

The Role of Indirect Taxes in Developing Countries.

—Pradumna Rana *

1. The traditional neutrality argument which supported the view that direct taxes were superior to indirect ones, was proved fallacious in the early nineteen fifties. Today the traditional direct vs. indirect tax controversy is regarded as a "sterile or barren controversy" (Walker 1970). As Harberger (1964) observes the difference is quantitative (in terms of welfare costs) rather than qualitative. Section 2 of this paper outlines the major role and functions of direct taxes (income, wealth and land taxes) and indirect (customs duty, excise duty and sales taxes) in a developing country. The superiority of indirect taxes over direct taxes in such economies is outlined. In Section 3 the theory of tax structure change with economic development is discussed and in Section 4 an empirical analysis is made with reference to Nepal.

In developing countries because of poor administration, allocation of political power and massive evasion possibilities, modern progressive taxes are neither modern nor progressive nor even "income taxes". Economic, cultural and political forces favour the use of indirect taxes. Due (1970) indicates that in a sample of 49 countries with GNP per capita less than \$ 500, only one country (Zambia) obtained less than 40% of its revenue from indirect taxes. In Nepal, for example, indirect taxes contribute to about 60% of the total government revenue. How is this heavy dependence on indirect taxes justified in such economies in terms of the much-quoted "Musgravian" resource allocative, redistributive, stabilising and growth objectives of the public sector ?

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2. TAXATION AND RESOURCE ALLOCATION

One of the basic objectives in a developing country is optimal allocation of scarce resources to minimize economic wastage and to maximize production capacity. Taxes may or may not bring about an optimal allocation. Direct progressive taxes place relative tax burdens according to income level and thus primarily affect the production of commodities. Where¹ as indirect, where in direct taxes affect the prices of commodities and thus their consumption. To the extent that the Government wants to allocate resources to priority sectors, indirect taxes have greater potential than direct ones. Various kind of excises or sales taxes can be levied without much difficulty to curtail production of goods which are regarded as unessential for development. Sumptuary excises on Cigarettes and liquor are also desired. Customs duty could also be levied to protect infant home-industries from competition from a broad. Though Income tax exemptions to certain kinds of desirable investments could be provided the complexity and administration of cost such a tax eventually favor indirect taxes.

Taxation and Distribution

The supremacy of income and wealth as an index of a person's ability to pay a tax is well recognized both in developing and developed countries. However, the influence of the rich in the political system, corruption and bribery, absence of proper records and illiteracy (inability to comprehend the tax) makes progressive incomes taxes a long-term objective. In the shorter run, to the extent that indirect taxes are levied to tax "conspicuous consumption" of the rich, they are equitable and have favourable distributive effects. Thus it is argued that at early stages of economic development, indirect taxes (if administered reasonably well) will be more equitable than direct taxes which are poorly administered.²

Taxation and Economic Growth

A Simple model of a developing economy would be.

$$\Delta Y = f(\Delta K, \Delta K / \Delta Y, r, V)$$

where ΔY = annual increase in real national income

ΔK = rate of capital formation

$\Delta K / \Delta Y$ = marginal capital output-ratio

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1. The exact effect on supply of labour, savings and investment is of course, an unsettled issue.
 2. This view has been expressed by Due (1970) also.

r = rate of resource discovery

V = institutional environment

How do direct and indirect taxes affect the various variables in the model ?

1. Effect on capital formation (ΔK)

Since much of the argument here will depend upon the relative strengths of the income and substitution effects of changes in the rate of taxation, it is precarious to give a conclusive argument. However, to the extent that income taxes are progressive and thus are more likely to reduce savings than indirect taxes, the supremacy of indirect taxes over direct taxes is widely accepted. Income taxes reduce net returns from savings whereas indirect taxes reduce savings only to the extent that earnings are spent on consumption. Again indirect taxes do not affect income from foreign investments.

2. Effect on incremental capital-output ratio ($\Delta K/\Delta Y$)

Taxes affect nature of capital investment, importation of capital equipments and organization of inputs for production. Direct taxes affect adversely the incentives of entrepreneurs and the nature of capital investment more than indirect taxes. Again in developing countries, indirect taxes (primarily import duties) make scarce foreign exchange available for import of capital equipments by providing a disincentive for importation of consumption goods.

