TAX REVENUE PERFORMANCE: SOME IMPLICATIONS

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Introduction

For a developing economy like the Philippines, an adequate resource mobilization implemented by the public sector is recognized as a key to a sustained development effort. In many respects, this can be pursued through a vigorous programme of taxation.[1] Recent literature has devoted considerable attention towards this problem and research on tax performance has understandably grown and more specifically on tax efforts, taxable capacity and the like (e.g. Sicat 1972, Bahl 1971, Bird 1978 and Prest 1978).

This paper is concerned with an evaluation of the tax performance of our tax system over the period 1966-1981 and some of its implications on policy. For this purpose, it makes use of a *revenue performance criterion* which is broadly defined as the ability of the revenue structure to generate increased government revenues for current and capital expenditures (see Wilford and Wilford, 1976).[2] This criterion measures the responsiveness of the fiscal structure to economic growth. By looking at alternative ways to finance the government budget, policy implications of a given revenue performance can then be drawn.

Section 1 is devoted to the revenue performance criterion and the technique used to estimate it. Section 2 discusses the empirical results of our estimation. Section 3 discusses some policy implications.

1. Revenue Performance Criterion

It is submitted that a government in a developing country plays an important role in the country's development efforts and this calls for an active participation of the public sector in economic activity,

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[1]Sicat (1972. pp. 1-2), for example, stated that "a case for taxation as a key to progress is strongly argued... To attain development, a less-developed country should learn to apply the simple arithmetic of growth. This involves mainly an increase in tax revenues."

[2]This was discussed extensively in public finance literature by Groves and Khan (1952), Legler and Shapiro (1968) and more recently by Wilford (1975), and Wilford and Wilford (1976).

especially in the provision of social goods and services. These "GNP-elastic demands" (Wilford and Wilford, 1976) for social and public goods require that fiscal revenues increase at a faster or higher rate than growth in GNP, i.e., the revenue-GNP elasticity coefficient must be elastic. We want therefore the elasticity of tax revenues with respect to income to be greater than unity. In symbols, the broad measure is:

(1)
$$\beta = \frac{\text{per cent change in revenue}}{\text{per cent change in GNP}} > 1$$

In this paper there is no attempt to distinguish the sources of tax revenue increases like economic growth and discretionary actions of the government, i.e., tax rate and base changes, improvements in tax enforcement, legislative actions, etc. We are only concerned with the historic revenue-GNP elasticity.[3]

Calculation of β for each revenue source is made using the following model:

(2)
$$\ln TR_i = \alpha_i + \beta_i \ln GNP + u_i$$

where:

TR_i : tax revenue from the ith source

α : a constant

β : the revenue-income elasticity coefficient

GNP : gross national product

u : a log normally distributed error term.

2. Empirical Results

Table 1 shows the estimated values of α and β over the the period 1966-1981.

The table shows fiscal revenue performance for the following twelve categories: (1) total tax revenues, (2) total direct taxes, (3) total income taxes, (4) personal taxes, (5) corporate taxes, (6) social security contributions, (7) other direct taxes, (8) total indirect taxes, (9) specific taxes, (10) license, business, occupation and sales taxes, (11) foreign trade taxes (i.e. export and premium duties and import duties) and (12)

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[3]In a strict sense, the *elasticity* of tax yields with respect to income refers to a measure of responsiveness which is net of the effects of discretionary changes. The *buoyancy* of the tax which is the ratio of the rate of growth of actual tax revenues to the rate of growth of GNP is the gross measure of responsiveness. Note however that removal of the effects of discretionary changes or "cleaning" the historical series involves methods of adjustment which are sensitive to the extent and nature of available information. (See for example, NTRC, 1983).

TAX REVENUE PERFORMANCE

Table 1—Tax Revenue Performance, Philippines 1966-81

Revenue Source	Regression Number	Constant	Income Elasticity	Dummy Variable	R^2	F Value	D.W.
Total Tax Revenues	1	-3.116	1.075 (23.848)	0.141 (1.875)	0.99	1111.32	1.822
Total Direct Taxes	2	-2.941	0.955 (14.054)	0.216 (1.908)	0.98	422.69	2.174
Total Income Taxes	3	-3.768	1.001 (15.507)	0.175 (1.621)	0.98	489.82	1.395
Personal Income Taxes	4	-7.987	1.297 (13.768)	-0.037 (-0.239)	0.97	315.917	1.072
Corporate Income Taxes	5	-1.598	0.756 (5.935)	0.345 (1.620)	0.92	92.752	1.370
Other Direct Taxes	6	-3.158	0.858 (8.083)	0.288 (1.628)	0.95	154.715	2.933
Social Security Contributions	7	-4.800	1.004 (28.599)	-0.036 (-0.619)	0.99	1353.060	1.906
Total Indirect Taxes	8	-4.173	1.136 (23.723)	0.096 (1.207)	0.99	1051.104	1.725
Specific Taxes	9	-6.095	1.186 (11.924)	-0.192 (-1.157)	0.96	206.448	0.531
License, Business, Occupation and Sales Taxes	10	-7.063	1.300 (17.336)	-0.293 (-2.345)	0.98	407.723	1.087
Foreign Trade Taxes	11	-3.329	0.946 (6.421)	0.579 (2.352)	0.94	123.913	1.332
Other Indirect Taxes	12	-8.268	1.318 (20.296)	-0.104 (-0.964)	0.98	651.975	1.779

