Decentralization and Government Size (Dependent Variable: The Ratio of Local Government Expenditures to GRDP)*

Independent Variables	Model					
	Baseline	1	2	3	4	5
Constant	0.096	3.431	7.771	3.558	2.868	5.129
<i>T stat</i>	0.041	4.078	7.763	1.089	3.499	10.654
Decentralization	-0.023	0.357	0.394	-0.273	-0.182	-0.331
<i>T stat</i>	-0.142	2.251	2.364	-1.372	-1.575	-3.711
Collusion	1.033	0.689	-0.436	0.229	0.403	-0.306
<i>T stat</i>	2.303	4.599	-4.453	0.313	2.742	-4.335
Population	-0.273	-0.554	-0.616	-0.209	-0.225	-0.174
<i>T stat</i>	-1.880	-4.336	-4.516	-2.245	-2.936	-2.641
Adjusted R Squared	0.484	0.661	0.651	0.520	0.629	0.725
White Statistics	3.083	2.559	5.856	3.107	2.894	4.358
Heteroscedasticity Test	No	No	No	No	No	No
Decentralization Indicators	Relative Size (D1)			Tax Autonomy (D2)		
Collusion Indicators	C1	C2	C3	C1	C2	C3



Continue....

Independent Variables	Model					
	6	7	8	9	10	11
Constant	-3.082	2.824	6.464	3.310	3.915	6.880
<i>T stat</i>	-0.783	2.727	10.206	1.230	4.194	12.605
Decentralization	0.284	-0.034	-0.313	0.352	0.336	0.472
<i>t stat</i>	1.000	-0.200	-2.037	1.847	2.315	3.739
Collusion	1.589	0.497	-0.328	0.563	0.424	-0.304
<i>t stat</i>	2.248	3.418	-3.971	1.142	3.259	-4.321
Population	-0.269	-0.298	-0.315	-0.511	-0.492	-0.586
<i>t stat</i>	-3.522	-4.663	-5.259	-3.700	-4.825	-6.736
Adjusted R Squared	0.503	0.593	0.634	0.545	0.664	0.726
White Statistics	2.271	2.614	2.935	3.028	3.003	3.296
Heteroscedasticity Test	No	No	No	No	No	No
Decentralization Indicators	Non Taxes Autonomy (D3)			Fragmentation Ratio (D4)		
Collusion Indicators	C1	C2	C3	C1	C2	C3

Note: All variables are in log natural form

In general, all models show that there is not any OLS assumption violation, which enables us to use it to interpret the estimation result. The population variable as a control variable which hypothetically has a positive relation with government size shows the contradictory sign with this hypothesis. Population, however, has a negative and significant impact on government size. This relation contrasts with the fact that the increasing population size will increase the demand for public services as well as the government size. This condition indicates that local government can not provide adequate funds for the public services facilities. In other words, the government expenditures item for public services is lower than expenditures for other items.

This conclusion is confirmed by the data which shows that approximately 68% of government revenues were allocated to routine expenditures and only the rest (32%) were allocated for development expenditures. The high proportional allocation for routine expenditures which also increases expenditures of the government sector does not have a significant impact on the provision of public services. Within development expenditures there is also an item for the government bureaucracy and supervision of public administration which on average constitutes 4.62% of total government expenditures or about 14.3% of total development expenditures. These figures vary among provinces.

Some local governments have even allocated up to 84% of total development expenditure for routine expenditures and have also allocated 24% of development expenditures for government apparatus and supervision.<sup>xiii</sup>

Decentralization indicators have a different impact on the government size, depending on the data used as a proxy of those indicators. Decentralization indicators represented by the share of local government expenditures to total government expenditures (central and local) and the fragmentation ratio, generally have a positive and significant sign in affecting the government size. This follows the Wallis hypothesis, which states that decentralization has a positive relation with the government size. If the share of local government expenditures increases compared to the total of government expenditures, it will increase the local government size. This is also due to the fragmentation ratio where the increasing number of municipalities will increase the government size.

However, the other decentralization indicators have a different relation with the above two indicators. Indicators which are represented by the data of local autonomy capability to collect taxes and non-taxes, in general do not have a significant effect on the government size. Even that impact has a negative and significant relation with the government size when the collusion indicators used are the share of revenue sharing from the central government to the total local revenues. This condition reveals that the Wallis Hypothesis that decentralization will increase the government size is not correct. This gives us the initial information that the local government does not have adequate capacity to earn their revenues from local resources and strongly depends on intergovernmental transfers in financing local development.

