to mass support, not realizing that incorporation itself weakens the bridge. Thus populist movements degenerate into appendages of Governments and political factions. The 'populism' of mass action is replaced by the manipulative 'populism'[75] of the political 'broker'.

Thus the Ibadan farmers remain dependent on the educated urban elites for access to and the provision of amenities. They know that the educated have failed them, and have used farmers' money and organizations to cheat the farmer. But they continue to look to educated people to turn the Government away from its evil ways and save the farmers from their suffering. The farmers have demonstrated their ability to resist unjust and arbitrary direct exactions. But on the key issue of the cocoa price, they remain at the mercy of their rulers and the foreign markets to which the development of the colonial political economy has subjected them.

Scale and other Determinants of Local Government Expenditure: A Case Study of Western Nigeria

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I. INTRODUCTION

There has been a strong and interesting debate, both in the form of academic writings and political statements, on the need for well thought-out reforms in the local government systems in Nigeria.[1] One such discussion led to the statement that "no Nigerian institutions are in greater need of review, reform, reorganization and revitalization than those of local government."[2] This call follows the recognition of the important role of local government units in promoting, co-ordinating and running community services, and thereby encouraging greater citizen involvement and participation in the running of their own affairs, and the use of local resources to the maximum extent possible. This role also derives its importance from the fact that a state government based primarily in the state capital faces difficulties in providing and directly administering various social services and public utilities for a wide variety of local communities, given the country's poor transportation and communications network. The inability of local government units to fulfil the functions expected of them constitutes the major reason for the call for reform.

II. DEFECTS OF THE EXISTING GOVERNMENT SYSTEM

The major weaknesses of the existing system of local government in the Western State arise from financial constraints. This leads directly to the inability to attract and hire suitably qualified staff and to provide them with the kind of atmosphere and financial rewards considered necessary to keep them in the service of the local government units.

1 See, for example, M. W. Norris, "Some Aspects of Local Government Recurrent Revenue and their Relationship to State and Local Functions in the Northern States," *Quarterly Journal of Administration*, April 1969, pp. 221-234; Institute of Administration, University of Ife, *The Future of Local Government in Nigeria*, the Report of the National Conference on Local Government, 29 April—3 May 1969; O. Oyediran, "Local Government in Southern Nigeria: The Direction of Change," *The African Review*, Volume 4, No. 4 (1974).
2 Editorial Comment, "Need for Effective Local Government in Nigeria," *Quarterly Journal of Administration*, April 1969, p. 169.

The financial inadequacy of the local government units is in turn due to the "multiplicity of small, autonomous and inefficient councils"[3] which constitutes a serious hindrance to the fulfilment of the functions assigned to them.

III.   PROPOSALS FOR REFORM

The proposals for reforming the local government system which have been offered so far revolve around the problem of the best way to ease the constraint on the financial resources of local government units and hence make them more effective and more efficient in performing their assigned functions. Most of these proposals are based on the premises that non-viability of a local government unit is a function of its size in terms of taxable population and area, and the competence of its administrative personnel; and hence that its financial incapacity can be removed by regrouping the small councils into larger ones. Thus, it would appear from the proposals for local government reform recently put forward by the Western State government that "the main reason for the reorganization is the need to create Local Government units which have enough funds and personnel to discharge the functions expected of them."[4]

The basis of this argument is described by another writer as follows:

> Larger councils enjoy some advantages of economy of size over the smaller councils and that, other things being equal, the larger the council the greater the chances of reducing administrative cost per capita.[5]

But granted the fact that the administration of a local government unit, regardless of its size, involves certain overhead costs—expenditures which are relatively fixed and unavoidable—one must admit that the problem of financial constraint on local government units has two sides to it. The problem is not only of significance for the small and inefficient councils of Western State which are not large enough to reap the benefits of economies of scale but also of (at least potential) significance for the larger councils whose population may have grown beyond the stage where it can benefit from the advantages of economies of scale, and may in fact be suffering from the problems associated with diseconomies of scale. Thus, it is necessary to examine the relationship between population size and local government spending very carefully before the government puts all its reform 'eggs' in the one basket of an indiscriminate merger of local government units. What should be done is to determine empirically whether and at what point (in terms of population size) economies of scale exist for some or all of the services expected to be provided by local government units. This kind of study may lead to the determination of an optimum size with respect to population, revenue and expenditure. This is the problem to which this