3. Effect on Factor Supplies (r)

High direct tax rates tend to reduce gains to entrepreneurs and so tend to discourage discovery and use of new resources. Indirect taxes have less adverse effects. Again as far as the effect on labour force is concerned, it is believed that indirect taxes are more favourable than direct taxes. These arguments, however, depend (as mentioned earlier) on the relative strengths of the income and substitution effects.

Taxation and Stability

To promote stability, taxes must be able to reduce consumption without at the same time increasing the pressure for wage increases and providing disincentive to entrepren-

indirect taxes reduce consumption relative to factor incomes without providing very much disincentive.³ Income taxes too reduce consumption (to some extent) by reducing disposable incomes of taxpayers. However, income taxes affect adversely incentives to invest.

The question of an optimal tax structure is a complicated issue. Each country and government has to devise its own system which is optimal in terms of the various constraints that it faces. Moreover, tax structure (referring to a mix of direct and indirect taxes at a given point of time) alters with and over time and stage of economic development of the country.

3. Tax Structure in Traditional Societies

By traditional society is meant an agrarian society where most of the political control is exercised by landlords and primary production (viz agriculture, fishing and mining and forestry) persists. Since in such economies income is derived from land, traditional direct taxes (viz land and poll tax) tend to be most feasible and consequently earn more revenue than other taxes. Virtual absence of domestic production except in the traditional sectors of the economy means that modern indirect taxes (sales and excise duties) do not exist. To the extent that some trading takes place external indirect tax (customs duty) can thrive reasonably well.

Tax Structure in Transitional Period

As development from the traditional society or "breakaway phase" occurs, monetization of the agricultural sector takes place; certain small industries develop and traditional values and institutions start to crumble. The landlords face external as well as internal threats of rising merchantilists. As the openness of the economy increases, the yield of customs duty increases rapidly, and overtakes the declining land tax revenue. The success of popularity of customs duty, however, encourages import-substituting industries which eventually means a drive towards self-sufficiency and a decline in trade.— a decline in the yield of customs duty ! A decline in yield of customs duty tends to widen the expenditure-revenue gap of the Government. In an attempt to narrow the gap, governments introduce modern internal indirect taxes (excises and sales taxes) and realizing the long term objective of taxation will introduce modern direct taxes (income and wealth taxes) too. Since by this time some domestic industrial production will have taken place, modern indirect taxes, perform rather efficiently. The basic objective

3. To some extent indirect taxes can cause workers to demand wage increases of the consequent rise in prices.

tive of modern direct taxes in this stage, however, is not the revenue it yields but the "tax consciousness" and "tax-paying habit" it generates. Modern direct taxes at this stage will be schedular rather than global and the tax rates will be low.

With further economic development and "adoption of modernity phase", landed interests more or less vanish and the yield of land tax declines drastically. To bridge the expenditure-revenue gap governments extend the coverage of excises and sales taxes beyond the traditional items (cigarettes, alcoholic beverages gas etc) and the modern direct tax rates are steadily raised and made global. Hinrichs states that at this stage, direct taxation will contribute about 20-40% of total revenue of the government.

Tax Structure in Modern Societies

A highly developed pecuniary stage means that a wider range of tax base become available to governments. Income and expenditure may be tapped at any point and diverted to the government treasury. At this stage, taxes on foreign trade is of minor importance. Major importance is placed on modern direct taxes and to a lesser extent on modern internal indirect taxes.

4. In the preceding section, an attempt was made to present a theoretical analysis of the general theory of tax structure change with economic development. Much of the work in this field is attributed to Hinrichs (1966) Musgrave (1969) and Due (1970). All three of them derive a sample of countries and present cross-sectional analysis based on variables like the yield of various taxes, per capita incomes and foreign trade. They also fit multiple regression equations to test several hypotheses concerning tax ratios and their determinants. The remaining portion of the paper will be engaged in examining the theory of tax structure change in Nepal and its consistency with some of the regression equations estimated by Musgrave.

Nepal is basically an agrarian economy and this traditional sector engages 98% of its active labour force, accounts for 65% of total exports contributes to 66% of the GDP. In terms of the analysis presented earlier, Nepal could be described as belonging to a transitional society and approaching the "breakaway phase". As Table 1 and relevant portions of table 2 indicate, traditional direct tax was the highest revenue yielder till fiscal year 1956-57 when its yield was surpassed by customs duty. Since then except for one fiscal year (1962-63) customs duty have contributed more than land tax.

