Fiscal Decentralization and Economic Development Among Nigerian States

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Introduction

There is no doubt that a considerable body of literature has emerged recently dealing with the problems of fiscal decentralization or centralization. However, most of these studies have been concerned with the application of welfare theory to fiscal decentralization and none on testing the relationship between patterns of fiscal decentralization and economic development - Tiebout (1961), Breton (1965), Musgrave (1969), Rothenburg (1970). The few exceptions are the attempts made by Pryor (1977), Oates (1972) and Woo Sik Kee (1977). Apart from the above studies most efforts had been concentrated on testing the Wagner's Law which is concerned about the rising share of the public sector in the economy in the process of economic development - Thorn (1967), Gupta (1968), Lotz (1970) and Enweze (1974).

Most of these studies use international cross-sectional data for their analysis and hence their results cannot be used to make predictions for each country. And given the inadequacy of comparable data, differences in institutional and political set up and serious statistical problems, such studies using international cross-sectional data provide results that are of limited application and less satisfaction.

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The main aim of this study is to investigate the relation between the patterns of fiscal decentralization within the various states of Nigeria and the level of economic development. In this regard this study is different from the previous ones and is more likely to bring up some salient points in respect of each state's fiscal structure and develpment proces. Moreover the study can be used to analyse some changes in the fiscal organization within the economy, and test the variations in patterns of fiscal decentralization as explained by some economic factors.

The first section of this paper considers the various hypotheses on the relationship between fiscal decentralization and economic development. In addition we attempt to define some concepts and review the relevant literature on the subject matter. In section II, we developed the methodology of testing the various hypotheses and also conduct the actual empirical tests; while section III discusses the policy implications of the results of the empirical tests and draws some conclusions.

Section I

In discussing the fiscal organization of any nation one can conceptualize two extreme forms of the public sector. At one polar end there is the total centralization where the central government assumes complete responsibility for all economic activities of the public sector and hence there are no other levels of government. At the other end there is a highly decentralized fiscal system in which the central government is almost completely devoid of economic responsibility with the other tiers of government performing almost all the economic functions. The main difference between the two extreme cases is the degree of decentralization of fiscal and economic responsibilities. In fact the two polar cases are not feasible and our present governmental set up, be it a socialist or capitalist system, has not established this. What we observe today is some degree of decentralization in all governments. Many factors including historical, political, economic, geographic, cultural and sociological must have played some vital role in determining the existing forms of fiscal decentralization among various tiers of government. It is plausible that in a developing country like Nigeria, non-economic factors must have been the major determinant of the present degree of fiscal decen-

tralization. Nonetheless, economic factors are no doubt vital in the nature of the fiscal decentralization and in this paper we will investigate the role played by the various economic variables in determining the extent of fiscal decentralization.

Before proceeding to state the various hypotheses on the role of economic factors, there is need to define some of the concepts we have used in the paper. The word "decentralization" is defined here to mean the fraction of total revenue collected, and current expenditures allocated to local and state governments. Hence decentralization here does not mean regionalization.

Secondly, the term economic development, though difficult to define precisely, is loosely defined here to mean changes in national income or per capita income, literacy ratios and degree of urbanization over time.

The degree of decentralization is therefore the extent of independent decision making by the various tiers of government (state and local governments) in the provision of both public and economic services. It refers therefore to the degree of autonomy of the state and local governments in performing the various duties. An operational measure of decentralization is therefore the share of decentralized expenditures and revenues of the state and local governments in the nation's total fiscal activities. The question then is what are the various economic factors that explain the different levels of fiscal decentralization or centralization? Many economists have proposed various explanatory variables and relate them to process of economic development.