3 A. K. Degun, "Developing Viable Local Government in Western Nigeria," *Quarterly Journal of Administration*, April 1969, p. 175.
4 O. Adejuvigbe, "Reorganization of Local Government Councils in Western Nigeria," *Quarterly Journal of Administration*, Vol. VI, No. 4 (July 1972), p. 401.
5 G. O. Orewa, "Financial Administration and the Theory of Size in Local Government," *Quarterly Journal of Administration*, Vol. 2 (July 1968), p. 229.

paper addresses itself. It should be indicated, of course, that economic viability is not necessarily the only, or even the most important, consideration for the determination of an optimum local government unit. Considerations of economic efficiency very often have to be modified by other social and political factors because even an economically viable local government unit cannot operate successfully unless these is some unity or homogeneity and a large measure of support from the local community which constitutes the council.

IV.   ANALYTICAL MODELS

A cursory examination of levels of local government expenditure in the Western State for any year shows wide variations between different councils. These variations are clearly the result of the impact of many factors which influence the spending decisions of different councils in different ways. Some of these factors can be quantified and some cannot. In cases where the factors can be quantified it should be possible to study the association which may exist between these factors and the level of expenditure as a way of explaining the variations in the level of local government expenditure across the state. Thus, the analytical strategy used in this study is to identify the most important of the quantifiable factors and use them to explain the variations in local government spending.

The method is that of multiple regression analysis based on cross-section data. The dependent variable—or the variable to be explained—is the level of local government expenditure on various categories of local government services, and the independent variables are made up of some of the quantifiable factors which may be expected to influence the level of expenditure.

The regression analysis is carried out for six expenditure categories. Total Current Expenditure (TCE)[6] is supposed to depend on the assessed income (AY) of the inhabitants of the local government unit, the amount of state government grant (GG) the council receives, the size of its population (POP) and the square of the population size (POP^2). In functional form, we have

1. $TCE = f(AY, GG, POP, POP^2)$.

In the same way, expenditure on general administration (EGA), which represents each local government unit's overhead costs, is assumed to depend on the same variables specified above. General administration is defined to include expenditure for Council Allowance, Secretary's and Treasurer's Departments. The functional form of this relation is

2. $EGA = f(AY, GG, POP, POP^2)$.

A local government unit's sources of revenue imposed a constraint on its spending behaviour. The major sources are rates, precepts, fines and fees and grants-in-aid from the state government. The use of assessed income

6 Total Current Expenditure is defined as the overall expenditure of a local government both with respect to the costs of administration and the costs of providing its services.

and government grant as explanatory variables is to take account of this constraint. In both of the cases specified above, the square of population size is introduced to test for increasing returns to scale over some range of population size and decreasing returns over a larger range. The hypothesis with respect to the other explanatory variables is quite simple and straightforward. It is assumed that a local government unit's wealth, as measured by the assessed income of its people, has a positive impact on the level of both total current expenditure and expenditure on general administration. Grants to local government councils from the state government are either general or attached to specific expenditure categories and may be expected to have a significant effect on the level of local government spending. The expectations with respect to the influence and direction of impact of these explanatory variables are, of course, subject to whatever modifications are introduced by the population variables in terms of the presence or absence of economies of scale.

The level of local government spending with respect to the other expenditure categories is assumed to be influenced by other factors specific to the individual expenditure categories, in addition to assessed income and government grant. Thus, current expenditure on public works (PWE)[7] is expressed as a function of assessed income, government grant, mileage of roads maintained (MRM) and number of bridges maintained (NBM), i.e.,

3. PWE = f(AY, GG, MRM, NBM);

while current expenditure on health services (HE)[8] is expressed as a function of assessed income, government grant, number of health institutions (NHI) within the council area of jurisdiction, and attendance at the health institutions (ATHI), i.e.,

4. HE = f(AY, GG, NHI, ATHI).

Similarly, current expenditure on education (EE)[9] and current expenditure on the judiciary (JE) — mainly customary courts — are expressed in the following functional forms:

5. EE = f(AY, GG, NEI, ATEI)
    and

6. JE = f(AY, GG, NCB, NE)

where NEI represents number of educational institutions, ATEI represents attendance at educational institutions, NCB refers to number of cases brought before the courts, and NE refers to the number of people employed in the courts.