Regarding such a dependency, the trend can be shown by the performance of collusion indicators used in this model. As well as the decentralization indicator, the collusion indicator among government tiers also has a different relation for every data used to represent the collusion indicator. The share of intergovernmental transfers to total local revenues (C1) has a positive relation but with a different significance in affecting the government size. When we use tax autonomy and the fragmentation ratio as decentralization indicators, the collusion indicator is not significant in affecting the government size. But when we use the relative size of local government and non-tax autonomy as decentralization indicators, this collusion indicator has a positive and significant relation with the government size.

The other collusion indicator i.e. the share of allocation funds (DAU and DAK) to the total local revenues has a positive and significant influence on the government size. This finding supports the Brennan/Buchanan Collusion Hypothesis, and it can be concluded that the decentralization process in Indonesia has not fostered competition among local governments. It has also increased local government expenditures through the intergovernmental transfers, especially through the allocation funds, both the General Allocation Funds and Specific Allocation Funds. This condition also reveals that the huge dependence of local governments on the allocation funds will foster collusion between local and central governments.

The contradictory presence is indicated by another collusion indicator, which is the share of revenue sharing to the total local revenues. These data indicate that the Brennan/Buchanan Collusion Hypothesis is not proven when the estimation result shows a negative and significant relation between the collusion indicator and government size. The contradictory fact with previous indicators gave a preliminary indication that the collusion tends to occur in the intergovernmental transfers in the allocation funds rather than in the revenue sharing.

The fact that the Brennan/Buchanan Collusion Hypothesis has been proven, especially in the allocation funds, shows that there is a strong dependence of local government on the allocation funds. It is such a dependence that exerts a great political pressure on the central government to disburse the allocation funds. The high political content in this allocation tends to foster collusion conducted between the central and the local governments. Mahi and Brodjonegoro (2003) indicated that the presence of the lump sum portion in the DAU formula clearly showed the presence of political intervention in the national fiscal policy.

#### **4. CONCLUSION**

The above analysis results show that there is a positive relation between the government size and decentralization indicators when we use the relative size of local government expenditures and fragmentation ratios as a proxy. On the other hand, the author found an insignificant even negative relationship between tax/non-tax autonomy and the government size. This fact indicates that there is a lack of local capacity to increase local revenues and that there is a great dependence of local governments on the central government.

This dependence can also be indicated by the positive correlation between intergovernmental transfers, especially the allocation funds, and the government size. This also indicates that there is a high political content in allocating the grant, and subsequently tends to foster collusion among government tiers. It has been proven that there is no competition among local governments, and that the local governments greatly depend on the central government allocation funds to finance their expenditures.

Besides increasing local revenues, it is expected that the decentralization in Indonesia will also improve the provision of public services for the local community. The preliminary analysis has indicated that the allocation of local government expenditures for public services is still inadequate. After all, the output of decentralization should be a higher prosperity of the community, and not only increased expenditures for the government apparatus.