Indirect taxes yielded more than traditional direct tax in 1954-55. This phenomena which is in direct consonance with the theory of tax structure change was a persistent feature, however, only after 1956-57 with the exception of 1962-63 (Figure 1). The declining yield of land tax of after 1962-63, the declining yield of customs duty after 1968-69, the increasing yield of modern internal indirect taxes (sales and excises) and the steadily increasing trend of the yield of modern direct taxes (income and wealth) are to be noted in Table 1 and Table 2. Figure 3 indicates the trends in D/I (direct-indirect tax ratio).

For further empirical analysis, the average $\frac{Tid}{T}$ ratio (where Tid = total indirect tax yield and T = total tax yield) for fiscal years 1964-65 to 1972-73 was calculated using data from Table 1 and compared with the $\frac{Tid}{T}$ ratios gotten by solving four equations estimated by Musgrave.

	Calculation from TABLE II	Computed by using Musgrave's Regression Equations				17
		Equation 31	Equation 30	Equation 34	Equation 37	
$\frac{Tid}{T}$	0.66	.6432	.6392	.7370	.6541	

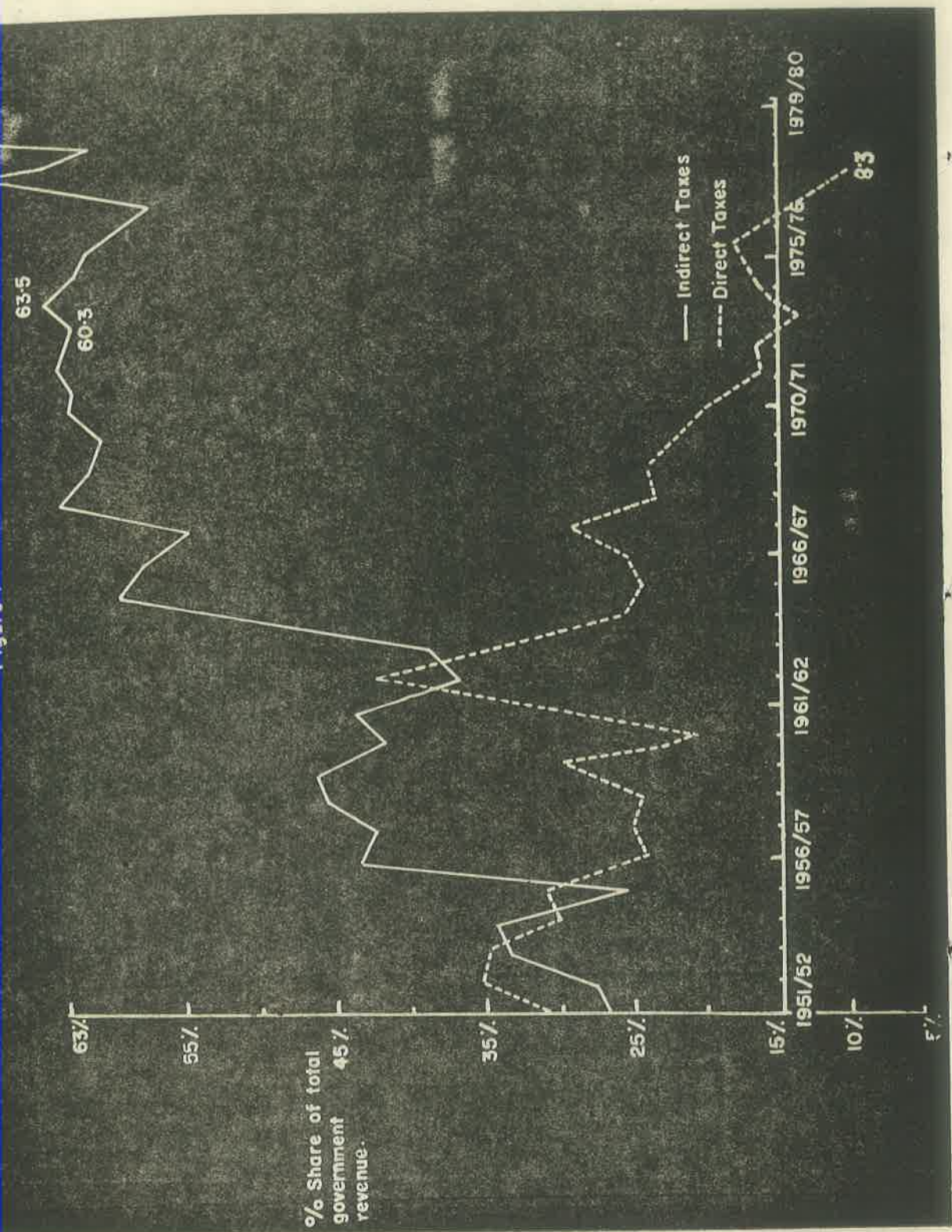
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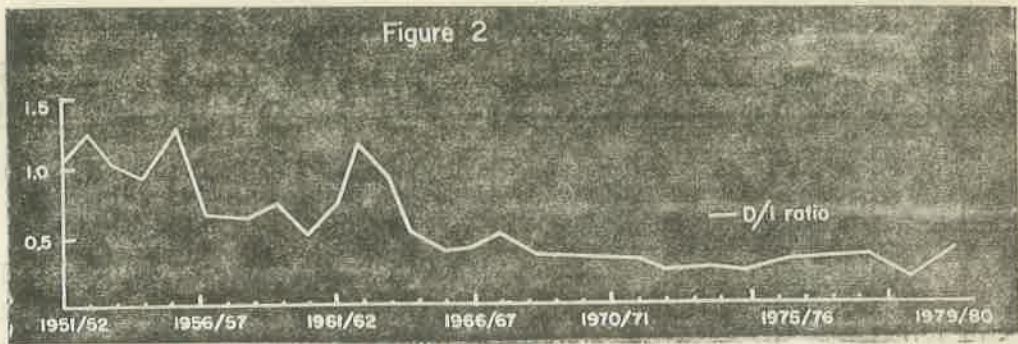
Musgrave (.1969) Pages 144-145

