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Intergovernmental Fiscal Relations

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LOCAL GOVERNMENT
FINANCE IN THE
THIRD WORLD

A Case Study of the Philippines

Edited by Roy Bahl
and Barbara D. Miller

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4

Intergovernmental Fiscal Relations by ROY BAHL and LARRY SCHROEDER

The subject of intergovernmental fiscal relations includes a wide range of considerations: grants and subsidies to local governments; tax sharing among central, provincial, and local governments; approval of tax structure changes and borrowing; monitoring and approving of budgets; and appointment and supervision of local fiscal officers. In this chapter the first two are considered, with the focus on the three grant (allotment) programs used in the Philippines—the BIR Allotment, the Specific Tax Allotment and the National Tax Allotment—and on the role of the barangay unit in local government finances. In each case we ask the same questions: Is the grant program structured so as to encourage the mobilization of additional resources at the local government level? Is it equitable? Does it provide an adequate flow of revenues to local governments? And does it stimulate capital spending?

At the conclusion of this chapter we provide an overall evaluation of the grant system, using the traditional criteria of public finance. Alternative possibilities for restructuring the system, and their impacts, are discussed in Chapter 7.

THE BIR ALLOTMENT

The BIR Allotment system was changed substantially during the 1970s, with the most recent alteration brought about by PD 1741 in January 1981. After a brief review of this history, we turn to an evaluation of the effects of the BIR Allotment on local government budgets.

Before PD 155 (March 3, 1973), 17 percent of national internal revenue collections was distributed to local governments. The basis for the distribution was BIR collections in the preceding year, where 13 percent was allocated to provinces and cities and 4 percent to municipalities. These total amounts were then distributed, 70 percent according to population and 30 percent according to land area. In addition, local governments received an amount equivalent to about 6 percent of the preceding year's national internal revenue tax collections in the form of local shares from the withholding tax and from "excess" income tax collections.¹ This allocation method created an incentive for improved tax collection but biased the distribution of central assistance toward a small number of relatively wealthy provinces. This bias and the desire to make the grant system more equitable prompted reform.

A new system was introduced with PD 144. Its major features were:

1. 20 percent of national internal revenue taxes (not assigned to special funds and accounts) should be transferred to local governments, with the computation based on BIR collections during the third year prior to the current fiscal year.
2. The allocation would be divided among local government levels:
 - 30 percent to provinces
 - 45 percent to municipalities
 - 25 percent to cities
3. These funds would be shared according to a weighted three-factor formula:²
 - 70 percent according to population
 - 20 percent according to land area
 - 10 percent according to equal shares

It was also specified that

4. For FY 1974-76, the annual allotment for any local government would not increase by more than 15 percent nor decrease by more than 50 percent of the locality's FY 1971 allotment.

This last feature, then, linked FY 1974-76 allotments to the old system.³

Two additional features were included in PD 144. First, economic development expenditures received greater emphasis in that

5. 20 percent of a jurisdiction's allotment was to be earmarked for developmental projects approved by the Ministry of Local Government and Community Development (MLGCD).

Second, the role of the barangay was emphasized in that

6. Each barangay was to receive 10 percent of property taxes collected within the barangay and, in addition, each jurisdiction was to contribute up to P500 to each barangay within its boundaries. The provincial treasurer was named custodian of these funds with expenditures requiring MLGCD approval.

The BIR Allotment was amended one year later (September 21, 1974) by PD 559, which specified barangays as co-recipients of the Allotment. Through FY 1976, barangays were to receive P56 million that previously had been earmarked for division among provinces, municipalities, and cities. After FY 1976, the split among local governments was to be 25 percent to provinces, 40 percent to municipalities, 25 percent to cities, and 10 percent to barangays.

PD 559 specified that the amount set aside for barangays should be distributed in the form of community development project grants with the distribution administered by the president. Thus, there was an alteration in the BIR grant system away from general grants toward project grants.

The BIR Allotment system was changed again in PD 937 (May 27, 1976). This amendment was made, at least in part, to address the grant distribution during the six-month transition from a July 1–June 30 fiscal year to a January 1–December 31 fiscal year, effective January 1, 1977. In addition, PD 937 specified that in FY 1977 a “hold-harmless” provision (no decreases in the annual allotment) replaced the 50 percent maximum decrease in annual allotments, while allotment increases were restricted to 25 percent of the FY 1976 amount.

PD 144 was further altered by PD 1231 (November 4, 1977), which specifies that allocations for fiscal years 1978 through 1980 would be equal to those determined for 1977 (under PD 937). This temporary measure may be the most important change in the grant system since the enactment of PD 144. In effect, it has held constant the peso level of the grant to be distributed and brought on a drastic decline in the real distribution. By 1980, only about one-third of the actual grant entitlement was being distributed.

In January 1981, PD 1741 was enacted, providing for a grant of additional aid to local governments whose income declined in 1980 due to low crop prices and providing for an allowance of year-to-year increases in allotments beyond the 25 percent ceiling for certain local governments. The second of these provisions is especially important in terms of its effect on the distribution of the allotment. The PD provides that for third-, fourth-, fifth-, and sixth-class local governments, increases of more than 25 percent may be made subject to adequate justification as recommended by the Ministry of Local Government and Community Development and subject to the availability of funds. The PD also notes that if these conditions are met, the allotment may be increased by up to 30 percent (third-class local governments), 35 percent (fourth-class local governments), 40 percent (fifth-class local government) or 45 percent (sixth-class local government). While such additional aid may be justified on equity grounds, it does not provide incentives for increasing tax effort, as governments experiencing revenue declines are more likely to be awarded additional grants than those making greater efforts to maintain revenue flows.

The objectives of the BIR Allotment, as enunciated in presidential decrees 144 and 559, are to create a more equitable distribution of allotments, to stimulate economic development expenditures, and to stimulate the further mobilization of local resources. Additionally, there was much concern at the central government level about whether local governments were accountable for their expenditure of allotment funds. At the local government level, the concern was over the certainty of how much allotment would be received and the elasticity of allotment revenues with respect to income growth and inflation.

Equalization Impacts

Does the BIR Allotment system accomplish an equity objective? The answer in the Philippine case depends, in part, on how one defines equity. The distribution according to land area and population is an attempt to take account of expenditure needs but will be income equalizing only in the unlikely case that the more populous areas are poorer. The recent provision lifting the ceiling on lower class municipalities (see above) may reflect the objective of increasing the flow of resources to poorer municipalities, if lower class

TABLE 4.1

Simple Correlations Between Per Capita Allotments and Selected Independent Variables, for Selected Cities and Municipalities, 1977

Independent Variable	BIR Allotment		Special Tax Allotment	
	Cities ^a	Municipalities ^b	Cities ^a	Municipalities ^b
Per capita personal income	-0.07	0.09	-0.336	-0.138
Per capita assessed value	0.14	0.27	0.038	-0.100
Per capita General Fund expenditures	0.10	0.52	-0.107	-0.191
Per capita General and Infrastructure Fund expenditures	-	-	0.015	-0.142
Population size	-0.02	-0.34	-0.383	-0.263
(Number of observations)	(40)	(96)	(41)	(96)
Correlation required for significance				
At .05 level	.31	.20	.31	.20
At .10 level	.25	.16	.25	.16

^aIncludes the cities listed in Appendix A, less two for which data regarding the BIR Allotment were deemed to be in error.

^bIncludes the municipalities in Albay, Bulacan, Iloilo, and Sorsogon.

Source: Computed by authors.

municipalities tend to have lower incomes. The correlations presented in Chapter 1, however, suggest that this is not the case.

One might turn to the evidence on the actual distribution of the BIR Allotment to understand the equity impact of the system. Working with 1977 cross-sectional data for a sample of 96 municipalities in 4 provinces (Albay, Sorsogon, Iloilo, and Bulacan) and 40 chartered cities throughout the country, we estimated the simple correlation between the per capita allotment received and per capita personal income, per capita assessed value, per capita expenditures, and population size. Statistically significant relationships would indicate that, *de facto*, allotments were distributed with biases in favor of or against these variables.

The results for chartered cities show no significant relationship with any of the variables, that is, none can explain the variation from a high per capita allotment of P36.24 in Bais to a low of P4.94 in Baguio (Table 4.1). The absence of a relationship with population is not surprising. Since 70 percent of the city share is distributed on a population basis, the per capita distribution of the allotment should be neutral with respect to population size. But to find no relationship with any of these criteria is a surprise. Either grants to cities—25 percent of the total BIR Allotment—are systematically related to some other variables not included here, or they are distributed in a random manner.