Note: The t-statistics are in parenthesis.

other indirect taxes. The R^2 are all high. The t–statistics are indicated in parenthesis below their respective coefficients. All revenue-income elasticity estimates are significant at the 5 per cent level. The F values are all significant at the 5 per cent level. We also included the dummy variable 1 for the period under Martial Law and 0 for the period not under Martial Law in the regressions in order to consider the impact of this event on the tax revenues collected. Elasticity estimates for total tax revenues, total direct taxes, foreign trade taxes and license, business, occupation and sales taxes are significant at the 1 per cent level. Tests for autocorrelation were made and the results proved inconclusive for regression numbers 4, 10 and 11. There appears to be some deficiency in the specification of these equations. Selection 9, however, has positive autocorrelation.

The overall elasticity coefficient of 1.075 is hardly greater than unity; that for total direct taxes is relatively inelastic (0.95) while that for total indirect taxes is slightly elastic (1.14). This confirms the regressive nature of our tax system with its heavy reliance on indirect taxation to generate revenues. On the average, 35 per cent of total tax collections come from direct taxation. Personal and corporate income taxes constitute only about 9.0 per cent and 15.17 per cent, respectively, of total tax collections.

On an individual basis, the elasticity coefficients were relatively high for license, business, occupation and sales taxes (1.30), other indirect taxes (1.32), specific taxes (1.19) and personal income taxes (1.30).

The computed elasticity coefficient for **personal** income taxes should not be taken as significantly indicative of a redirection of tax collections away from dependence on indirect taxation since the personal income taxes as earlier stated comprise only 9.0 per cent of total tax collections during the period under study. This low weight means that they could not contribute significantly to the improvement of the overall elasticity of the tax system.

The small share of the personal income tax in total tax collections may be due to the narrow coverage of the tax in terms of number of taxable filers. Excessive availment of itemized deductions and the possibility of collusion between taxpayers and revenue personnel in tax avoidance and tax evasion schemes cannot be discounted. The adverse impact of liberal deductions has been shown for instance in Ramos (1975).

On the other hand, the elasticity value for the corporate sector (0.76) is quite low. Corporate tax incentives in conjunction with the usual deductions have eroded to a large extent the tax base in the corporate sector. The degree of tax compliance may also be a significant factor.

As with other developing countries, the Philippines has had to rely on indirect taxation to generate revenues. On the average, foreign trade taxes (i.e., import duties and export taxes) constitute about 22.58 per cent of total tax collections; license, business, occupation and sales taxes contributed 19.58 per cent while specific taxes contributed 8.93 per cent. Reliance on indirect taxes has increased in view of the inability to generate taxes through direct taxation. It is relatively easy to enforce these taxes owing partly to a highly visible tax base, and this explains its hefty share in national government tax collections. More importantly, these are mostly broad-based taxes.[4]

Table 2—Per Cent Distribution of National Government Tax Collection, By Type of Tax and Tax Effort, 1969, 1973, 1977, 1981

	1969	1973	1977	1981
Total Tax Rates	100.00	100.00	100.00	100.00
I. Direct Taxes	36.85	41.67	32.68	28.61
Income Taxes	26.34	25.69	24.32	20.24
Personal	7.79	5.62	13.30	9.18
Corporate	18.56	20.07	11.02	11.04
Social Security Contributions	9.58	6.96	7.45	6.20
Other Direct Taxes[1]	10.50	15.98	8.37	8.37
II. Indirect Taxes	63.15	58.33	67.32	71.39
1. Specific Taxes	16.61	9.00	16.56	13.59
2. License, Business and Occupation Taxes and Sales Taxes	20.62	14.96	14.66	28.11
3. Foreign Trade Taxes	17.65	27.16	26.01	19.53
4. Other Indirect Taxes	8.27	7.21	10.08	10.16
III. Tax Effort (%)	9.27	12.93	12.05	12.05

[1] Other Direct Taxes include transfer taxes, real property taxes, collections from immigration, energy and residence and amnesty taxes.