Equation 31 : $\frac{Tid}{T} = .6803 - .0000347 Y_c < \600 (24.457) (-4.850)	R ² 0.19
Equation 30 : $\frac{Tid}{T} = 4.986 Y_e - .1761 Y_c$ (25.269) (-5.34)	0.43
Equation 34 : $\frac{Tid}{T} = .3875 + .6709 Ag/GNP_c < \600 (7.039) (3.994)	0.35
Equation 37 : $\frac{Tid}{T} = .7602 - 1.131 T/GNP$	0.39

For Nepal since GNP figures were not available GDP figures had to be used in the estimation.

Within the constraints and limitations faced by a two variable simple linear regression model, the predictive content of Musgrave analysis is adequately close. The fourth equation which uses T/GNP as independent variable yields the best approximation. It must be recalled in interpreting the data that Equation 31 and Equation 34 were for countries which has a per capita income of less than \$ 600 while Equation 30 and Equation 37 were for the sample irrespective of per capita income. The parameters in the equations would have been entirely different had Musgrave used data for lower income countries.





5. When framing tax policies in underdeveloped economies, a basic problem that a policy-maker faces is the choice among possible direct and indirect taxes. There have been many economists in such countries who favor distribution a functions more than economic growth and thus stress the need of sharply progressive direct taxes though, of course, indirect taxes can be made progressive too. As has been discussed in the paper such economists are essentially working on wrong principles. Growth rather than distribution or better yet growth and distribution through indirect taxes should be emphasized. So the opinion of the present writer is that the debate should not be on the choice between indirect tax but among the numerous possible alterations and forms of indirect taxes. In other words to research more in perfecting the system of indirect taxation. However, while trying to design an optimal tax system, the tax planner should not throw direct-taxes out of consideration. It must be realised that eventually the two curves in Figure 1 will converge and then diverge in favour of direct taxes: the curve in Figure 2 will slope upwards and modern progressive taxes will be more important revenue-yielders than indirect taxes. Thus the objective of a tax-planner should be to program a set of taxes (direct and indirect - as needed) over time - some with rising revenues and some with falling revenues and at the same time pay due considerations to longterm objectives.