The 40 percent distributed to municipalities shows a more consistent pattern. Significantly greater amounts of per capita allotment were distributed to municipalities that had greater fiscal capacities (as measured by per capita assessed value) and to those that made higher per capita expenditures. Jurisdictions with smaller populations received significantly larger amounts. With respect to municipalities, then, the resulting per capita distribution of allotment does not reflect the intent of the population-land area-equal share formula.

From this evidence on cities and municipalities in the four provinces, three conclusions can be drawn about the equity of the distribution of allotments:⁴ (1) the distribution does not appear to equalize, indeed, it may even be counterequalizing; (2) the actual distribution is influenced as much by factors such as mandatory ceilings and maximum increases as it is by formula provisions; and (3) the distribution pattern and equalizing effects differ between cities and municipalities, which implies that the allotment system is not a system at all, but a combination of grant programs.

Fiscal Stimulation

To what extent is the BIR Allotment program stimulative of local government fiscal activities? Does it induce local governments to spend and tax more than they would have otherwise, or is it substitutive in the sense of allowing local governments to tax less than they otherwise would have? Economic theory suggests the latter. A lump-sum grant with no matching requirement or maintenance of effort clause provides no inducement for the local government to increase spending beyond the amount of the grant. Ordinarily one would expect a peso of allotment to be divided between increased expenditures, tax relief, and increased cash balances.

The BIR Allotment, however, may turn out to be less substitutive than suspected. There is a large backlog of unmet public service needs that virtually guarantees that any increased amount of revenue available to the local government will find its way into the local budget. This situation reflects a combination of a high income elasticity of demand for local public goods and the fact that once a government receives grant money, it is more likely to spend the money than return it in tax relief, the so-called "flypaper effect."⁵

Two questions must be considered: the impact of the BIR Allotment on General Fund expenditures and the impact of the BIR Allotment on total economic development expenditures, which may take place in either the General Fund or the Infrastructure Fund. Measurement of these impacts is complicated and requires simultaneous consideration of the BIR and Specific Tax Allotment. The diagram in

FIGURE 4.1 Model of Expenditure Determination

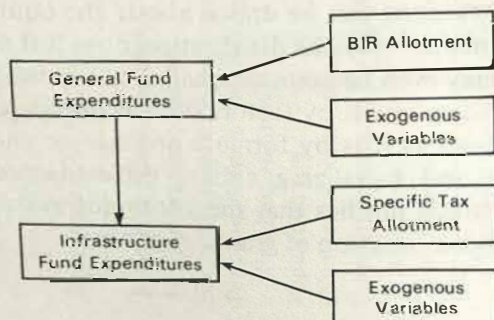


Figure 4.1 is a simplification of this complexity. The BIR Allotment is paid to the General Fund and the Specific Tax Allotment to the Infrastructure Fund, but transfers from the General to the Infrastructure Fund over and above the mandatory proportion of General Fund income may occur. One might suppose that these transfers would be greater (and therefore General Fund expenditures lower and the BIR Allotment much less stimulative) if the Specific Tax Allotment were less.

Expenditure Determinants Model

As described in Chapter 1, the fiscal structure of local governments in the Philippines includes both the General Fund (GF) and Infrastructure Fund (IF). The BIR flows to the former and the Specific Tax Allotment (STA) flows to the latter. There is a statutory minimum transfer of monies from the GF to the IF, but jurisdictions may opt to transfer greater amounts. Furthermore, it is possible for a jurisdiction to transfer funds in the opposite direction (IF to GF). Traditional expenditure determinants approaches, therefore, which consider GF and IF expenditures independently, would be inaccurate. The model developed here recognizes that activity in the two funds is interdependent.

We anticipate that a higher level of Infrastructure Fund spending per capita, IF_p , will be associated with a higher level of General Fund spending per capita, GF_p —that is, $\partial GF_p / \partial IF_p > 0$. We anticipate that the BIR Allotment and the Specific Tax Allotment will directly affect spending in the General and Infrastructure funds, respectively. There are also indirect grant impacts. For example, the provision for inter-fund transfers makes it likely that an increase in Specific Tax Allotment will indirectly generate an increase in General Fund spending—that is, $\partial GF / \partial STA > 0$.

To model this process, we define

$$GF_p = f(AV_p, NAg_p, IF_p, BIR_p) \quad (4.1)$$

$$IF_p = f(POP, U, GF_p, STA_p) \quad (4.2)$$

where the endogenous variables are GF_p —per capita General Fund expenditures, and IF_p —per capita Infrastructure Fund expenditures; and predetermined variables are AV_p —assessed value of property per capita, NAg_p —Nonagricultural income per capita; U —percent of

population living in urban areas, POP—total population, BIR_p —BIR Allotment per capita, and STA_p —Specific Tax Allotment per capita.⁶

This specification reflects the assumption that spending is jointly determined by demand and fiscal capacity variables, and, as such, the model cannot be interpreted as being built on either a demand-oriented or revenue-determined basis.

As noted above, we hypothesize

$$\partial GF_p / \partial IF_p > 0$$

This implies that the exogenous demand and capacity variables will not fully explain spending in a particular fund and that there are positive cross effects.

We further expect, given the form of the BIR Allotment formula, that

$$\partial GF_p / \partial BIR_p \leq 1$$

In other words, we hypothesize that the grant system does not stimulate local tax effort. The impact of the Specific Tax Allotment may be a different matter, as capital grants may carry some built-in features that stimulate local spending. These are covered below.

Given the interdependent nature of the GF_p and IF_p functions—which we specify for estimation purposes to be linear—a simultaneous equation estimation technique is necessary to yield consistent estimates of the parameters. We have employed a two-stage least squares estimation technique to derive the estimates discussed below.

In estimating the impact of the allotment system on General and Infrastructure fund spending, the direct impact of the BIR on General Fund spending and its indirect effect on Infrastructure Fund spending have been recognized.

The first-stage estimates regress each endogenous variable on all predetermined variables, so that \hat{GF}_p and \hat{IF}_p are generated as follows:

$$\hat{GF}_p = a_1 + b_1 BIR_p + b_2 STA_p + b_3 \bar{X} \quad (4.3)$$

$$\hat{IF}_p = a_2 + c_1 BIR_p + c_2 STA_p + c_3 \bar{X} \quad (4.4)$$

where \bar{X} is the matrix of predetermined variables (specified above); a_1 , b_1 , b_2 , a_2 , c_1 , and c_2 are estimated coefficients; and b_3 and c_3 are vectors of estimated coefficients. (This notation is used simply to

facilitate the discussion here, as we are concerned primarily with the effects of BIR_p and STA_p on GF_p and IF_p .)

The second-stage estimates will be

$$\hat{GF}_p = a_3 + d_1 AV_p + d_2 NA_g_p + d_3 \hat{IF}_p + d_4 BIR_p \quad (4.5)$$

$$\hat{IF}_p = a_4 + e_1 POP + e_2 U + e_3 \hat{GR}_p + e_4 STA_p \quad (4.6)$$

where \hat{IF}_p and \hat{GF}_p are generated from the first-stage equations (4.3) and (4.4), and all coefficients are estimates.

Substitution of the first-stage results into the second-stage equations and partial differentiation yield

$$\partial GF_p / \partial BIR_p = d_4 + d_3 c_1 \quad (4.7)$$

$$\partial GF_p / \partial STA_p = d_3 c_2 \quad (4.8)$$

$$\partial IF_p / \partial BIR_p = e_3 b_1 \quad (4.9)$$

$$\partial IF_p / \partial STA_p = e_4 + e_3 b_2 \quad (4.10)$$

The estimation of these partial derivatives gives the answer to the grant impact issue.

The second major question to be addressed with this model is the impact of the grant system on total economic development spending. A complication arises because economic development spending may appear in either the General Fund or the Infrastructure Fund. Whereas all Infrastructure Fund spending is development oriented, only a portion of the General Fund can be so considered. To capture these effects, we have specified an expenditure submodel that essentially treats General Fund development spending as residual in nature. That is, general government spending has a large "fixed" component that must be undertaken regardless of the spending capacity of local governments. Likewise, the bulk of public welfare and safety spending is mandated—in this case, linked to revenues.

To capture these features we define total local economic development spending as the sum of IF_p plus the residual of total GF_p from "expected" general government and public welfare and safety spending. The expected levels of general government and public safety expenditures are determined by predicted GF_p and other socio-economic characteristics of the jurisdiction that could influence community choices about spending for these functions.