In all cases, a positive relationship is expected between the level of expenditure and each of the explanatory variables. Clearly it is reasonable

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7   Public Works Expenditure consists of the costs of maintaining all "district" and some "provincial" roads within the jurisdiction of a local government unit. It does not include cost of construction, an item which is covered by government grants.

8   Expenditure on health services covers the cost of running dispensaries, maternity centres and infant welfare centres.

9   Expenditure on education includes a local government unit's share in the costs of running Primary Schools, Modern Schools, Community Grammar Schools, and Grade II Teacher Training Colleges.

to expect that expenditure on judicial services, for example, would tend to increase with the number of cases brought before the courts and with the number of people employed to manage the courts. Similarly, it is to be expected that expenditure on public works would tend to increase with the mileage of roads maintained as well as with the number of bridges which a given local government unit is obliged to look after.

V. THE DATA

The *Digest of Local Government Statistics* which is published by the Western State's Ministry of Economic Planning and Reconstruction (Statistics Division), contains data for the following variables: local government expenditure on various categories of services, assessed income, grants from the state government, population, mileage of roads maintained, number of bridges maintained, number of and attendance at educational institutions, number of and attendance at local government health institutions, number of cases (criminal and civil) brought before the customary courts and number of employees working in the courts. But the published data on these items are too aggregative for the purpose of this study and the Ministry has been kind enough to grant permission to use the more disaggregated figures in the Ministry's files. Thus, this study is based on the data for 75 local government units covering the 1967/68 period.

VI. EMPIRICAL RESULTS

All the regression equations have been estimated in their simple linear and double-log forms, using the method of ordinary least squares. But only the results based on the simple linear form are reported below. Those based on the double-log form are left out, partly because they yield results which are quite similar to those reported here, and, more importantly, because the per capita expenditure computations presented below could be more conveniently carried out on the basis of the simple linear form of the regression equations.

As usual, the coefficient of determination, R^2, which is attached to each result, measures the proportion of variation explained, and the standard errors are placed in parentheses directly below the estimated coefficients to which they correspond. In all cases, the statistical test of significance is done at the 5% level.

(a) *Determinants of Local Government Expenditure on Various Services.*

As the theoretical relationships represented by equations 2 to 6 indicate, different expenditure categories may be expected to respond to different sets of factors, although in all cases, these sets of factors are assumed to include assessed income (AY) and government grants (GG). Thus, the postulated relationship between local government expenditure on public works and some of the explanatory variables yields the following regression result:

3(a): PWE = 33.0978 + 0.2001 AY + 0.1993GG
                      (0.0300)   (0.0826)

R^2 = 0.4413

This result indicates that a positive and statistically significant relationship exists between expenditure on public works and assessed income (AY) and government grants (GG) received by the local government units. These two factors account for 44% of the variations in expenditure on public works among local government units. It is also indicated that the impact of government grants on public works expenditure is lower than that of assessed income, or in other words, that public works expenditure responds more to variations in assessed income than to differences in government grants received by different local government units. A plausible explanation for this result is that government grants are given mostly for road and bridge construction; the costs of maintenance—which PWE represents—must be charged against local revenue which is, of course, derived primarily from the assessed income of the local community. It is, of course, also clear that the more government grants a particular local government council receives to build more roads and bridges, the more it has to spend in terms of maintaining its expanding system of roads and bridges; hence the positive relationship between PWE and GG which shows up in this regression result.

