

CHAPTER - 4

MOBILISATION OF LOCAL REVENUES

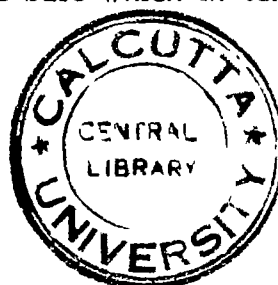
Local government everywhere constitutes an important segment of public sector, with its functional jurisdiction expanding persistently both in volume and coverage, in response to rising demand for local public services. This has particular relevance for the Third World where high growth of population and remarkable increase in price level are typical features. To finance the enhanced expenditure functions, local bodies are hard pressed for additional revenues. Given the size of grants from higher government, they need most to bear the remaining portion of increased financial burden out of local revenues.

A) Determinants of Local Revenues

Intertemporal growth of local revenues (particularly of taxes) is a function of a number of variables. Two of them that directly determine revenue proceeds are tax base (b) and tax rate (t). In simple form we can write the equation of revenue

$$R = b.t$$

Specific to holding-based taxes, is the 'assessment' variable (a) which is an estimated valuation of annual real or notional rental value (subject to deduction for maintenance) of holdings in case of rental value base rather than the capital value base. While these variables relate to policy discretions which are not always politically palatable, growth of revenues in response to non-discretionary economic forces is often more desirable. One such factor is population (p) the other being income (y). These twin variables rather automatically affect the revenue base which in turn does the same to volume



of revenues. Given the revenue base and the rate applicable to it, there is no sure way of supposing that the actual revenue collections will be an exact multiple of base (b) and rate (t). Any gap between legal tax liability and actual revenues realised is the result of lower collection rate (c). The latter is related to the inefficiency of local fiscal administration.

All these determinants of local revenues were systematically presented by Schroeder and Dalton (1986) in the following accounting identity :

$$R = c.t.a.b. \frac{Y}{p} .p$$

Where R = tax revenue

p = population

y = income

b = base

a = assessment

t = tax rate

c = collection rate.

From the above theoretical formulation, we get to know about the chain linkage of six important variables that determine the revenue growth. But it does not establish the relative importance of individual determinants on the basis of empirical estimation. This is, therefore, attempted in our study on the basis of empirical data related to two local bodies of Bangladesh. In doing so, the holding tax has been selected as the dependent variable, since it is the most dominating unit of local revenue package (Annexure 1) and to it only are applicable all the six variables. This revenue is regressed against four selected variables i.e. population, income, assessment and collection rate, leaving out tax base and tax rate for their constancy over the study period. The regression results were computed on the basis of simple linear equation of $Y = a_1 + b_1 x$ where holding tax

is the dependent variable Y and its four explanatory variables are the independent variables (x). Time series data of holding tax and its determining variables are recorded in Table 1 followed by regression results in Table 2.

Table 2 gives more or less some usual indications regarding relative importance of the variables, representing some consistencies between figures of the two local bodies. Collection rate is found to be overwhelmingly significant in the both. The same is not true for other variables. The regression coefficients for income show conspicuously low values because the proxy variable used in the absence of any local income data was in the category of extremely high figures.

From these findings, it is deducible that population and income variable may or may not exert any perceptible effect upon local revenue growth, since the matter depends on the elasticity and buoyancy properties of local revenues. Revenue effects of tax base and rate are uncertain, as these are not always revisable and whenever they are, there is the potential problem of adverse public reactions. Even an increase in the assessment of valuation, which is theoretically believed to be additive to total revenues even under static tax rate condition, is not always so if the collection rate variable does not fare well. Collection rate is, therefore, an excessively important variable which is also testified by our regression results (Table 2).