Peacock and Wiseman (1961) argued that centralization of public expenditures is accompanied by a rising per capita national income because of the following reasons: First, that as economic development takes place with the growing problem of urbanization, there is pressure on government to provide better public goods and services and these can only be adequately provided by greater centralization of government spending. Secondly, there are economies of scale in public activities that are generated in the process of economic development that can only be adequately provided by the central government. Thirdly, the increasing importance of public services especially those associated with increasing urbanization such as transport and communication demand greater degree of centralization of expenditures so that they can be adequately and satisfactorily provided. Finally, that the broad-

based taxation and superior taxing powers of the central government results in an increasing centralization of government functions.

On the other hand, Martin and Lewis (1956) argued that greater centralization of government activities is important in developing countries because of the scarcity of qualified personnel. They found from their empirical studies that the local governments have not been able to execute the limited functions assigned to them due to lack of qualified personnel, hence centralization of government expenditures is necessary because it is only in that situation that government activities can be efficiently executed with the limited qualified personnel. They however pointed out that the various degrees of centralization observed are not related to level of economic development but the physical size of the nation.

In his empirical study of centralization of public expenditures in the United States, using both time series and cross-section data, Pryor (1967) established that a significant amount of variation in the degree of fiscal centralization can be accounted for by per capita income and size of population. He showed however that per capita income appeared to be the most important variable when the data for both advanced and developing countries are combined. Pryor later pointed out that most of the differences in aggregate centralization ratios of expenditure is due to some specific expenditures of the central government such as military and social expenditure.

Oates, W.E. (1972) in his regression analysis found a strong inverse relationship between per capita income and degree of fiscal centralization. He also showed that countries with larger population exhibit greater decentralization. In addition Oates asserted that per capita income of a nation is negatively related to the degree of fiscal centralization and one of the reasons for this is the cost of decentralization. The more decentralized the level of government the more the units of government functionaries and the more dispersed the levels of decision making. Consequently, there is an incentive for developing countries to reduce the cost of collective decision making by minimising the levels of governments.

Wheave, K.C. (1963) using this argument of cost, asserted that a highly decentralized government may be too expensive for

developing countries to run. Hence a federal system with two or three tiers of government and its advantage of independence may not be worth the cost for a developing nation that needs funds badly for rapid economic development.

There is no doubt that the cost of decentralization is high, but the fact still remains that as a country grows in both size and income, centralization of all government activities become more and more difficult to execute efficiently. Hence for efficiency reasons, it may be necessary to decentralize. This means that it is not surprising to observe a positive correlation between population and degree of fiscal decentralization as correctly observed by Pryor and Oates.

Kee, W.S. (1977) has shown in his study of both developed and developing countries that for developed countries, income per capita looses its explanatory power for fiscal decentralization to population and urbanization. And in developing countries, fiscal decentralization is highly related to the degree of openness apart from population, urbanization and intergovernmental fiscal transfers.

In this study the first important relationship to investigate in terms of fiscal decentralization is the relationship between the Federal, state and local governments expenditures and economic development. This means establishing whether or not there is a positive relationship between economic development and fiscal decentralization. Consequently all economic variables inherent in economic growth would be tested among which are the taxing powers of the state, local and federal governments. If for example the federal government alone is allowed to impose broad-based taxes that have relationship to economic development due to some economic reasons, then we expect the elasticity of federal government revenues with respect to GDP to be higher than that of state or local governments. Similarly if state governments are alone allowed to impose broad-based taxes within the states, we expect the elasticities of state government revenues with respect to state income to be higher than that of local governments. So that for state or local governments imposing taxes of limited base that are not related to the economic variables responsible for economic growth, the rate of increase in their revenues will be less than that of the federal government. The experience in developing countries including Nigeria is that the federal (central) government

taxes made up mainly of income taxes, excise taxes, import and export taxes are broad-based and are taxes on rapidly developing bases.

To test the relationship between fiscal decentralization, size of the public sector and economic development, we employed per capita state investment, share of agriculture in each state's capital formation (capital formation is a proxy for state income) as exogenous variables.