More formally, we define

$$DE_p = (\hat{GF}_p - E_p^*) + \hat{IF}_p \quad (4.11)$$

with

$$E_p^* = GG_p^* + PSW_p^* \quad (4.12)$$

where

- DE_p — economic development expenditures per capita
 E_p^* — expected General Fund, nondevelopment expenditures per capita
 \hat{GF}_p — the predicted value of GF_p from Equation (4.5)
 \hat{IF}_p — the predicted value of IF_p from equation (4.6)
 GG_p^* — expected general government expenditures per capita
 PSW_p^* — expected public safety and welfare expenditures per capita

To estimate GG_p^* and PSW_p^* we specify

$$GG_p^* = f(\text{POP}, 1/\hat{GF}) = a_5 + g_1 \text{POP} + g_2 1/\hat{GF} \quad (4.13)$$

$$PSW_p^* = .18\hat{GF}_p + PSW_p^{**} \quad (4.14)$$

with

$$PSW_p^{**} = f(U, \text{POP}) \quad (4.15)$$

so

$$PSW_p^* - .18\hat{GF}_p = a_6 + h_1 U + h_2 \text{POP} \quad (4.16)$$

The GG_p^* equation (4.13) includes population under the assumption that there are certain general government functions that must be expanded above the "threshold level" as the number of residents expands, for example, the number of clerks in service agencies. Yet we also expect that as total spending expands, general government spending will become a smaller proportion of total General Fund expenditures (due to its fixed nature). Equation (4.14) provides specifically for the mandated 18 percent contribution to the INP, whereas

(4.15) suggests that these contributions will be supplemented in response to urbanization and population differences across jurisdictions.⁷

Evaluation of the grant system effect on economic development spending requires an estimation of $\partial DE_p / \partial BIR_p$ and $\partial DE_p / \partial STA_p$. Because the DE_p definitional equation (4.11) implicitly includes both the estimated total expenditure functions (GF_p^V and IF_p^V) and the expenditure composition functions (GC_p^* and PSW_p^*), evaluation of these partials requires inclusion of the entire model. When fully specified, equation (4.11) can be expressed as

$$\begin{aligned}
 DE_p = & \{ a_3 + d_1 AV_p + d_2 NA_{gp} + d_3 [a_2 + c_3 BIR_p + c_2 STA_p \\
 & + c_3 \bar{X}] + d_4 BIR_p \} - \{ a_5 + g_1 POP + g_2 / [a_3 + d_1 AV_p \\
 & + d_2 NA_{gp} + d_3 (a_2 + c_1 BIR_p + c_2 STA_p + c_3 \bar{X}) \\
 & + d_4 BIR_p] \} - \{ .18 [a_3 + d_1 AV_p + d_2 NA_{gp} \\
 & + d_3 (a_2 + c_1 BIR_p + c_2 STA_p + c_p \bar{X}) + d_4 BIR_p] \\
 & + a_6 + h_1 U + h_2 POP \} + \{ a_4 + e_1 POP + e_2 U \\
 & + e_3 [a_1 + b_1 BIR_p + b_2 STA_p + b_3 \bar{X}] + e_4 STA \}
 \end{aligned} \quad (4.17)$$

When this foreboding expression is differentiated with respect to BIR_p and STA_p , we obtain

$$\begin{aligned}
 \frac{\partial DE_p}{\partial BIR_p} &= d_3 c_1 + d_4 - \frac{-g_2 (d_3 c_1 + d_4)}{V^2} - .18 (d_3 c_1 - d_4) + e_3 b_1 \\
 &= [d_3 c_1 + d_4] [.82 + \frac{g_2}{V^2}] + e_3 b_1
 \end{aligned} \quad (4.18)$$

and

$$\begin{aligned}
 \frac{\partial DE_p}{\partial STA_p} &= d_3 c_2 - \frac{-g_2 d_3 c_1}{V^2} - .18 d_3 c_2 + e_3 b_2 + e_4 \\
 &= d_3 c_2 [.82 + \frac{g_2}{V^2}] + e_3 b_2 + e_4
 \end{aligned} \quad (4.19)$$

where

$$V = [a_3 + d_1AV_p + d_2NAG_p + d_3(a_2 + c_1BIR_p + c_2STA_p + c_3\bar{X}) + d_4BIR_p] \quad (4.20)$$

Thus, again, the overall estimated impact of the grant system depends on a combination of parameters but, given the imposed nonlinearity in the GG_p^* equation (4.13), is expected to depend also on the level of the BIR Allotment.

Statistical Results

Ideally this model should be applied to all local governments in the Philippines or at least to a random, nationwide sample. Data, however, are not available for such an analysis, but we will test for the stimulative effects of the BIR Allotment using our four-province sample of 96 municipalities.

The regression results presented in Table 4.2 confirm the hypothesis that per capita General Fund expenditures are higher where per capita Infrastructure Fund expenditures are higher, even when income level, population size, and other factors are taken into account. This finding leads us to expect that the cross effects of grants (for example, the indirect impact of the Specific Tax Allotment on General Fund spending) are important. As expected, per capita General Fund expenditures are higher where per capita nonagricultural income and per capita assessed valuation are higher.

The evidence makes it difficult to argue that there is a stimulative impact of the BIR Allotment. Our estimation of equation (4.7) does show that a P1 higher BIR Allotment is associated with a P1.33 higher level of General Fund expenditures (Table 4.3), but the level of statistical significance is low.⁸ From equation (4.7), we derived

$$\partial GF/\partial BIR = \partial \hat{GF}/\partial BIR + (\partial \hat{GF}/\partial \hat{IF}) \cdot (\partial \hat{IF}/\partial BIR) \quad (4.7')$$

hence

$$\partial GF/\partial BIR = 1.33 = 0.72 + (2.69)(0.23) \quad (4.7'')$$

Neither of the estimated coefficients that directly involve BIR_p (0.72 and 0.23) is, however, significantly different from zero. In light of these results, we are hesitant to conclude that the expenditure impact of the BIR Allotment is significantly greater than zero. Such a con-

clusion suggests a neutral or a substitutive effect. That is, local governments may have either substituted the allotment for what would have been higher taxes or they accumulated it in larger cash balances.

The indirect impact of the BIR Allotment on infrastructure expenditures is negligible (Table 4.3), meaning that larger BIR grants do not free substantially more resources to be transferred to the Infrastructure Fund expenditures. Again, however, the levels of significance are quite low.

The development expenditure submodel gives similar results, providing no evidence of a stimulative impact of BIR Allotments on capital expenditures. The results of the structural equations are sensible and similar to those hypothesized. General government spending has a threshold level and thereafter declines as a percent of total General Fund spending. Public safety and welfare expenditures are quite constant at 18 percent of General Fund expenditures (revenues). A P1 higher BIR Allotment tends to be associated with a P0.98 higher level of economic development expenditures (Table 4.3) but, as above, the level of significance is too low in the structural equations to provide confidence in this result.

In sum, no strong evidence exists that the BIR Allotment stimulates capital spending, which raises interesting questions about government policy. If there is one clear objective of central government intergovernmental policy, it is to induce local governments to spend more for economic development purposes and less for consumption of goods and services. One approach to achieving this objective has been to require that 20 percent of the BIR Allotment be allocated to development projects. This policy, however, does not ensure that development expenditures will be increased by 20 percent of the allotment, over and above what would have been spent in the absence of the allotment. The evidence, furthermore, shows no such increase.

The problems with our results may be related partially to the sample, which is limited to four provinces, and as always, with the quality of the data used. Broader coverage would reduce the dominance of a "province effect" and would allow for more variability in the dependent and explanatory factors. In addition, the specification of the equations could have improved if more data had been available. Estimation of this model on a nationwide basis should be a high research priority for the future.