Now a detailed theoretical review of the six revenue determinants is offered below :

1) **Population** : Population may itself be a direct source of revenues if poll tax, as in the case of some African countries, is imposed on the number of adult populace. Otherwise, it will indirectly affect revenue base through income or economic activity. If a growth in population is accompanied with a still higher

Table 1 (A)

HOLDING TAX AND ITS DETERMINANTS IN MANIKGANJ POURASHAVA

Year	Holding Tax (Y)	Population (x)	Income (ml. Tk.) (x)	Assessment (x)	Collection rate (%) (x)
1973-74	18260	25415	-	141259	13
1974-75	60000	26649	-	141259	42
1975-76	105369	27941	-	141259	75
1976-77	56117	29296	-	143052	39
1977-78	91726	30717	17738	143052	64
1978-79	106847	32206	21239	286518	37
1979-80	103965	33768	24522	286790	36
1980-81	167753	35406	29537	286924	58
1981-82	226731	37123	33794	287325	79
1982-83	244268	38924	35917	287303	85
1983-84	109266	40812	42317	290907	38
1984-85	168514	42791	48729	587512	29
1985-86	405051	44866	55449	588104	69
1986-87	244874	47042	-	592916	41
1987-88	257347	49323	-	634289	41

N.B. : (i) District gross domestic product is the proxy variable for income. Sources of data are **Statistical Year Book of Bangladesh**, various years.

(ii) The figures of collection rate (tax collection as percentage of assessment) are rounded off.

Table I(B)

HOLDING TAX AND ITS DETERMINANTS IN KAULTIA UNION PARISHAD

Year	Holding Tax	Population	Income (Tk. 1000)	Assessment	Collection rate
1977-78	8271	24588	4405852	38122	22
1978-79	18061	26974	5243530	38122	47
1979-80	19625	29590	6130052	39731	49
1980-81	18750	32460	7607565	39731	47
1981-82	24970	35608	8367581	39731	63
1982-83	22373	39062	9034000	39731	56
1983-84	13062	42850	11412000	40000	33
1984-85	16109	47007	13580000	52122	31
1985-86	32216	51567	14200000	52122	62
1986-87	22274	56569	-	52122	43
1987-88	26454	62056	-	52122	51

- N.B. :**
- i) District agricultural value added is the proxy variable for income. Sources are **Statistical Year Book of Bangladesh**, various years.
 - ii) The figures for collection rate (tax collection as percentage of tax assessment) are rounded off.

TABLE - 2(A)

HOLDING TAX REGRESSION RESULTS IN MANIKGANJ POURASHAVA

$$\text{Model : Holding Tax (Y) = } a_1 + b_1 \cdot x$$

Independent variables (x)	Intercept (a_1)	Regression Coefficient (b_1)	T-Statistics	R^2
1. Population	- 2325.0	10.81	41.80*	.66
2. Income	- .001196	.0000056	.0000169	.52
3. assessment	202.0	.43	1.67	.60
4. Collection Rate	3528.0	2464.0	9525*	.25

N.B. : Star marks denote significance at .05 level.

TABLE - 2(B)

HOLDING TAX REGRESSION RESULTS IN KAULTIA UNION PARISHAD

$$\text{Model : Holding Tax (y) = } a_1 + b_1 \cdot x$$

Independent variables (x)	Intercept (a_1)	Regression coefficient (b_1)	T-Statistics	R^2
1. Population	80.0	.3	1.0	.32
2. Income	.01	.0000008	.0000024	.20
3. Assessment	-26.0	.52	1.73	.27
4. Collection Rate	-733.0	455.0	1569.0*	.79

N.B. : Star mark denotes significance at .05 level.

growth in their income, there will be an upward shift in the per capita income, with broader scope for levying income-based taxation i.e. income tax, wealth tax etc. An income growth down-paced with population growth will, on the contrary, result in lower per capita income. In such case, local taxable capacity will be depressed and the possible revenue effect of population is a negative one. Against the backdrop of such lower per capita income, population growth may still expand revenue base through inducing economic activities i.e. promotion of employment opportunities creates base of profession tax in the way increased transport and building activities will expand scope respectively for vehicle and holding taxes. Thus any lag in the income effect of population may be compensated, in part of full, by population-induced economic activities. Despite that, population is not a strong determinant of local revenues, as its potentials are largely constrained by its higher dependancy ratio. In a resource-poor economy characterised by high population growth, population elasticity/buoyancy of local revenues therefore tends to be lower as in Bangladesh (Table 4).