A second hypothesis that is worth investigating is the nature of the relationship between urbanization and the degree of fiscal decentralization. The number of people living in urban areas or cities indicates the structure of employment within the state. The degree of urbanization measures the extent to which population has moved from the rural areas which are mainly agriculturally based to the modern industrial sector reminiscent of the urban areas. Economic development therefore increases the rate of urbanization and hence the demand for public goods and services which can only be provided efficiently by the federal, state or local governments. In cities the need for local public services are felt more seriously than anywhere else. For example the need for more law and order, public health, transport facilities etc are felt more in urban areas due to crowding and greater degree of social fragmentation. This is why the per capita cost of public services are higher in cities than in rural areas, and hence the increase in the share of government services provided locally than that provided by the Federal Government. We expect that as the percentage of people living in urban areas increases, the needs for either state or local government in a three tier government system also increases. Consequently a high positive correlation between urbanization and the degree of fiscal decentralization should exist.

A third hypothesis to be investigated is the effect of intergovernmental flows of funds such as revenue sharing, transfers, grants-in-aid and other measures of fiscal decentralization. Revenue sharing and transfers are allocation of funds from centrally collected revenue by the central government to various levels of government. These type of sources of revenue to the lower levels of government has proved very important in developing countries because of the limited tax base of the lower levels of governments. In advanced countries, they are important but not as grants-in-aid which are contributions from one level of government (from

federal to either state or local governments or from state to local governments). Grants-in-aid for example have proved as the most important variable explaining variations in the level of spending at the state level in both United States and Canada. Their counterpart in a country like Nigeria is the federal government transfers to both state and local governments. If one accepts the process of centralization as one in which the central government accepts the responsibility of funding part of state and local government public services, then the more the central government provided funds in form of transfers or grants-in-aid, the more the trend towards centralization of fiscal activities. This is because by such grants-in-aid or revenue transfers, the central government gain an increasing control over decision on the provision of public services at both the state and local levels. However the overall effect of grants-in-aid or revenue transfers or pure grants from the central government to the states and local government depend much on the type of grants (conditional or nonconditional). The experience in Nigeria shows that unconditional grants are favoured since conditional grants do not respect the sovereignty of the spender but the grantor. Hence in this cross-sectional study, we analyzed the overall effect of grants from the federal government to the states and local government on the states and local government revenue and expenditure decentralization.

Other factors that could explain decentralization or centralization could be related to political, historical, geographical, cultural, tax base, ability to collect tax revenues and finance expenditures. In developing countries, the ability of state and local governments to collect tax revenue is limited due to shortage of tax administrators, hence their inability to collect revenue for their expenditures. It is on this basis that the central government undertakes to collect majority of the taxes, such as income taxes, import and export duties, excise duties etc purely for efficiency reasons and convenience. The limited taxes such as property tax, poll tax, cattle tax, water rate etc which are relegated to the state and local governments are not efficiently collected. And as such the property tax which is an important source of revenue to local government in advanced countries is a less important source of revenue in developing countries. Consequently the difference between state, local government and federal government taxing capacity is likely to explain variations in the level of fiscal decentralization and centralization.

As regards political and historical factors, we also expect them to influence the degree of fiscal centralization. For example an examination of the history of many countries shows that in periods of national troubles such as wars, economic depressions, national disasters etc., the political and social mood is towards centralization rather than decentralization. While politically, the shift towards fiscal centralization or decentralization depends on the philisophy of the ruling government. This is because many political scientists always suggest that fiscal decentralization is highly correlated with conservative governments, while fiscal centralization is correlated with liberal or socialist governments. This means that we expect a decentralized fiscal arrangement when a conservative government comes into power and a highly centralized fiscal system when political power shifts to the hands of the liberals or socialists.

It would have been a worthwhile exercise to examine this political theory if data were available and if both governments had been in power in Nigeria. Moreover this study used cross-sectional data for the then twelve states and as such the political and historical factors cannot be incorporated.