Table 1
DIRECT-INDIRECT TAX RATION (in million Nepalese Rupees)

Fiscal Year	Direct Taxes (D)				Indirect Taxes (I)				D/I ratio
	Land Tax	Income Tax	Property Tax	Total	Customs Duty	Excise Duty	Sales Tax	Total	
1951-52	9.4			9.4	7.3	0.9		8.2	1.08
1952-53	13.2			13.2	8.3	2.0		10.3	1.28
1953-54	13.1			13.1	10.2	2.2		12.4	1.06
1954-55	15.3			15.3	14.2	3.5		17.4	0.86
1955-56	21.7			21.7	12.2	4.8		17.0	1.28
1956-57	16			16	24.0	4.7		28.7	0.56
1957-58	17.6			17.6	24.3	5.1		29.4	0.59
1958-59	18.5			18.5	27.9	6.5		34.4	0.54
1959-60	25.6			25.6	32.0	5.8		37.8	0.68
1960-61	20.0			20.0	34.4	6.0		40.4	0.5
1961-62	28.2			28.2	32.2	6.9		39.1	0.72
1962-63	53.0	2.0		55.0	37.4	9.2		46.6	1.19
1963-64	53.0	2.7		55.7	49.3	10.0		59.3	0.94
1964-65	43.1	5.3		48.4	83.3	13.8		97.1	0.50
1965-66	44.5	7.1		51.6	93.5	20.0	15.2	128.7	0.40
1966-67	56.6	8.1		64.7	121.7	20.0	21.4	163.1	0.40
1967-68	83.3	11.4		94.7	129.7	21.5	26.9	178.1	0.53
1968-69	79.4	16.7		96.1	183.6	28.0	48.0	259.6	0.37
1969-70	87.7	19.6	0.6	107.9	193.5	38.0	51.1	282.6	0.38
1970-71	76.4	21.2	0.5	98.2	156.5	56.6	62.3	275.4	0.36
1971-72	83.2	22.4	.6	106.2	198.6	63.6	69.1	331.3	.32
1972-73	74.4	23.4	.9	98.7	238.1	67.7	79.8	385.6	.26
1973-74	96.9	32.6	1.2	130.7	286.2	77.9	98.5	462.1	.28
1974-75	90.9	47.0	1.9	139.6	328.5	119.7	190.5	638.7	.22
1975-76	94.8	87.2	3.3	185.3	358.5	132.0	161.9	652.4	28.
1976-77	97.9	133.3	4.1	235.3	386.2	166.1	222.0	774.3	.30
1977-78	87.0	190.3	5.1	232.4	458.8	164.2	273.1	896.1	.26
1978-79*	45.0	90.7	6.0	141.7	593.4	195.0	338.5	1126.9	.13
1979-80**	111.3	217.4	6.3	335.0	688.4	204.0	399.1	1291.5	.26

* Revised estimates.

* Budget estimates.

* Sources; Pant (1972)

Various Budget estimates.

Table 2

% Contribution of Various Taxes to Total Revenue of Nepal

Fiscal year	Land Tax	Customs Duty	Excise Duty	Sales Tax	Income Tax	Property Tax
1951-52	30.8	23.9	3.0			
1952-53	35.0	22.0	5.2			
1953-54	34.6	27.0	5.9			
1954-55	29.6	27.5	6.8			
1955-56	31.9	17.9	7.0			
1956-57	24.0	36.0	7.1			
1957-58	25.0	34.6	7.2			
1958-59	24.1	36.6	8.4			
1959-60	29.6	36.9	8.7			
1960-61	20.5	35.3	6.2			
1961-62	30.0	35.4	7.6			
1962-63	40.9	28.8	7.1		1.5	
1963-64	33.4	31.2	6.3		1.7	
1964-65	22.4	43.3	7.2		2.7	
1965-66	20.5	43.1	9.2	6.6	3.3	
1966-67	22.0	47.4	2.7	7.3	3.0	
1967-68	25.5	39.8	6.6	8.3	3.5	
1968-69	19.2	44.5	6.8	11.6	4.0	
1969-70	18.9	41.7	8.2	11.0	4.2	0.12
1970-71	16.6	34.0	12.3	13.4	4.6	0.13
1971-72	15.0	36.0	11.6	12.5	4.1	0.14
1972-73	12.1	38.7	11.0	13.0	4.8	0.15
1973-74	12.3	37.3	10.1	12.9	4.3	0.16
1974-75	9.0	32.6	11.9	19.0	4.7	0.17
1975-76	8.5	34.6	11.8	14.5	7.8	0.29
1976-77	7.4	29.2	12.6	16.8	10.1	0.31
1977-78	5.5	29.0	10.4	17.3	8.9	0.32
1978-79*	2.6	34.8	11.4	19.0	5.3	0.35
1679-80**	5.3	32.5	9.6	18.8	10.2	0.30

* Revised estimates.

** Budget estimates.

Sources ; Same as Table 1.