(II) **Income** : Income is a better indicator of taxable capacity and therefore an ideal determinant of local revenues. We have already hinted that population growth without an income growth in per capita terms fails to give a much-needed elastic character to the revenue structure. Income variable not only provides scope for income-based taxation, but it also lies at the root of all economic activities many of which may qualify for taxation. In this way, an income growth not only develops or broadens the base of existing revenues but also extends scope for increased revenue authorisation to localities. But ironically, such authorisation very often lags behind income growth, for which many potential revenues remain outside the tax net. This has the consequence of decreasing ratio of taxes to local income, as Siddiqui (1987) finds in the case of Bangladesh that rural direct taxes as percentage of total rural income decline over the period between 1958/59 and 1976/77. Thus lack of revenue endorsement by the sanctioning authority

blocks the prospect of mobilising untapped revenues and it is, therefore, a real setback for income variable of revenues.

In Bangladesh, tax items for each level of local government are specified in the national statutes and there is no scope to go beyond (even in the deserving case) until and unless there is legislative revisions to accommodate the same. The Model Tax Schedule of the Union Parishads, for example, was codified in 1961, but it is still operative in status quo. In the meantime, however, there have emerged in the local economy certain affluent income possessions or healthy economic activities which may be conveniently covered by local revenue network particularly on consideration that all these developments are partially the outcome of favourable local public expenditure. Hossain et. al. (1978) has demonstrated that the rural agricultural sector is largely under-taxed for which they recommended devolution of land tax and agricultural marketing tax to rural local bodies.

(III) **Base :** In case of elastic revenues, as we have seen, tax bases increase automatically in response to population and income growth. For example, population growth expands the bases of profession tax by increasing the heads of local traders and income variable does the same by increasing the volume of their business. Hence in Bangladesh, professionals both by categories and the scale of their operation (i.e. economic classification of contractors) are bases of local taxation. There are some local revenues (e.g. animal tax) which do not demonstrate such a high degree of elasticity in their bases. Still there are other types of taxes which are endorsed with respect to their certain species and not under a broad head. In Bangladesh, for instance, 14 trades and professions are itemised for taxation by the rural Upazila Parishad. Any extra professional groups such as engineer or doctor cannot be taxed without effecting necessary legislative amendments. Legalising new tax bases is, however, linked up with the risk of developing undesirable political complications.

(IV) **Assessment :** Assessment variable is unique to holding-based taxes. World-wide varieties of bases for such taxation include (a) annual rental (real or notional) value of holding as in the case of Bangladesh. (b) capital value of land and its improvements and (c) only the land value. (Schroeder - Dalton, 1986). The procedure of assessment is to make an estimate of valuation of the base and then impose the ruling rate on such valuation i.e. if an annual rental valuation of a holding is assessed at Tk. 12000.00 after deduction of maintenance cost, a 10% rate will involve a tax liability of Tk. 1200.00 Obviously, assessment of valuation is a direct as well as a strong determinant of holding tax and in a situation of inflating land values it lends an elastic character to the holding tax. Regular assessment to recoup this increased valuation is seldom possible due to prohibitive nature of public reaction on the one hand and high cost involvement and shortage of skilled manpower on the other. The common practice in the developing countries is, therefore, to reassess properties at an interval of 3 to 5 years i.e. it is 3 years in the Philippines and 5 years in Bangladesh. Moreover, there are often a good number of forces working towards depressing the assessment figures such as, rent control act in some countries (e.g. India), illicit collusion between the assessor and the assessee for under-assessment, unjudicious exemption from or remission of tax assessment in the process of dispensing with appeal cases etc.

(V) **Tax Rate :** Tax rate is a crucial determinant of revenues, since the latter is basically an equivalent of tax base multiplied by rates. But higher rate-setting in all conditions is neither possible nor desirable. It is not possible because any rate enhancement proposal cannot always be effected locally owing to public resistance. Sometimes simply apprehension from potential public reactions keeps the national government from making desirable rate revisions commensurate with growth in local income. Such problems are typical of local public sector where most of the taxes are of direct nature (direct taxes being associated with the smallness of local boundaries) which are more vulnerable to public reactions than the indirect ones.