Section II

Methodology and Empirical Analysis

Regression analyses were carried out for two categories of government using 1973/74 data set. The first category considers the federal and state governments where the decentralized government refers to the state. The analysis relates to the 12 states because there are no comprehensive data for the new 19 states. In this group three regression models were developed. The first model tested was:

$$\text{Log SCE} = \text{Log } \alpha_0 + \alpha_1 \text{ log FGG} + \alpha_2 \text{ log SSOR}$$
$$\text{Log SCR} = \text{Log } \alpha_0 + \alpha_1 \text{ log FGG} + \alpha_2 \text{ log SSOR}$$

where:

SCE = each state government current expenditure
SCR = each state government current revenue

SSOR = each state government own current revenue
FGG = federal government grants to each state

This model determines the elasticity between the state current expenditures, federal grants and states own revenues. It also deals with the elasticities of substitution between states current revenues, federal grants and states own revenues. The results will indicate how sensitive federal grants and states own revenues are in determining the states current expenditures and revenues. Theoretically we except that the more dependent states current revenues or expenditures are on federal grants the less decentalized the fiscal system if the federal transfers are conditional grants.

To carry this analysis of elasticity further to local governments we developed model two. In the analysis we discussed the degree of fiscal decentralization by considering the role grants from both the federal and state governments play in the expenditures of the local governments. Two sets of samples were selected, namely the 10 local governments of North Western State and the 19 local governments of Bendel State. Due to availability of data we restricted the analysis to the local governments of the two states. Furthermore we believed that the results we attain from our analysis of the local governments from these two states, though not very representative of the entire country will indicate the trend of fiscal decentralization among the various local governments. The regression equations used in model two are as follows:

Model 2

$$\text{Log LET} = \log \alpha_0 + \alpha_1 \log \text{SGL}_i + \alpha_2 \log \text{LOR}_i$$

$$\text{Log LET}_i = \log \alpha_0 + \alpha_1 \log \text{SGL}_i + \alpha_2 \log \text{LOR} + \alpha_3 \log \text{FGL}_i$$

where:

LET_i = total expenditure of the $_i$th local government
SGL_i = grant from state government to the $_i$th local government
LOR_i = the $_i$th local government's own revenue
FGL_i = grant from federal government to the $_i$th local government

The first multiple regression excluded FGL because of lack of such data for local governments in North Western State. Models 1 and 2 will aid us in testing our third hypothesis.

To be able to test the remaining three hypothesis or all the four hypotheses together, we developed the third and fourth models to examine the degree of fiscal decentralization among the states. The models used to test the hypotheses are:

Model 3

$$\begin{aligned}
SSET &= \beta_0 + \beta_1 STR + \beta_2 SUB + \beta_3 SIP \\
SSRT &= \beta_0 + \beta_1 STR + \beta_2 SUB + \beta_3 SIP \\
SSEI &= \beta_0 + \beta_1 STR + \beta_2 SUB + \beta_3 SIP \\
SSRI &= \beta_0 + \beta_1 STR + \beta_2 SUB + \beta_3 SIP
\end{aligned}$$

Model 4

$$\begin{aligned}
SSET &= \gamma_0 + \gamma_1 STR + \gamma_2 SUB + \gamma_3 SAG \\
SSRT &= \gamma_0 + \gamma_1 STR + \gamma_2 SUB + \gamma_3 SAG \\
SSEI &= \gamma_0 + \gamma_1 STR + \gamma_2 SUB + \gamma_3 SAG \\
SSRI &= \gamma_0 + \gamma_1 STR + \gamma_2 SUB + \gamma_3 SAG
\end{aligned}$$

where:

SSET = share of each state in the nation's total expenditure
SSRT = share of each state in the nation's total revenue
SSEI = share of each state's expenditure to capital formation
SSRI = ratio of each state's revenue to capital formation
STR = share of federal grants to each state in the nation's total expenditure
SUB = proportion of people in each state living in urban areas
SIP = per capita investment in each state
SAG = share of agriculture in each state's capital formation