Levels of significance aside, the results implied by column 1 of Table 4.3 provide an indication of the capabilities of the model. A P1 higher level of BIR Allotment per capita would result in a P1.33

TABLE 4.2

Regression Results for Model of Stimulative Impacts of BIR and Specific Tax Allotment Grant System

Independent Variables	First Stage ^a		Second Stage ^b		GG _p ^{*c}	PSW ^{**d}
	GF _p	IF _p	GF _p	IF _p		
Intercept	4.44 (1.18)	.86 (.41)	-3.65 (1.14)	-.11 (.07)	14.38 (13.46)	2.20 (3.68)
BIR _p	1.40 (3.74)	.23 (1.11)	.72 (1.05)			
STA _p	-3.97 (1.76)	.87 (.70)		1.60 (1.38)		
AV _p	6.31 (7.45)	1.18 (2.52)	2.84 (1.70)			
NAg _p	4.64 (1.47)	.52 (.29)	8.53 (2.11)			

U	16.61 (4.64)	3.73 (1.88)		.60 (.32)		2.05 (1.41)
POP ^e	-.069 (1.56)	-.032 (1.32)		-.020 (.96)	-.031 (1.41)	-.049 (2.72)
\hat{IF}_p			2.69 (2.30)			
\hat{GF}_p				.177 (3.93)		
1/GF _p					-80.78 (6.08)	
R ²	.69	.20	.49 ^f	.23 ^f	.32	.08
F	33.16	3.76	21.55	6.74	22.24	3.89

Note: Entries in parentheses are absolute values of t-statistics.

^aEquations (4.3) and (4.4).

^bEquations (4.5) and (4.6).

^cEquation (4.13).

^dEquation (4.16).

^ePopulation in thousands.

^fR² statistics are unreliable in the second stage of 2SLS.

TABLE 4.3

**BIR and Specific Tax Allotment Impacts on
Local Government Expenditures
(in pesos)**

Per Capita Expenditure Category	Expenditure Response to a P1 Higher Amount of	
	Per Capita BIR Allotment	Per Capita Specific Tax Allotment
General Fund	1.33 (4.7)*	2.34 (4.8)
Infrastructure Fund	0.25 (4.9)	0.90 (4.10)
Development expenditures	0.98 (4.18)	2.18 (4.19)

*Numbers in parentheses refer to equation number in text.

higher level of General Fund expenditures per capita and a P0.25 higher level of infrastructure spending. Of this net impact of P1.58, P0.98 is higher economic development spending (P0.73 in the General Fund), and P0.60 is higher general government and public safety expenditure. Of the P0.60 in nondevelopment spending, an average of P0.24 is automatically siphoned off by virtue of the 18 percent INT requirement. There is clearly much to be learned from further development of this model.

Accountability

Related to the grant impact issue is the question of accountability. Lump-sum grants are criticized on grounds that local governments may spend the money in any way they see fit and with any level of efficiency. The problem of accountability is an old one, and a consequence of separating the pleasure of expenditure benefits from the pain of taxation: If a government must tax its citizens to pay for services, it will be more solicitous in how it spends the money.

How can local governments be made more accountable? First, if matching local funds are required, as in a partial cost reimbursement grant system, local governments must "pay" to receive the grant and

thus become accountable to their own citizens with respect to how the grant monies are spent. To institute such a system in the Philippines would call for a complete overhauling of the existing general-purpose grant system. A second approach, more applicable in the case of a general-purpose grant such as the BIR Allotment, is to build in a "maintenance of effort" factor. At present there is nothing explicit in the allocation formula that rewards a higher tax effort. In actual fact, however, the per capita BIR Allotment is positively correlated with the level of tax effort,⁹ that is, the simple correlation for 83 municipalities in Albay, Bulacan, and Iloilo is 0.33, suggesting that larger BIR Allotments do flow to jurisdictions making greater efforts.¹⁰ Yet, if the index were to be built directly into the formula, one would anticipate an even stronger relation.

To get some idea of how such a system might work and what its impact would be, consider the following experiment. Assume the formula for distributing the BIR Allotment is changed to 50 percent by population, 20 percent by land area, and 30 percent for tax effort.¹¹ For our sample, the distribution under the hypothetical formula including tax effort would create substantial gains for municipalities with higher tax efforts.

The differential effect of the inclusion of the tax effort factor may be studied more systematically with a straightforward regression analysis. The current system allocates 90 percent of BIR Allotments according to population (POP) and land area (A). That is

$$\text{BIR} = f(\text{POP}, A) \quad (4.21)$$

To explain the variation across municipalities, we may estimate

$$\text{BIR} = a_0 + a_1 \text{POP} + a_2 A \quad (4.22)$$

Now, the BIR Allotment per capita, BIR_p , can be inferred from (4.22) as

$$\text{BIR}_p = a_0/\text{POP} + a_1 + a_2(A/\text{POP}) \quad (4.23)$$

So we estimate

$$\text{BIR}_p = b_0 + b_1 \text{POP}^{-1} + b_2 (\text{POP}/A)^{-1} \quad (4.24)$$

$$b_0 = a_1 = \partial \text{BIR} / \partial \text{POP}, \text{ a constant}$$

$$b_1 = a_0 = \text{POP}^2 (\partial \text{BIR} / \partial \text{POP})$$

$$b_2 = a_2 = \partial \text{BIR} / \partial (\text{A} / \text{POP})$$

To equation (4.24), we add tax effort, E_1 , and estimate

$$\text{BIR}_p = c_0 + c_1(\text{POP})^{-1} + c_2(\text{POP}/\text{A})^{-1} + c_3E \quad (4.25)$$

When the BIR Allotment per capita under the current scheme is regressed on the inverse of population (and the inverse of population density—that is, equation (4.24)—we obtain

$$\text{BIR}_p = 5.1 + 32459.6(\text{POP})^{-1} - 52.2(\text{POP}/\text{A})^{-1} \quad (4.26)$$

(3.58) (0.74)

$$R^2 = .144 \quad F = 6.70 \quad (\text{t-statistics in parentheses})$$

The low explanatory power of this seemingly definitional relationship suggests that either certain ad hoc adjustments to the formula are used to allocate the allotment across municipalities or, more likely, the 1977 allotments were based upon population data from 1970 rather than from 1975 as are being used here.

When the tax effort variable (E) is added to explain actual 1977 allocations of the per capita allotments, we obtain

$$\text{BIR}_p = 4.4 + 32891.3(\text{POP})^{-1} - 49.5(\text{POP}/\text{A})^{-1} + 1.13E \quad (4.27)$$

(3.87) (.75) (3.45)

$$R^2 = .26 \quad F = 9.05$$

The explanatory power of the equation is somewhat increased and the tax effort variable shown to be positive and significant at less than the 0.01 level. This finding suggests that, even without the specific inclusion of tax effort in the allocation formula, the 1977 allotment distribution system did favor areas that were making greater tax effort.

When the alternative scheme suggested here is used, the analogous regression results are

$$\widehat{\text{BIR}}_p = 1.02 + 44354.0(\text{POP})^{-1} + 307.6(\text{POP}/\text{A})^{-1} + 3.84E \quad (4.28)$$

(14.31) (12.78) (32.07)

$$R^2 = .95 \quad F = 534.9$$

Given that the same population, area, and effort data are used for determining the hypothetical allocation of BIR_p and for estimating equation (4.28), it is not surprising that the levels of significance of the explanatory variables are so high. A more interesting result is that after accounting for the other variables in the distribution formula, a 1 percent greater tax effort is associated with a P3.84 greater per capita BIR Allotment, or a differential of P2.71 compared to the current system.

Such an inducement would be quite substantial; P2.71 is equivalent to 43 percent of the average amount received under the present system. For a municipality such as Pavia in Iloilo, tax effort is 1.36 percent, more than twice the average (0.64) of the 83 municipalities studied here. A changeover from the present system to the tax effort formula system, without changing the total amount distributed, would result in an increase of P55,603 to Pavia, or 48 percent of the amount it presently receives. An incentive of this kind would undoubtedly result in the mobilization of substantial additional resources.

On the other hand, municipalities with less than average tax effort would receive, under the alternative system, reduced BIR Allotments. For example, Libon in Albay had an estimated local tax effort ratio of 0.28 in 1977 and received P244,412 in the form of BIR Allotments during that year. Under the alternative system this allotment would decline to P229,922, or a decrease of 5.9 percent. This decrease might be sufficient to encourage the locality to exert greater effort in utilizing its tax capacity.

Elasticity and Certainty

Another criterion for evaluating the BIR Allotment is the elasticity of its revenue yield: Is the BIR yield responsive to income growth and inflation, and in that sense, is it a good substitute for an income elastic, locally raised tax? One might frame the issue as follows: The central government has opted to not give local governments an independent income elastic tax source such as a sales or income tax. It is then reasonable to ask whether the allotment has responded as well to income growth and inflation as an independent tax source would have. Because local expenditure needs respond to these factors, local officials argue that the revenue structure should follow suit.