In a similar vein, desirability of upward rate revisions is often thwarted by various possible adverse economic impacts. For example, if a rate is set higher (in excess of the payers' tax paying capacity) or in contravention of horizontal equity (same tax burden for similarly capable payers), that is likely to invoke tax evasion (illegal manipulation to reduce tax) and tax avoidance (manipulation of affairs within law to avoid tax) leading to a fall in the aggregate revenues (James & Nobes, 1984). Laffer (quoted in Fullerton, 1982) demonstrated through his famous curve that a tax rate set higher beyond a certain level will discourage work effort which ultimately causes a decline in revenue proceeds. Tiebout (1956) hypothesised that higher tax rate in one locality will drive out an individual to another with lower rates i.e. the individual can "vote with his feet". In the same line did also Longo (1981) argue that it would not be surprising that a municipality will hesitate before increasing its tax rate much beyond the level of rival communities. All these problems may stifle the potentials of rate revision as a means of raising local revenues.

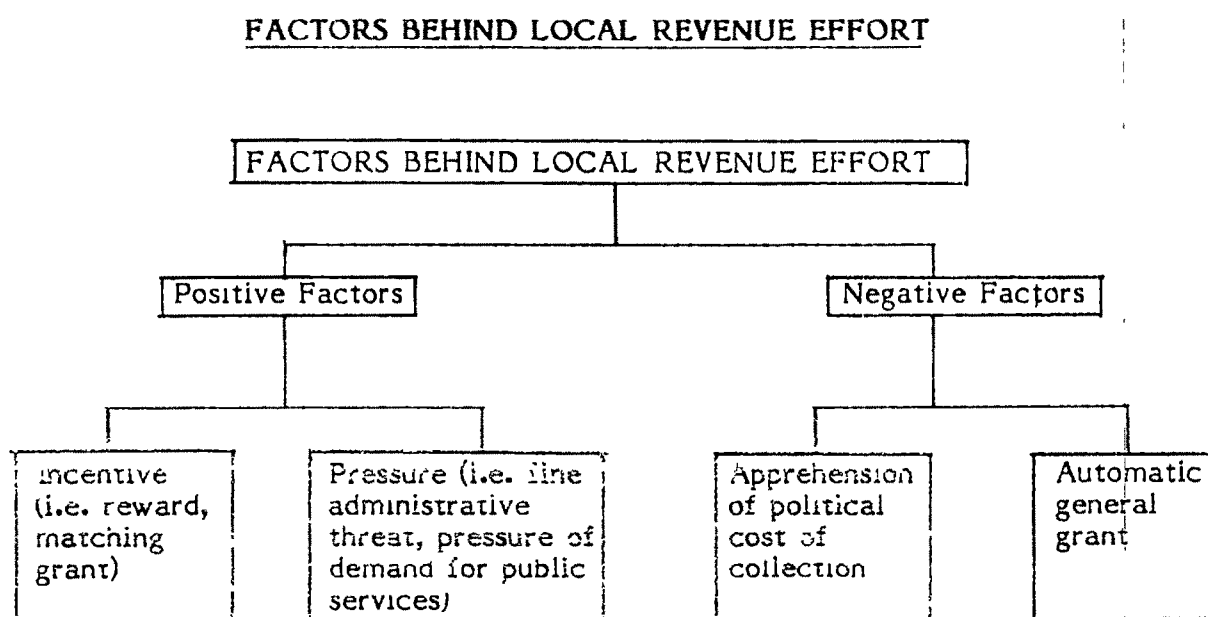
(VI) **Collection Rate** : Collection rate appears to be a powerful determinant of local revenues. While the corporate role of all other five variables works out the legal tax liability at a particular figure, these due taxes cannot be collected in full only because of poor collection performance of local administration. As a result, a significant percentage of local revenues are lost to the local fund. Bahl (1983b) remarks with reference to property taxation in the Philippines that tax collection is the single largest problem and efforts centred on this problem will have the largest and quickest pay-offs. In Bangladesh, as the Annexure 6 shows, only about 50% or less of assessed holding taxes are actually collected which means that under a fully efficient tax administration, revenue collection could almost be doubled. Faaland and Parkinson (1976) also gave hint that further measures to tighten up local tax administration in Bangladesh could have the effect of increasing local revenues considerably. Collection rate is, therefore, not only a direct but also a healthy determinant of local revenues.