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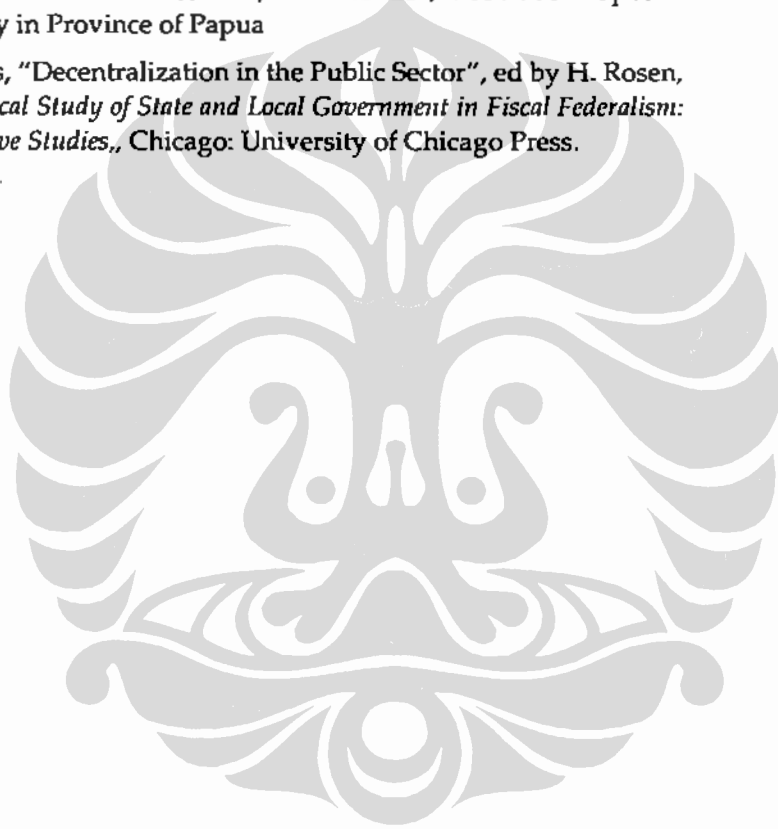
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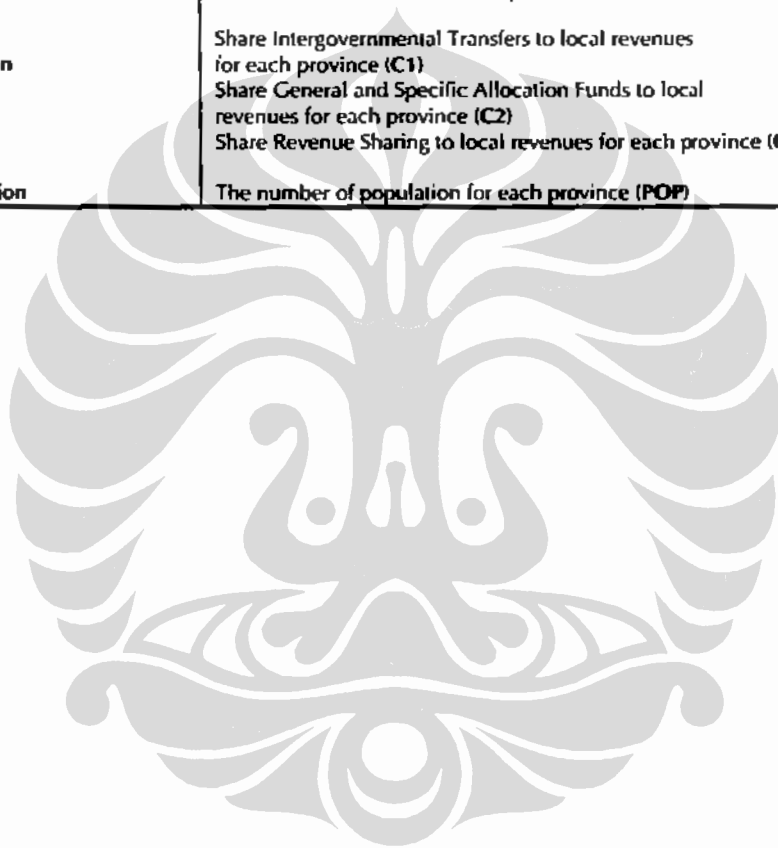
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**APPENDIX 1  
VARIABLE DEFINITION**

Variable	Definition
<b>Government Size</b>	Share Local Government Expenditures to Gross Regional Domestic Product for each provinces
<b>Decentralization Indicator</b>	Share Total Local Government Expenditures to Total Government Expenditures (Central and Local) (D1)
<b>Relative Measure</b>	
<b>Tax Autonomy</b>	Share Tax Revenues to Total Local Government Revenues (D2)
<b>Non-Tax Autonomy</b>	Share Non Tax Revenues to Total Local Government Revenues (D3)
<b>Fragmentation Ratio</b>	The number of districts in each province (D4)
<b>Collusion</b>	Share Intergovernmental Transfers to local revenues for each province (C1) Share General and Specific Allocation Funds to local revenues for each province (C2) Share Revenue Sharing to local revenues for each province (C3)
<b>Population</b>	The number of population for each province (POP)



**APPENDIX 2  
DESCRIPTIVE STATISTICS FOR EACH VARIABLE**

Variable	Mean	Std. Dev.	Minimum	Maximum	Note
S (%)	11.22	6.14	3.12	29.78	S = Government Size
D1 (1/1000)	9.05	8.20	1.18	31.64	POP = Population Number
D2 (%)	8.87	7.30	1.41	36.25	D1= Relative Measure
D3 (%)	11.46	4.61	4.47	23.25	D2= Tax Autonomy
D4	11.55	8.70	3.00	37.00	D3 = Non-Tax Autonomy
C1 (%)	79.67	10.92	40.51	93.57	D4 = Fragmentation Ratio
C2 (%)	63.92	17.69	8.50	83.10	C1= Intergovernmental Transfers divided by Local Revenues
C3 (%)	15.75	14.38	4.39	62.96	C2= DAU+DAK divided by Local Revenues
POP (thousand)	7,281.34	9,793.77	840.00	35,796.00	C3= Revenue Sharing divided by Local Revenues