In these two models we used capital formation as a proxy variable for the state's income and per capita investment (SIP) as a proxy variable for income per capita. Consequently we expect SIP to measure the wealth of each state and the level of economic development in each state. The use of these two proxy variables arose due to lack of data on each state's income. As regards the variable SUB, a community is regarded as urban if the population is 20,000 and above. The 1973/74 and 1975/76 cross-sectional data used in this study were assembled from the following sources: Annual Abstract of Statistics, Digest of Statistics, Nigeria 1963

Census and Projections of the Census Board, Bendel State and North Western State Local Government Annual Estimates.

Results of Regression Analysis

The results of our model one are as follows:

1. $\text{Log SCE} = \underset{(0.518)}{0.144} + \underset{(0.110)}{0.632 \log \text{FGG}} + \underset{(0.044)}{0.361 \log \text{SSOR}}$
$R^2 = 0.93, F(2,9) = 63.05$

2. $\text{Log SCR} = \underset{(0.149)}{0.786} + \underset{(0.032)}{0.775 \log \text{FGG}} + \underset{(0.0127)}{0.162 \log \text{SSOR}}$
$R^2 = 0.99, F(2,9) = 67.5$

(terms in brackets are standard errors)

The regression coefficients of the two explanatory variables (FGG and SSOR) are positive and significant at the 99% level. The coefficients in the first equation are the expenditure elasticities. The result showed that a one naira increase in federal grants and states' own revenue sources will bring about 0.632 and 0.361 change in states' expenditure, respectively.

In equation 2, the coefficients are the revenue elasticities and the result showed that a one naira increase in federal grants and states' own sources of revenue will bring about 0.775 and 0.162 change in states' revenue, respectively. The results in both equations indicated clearly the degree of sensitivity of state's total expenditure or revenue to federal transfers. This implies the high degree of dependence of state government fiscal activities on federal government revenue. Since the federal transfers are block or unconditional grants, there is little influence the federal government can exercise on the states pattern of expenditure. This highlights the high degree of fiscal decentralization within the country.

The 1975/76 set of data was used to test this model and the results as shown in Appendix I, were found to be consistent with the reported ones.

As regards model two, the results of our analysis are as follows:

A. *North Western State Local Governments*

1. $$LET = 60.395 + 14.39SGL \div 0.625\ LOR$$
$$(29.74)\quad (4.40)\quad (0.092)$$
$$R^2 = 0.99,\ F(2,7) = 67.06$$

2. $$Log\ LET = 0.621 + 0.515\ log\ SGL + 0.658\ log\ LOR$$
$$(0.979)\ (0.214)\quad (0.213)$$
$$R^2 = 0.88,\ F(2,7) = 26.84$$

B. *Bendel State Local Governments*

1. $$LET = -184.82 - 31.28\ SGL + 1.93\ LOR + 49.0\ FGL$$
$$(875.9)\ (24.93)\quad (0.489)\quad (37.49)$$
$$R^2 = 0.60\ F(3,14) = 7.00$$

2. $$Log\ LET = -2.38 - 13.25\ log\ SGL + 0.519\ log\ LOR + 14.39\ log\ FGL$$
$$(9.81)\ (18.8)\quad (0.22)\quad (18.81)$$
$$R^2 = 0.49,\ F(3,14) = 4.5$$

The regression coefficients for SGL and LOR in the first two equations are positive and significant at 99% level. This confirms our results for the state governments discussed earlier. They showed the significant role grants play in expenditure and revenue decentralization. On the other hand the regression coefficients of SGL, LOR and FGL in the Bendel State Local Governments analysis are negative for SGL and positive for the other two variables. In all the three variables, it is only LOR that is statistically significant at 99% level and SGL and FGL are not even significant at 95% level. The negative coefficient for SGL showed that the local governments' expenditure or revenue has an inverse relationship with state grants. This implies a high degree of expenditure and revenue independence and consequently a high degree of fiscal decentralization. The significance of LOR showed clearly the heavy dependence of the local governments on their own sources of revenue to meet their various expenditure categories especially in Bendel State. The inference one can draw from the results of the regression equations for the various local governments is that local governments in Bendel are less dependent on state or federal grants than those of North Western State. This means that the local governments in Bendel State exhibit a much higher degree of fiscal decentralization than those of North Western State.