It is well known among local government officials in the Philippines (and demonstrated in Table 4.4) that the BIR Allotment system is income inelastic—it has responded neither to GNP nor to inflation. There are two distinct components to the allotment elasticity:

TABLE 4.4

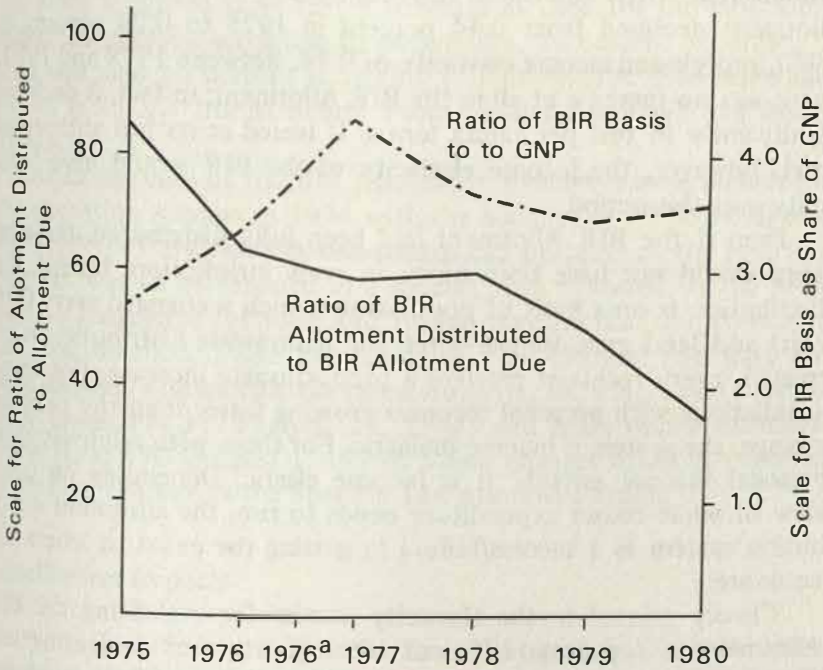
Growth in BIR Allotment
(in millions of pesos)

Year	Total Allotment Due	Actual Distribution	GNP	Amount Distributed as a Percent of		
				BIR Basis	GNP	BIR Basis
1981 ^a	2,472.6	—	—	12,363.1	—	—
1980	1,853.0	658.9	274,334 ^b	9,502.4	0.24	6.93
1979	1,332.6	658.9	220,438 ^c	7,593.3	0.30	8.68
1978	1,117.3	658.9	178,543	6,366.3	0.36	10.35
1977	1,140.6	658.9	154,280	6,498.9	0.43	10.14
1976 ^a ^d	422.6	315.1	—	2,408.2	0.48 ^e	13.08
1976	878.2	547.8	131,938 ^f	4,391.2	0.42	12.47
1975	599.8	505.4	114,265	2,999.2	0.44	16.85

^aBudgeted.^bProjected.^cPreliminary.^dSix-month transition.^eBased on half of estimated 1976 GNP.^fNot final estimate.

Source: Accounting divisions, BIR, MOF, and NEDA.

FIGURE 4.2 Components of Allotment Distributed



^aThe six-month transition period, July 1-December 31, 1976.

the growth in the amount of allotment actually distributed relative to the amount due and the growth in the BIR basis relative to GNP. The former is the primary explanation of the low BIR Allotment elasticity, which is in turn a result of discretionary government decisions. The government, facing other needs perhaps more pressing than local government finances, has distributed less than the entitled amounts since 1975. The current peso amount distributed was not raised between 1977 and 1980, with the result that in 1980 actual distributions were only about 7 percent of the BIR basis, compared to the 20 percent authorized in PD 144. This decline has been a long-term pattern (Table 4.4 and Figure 4.2). The second component of the elasticity, internal tax revenue collections, has not shown the elastic growth that one might expect. The BIR basis has grown with an erratic pattern relative to GNP, peaking in 1977 and declining somewhat thereafter.

The combined result of these factors has been relatively little growth in the BIR Allotment in recent years. As a share of GNP the allotment declined from 0.44 percent in 1975 to 0.24 percent in 1980, implying an income elasticity of 0.14. Between 1978 and 1980, there was no increase at all in the BIR Allotment; in fact, it declined significantly in real per capita terms. If issued at its full authorized level, however, the income elasticity of the BIR would have been unity over this period.

Even if the BIR Allotment had been fully distributed, the elasticity would not have been unity in every jurisdiction. Indeed, the distribution is on a basis of population (which is changed every fifth year) and land area. Hence, when the nationwide distribution is increased, every recipient receives a proportionate increase. For those jurisdictions with personal incomes growing faster than the national average, the system is income inelastic. For those with relatively slow personal income growth, it is income elastic. Depending on one's view of what causes expenditure needs to rise, the allotment distribution system is a success/failure in getting the pesos to where the needs are.

Closely related to the elasticity maxim for evaluating the BIR Allotment is certainty. Efficient local government budgeting and financial planning require some reasonable estimate of how much can be expected from each revenue source. Capital budgeting requires even longer term revenue projections. Such projections have not been possible with the BIR Allotment in recent years, because distributions have been primarily determined by ad hoc government policy. While this may increase the flexibility of the central government in controlling the total flow of resources, it leaves local governments in a position of being unable to plan effectively their budgets beyond a one-year period.

THE SPECIFIC TAX ALLOTMENT

The second major program of intergovernmental assistance to local governments is based on PD 436 (April 13, 1974), which amended the Internal Revenue Code as it pertained to specific taxes on a variety of petroleum products. More importantly it earmarked a designated portion of these taxes for sharing with local governments. The basis for the Specific Tax Allotment is the designated tax collection in the second preceding year; for example, the basis for the allotment in 1979 is the designated tax collection in 1977.

The sharing scheme is 20 percent to provinces, 30 percent to municipalities, and 50 percent to cities. The allocations are based on the same weighted three-factor formula as used for the BIR Allotment: 70 percent according to population, 20 percent according to land area, and 10 percent according to equal shares. The entire allocation is to the Infrastructure Fund (earlier the Road and Bridge Fund).

As in the case of the BIR Allotment, barangays were included in the allocation scheme in 1974 with the issuance of PD 558 (September 21, 1974). By this PD, one-fourth (25 percent) of the total specific tax was to be retained in a special fund allocated by the president to barangays for road and bridge construction, improvement, and maintenance. These provisions of PDs 436 and 558 have not been altered. The specific tax rates, however, were increased substantially under PD 1122 (April 21, 1977) and again under Executive Order (EO) 550 (August 1, 1979). These changes result in a marked increase in the size of the Specific Tax Allotment Fund.

Equalization Impacts

We can evaluate the Specific Tax Allotment in much the same way as the BIR Allotment. To determine whether the distribution of the Specific Tax Allotment is meeting equity objectives, we shall carry out an experiment similar to that carried out above for the BIR Allotment. At question is how strong is the correlation between the per capita distribution of the Specific Tax Allotment and per capita personal income, per capita expenditures, population, and per capita assessed value.

The simple correlations in Table 4.1 suggest the distributional features of the Specific Tax Allotment system. Among chartered cities there is a pattern to the distribution that is equalizing: Cities with a lower per capita personal income get more and smaller cities get more. The patterns are similar but not as strong in the case of municipalities. The Specific Tax Allotment behaves more like a grant system, that is, the city and municipal components are more alike in their distribution than in the case of the BIR.

Fiscal Stimulation

Clearly, the major goal of the Specific Tax Allotment is to stimulate spending on infrastructure projects. Although the system carries

no matching or maintenance of effort clause, it may well achieve this stimulation because the allotment is earmarked to the Infrastructure Fund and because capital projects often require supplementary local government expenditures; for example, road and bridge maintenance or the construction of a new market may require road improvements. On the other hand, three factors might dampen or even negate this stimulation effect: the possibility that higher Specific Tax Allotments will induce local governments to reduce transfers from the General to the Infrastructure Fund; the possibility that the local government would substitute higher Infrastructure Fund expenditures for lower General Fund economic development expenditures, thereby not increasing overall capital expenditures; and the possibility that part of the Specific Tax Allotment will simply be banked in the form of increased cash balances.