Sources of Basic Data: Bureau of Internal Revenue, Bureau of Customs, Bureau of Treasury, Central Bank, National Economic and Development Authority, Board of Energy, Commission on Immigration, Philippine Ports Authority, Land Transportation Commission.

[4]For a brief summary of the structure of tax collections, see Table 2.

Table 3—Government Fiscal Budget, 1966-1981
(Million Pesos)

Year	Total Revenues (1)	Total Expenditures (2)	Surplus (Deficit) (1)—(2) (3)
1966	2,511.7	2,227.7	284.0
1967	3,028.7	2,531.0	497.7
1968	3,961.2	2,944.3	516.9
1969	3,554.2	3,611.0	(56.8)
1970	4,699.9	4,053.5	646.4
1971	5,745.5	4,429.0	1,316.5
1972	6,271.8	5,588.2	683.6
1973	10,096.2	7,941.2	2,155.0
1974	14,848.9	13,024.7	1,824.2
1975	18,656.7	20,168.0	(1,511.3)
1976	16,322.9	22,332.0	(6,009.1)
1977	18,595.0	22,597.0	(4,002.0)
1978	22,656.5	27,106.0	(4,449.5)
1979	28,850.3	33,001.0	(4,150.7)
1980	32,530.5	38,383.0	(5,852.5)
1981	37,773.22	46,217.0	(8,443.78)

Source: Ministry of the Budget

Prepared by: Tax Statistics Branch, NTRC under title "Expenditures of the National Government by Major Functions."

3. Some Policy Implications[5]

The findings of section 2 regarding the relative inelasticity of the tax structure has serious implications. If adequate revenues from taxation are not forthcoming from the existing tax structure to cover various current and capital expenditures, a budget deficit emerges. In the Philippine case, the government has consistently incurred a budget deficit for the last seven years (see Table 3).

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[5] These are discussed more extensively in the author's Ph.D. dissertation currently in progress.

The deficit can be financed in three ways: (a) increased taxation, (b) base money creation or an increase in Central Bank claims on the government, and (c) domestic and/or foreign borrowings. There is, of course, no painless way to finance a deficit.

The first alternative may involve raising current tax rates, introducing new measures, an overhaul of the whole tax system (e.g., tax and administrative reforms) but the policymaker has to consider the high visibility of taxes and more seriously, the increased tax burden on people. Furthermore, he has to contend with the realities of a weak tax enforcement machinery and the difficulty of ascertaining the tax base especially where recordkeeping is neither a tradition nor habit nor a necessity. This is aggravated by the presence of production and consumption activities which are outside the economic mainstream.

The crowding-out effects on private enterprise, and the high visibility of internal public debt impose some limits to domestic borrowing. Foreign borrowings to finance projects with a high social value are therefore to be expected. However, the debt service problem is a serious matter that confronts the policymaker. In the latter case, the willingness of foreign creditors to underwrite our development programmes, together with the political issues surrounding foreign indebtedness, is also a limitation on the country's ability to borrow.

Money creation, on the other hand, imposes tremendous pressure on the price level and in the light of recent literature, on the balance of payments (e.g., Frenkel and Johnson, 1977; Akhtar, Putnam and Wilford, 1979). Domestic residents with liquidity in excess of what they wish to hold, will dishoard and the excess demand for goods which remains unsatisfied by domestic sources can create balance of payments difficulties. Thus, if base money creation is used to finance public sector needs, this is expected to cause a deterioration of the balance of payments as international reserves are drained away in a fixed exchange rate economy. Under a flexible exchange rate regime, the domestic currency is expected to depreciate as domestic residents try to unload unwanted liquidity.

It would then be helpful to realize that an assessment of public sector requirements is imperative given the limitation of various financing techniques. Projects and services with high social value should be given top priority while unproductive or counterproductive expenditures should be eliminated. Reforms in the tax system with particular emphasis on tax enforcement and administration and the relevance of particular taxes must be pursued in earnest.

It is submitted that fiscal deficits are incurred because of our vigorous development efforts but we should also realize that an expansionary monetary policy can generate inflationary pressures which can work against the development drive. The balance of payments

implications of a fiscal deficit financed by money creation are serious enough to merit attention.

This is not, however, a suggestion for a one-sided reliance on one particular financing instrument like taxation since we are quite aware of recent developments regarding the optimum mix of financing instruments (see Remolona, 1983). But we submit that the tax system needs a second look and this is logically prior to any exercise to devise such an optimum mix.

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