The results of our regression equations for model 3 in table 1 are now presented as follows:

Table 1

RESULTS OF REGRESSION ANALYSIS OF MODELS 3

1. $SSET = -1.959 + 0.646\ STR + 0.041\ SUB + 0.011\ STP$
   $(0.676)\ (0.074)\ (0.007)\ (0.012)$
   $R^2 = 0.92,\ F(3,8) = 31.8$

2. $SSRT = -0.286 + 0.35\ STR + 0.011\ SUB - 0.002\ SIP$
   $(0.207)\ (0.023)\ (0.002)\ (0.004)$
   $R^2 = 0.97,\ F(3, 8) = 82.9$

3. $SSEI = -0.754 + 0.25\ STR + 0.016\ SUB + 0.001\ SIP$
   $(0.280)\ (0.035)\ (0.016)\ (0.005)$
   $R^2 = 0.91,\ F(3, 8) = 27.5$

4. $SSRI = -0.576 + 0.472\ STR + 0.016\ SUB - 0.002\ SIP$
   $(0.273)\ (0.030)\ (0.003)\ (0.005)$
   $R^2 = 0.97,\ F(3, 8) = 86.2$

   (terms in brackets are standard errors)

The regression coefficients of the variables STR and SUB are positive and significant at the 99% level in explaining the degree of expenditure decentalization. Similarly, the same variables are positive and significant at 99% level in explaining the degree of revenue and capital formation decentralization. In all the regression equations per capita investment (SIP) was found not significant. This implies that either capital investment is not a good proxy for state income or that the rate of growth of capital investment is less than the rate of growth of pupulation.

An important result of the anlaysis is the significant positive relationship between expenditure decentralization ratio (SSET), transfers to state governments (STR) and ubranization (SUB). The results agree with the hypotheses

(1) that countries or states within a country with a relatively large amount of transfer payment exhibit a greater degree

of decentralization, and

(2) that the state or local government share of public spending increases as a given population is crowded into highly populated cities. This may be due to either the increasing number of public goods that have to be provided in urban centres or due to higher per capita cost of public services arising from over-crowding in urban communities.

In revenue decentralization (SSRT), STR and SUB are highly significant (at 99% level) in explaining the degree of revenue decentralization. This result implies that for a developing nation like Nigeria, higher expenditure decentralization can be achieved directly either by assigning expenditure responsibilities or through direct government unconditional transfer payments.

Furthermore the result supports the hypothesis that the more urbanized a state or a country, the more the revenue the state can derive from its own taxes, and the higher the degree of expenditure decentralization. Consequently states should be delegated to collect taxes from more tax bases or states should explore new tax bases so as to collect more revenue from the urban residents who have to be provided with many public goods.

As regards the proxy variable (SIP) for income per capita, it was found not significant in the four regression equations. An inference that can be drawn from this is that the level of development of each state has nothing to do with the state's expenditure or revenue receipts since the federal government grants to states do not consider each state government expenditure needs or ability to generate its own revenue. Federal grants are based on revenue allocation criteria which includes the principle of derivation, population, equality of states and other non-economic factors.

The most significant variable among the three variables was the federal government transfers. This means that states that received higher amount of revenue as transfer exhibit a higher degree of decentralization of their fiscal activities because of the unconditional nature of the grants.