B) Revenue Effort

Closely allied to the collection rate variable is the concept of revenue effort. There is, however, a subtle difference between the two concepts. Though revenue effort may sometimes be defined as the ratio of revenue collections to taxable capacity (Mathews and Sweeny, 1977), we shall be concerned here with the literal meaning of revenue effort i.e. seriousness in collection drive. Given this definition of revenue effort, collection rate is the effect of revenue effort which again is the impact of revenue willingness. Due to such casual link between revenue effort and collection rate, the latter may be an index of the former but not identical with it. Apparently, revenue effort is a more comprehensive term in the sense that the degree of such effort will affect not only the collection rate but also other variables. As for example, in Bangladesh lower revenue effort has resulted not only in poor collection rate (Annexure 6), but also in lower exploitation of revenue sources/bases (Annexure 5), under-rating of taxes (Annexure 5), inadequate cost recovery for utility services (Annexure 8). The revenue effort is, therefore, more important a factor.

Truly speaking, the revenue effort has a crucial role to play in determining local revenues. This is substantiated below through empirical data. Before embarking on this exercise, we need be acquainted with forces that underlie the revenue collection willingness. Figure-2 sheds light on such factors---both positive and negative. Clearly, the positive factors in the form of pressures (such as fine or administrative threat for lower collection, pressure of demand for increased public services etc.) or incentives (i.e. better collection reward, prospect of deriving grant matched against local collection etc.) are not automatic but they presuppose some policy actions. Until and unless these positive factors are put into operation, negative factors will often be at work, rather automatically, towards dampening revenue willingness and effort. As an example, unless interfered by positive factors, local elected representatives will usually be scared about losing popularity