To investigate these alternatives, we use the earlier analysis of the stimulative effects of grants, which considered both the Specific Tax and the BIR allotments. As in the BIR Allotment analysis, the problem is the low level of significance of the results. Some interesting conclusions, however, may be drawn from the estimates (Tables 4.2 and 4.3). First, it appears that the Specific Tax Allotment stimulates local government expenditures, certainly more so than the BIR Allotment (Table 4.3). Second, higher Specific Tax Allotments result in higher General Fund expenditures, perhaps because transfers to the Infrastructure Fund are less needed. Finally, Specific Tax Allotments appear to stimulate economic development expenditures, though the process is interesting. A peso more of allotment, on average, means a peso more of Infrastructure Fund spending, but it also means higher spending in the General Fund—P2.34. About P1.28 of this amount shows up in increased economic development expenditures in the General Fund. In sum, a P1 higher Special Tax Allotment is associated with a P2.18 higher level of economic development expenditures.

Elasticity

The Specific Tax Allotment is not an elastic tax: Since it is not ad valorem it will not respond to income growth or inflation. Revenues will grow only in response to discretionary changes and to increases in the volume of consumption. Volume has been relatively flat. Revenues from the Specific Tax Allotment remained approximately constant for 1976-78, but increased markedly in 1979 because

TABLE 4.5

Growth in Specific Tax Allotment
(in millions of pesos)

Year	Total Amount Due	Actual Distribution	GNP	Actual Amount as a Percent of GNP
1981 ^a	881.8			
1980	767.0			
1979	525.1	NA	274,334 ^b	
1978	115.3	528.9	220,438 ^c	0.24
1977	115.3	94.6	178,543	0.05
1976 ^{a,d}	54.7	124.8	154,280	0.08
1976	118.2	144.6	131,938 ^e	0.11
1975	142.8	NA	114,265	

NA: Not available.

^aBudgeted.^bProjected.^cPreliminary.^dSix-month transition.^eNot final estimate.

Source: Computed by authors.

of specific tax rate increases under PD 1122 in 1977. The rates were increased in 1979 under EO 550, which implies a further revenue increase in 1981 (Table 4.5).

The rationale for tying the Specific Tax Allotment to petroleum taxes is understandable: The intent was to use the funds for road construction and maintenance, and petroleum consumption seemed a reasonable basis for identifying beneficiaries. The program, however, has expanded to a more general infrastructure type of assistance and is an important source of local government revenues. The specific tax does not provide any growth in this important tax base. In any case, changes in petroleum tax rates are more likely to be dictated by energy policy than by the financial needs of local governments. Tying the distribution of grants to energy policy leads to situations such as the current one where increased specific tax rates on petroleum products could bring a revenue windfall to local governments.

TABLE 4.6

Growth in National Tax Allotment (in millions of pesos)

Year	Amount	As a Percent of GNP	As a Percent of Actual BIR Allotment	Amount of Actual Release	Actual Release as a Percent of Total Due
1981 ^a	618.2				
1980	475.1	0.17 ^b	72.11	20.0	4.2
1979	379.7	0.17 ^c	57.63	52.0	13.7
1978	318.3	0.18	48.31	NA	NA
1977	324.9	0.21	49.31		
1976a ^e	120.4				
1976	219.6	0.17 ^d	40.10		
1975	150.0	0.13	29.68		

NA: Not available.

^aBudgeted.^bProjected GNP (see Table 4.4).^cPreliminary GNP (see Table 4.4).^dNot final estimate.^eJuly-December 1976.Source: Obtained from Bureau of the Treasury, *Final Cash Operations Statements* (annual).

NATIONAL TAX ALLOTMENT

In addition to the establishment of the General and Specific Tax allotments, PD 144 also created an additional Local Government Fund consisting of 5 percent of the BIR revenues, over and above the 20 percent set aside for General Allotment. This fund was to be used for project grants, with projects approved by a committee (specified in LOI 636) consisting of the minister of finance, the minister of the budgets, and the minister of local government and community development.

This fund amounts to earmarking an additional share of BIR collections for local governments, but leaving the distribution—amount and purpose—to the discretion of the office of the president. The National Tax Allotment to the Local Government Fund is not insignificant (Table 4.6), approaching half the size of the BIR General Allotment in some years. But in 1979 and 1980 (the two years for which we have data), only a small proportion of the total amount due was actually released to local governments.

Evaluating the National Tax Allotment is not easy. The primary objective is to increase presidential discretion to finance certain projects in certain regions, perhaps those that are in accord with national goals. On the other hand, this program provides no formal inducement for local governments to mobilize additional resources, nor does it give an incentive to improve financial management. The most important question to be asked here is whether the objectives of this program remain important enough to justify such a large share of total grants to local governments.

The Issue of Barangay Shares

The series of PDs that have redefined intergovernmental relations in the Philippines have made increasing amounts of resources available to the barangay level. PD 144 designated 10 percent of real property tax collections for barangays and provided for a contribution by local governments of up to P500 to each barangay within its boundaries; PD 549 required that 10 percent of the BIR General Allotment go to the barangay unit, and PD 558 allocated 25 percent of the Specific Tax Allotment to the Barangay Fund.

The amounts involved are substantial (Table 4.7). However, the actual cash distribution of these amounts and the discretion that barangays have in spending these funds substantially reduce the role

TABLE 4.7

**Barangay Shares and Actual Distribution of BIR and
Specific Tax Allotment Programs, 1975-81**
(in millions of pesos)

Period	BIR General Allotment ^a Amount Due ^d	Specific Tax Allotment ^b Amount Due ^d	Amount of Actual Release ^c	Actual as Percent of Total Due
1981	241.1	293.9	NA	—
1980	185.3	225.7	42.5	10.3
1979	148.1	175.0	25.2 ^f	7.8
1978	124.1	38.4	27.0 ^g	16.6
1977	126.7	38.4	30.0	18.2
1976	65.0	39.4	80.0	76.6
1976a ^e	46.9	18.3	NA	—
1975	65.0	33.0	NA	—

^a10 percent Barangay Development Fund (PD 559).

^b25 percent Barangay Development Fund (PD 558).

^cThese are the combined actual releases for Barangay Development Fund from BIR General and Specific Tax allotments.

^dAppropriated but not cash supported.

^eSix-month transition.

^fP25.2 (2.6 not yet released plus 22.6 with advice of allotment for actual release).

^gP27.0 (26.1 not yet released plus 0.9 with advice of allotment for actual release).

Source: Budget Operation Division, Ministry of the Budget, Tax Statistics Staff, NTRC, January 23, 1981.

of the barangay. The 10 percent property tax share has been distributed for barangay use, with no major restrictions on its use. Use of the P500 contribution to the Barangay Development Fund requires approval of the MLGCD. In the case of the barangay share under both the Specific and General allotments, the distribution is administered by the office of the president. The purpose of the BIR General Allotment distribution is community development projects, and the Specific Tax Allotment distribution is for road and bridge (later infrastructure) construction, improvement, and maintenance.

Data have been obtained and tabulated by the National Tax Research Center (NTRC) on the extent to which the barangay shares of the BIR General Allotment and Specific Tax Allotment have been

appropriated but not necessarily cash supported, that is, not released. These data (Table 4.7) demonstrate that during the period 1977-80 less than 20 percent of the appropriated amounts was actually transferred to the barangay level in any given year. For the four-year period 1977-80 only 11.7 percent of the total appropriated amount has been cash supported. Thus, while support of barangays as a new and important level of government in the Philippines is a policy initiative, relatively little financial support has been provided.

There are two important advantages to a more active participation of barangays in financing and delivering public services. One is that local government is moved closer to the people and a greater sense of involvement and participation is created, hopefully resulting in improved allocation of resources. Surely barangay officials are better able to determine most local project needs than are provincial and/or national officials. We need to know, however, more about the mechanisms by which barangay-level decisions are made, and how the MLGCD role has been worked out. The other advantage is that this greater local participation and a 10 percent property tax share to the barangay may increase the rate of tax collections, as local officials will see concrete benefits from convincing residents to pay property taxes. Moreover, the support of the barangay captain is more enthusiastically enlisted when it is known that the barangay share of collections will be retained.

Yet increased barangay participation also has its disadvantages. Whether or not equity is a problem (do the poorer barangays get relatively more or less?) is not known because the methods of allocating the General and Specific Tax allotments shares are ad hoc, and data on the actual distributions are not readily available. The property tax share is based on origin of collections and so one would expect a counterequalizing influence, that is, wealthier barangays in general and those in the poblacion (the urbanized area within the municipality) in particular, will benefit most. Perhaps the biggest problem is the capacity of the barangay to absorb revenue increases efficiently. The barangay budget process is not highly developed, and no mechanism or technical expertise to handle large sums of money seems to exist. The lack of technical project planning and financial management might be dealt with by assigning responsibility to a higher level of government, but this defeats the whole purpose of barangay involvement. Finally, there is the question of coordination of barangay project activities with the development plans of the city or municipality.