Results 3(a) represents a truncated version of the model represented by equation 3. The full model gives the following result:

3(b): $PWE = 29.4559 + 0.1691\ AY + 0.1462 GG$
                    $(0.0553)\qquad (0.0581)$

         $+ 0.0422\ MRM + 0.0218\ NBM$
            $(0.0062)\qquad (0.0105)$

$R^2 = 0.7324;$

4(b): $HE = 17.1427 + 0.4429\ AY + 0.2279\ GG + 0.1786\ NHI$
                    $(0.2143)\qquad (0.0766)\qquad (0.0869)$

         $+ 0.1201\ ATHI$
            (0.0329)

$R^2 = 0.7833;$

5(a): $EE = 0.4356 + 0.5200\ AY + 0.4557\ GG$
                    $(0.1290)\qquad (0.18889)$

$R^2 = 0.7378;$

5(b): $EE = 1.0502 + 0.5050\ AY + 0.4162\ GG + 0.2909\ NEI$
                    $(0.1610)\qquad (0.1856)\qquad (0.1396)$

         $+ 0.5625\ ATEI$
            (1.3006)

$R^2 = 0.7749;$

6(a): $JE = 2.0691 + 0.0722\ AY + 0.0144\ GG$
                    $(0.0351)\qquad (0.0060)$

$R^2 = 0.7376;$

6(b): $JE = 1.1335 + 0.0915\ AY + 0.0188\ GG$
                    $(0.0379)\qquad (0.0093)$

         $+ 3.4816\ NCB + 0.0097\ NE$
            $(1.2817)\qquad (0.0133)$

$R^2 = 0.7445.$

In all cases, the expected relationships and their signs (i.e., positive) are

confirmed by the regression results, and the full postulated models perform quite well in terms of the amount of variation in the dependent variables which they explain; the values of R^2 are all above 0.70. There are only two cases where some of the postulated relationships are not statistically significant —results 5(b) and 6(b)—although they both carry the right signs. The impact of assessed income varies between different expenditure categories, but it is statistically significant in all cases. The same observation applies to the influence of government grants. The effect of the grant is usually to raise local government expenditure above the level it would otherwise have been in the absence of such grants, but the regression results indicate that for all services, local government expenditure increases by less than Naira 1 for every Naira 1 increase in the grant. This result implies that such grants have been used not only to raise the level of local government expenditure on the various services but also to reduce the local taxes which would have been necessary if local government councils had had to maintain a given level of expenditure in the absence of government grants.

General administration is regarded in this study as a separate expenditure category in order to bring out the behaviour of what may be thought of as the minimum running costs which each local government unit may expect to bear. The regression results which emerge from the postulated relationship represented by equation 2 are the following:

(2)a: $EGA = 10.6827 + 0.1030\ AY + 0.1441\ GG$
                     $(0.0517)\qquad (0.0608)$

         $R^2 = 0.4688;$

2(b): $EGA = 2.2550 + 0.0752\ AY + 0.1488\ GG$
                     $(0.0221)\qquad (0.0112)$

         $+ 0.0427\ POP.$
            (0.0168)

         $R^2 = 0.5941.$

The relationships have the correct (positive) signs; and it is notable that government grants have such a large impact on the expenditure on general administration in view of the fact that the state government does not give any grants specifically for this purpose. But the result is not so surprising when one realizes that as a council receives more and more grants it becomes necessary to spend more and more on general administration in order to be able to execute the projects which are aided by government grants. The effect of increasing population size is to increase a local government council's level of expenditure on general administration. This is confirmed by result 2(b).

(b)   *Economies and Diseconomies of Scale.*

The theoretical models represented by equations 1 and 2 include population size (POP) and its square (POP²) as explanatory variables. The intention here is to estimate the impact of population size on local government expenditure, and, more specifically, to test the proposition that there are increasing returns to scale over some range of population size and decreasing returns over some other range. The empirical result could then indicate an

optimum population size with respect to per capita local government expenditure.