An examination of the third and fourth regression equations shows that like the first two, the variables STR and SUB are significant at 99% level in explaining share of state expenditure to capital formation (SSEI) and states revenue to capital formation (SSRI). Out of these two variables, STR was the most positively

significant variable in explaining state government shares as in the case of fiscal decentralization. The results indicate that the share of state expenditure in the economy can be increased through federal government grants or transfers without reducing state tax effort. Using the 1975/76 data set, we estimated the regression equations in model three and the results are consistent with the ones reported, as shown in Appendix II.

Finally the etimates of the regression equations in model four is shown in table 2.

Table 2

RESULTS OF REGRESSION ANALYSIS FOR MODEL 4

1. $SSET = -0.992 + 1.11\ STR + 0.037\ SUB + 0.721\ SAG$
   $(0.912)\ (0.201)\ (0.018)\ (0.349)$
   $R^2 = 0.83, F(3,8) = 12.93$

2. $SSRT = -0.697 + 0.90\ STR + 0.022\ SUB + 0.269\ SAG$
   $(0.358)\ (0.070)\ (0.007)\ (0.137)$
   $R^2 = 0.95, F(3,8) = 48.69$

3. $SSEI = -6.795 + 6.885\ STR + 0.221\ SUB + 3.988\ SAG$
   $(5.622)\ (1.241)\ (0.112)\ (2.152)$
   $R^2 = 0.83, F(3,8) = 12.67$

4. $SSRI = -6.671 + 8.271\ STR + 0.194\ SUB + 2.028\ SAG$
   $(3.437)\ (0.758)\ (0.068)\ (1.316)$
   $R^2 = 0.94, F(3,8) = 44.08$

The coefficients of the three variables in the first two equations (STR, SUB and SAG) are positive and significant at 99% level in explaining both expenditure and revenue decentralization. Like the results in table 1, we observed an important relationship between expenditure decentralization, transfers, urbanization and share of agriculture. This model confirmed our observations about the results in table 1. The only addition is that the share of agriculture is a significant factor in both expenditure and revenue decentralization.

This implies that the higher the share of agriculture the greater the degree of expenditure decentralization. This seemed necessary so that the agricultual communities which are far from the central or state government could be provided with basic infrastructure and other public goods by the lower levels of government that is closer to them.

In the last two equations, the variables STR, SUB and SAG are positive and significant at 95% level except in the last equation where SAG is significant only at 90% level. This indicates that transfers, urbanization and even the share of agriculture continue to remain important variables in explaining state government shares as in the case of fiscal decentralization.

The share of public finances in capital formation is positively related to the degree of urbanization and agriculture as expected. These results supported the hypothesis that rural or agricultural communities in midst of rapidly developing urban communities would need to finance a large proportion of rapidly increasing public goods and services. Another inference that can be drawn from the significant role of share of agriculture is that those states with a high proportion of agriculture to capital formation require a higher degree of expenditure decentralization. We used also the 1975/76 data set to estimate this model and the results as shown in Appendix III support our findings.

Section III

Conclusion and Policy Implications

In this paper we have examined the major economic factors that can explain the variations of fiscal decentralization through regression analysis based on cross-section data of twelve states. The most important factors that were consistent in explaining the variation in fiscal decentralization among the states were found to be federal government transfers (grants) and degree of urbanization, although the former was more significant. The share of agriculture was also found to be important but not so pronounced as transfers or urbanization. The only variable not found significant was per capita investment. This means that the level of fiscal decentralization does not depend on the level of development of the state.

The urbanization factor which we found significant augurs well for fiscal decentralization because it contributes to the expansion of state's taxable bases in the form of property tax, user charges, rates, fees and other taxes that can be imposed by the state or local government. Secondly we observed a significant positive relationship between fiscal decentralization and transfers. This indicates that the more the transfers the higher the degree of fiscal decentralization. This phenomenon clearly showed that a high degree of fiscal decentralization can be attained through non-committant or unconditional grants since such grants do not depend on the grantor's preferred pattern of expenditure. Thirdly, we observed that these type of grants (unconditional transfers) do not affect the state or local government tax efforts. The amount each state gvernment gets as grants from the federal government does not depend on the state's tax efforts, rather on the method of revenue allocation (principle of derivation, population, equality of states and other political factors).