EVALUATION OF THE PHILIPPINE ALLOTMENT SYSTEM

It is not surprising, or even undesirable, for different grant programs to have different strengths and failings; no single program will accomplish several different objectives at the same time.¹² It is, however, important to examine the workings of the system as a whole: Are allocations being made among grant programs in roughly the desirable proportions? Is the program as a whole equitable? Do the several individual components reinforce each other to increase revenue mobilization by local governments, or are there offsetting effects?

Every grant program has two discretionary dimensions: determination of the total amount to be allocated and determination of the distribution of this amount among local governments.¹³ The matrix in Table 4.8 suggests the possible combinations that a country may

TABLE 4.8
Possibilities for Structuring a Grant System

Methods of Distribution Among Local Governments	Methods of Determining the Grant Fund			Revenue Totals
	Shared Tax	Ad Hoc	Cost Reimbursement	
Origin of collection	A (L = 1.5%) (A = 3.2%)	L = 1.5 A = 3.2
Ad hoc	B (L = 27.0%)	E (A = 5.9%)	H	L = 27.0 A = 5.9
Formula	C (L = 71.4%) (A = 40.5%)	F (A = 50.5%)	...	L = 71.4 A = 91.0
Cost reimbursement (Column totals)	D (L = 100.0) (A = 43.7%)	G (L = 0) (A = 56.4)	I	

Key: L = Legal; A = Actual.

Sources: Roy Bahl and Johannes Linn, "Urban Public Finance and Administration in Less Developed Countries" (Washington, D.C.: World Bank), unpublished manuscript.

follow in structuring its grant system. The columns describe the methods of determining the total grant fund, and the rows describe the methods of distribution among local governments. For example, a type C grant is one in which the total grant fund is determined on a shared tax basis, for example, as a percent of BIR collections, and the distribution among local governments is made by formula. Various combinations of these methods are used by developing countries. Programs of the A and C type give local governments more control and autonomy in that the total grant distribution is a fixed share of some national tax, and the share of each local government is determined on some objective basis, that is, according to how much is collected in the local area or according to some predetermined formula. Program E provides maximum central government control because the total grant fund is determined by the central government and subject to change as the need arises, as is the distribution across local units. Programs B, F, and H are also relatively centralized options.

Local Autonomy

In the Philippines, the legal structure of the grant system provides for more local government autonomy than is found in practice. In theory, the system is a mixture of B and C programs, but in practice it is a more centralized combination of C, E, and F. The first column in Table 4.9 shows the typology of Philippine grants according to their legal definition, and the second according to actual practice.¹⁴ Columns 3 to 6 compare amounts due with actual distribution and show that only about half of these funds were distributed in 1979. With these data we may compare the legal grant system with the grant system in practice, by entering legal and actual distributions in Table 4.8.

By law, all grant funds are to be determined as shared taxes (column 1) and 71 percent of this amount is to be distributed among local governments on a formula basis (row 3). In fact, only 43.7 percent of the total grant amount is determined on a shared tax basis, and 91 percent is distributed among local governments on a formula basis. The government has chosen to distribute only about half of total entitlements, and to do so primarily on a formula basis. Even here, however, the formulas frequently have been adjusted or constrained by PD.

One important concession to the formula distribution intent of the Philippine grant system came about with the increased allocation

TABLE 4.9

Legal and Actual Classification of Philippine Grant System (amounts in millions of current pesos)

Program	Legal Definition	Actual Practice	1979 Amounts Due	Percent of Total	Amounts Distributed	Percent of Total Distribution
Barangay share of local property tax collections	A	A	40.0 ^a	1.5	40.0 ^b	3.2
Barangay share of BIR General Allotment ^c	B	E	148.1	5.7	25.2 ^d	1.9
Barangay share of Specific Tax Allotment ^c	B	E	175.0	6.7	25.2 ^d	4.0
National Tax Allotment	B	E	379.7	14.6	52.0	4.0
Province, city, and municipal shares of BIR General Allotment	C	F	1,332.6	51.2	658.9	50.5
Province, city, and municipal shares of Specific Tax Allotment	C	C	525.1	20.2	528.9	40.5
Total			2,600.5	100.0	1,305.0	100.0

Note: Excludes local government contributions to barangay.

^a 1977 amount is latest available.

^b Actual amounts distributed are not known.

^c Amounts due.

^d ₱25.2 (2.6 not yet released plus 22.6 with advice of allotment for actual release).

Source: Computed by authors.

to the barangays. Paradoxically, this program, which was designed to move government closer to the people, resulted in a greater degree of centralization of the grant system, because it places a substantially greater amount of grant distribution under central government discretion. If these amounts are increasingly distributed, they will reduce the share of grants distributed on a formula basis, that is, they will be E-type grants.

Elasticity

Grants are not an income elastic revenue source for local governments. They have declined as a share of GNP in recent years, and this decline is in part responsible for the declining share of local governments in total government finances in the Philippines. In theory, however, the grant system has a much greater responsiveness to GNP than it has in practice, a problem that has come about because of central government policies.

Legally, all grants are tied in some way to tax collections. In the case where the basis is lagged BIR collections, this would have the decided advantage of a steady growth in the overall grant amount and a responsiveness of grants to real income growth and inflation. Much of this potential advantage has been lost—perhaps because of higher priority national economic objectives—by central government limits on the actual distribution. As a result, the BIR Allotment share of GNP has fallen from 0.44 percent in 1975 to 0.24 percent in 1980. The sharing of the tax on petroleum products does not result in an automatic growth in the grant fund because the tax rates are specific and the volume of petroleum consumption has not been increasing. Discretionary increases in the tax rates have been necessary to stimulate growth in the Specific Tax Allotment amount. The barangay shares of both allotments, and the National Tax Allotment, are shares of BIR collections and thus are responsive to inflation and real income growth, but again, only a small proportion has been distributed. Finally, there is a barangay share of the local property tax that is actually distributed but that is tied to a basically income inelastic tax. The most elastic component of the grant system—the BIR Allotment—has a statutory elasticity of about unity. From this, we guess that the statutory elasticity of the total grant system is less than unity.

The income elasticity of grant receipts to individual jurisdictions will vary depending on the rate of personal income growth in the

community relative to the growth in lagged BIR collections. Because the system allocates increments more or less in proportion to the existing distribution, communities with more rapid income growth would face a lower grant income elasticity. For those grants allocated on an ad hoc basis, the income elasticity for individual jurisdictions depends heavily on the equalization objectives of the government. The more equalizing the distribution, the less elastic the system for jurisdictions with more rapid income growth.

Data are not available to allow an aggregate estimate of the income elasticity of the grant system. It is clear, however, that the grant share of total local government financing has been declining and that grants have been declining as a share of GNP. The grant system is not providing an adequately growing source of revenue for Philippine local governments. This finding raises an important problem. In a highly centralized system such as the Philippines, grants are given to local governments as a substitute for local government taxes in order to enable local governments to finance more than simply housekeeping functions. The income elasticity and responsiveness to inflation are important elements of the grant system in that they help the local government to keep up with growing expenditure needs. If the central government is not prepared to maintain at least the higher legal elasticity of the grant system, then it must consider the options of relinquishing a more elastic tax base to the local government, taking back some of the expenditure responsibility it has assigned them, or initiating a major program to improve local tax administration. An income inelastic grant system is simply not compatible with the decentralization objectives that are part of national government policy.

Equity

Again, the absence of data on actual grant distribution makes it difficult to determine whether grants are distributed, in aggregate, on an equalizing basis. The analysis above suggests that the BIR General Allotment is counterequalizing with respect to its distribution among municipalities, but neutral in its distribution among chartered cities. The Specific Tax Allotment, on the other hand, appears to be distributed on a mildly equalizing basis for both cities and municipalities. These two programs, which account for roughly 60 percent of all grants in the system and about 90 percent of all grants distributed, then, have offsetting effects. There are no data on the distribution of the barangay shares or the National Tax Allotment.

On a conceptual level, there is no reason to expect that the grant system in total will be equalizing. Measures of fiscal capacity or personal income do not enter into any of the distribution formulas. Indeed, that the Philippine grant system has not done a good job of distributing grant funds on an equalizing basis may not be a flaw in government policy. One could argue that the objective of equalization may only be accomplished by sacrificing the use of the grant system as a tool to mobilize more local government revenues. It is the local governments with greater fiscal capacity that have the leverage to use grant funds to increase local resource mobilization. Some smaller and poorer local governments may actually not be able to absorb increased grant flows. If one believes that the fiscal stimulation objective is paramount, then one could argue that equalization issues ought to be left to the national tax system and to the distribution of central government expenditures.