Figure - 2

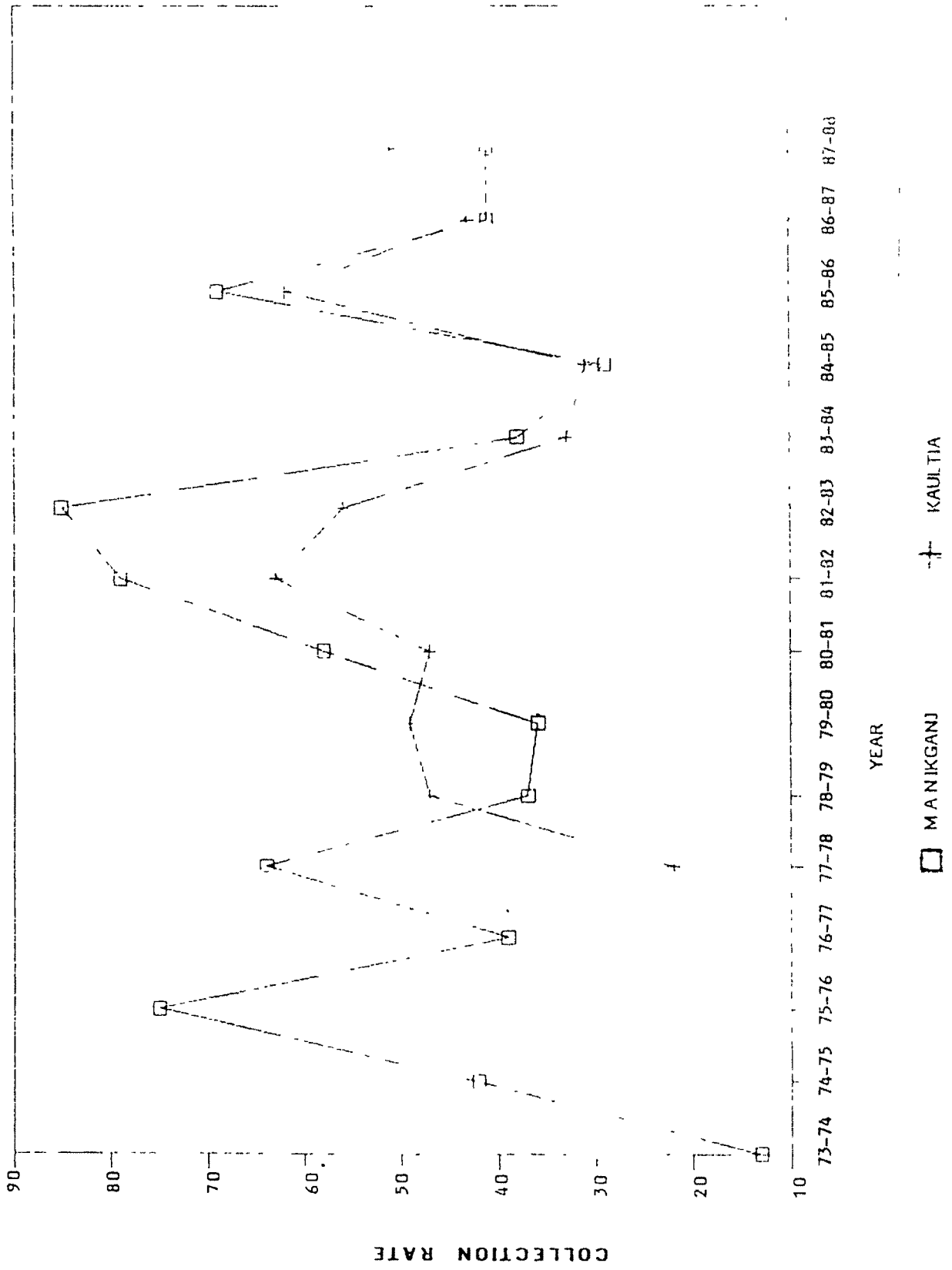


with their electorate through strict collection of taxes. Exception to this may occur with appointed administrators which is again an exceptional case in local democracy. This interpretation is based on our empirical observations which is further confirmed by the reporting of Schroeder-Dalton (1986), with reference to urban areas of Bangladesh. Similarly, a grant which is not designed to incorporate local revenue effort or matching requirements is in the nature of automatic transfers. If such grant accounts for a sizable portion of total revenues and are not tied to any condition, it is likely to dampen revenue generating effort. Theoretical indications to this effect are raised by Bahl and Schroeder (1983). While apprehension of political cost of strict collection makes the tax administrators more willing to depend on grants rather than self-collected revenues, easy availability of automatic grant simply acts as a facilitator to that.

To counter the impact of these two negative forces, some form of positive actions in the form of incentive or pressure are called for. Our empirical data bear remarkable evidence in support of such nature of local fiscal behaviour. Figure 3 exhibits how holding tax collection (Table 1) responds to positive actions of incentive and pressure category. It was gathered from discussions with the concerned officials that the two highest peak collections of Manikganj Pourashava in the years 1975-76 and 1982-83 were the results of pressure force i.e. phobia from the Martial Law Administration installed in late 1975 and again in early 1982, the only two such regimes the nation experienced since its birth in 1971. The collection rate of the Union Parishad, however, appears to be less responsive to Martial Law Administration probably for the reason that the Parishad, being a less important rural unit, did not feel itself so much exposed to administrative action against collection inefficiency.

Another peak collection of 1985-86 in Manikganj Pourashava is explainable by an incentive factor that takes us back to an interesting event. One most active and energetic staff of the revenue department was officially promised

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with a gold medal reward if he could fulfil a certain target of collection. This incentive worked well upon him and the result was a record collection in monetary terms. This points to the fact that revenue effort activated by positive factors (incentive or pressure) is most likely to improve revenue collection.

In the same token, the findings of the study provide a different perspective to the theoretical issue that additional funds spent on revenue administration would yield manytimes the amount in added collections (Schultz and Harriss, 1954). It was learnt that the above-mentioned revenue official made vigorous collection drive with little cooperation from other 4 collectors and in this manner he collected an amount what his colleagues could not hitherto collect. This implies that increased investment in the revenue department may add to revenue collection only when existing manpower of the department is fully utilised. But there was evidence of 'disguised unemployment' in the revenue department of Manikganj Pourashava for which revenue collection did not fall despite retirement of a collecting staff in 1987. Thus the validity of the contention that greater investment in revenue collection will add to collected revenues is based on the assumption that existing manpower are fully utilised in respect of putting in vigorous revenue effort.