Our overall findings indicated first that the optimal division of fiscal responsibilities of the state and local governments depend to a large extent on inter-governmental transfers between the three tiers of government. Such transfers depend on the amount of revenue the federal government collects and the proportion it makes available to the other two tiers of government. Secondly, we found that fiscal decentralization depends significantly on the revenue of the federal government and not on the states own revenue.

On the basis of these findings we would recommend that if the federal government wants the states and local governments to increase their own revenue through increased tax efforts in this process of fiscal decentralization and economic development, it must allocate some of the grants or transfers based on tax effort. This is necessary because specific grants or transfers tied to tax effort would encourage both state and local governments in doubling their tax collection effort even if new tax bases are not exploited. The present form of transfer tends to discourage rather than stimulate state and local government tax effort. In addition such a policy will not only increase state and local govenments' own revenue but will further increase the degree of fiscal decentralization, reduce the degree of dependence on transfers and the rate of tax evasion which is relatively high at present.

Finally, our finding that there is a positive significant relationship between urbanization, share of agriculture and fiscal decentralization call for a rural-urban development strategy. This requires that many nuclei of urban communities need to be established to hasten the development process and increase the level of fiscal decentralization. And given that the per capita cost of public services is very high in urban centres, various forms of taxation can be evolved by the state and local governments to generate additional revenue from the urban population who have to be provided with these high per capita cost public goods and services.

Appendix I

1. Log SCE = 1.789 + 0.408 log FGG + 0.503 log SSOR
   (0.033) (0.034) (0.027)
   $R^2 = 0.98$, $F(2,9) = 42.10$

2. Log SCR = 0.660 + 0.621 log FGG + 0.389 log SSOR
   (0.486) (0.0504) (0.0395)
   $R^2 = 0.98$, $F(2,9) = 22.19$

Appendix II

1. SSET = -0.137 + 1.168 STR + 0.0303 SUB + 0.0156 SIP
   (0.152) (0.251) (0.026) (0.214)
   $R^2 = 0.74$ $F(3,8) = 7.51$

2. SSRT = -0.459 + 0.927 STR + 0.018 SUB + 0.036 SIP
   (0.439) (0.096) (0.009) (0.082)
   $R^2 = 0.92$ $F(3,8) = 32.85$

3. SSEI = -2.187 + 7.263 STR + 0.1804 SUB + 0.132 SIP
   (6.85) (1.492) (0.155) (1.273)
   $R^2 = 0.75$ $F(3,8) = 8.08$

4. SSRI = -5.18 + 8.49 STR + 0.153 SUB + 0.378 SIP
   (3.928)(0.855) (0.088) (0.729)
   $R^2 = 0.93$ $F(3,8) = 34.6$

Appendix III

1. SSET = −1.823 + 0.624 STR + 0.045 SUB + 0.666 SAG
   (0.672) (0.080) (0.007) (1.303)
   $R^2 = 0.92$ $F(3,8) = 29.65$

2. SSRT = −0.441 + 0.335 STR + 0.012 SUB + 0.795 SAG
   (0.144) (0.017) (0.002) (0.278)
   $R^2 = 0.98$, $F(3,8) = 61.4$

3. SSEI = −0.773 + 0.243 STR + 0.017 SUB + 0.319 SAG
   (0.264) (0.032) (0.003) (0.512)
   $R^2 = 0.92$, $F(3,8) = 28.72$

4. SSRI = −0.735 + 0.458 STR + 0.017 SUB + 0.793 SAG
   (0.225) (0.027) (0.002) (0.437)
   $R^2 = 0.98$, $F(3,8) = 118.6$

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