Stimulation of Tax Effort

We found no convincing evidence that the grant system is stimulative of local tax effort. Although the statistical analysis provides only tentative conclusions, it appears that the Specific Tax Allotment is more stimulative than the BIR Allotment, perhaps because capital expenditures require local matching in the form of supplementary expenditures or maintenance costs. In theory, the system is not designed to be stimulative of tax effort. No tax effort provision enters the formulas, and the grants are not conditional upon the local government providing a matching share of costs. For these reasons, if the barangay shares and the National Tax Allotment were fully distributed, the overall system would be even more substitutive. More data and testing are needed, but the evidence currently available points to a grant system that in practice is not stimulative, and if fully distributed could be substitutive.

Again, individual local jurisdictions might respond to the grant stimulus in different ways, and the estimates we have made are of the average behavior. We can speculate, however, about how different types of communities might respond. Where income is higher and the local budget is larger, the stimulative effect may be greater. Such communities have many potential advantages in leveraging grant funds: They can more easily raise additional taxes for maintenance and supplementary expenditures, they have a greater capacity to borrow, and they have better technical and financial management ability to absorb increased grants.

Economic Development Expenditures

Our results suggest that the Specific Tax Allotment does lead to more economic development expenditures than otherwise may have occurred. This change happens in two ways. First, the Specific Tax Allotment paid to the Infrastructure Fund is spent. Second, a higher level of grants to the Infrastructure Fund dampens the transfer from the General Fund to the Infrastructure Fund and results in more economic development expenditures in the General Fund. A single grant program of the same amount, such as a consolidated BIR, would not have accomplished as much stimulation of economic development expenditures.

Inasmuch as very little of the barangay aid or the National Tax Allotment has been distributed, we can say little about their effects on economic development expenditures. Potential effects will depend largely on whether steps are taken to ensure that these funds are not used as substitutes for other sources of funding.

Financial Management

The Philippine grant system could provide better incentives for effective financial management. A grant system that does not require a local contribution is not as likely to induce local governments to be as accountable for how they spend the funds as is a system that requires some payment on the part of local governments. Furthermore, the grant system does not presently encourage effective financial planning. In its legal form, where the basis for grants is lagged three years (BIR) and two years (Specific Allotment), and where formula distributions are easily calculated, the system could be effectively integrated into the local government budgeting process. As practiced, however, the total grant amount is decided on an ad hoc basis, with much less certainty about the amounts to be distributed. This situation does not provide an incentive for effective financial planning and will be a deterrent to any reform designed to make better use of local budgets as financial plans.

Central Government Flexibility

A final criterion in evaluating the grant system is the flexibility that the national government has in adjusting the system to meet the exigencies of national economic and social objectives. Particularly

important here is the question of how easily the national government can shift the regional distribution of funds or slow the total flow to the local sector to accommodate more pressing national needs. The law suggests that the government has a great deal of control over the former via the ad hoc distributions of the National Tax Allotment and the barangay shares, but relatively little control over the latter because of the shared tax bases of determining the grant funds. In practice, just the opposite has resulted. Presidential decrees to limit the increase in grants and suspensions of full distribution have provided substantial flexibility to the central government. However, because the barangay shares and National Tax Allotment have been held back, the distributions actually made are formula-based, thus reducing the government's flexibility to affect the regional flow of funds.

NOTES

1. Under RA 2343, local units received 30 percent of the income taxes collected (in a jurisdiction) above the 1959 level.

2. Apparently the 1970 census results were to be used in computing the allocation, thus no jurisdiction-level changes would be made in the allocation formula until the 1975 census results were processed.

3. Whether this constraint is binding depends, oddly enough, on the rate of growth in BIR collections. PD 144, as amended, provides that the total grant fund (F) be related to BIR collections as

$$F_t = .2 \text{ BIR}_{t-3}$$

The municipal share is 40 percent, or

$$F_t^m = .08 \text{ BIR}_{t-3}$$

Any given municipality would receive an allotment (A_i) from

$$A_i = .7 F_t^m P_i / \Sigma P + .2 F_t^m L_i / \Sigma L + (.1)(.00067) F_t^m$$

where the .00067 equals 1/1,500 (there are approximately 1,500 municipalities in the country). Substituting and eliminating the last term as inconsequential, we derive

$$A_{it} = (.056 P_i / \Sigma P + .016 L_i / \Sigma L) \text{ BIR}_{t-3}$$

where A_i is the amount received, provided that it is not more than 15 percent above the 1971 allotment. The 1971 total grant fund (F) was

$$\hat{F}_t = .2 \text{BIR}_{t-1}$$

and

$$\hat{F}_t^m = .08 \text{BIR}_{t-1}$$

For any given municipality

$$\hat{A}_{it} = .7P/\Sigma P \hat{F}_t^m + .3 L/\Sigma L \hat{F}_t^m$$

substituting

$$\hat{A}_{it} = (.056 P/\Sigma P + .024 L/\Sigma L) \text{BIR}_{t-1}$$

Now we may write, for example, that the entitlement for a municipality in 1977 is

$$A_{i,77} = (.056 P_i/\Sigma P + .016 L_i/\Sigma L) \text{BIR}_{74}, \text{ or,}$$

$$A_{i,77} = 1.15(.056 P_i/\Sigma P + .016 L_i/\Sigma L) \text{BIR}_{70}$$

whichever is less.

In this case, if the growth in BIR collections between 1971 and 1974 was greater than 15 percent, the constraint is not binding.

4. The city and municipal shares constitute only 65 percent of the total BIR Allotment in any single year. Barangays share in 10 percent of the total, and provincial governments account for the remaining 25 percent. Unfortunately, we were unable to gather the necessary data to analyze the equity implications of the provincial government distribution. Because there are no good data on the socioeconomic characteristics of barangays, analysis of this lowest level of government was also impossible.

5. Edward Gramlich, "Intergovernmental Grants: A Review of the Empirical Literature," in *The Political Economy of Fiscal Federalism*, ed. Wallace Oates (Lexington, Mass.: Lexington Books, 1977), Chapter 12.

6. Originally, we estimated the fiscal impact of BIR_p and STA_p using indirect least squares. Using various combinations of income, population, and urbanization variables, we were unable to explain much variability.

7. Equation (4.14) implicitly assumes that General Fund spending equals General Fund revenue, as the INP mandate refers to revenue, not spending. In light of the discussion of cash balances and surpluses in Chapter 1, this is obviously unrealistic; yet to encompass these features would greatly complicate the model and there are not adequate data on cash balances in any case. We would like to be able to fall back on the justification that our sample is large enough for these cash balances to wash out, but we do not have enough information to know if that is a reasonable assumption.

8. We realize that the t-statistics are only approximations in the second-stage equations and that, strictly speaking, we should not base our conclusions on the level of significance. Still, in the first stage results, the explanatory significance of the IF_p equation is quite low, which suggests that the predicted values

of IF_p will not vary a great deal around the mean. Moreover, the STA_p and BIR_p are not significant in three of four cases. Finally, the BIR_p variable shows a low level of significance in the second-stage equation.

9. Tax effort is measured here as the ratio of own source tax revenues (T) to personal income (Y).

10. Throughout this section Sorsogon is omitted from the analysis because of data problems.

11. The tax effort component, S_i , in the formula would simply be based on the size of a jurisdiction's tax effort relative to that of all other jurisdictions, that is,

$$S_i = \frac{T_i/Y_i}{\sum_i (T_i/Y_i)}$$

where T is total own source tax revenues in jurisdiction i and Y_i is personal income for the same jurisdiction.

12. Two good reviews of grant systems in developing countries are Lady Ursula Hicks, "Intergovernmental Relations with Special Reference to the Developed Countries," Occasional Paper no. 29, Metropolitan Studies Program, Maxwell School (Syracuse, N.Y.: Syracuse University, 1976); and Richard M. Bird, "Intergovernmental Fiscal Relations in Developing Countries," *World Bank Staff Working Paper No. 304* (Washington, D.C.: World Bank, 1978).

13. This approach is fully developed in Roy Bahl and Johannes Linn, "Urban Public Finance and Administration in Less Developed Countries" (Washington, D.C.: World Bank), unpublished manuscript.

14. We include as grants all intergovernmental transfers: the three allotment programs, the barangay share of the local property tax, and the local government grant to the barangay.