C) Fiscal Implication of Revenue Decentralisation

One external factor that is likely to affect the growth of local revenues is the state of revenue decentralisation, a question that is related with how much of elastic and buoyant revenues the national government shares with the local government particularly in a background of inter-governmental vertical tax competition (Grewal and Mathews, 1977). Apparently, this factor is likely to determine local revenues indirectly through the variables already introduced i.e. income, population, tax rate etc. Still this is taken up for discussion with a view to enquiring about the allegation that higher governments in general tend to retain bulk of the elastic taxes, with the remainder delegated to the local governments (Sharpe, 1981).

To carry out the purpose, a comparison was made between the growth rate of national and local revenues in Bangladesh (Table 3, Figure-4). Moreover, income and population buoyancy coefficients of national and local revenues (ratio of growth in the latter to that in the former) were also estimated (Table 4). Elasticity coefficient for individual revenues (ratio of growth in revenues to that in income or population after neutralising the effect of discretionary measures like tax base or rate changes) was not calculated due to lacking of necessary data.

The results of Table 3 show that national revenues grow faster (at an average rate of 23.98%) than local revenues (17.27%). This growth trend is quite ostensible in Figure-4. This is mainly attributable to higher income and population buoyancies of national revenues than local revenues (Table 4), implying that national revenues are more responsive to non-discretionary economic variables (income and population). Not only that, discretionary measures particularly tax bases or rates are also more easily and regularly adjusted for expediting growth in case of national revenues. Upward revision of national tax schedule made rather frequently is also not less contributive to growth of such revenues. Local revenue structure, on the other hand, is not amenable to such flexibility, as we have already seen. While the local tax schedule and rates depending upon national government policy discretions remain static over the years, the prospect of growth in such revenues is mainly related with automatic increase in the base (which is also not likely to be as expansible as that of national revenues). This is indeed a crucial factor in the differential revenue growth at two levels of government.

In conformity with the hypothesis of Sharpe (1981), this study, therefore, reveals that the national revenues grow faster than local revenues on account of their higher elasticity/buoyancy properties. Behind such a bias of existing revenue sharing equilibrium in favour of national government, there may be partial justification particularly along greater national needs argument. But taking into

Table - 3

GROWTH OF NATIONAL AND LOCAL GOVERNMENT REVENUES

Year	National Revenue (ml. Tk)	Growth (%)	Local Revenue (ml. Tk.)	Growth (%)
1973-74	3638.80	-	198.02	-
1974-75	6455.81	77.42	239.89	21.14
1975-76	9742.98	50.92	328.92	37.11
1976-77	9393.81	-3.58	264.95	19.45
1977-78	10980.50	16.89	342.49	29.27
1978-79	15813.00	44.01	417.68	21.95
1979-80	15333.00	-3.04	488.42	16.94
1980-81	17551.00	14.47	573.65	17.45
1981-82	25725.00	46.57	655.67	14.30
1982-83	28660.00	11.43	944.84	44.10
1983-84	24288.00	- 15.27	886.97	- 6.12
Mean		23.98		17.27

N.B. : Sources of data - **Statistical Year Book of Bangladesh**, various years.