The regression results are as follows:

$$2(c): \quad EGA = 26.2493 + 0.0970\ AY + 0.1186\ GG$$
$$\qquad\qquad\qquad\quad (0.0435) \qquad\quad (0.0093)$$
$$\qquad\qquad - 0.1377\ POP + 0.0230\ POP^2$$
$$\qquad\qquad\quad (0.0159) \qquad\quad (0.0112)$$
$$\qquad\qquad R^2 = 0.6842;$$

$$1(a): \quad TCE = 30.5510 + 0.1520\ AY + 0.0103\ GG$$
$$\qquad\qquad\qquad\quad (0.0701) \qquad\quad (0.0035)$$
$$\qquad\qquad - 0.1600\ POP + 0.0320\ POP^2$$
$$\qquad\qquad\quad (0.0614) \qquad\quad (0.0022)$$
$$\qquad\qquad R^2 = 0.7259.$$

The implication of these results becomes clearer when the mean values of AY and GG are inserted into 2(c) and 1(a) and the numerical values of the two equations are evaluated over a suitable range of population sizes (5,000 to 600,000). If, in addition, the numerical values are transformed into per capita values the following table is derived.

Table 1. PER CAPITA LOCAL GOVERNMENT EXPENDITURE (OVERALL AND GENERAL ADMINISTRATION)

Population (Thousands)	Per Capita Expenditure (General Administration) (Naira)	Per Capita Expenditure (Overall) (Naira)
5	10.46	12.22
10	5.44	6.44
20	3.26	4.02
30	2.84	3.84
40	2.86	3.76
50	3.06	4.10
75	3.86	5.30
100	4.82	6.70
200	9.14	12.78
300	13.62	19.08
400	18.16	25.44
500	23.30	31.80
600	27.26	38.18

An examination of Table 1 shows that per capita expenditure on general administration falls as population size increases from 5,000 to 30,000 and then rises as population size increases from 30,000 to 600,000. Similarly, overall per capita expenditure falls as population increases from 5,000 to 40,000 and then rises as population increases further to 600,000. This clearly points to the range between 30,000 and 40,000 as the optimum range of population size with respect to efficiency in local government spending. Within this range, per capita expenditure lies between Naira 2.84 and Naira 2.86 for general administration and between Naira 3.84 and Naira 3.76 for overall expenditure. A wider range of population sizes, say between 20,000

and 75,000, could be used if one were willing to restrict overall per capita expenditure to under Naira 6.00.

The optimum range of population sizes established above is in relation to efficiency in local government spending only. However, it is quite possible for the population to be the right size from the point of expenditure efficiency and yet for the assessed income of the people to be just too low for them to constitute an economically viable local government unit. This is where the other variable—government grants—comes in. If the criterion of efficiency in the provision of local government services is accepted but the assessed income of an area whose population size lies within the optimum range is deficient it may be possible to use government grants as a means of making up for the deficiency.

It is interesting to note, in this connection, that a recent contribution to this debate from Dr. Adejuyigbe proceeds by calculating the minimum level of expenditure which is required to keep a local government unit functioning efficiently, and then tries to see what mix of local income and population size will yield sufficient revenue to sustain this level of expenditure.[10] The approach taken here is to determine a suitable or optimum range of population size with respect to economies of scale in spending, and then use government grants as a balancing item in cases where the assessed income in the resulting local government unit is insufficient to finance the required level of expenditure. It must be admitted that both approaches suffer from a number of weaknesses. Dr. Adejuyigbe's method is likely to produce a large variation in council size. For instance, in areas where people are fairly rich, a very small council, in terms of population size, may be able to satisfy the criterion of meeting the minimum expenditure requirements out of local revenue; but in areas where the people are relatively poor, a very large council size may be required. This problem may be aggravated by the probability that the resulting rich small councils would tend to be in the urban areas while the poor large councils would tend to be in the rural areas where poor transport and communication facilities would compound the large council's administrative problems. Finally, if bringing nearer the centre of decision-making, in terms of the provision and administration of local services, is an important rationale for the existence of the local government system, some of the councils which this criterion will throw up may be too large to achieve this objective.

The criterion chosen in this study suffers from similar problems. Its neat solution in terms of an optimum range of population size (30,000 to 40,000) may lead to the creation of many councils, some of which may have to be supported largely by government grants. A possible solution to this problem is to widen the range—at the expense of the loss of some efficiency—to between 20,000 and 75,000; but, as noted above, this attempt to ensure that councils depend more on their own resources and less on state government grants will ultimately result in a situation where the relatively

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10 "Reorganization of Local Government Councils in Western Nigeria," op. cit.

poor rural areas will end up with the larger council sizes. This problem can be minimized only if government grants are used, to some extent, in a compensatory manner or as equalization grants made on the basis of need rather than as matching grants.