**APPENDIX 3  
DETAIL OF ESTIMATION MODEL**

Model	Dependent Variable	Independent Variables			Note
		Decentralization Indicator	Collusion Indicator	Population	
Baseline	S	D1	C1	POP	
Model 1	S	D1	C2	POP	S = Government Size
Model 2	S	D1	C3	POP	POP = Population Number
Model 3	S	D2	C1	POP	D1= Relative Measure
Model 4	S	D2	C2	POP	D2= Tax Autonomy
Model 5	S	D2	C3	POP	D3 = Non-Tax Autonomy
Model 6	S	D3	C1	POP	D4 = Fragmentation Ratio
Model 7	S	D3	C2	POP	C1= Intergovernmental Transfers divided by Local Revenues
Model 8	S	D3	C3	POP	C2= DAU+DAK divided by Local Revenues
Model 9	S	D4	C1	POP	C3= Revenue Sharing divided by Local Revenues
Model 10	S	D4	C2	POP	
Model 11	S	D4	C3	POP	

<sup>i</sup> Law No. 22/1999 about Local Government and Law No. 25 /1999 about The Financial Balancing between Central and Local Governments.

<sup>ii</sup> Mello, Luiz de. *Fiscal Federalism and Government Size in Transition Economies: The Case of Moldova*. (IMF Working Paper, 1999)

<sup>iii</sup> Stein, Ernesto. *Fiscal Decentralization and Government Size in Latin America*. Inter-American Development Bank, Working Paper #368, 1998)

<sup>iv</sup> The more detail of the obligation of central and local government can be explored further on Law No.22/1999



- v the debate to revise Law No.22 /1999 can be found in the Indonesian newspapers. Officially, this also is uploaded on the official website in Ministry of Home Affairs, Republic of Indonesia
- vi Law No. 34 /2000 about Local Taxes and User Charges
- vii Law No.25 /1999 about The Fiscal Balancing between Central and Local Governments
- viii Ministry of Finance Republic Of Indonesia, Central Government Financial Note, RI.
- ix See more on Law No. 25/1999
- x For the detail, see Syahrial, Syarif. *Revisited Law No. 25/1999 and Its Implication to Local Revenues* (in Bahasa). Bulletin of Jalin Vol. I No.2, January 2005
- xi Law No. 18 /2001 regulates that the revenue sharing for the Province of Nanggroe Aceh Darussalam after taxes are 55% from fuel revenue sharing and 40% from natural gas fro 8 years since this Law. Since the ninth year, the addition of fuel revenue sharing changes be 35% and 20% for natural gas
- xii Law No. 21/2001. regulates that 55% from fuel revenue sharing and 40% from natural gas is equivalent with 2% of National General Allocation Fund plafon for 25 years. Since the 26th year, the fuel recenue sharing changes be 50% and natural gas 50%
- xiii Syahrial, Syarif. *The Special Autonomy: The Overview of Local Economy Condition and Local Finance*. Wacana Alumni Diklat LPEM FEUI No. 8/2003.
- xiv On calculation, I don't use the data of Maluku Province caused by the conflict of in this region in 1998 – 2003. Because of the data accuracy for this province is less confident, so I don't enter this province on the calculation process.
- xv LPEM FEUI. *Study on Fiscal Decentralization*. Research report. LPEM FEUI, 2003
- xvi Usui, Nario and Armida Alisjahbana. *Local Development Planning and Budgeting in Decentralized Indonesia: Key Issues. A Paper Presented in Indonesian-Japanese on Indonesia's Decentralization, 2003*
- xvii Brodjonegoro, Bambang PS and Raksaka Mahi. *The Indonesian Political Economy of Decentralization. A Paper Presented in Indonesian-Japanese on Indonesia's Decentralization, 2003*
- xviii The full detail can be shown on Wallis and Oates. *Decentralization in the Public Sector. An Empirical Study of State and Local Government in Fiscal Federalism: Quantitative Studies*, ed by H. Rosen (Chicago: University of Chicago Press)
- xix Brennan, G and JM Buchanan. *The Power to Tax: Analytical Foundations of a Fiscal Constitution* (Cambridge: Cambridge University Press)
- xx Grossman, PJ and EG West. *Federalism and the Growth of Government Revisited*. Public Choice, 79
- xxi Gramlich, EM. *Intergovernmental Grants: a Review of the Empirical Literature in the Political Economy of Fiscal Federalism*, ed by WE Oates (Lexington, Mass: Lexington Books)
- xxii Calculated from Local Budget in Province and Kabupaten/Kota, 2001