GROWTH OF NATIONAL AND LOCAL REVENUES

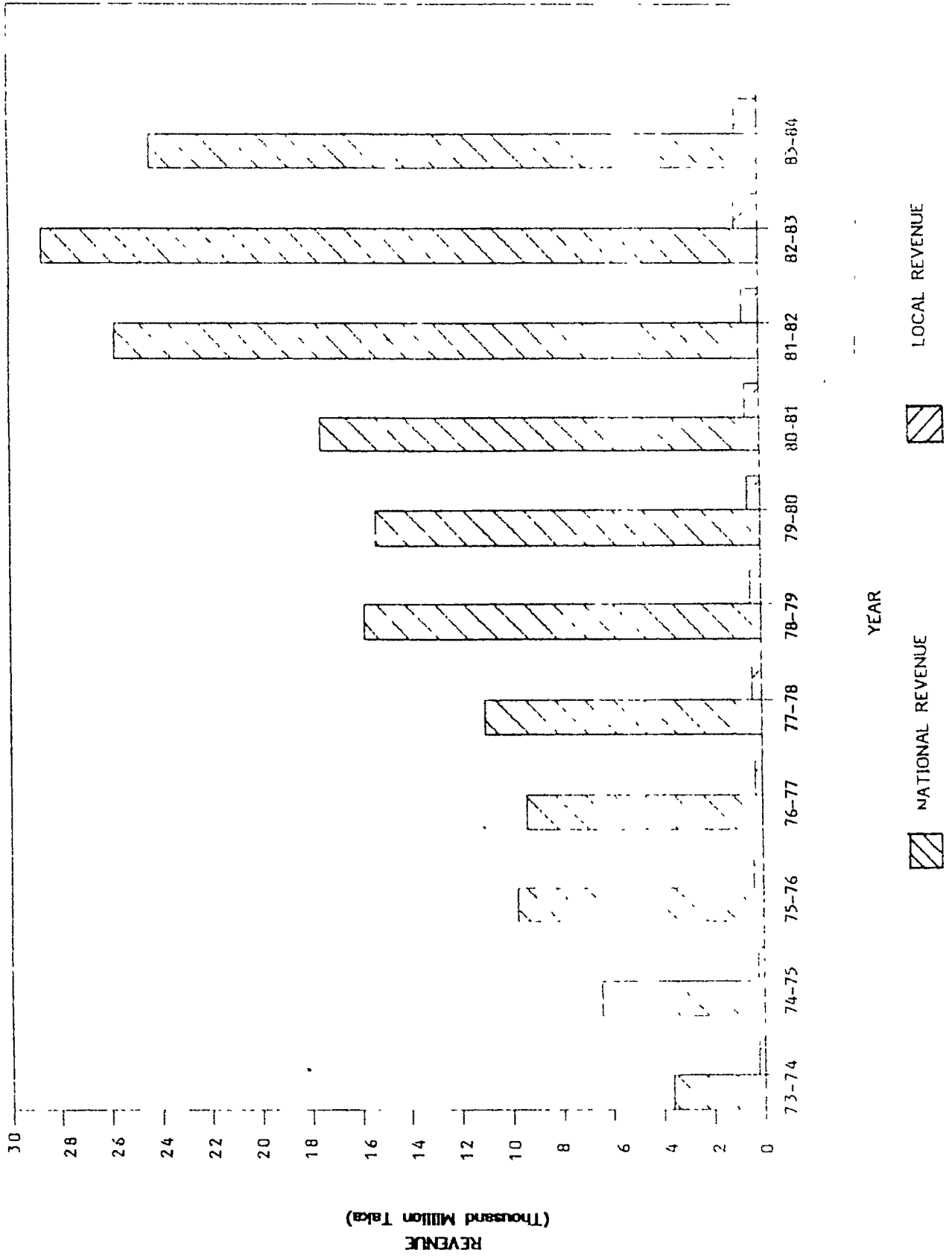


Table - 4

INCOME AND POPULATION BUOYANCY OF NATIONAL AND LOCAL REVENUES
(1973-74 to 1983-84)

Revenues	Income Buoyancy	Population Buoyancy
National	1.97	17.37
Local	1.21	10.66

N.B.: Buoyancy is computed as the ratio of percentage change in revenues between the initial and terminal periods to the percentage change in income and population over the same period. Revenue data in Table 3 and Income and population data in Annexure 9.

account the progressively increasing responsibilities devolved on local bodies, decentralisation of some existing revenues merits active consideration or alternatively, some new sources should be authorised to local polities. In case of Bangladesh, for example, taxes transferable locally include land tax (Hossain et. al., 1978, Reza, 1985) and those authorisable to local bodies are, inter-alia betterment levy (Ahmed, 1989), taxes on plantation, fishing or irrigation activity (Chowdhury, 1987).

The above findings of this chapter indicate that adequacy of local revenues not only depend on local economy and local revenue effort, but also on local fiscal policy of the national government. If, however, all these factors play a favourable role, still there may be a gap between supply of and demand for local fund which may compel a local government to look for grant. The context of such a vital role of grant in local finance alongwith an indication of how much a local government should depend upon this source has been covered in Chapter 5.