VII. An Evaluation of Government's Reform Proposals

One can now attempt to evaluate, on the basis of the analysis above, Western State government's system. The government seems to base its case for reform on the economies of scale argument, and hence asserts that "the solution to the incapacity of councils definitely lies in regrouping them into larger and more variable units."[11] The proposals do not contain any operational definition of viability; neither do they contain any indication of what the government regards as the optimum population size for its proposed new local government units. Rather, the question is ignored with the claim that

> Many views have been put forward relating to the minimum population required for a viable local government unit. The application of general guidelines of minimum population for all-purpose local governments is difficult when viewed in the context of the heterogeneous maze of community affinities in Western Nigeria.[12]

But since it is stated in the proposals that each of the new Local Government Administrations (LGA) will contain an unspecified number of Area Committees, and it is indicated that "the maximum population for such [an Area Committee] should be between 20,000 and 25,000 with a minimum of 10,000",[13] one can assume that the population size of each of the proposed LGAs will not be less than 10,000. In actual fact, the population size of the 51 proposed LGAs[14] varies from 18,735 for Imala to 627,379 for Ibadan City Area. Only five of the proposed LGAs have population sizes within the 20,000 to 75,000 range which may be considered as acceptable in the light of the empirical results reported above; and 15 of the LGAs have population sizes of over 200,000, i.e., well into the region which has been identified in this study as that of decreasing returns to scale. It seems clear, therefore, that the government's proposals cannot be validly based on the economies of scale argument. Rather, the proposals appear to be an over-reaction to the problems created by the existence, within the present local government system, of a multiplicity of small, inefficient councils, an over-reaction which seems to be aimed at swinging the pendulum from the extreme position of too many small, unviable councils to the opposite extreme of too many large, unwieldly local government units. In so far as the per capita expenditure curve is U-shaped, as has been demonstrated, both extreme positions will produce local government units which suffer from diseconomies of scale.

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11 Western Nigeria, *Proposals for the Reorganisation of Local Government Councils in the Western State of Nigeria*, Official Document No. 4 of 1971 (Ibadan: Government Printer), p. 5.
12 Ibid., p. 6.
13 Ibid., p. 7.
14 A list of the 51 proposed LGAs is included in ibid., pp. 13-18.

VIII. Conclusion

This study has shown that while different local government services are influenced by different sets of factors, the wealth of the local community, as measured by its assessed income, and the additional revenue which a local government unit derives from state government grants constitute crucial factors which are common to all services. It has also been shown that an optimum range of population sizes, with respect to efficiency in local government spending, exists between 30,000 and 40,000. Further, economies of scale are exhausted by the time the population size of a local government reaches or exceeds 200,000. Thus, the recent proposals for the reform of the local government system put forward by the Western State government would produce local government units which are likely to be too large to enjoy any advantages of economy of size. It should be recognized that both councils that are too small and those that are too large can be expected to suffer from the problems associated with diseconomies of scale.

These conclusions are, of course, subject to some qualifications. Economic viability is by no means the only consideration in the determination of the appropriate sizes of local government units. There could be valid socio-political factors whose presence would override pure economic considerations. Besides, the U-shaped per capita expenditure curve which has been derived in this analysis rests on the crucial assumption that the quality of services provided by local government units is held constant. In the absence of suitable data on the quality of services provided by the local councils, it has not been possible to put the assumption to any empirical test.

Given these qualifications, one may reinterpret the intention of the government in a more favourable way. Thus, perhaps the government's claim is really that larger local government units can provide better quality and/or more services rather than that per capita costs will be reduced if there are larger councils. Such a claim cannot be disputed directly on the basis of the evidence presented above. Unfortunately, there is neither evidence of such a claim in the government's proposals for reform, nor is there any indication that the large councils which exist within the present local government system provide better quality services.