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Distribution of fiscal incidence in Sri Lanka by income groups and economic sectors

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INTRODUCTION

An inquiry into the overall incidence of fiscal structure is of perennial interest and significance for fiscal policy. A study of the distribution of fiscal incidence by income groups provides provisional answers to basic questions such as: What is the average tax burden of a family at different levels of income? Is the tax structure "pro-poor" or "pro-rich?" Is the distributive pattern of tax burden consistent with the policy to reduce income inequality? What is the distributive pattern of benefits that accrue from government expenditure? Does the fiscal system reduce or increase income inequity? The results of such an inquiry are important if one is to evaluate the extent or success of government programs to reduce disparity in income distribution. Moreover, in the context of a developing economy like Sri Lanka, a study of the sectoral distribution of fiscal incidence is of vital importance. The findings of such an inquiry would enable one to evaluate whether the fiscal system favors the agricultural sector vis-a-vis the nonagricultural sector and whether the identified sectoral distribution of fiscal incidence is consistent with economic growth objectives. An analysis of inter-sectoral fiscal equity would also identify potential new sources of government revenue. One aspect that characterized almost all the government budgets in the post-independence era is the excess of government expenditure over government revenue, and in that context, a sectoral analysis of fiscal incidence appears to be timely and useful.

The remainder of this chapter is devoted to a statement of the objectives of this study and a review of the literature pertaining to the dis-

tribution of fiscal incidence. The data base of the study and its limitations are also discussed in this chapter. The salient features of Sri Lanka's fiscal structure are described in Chapter 2. The estimates of the distribution of fiscal incidence by income class of spending units in Sri Lanka are presented and evaluated in Chapter 3. This is followed by an analysis of the distribution of fiscal incidence between the agricultural and nonagricultural sectors in Sri Lanka in Chapter 4. A summary of the major findings and limitations of the study is given in Chapter 5.

Objectives of the Study

The objectives of this study are two-fold. The first objective is to estimate the distributive pattern of tax burden, expenditure benefit, and fiscal incidence in Sri Lanka by income groups for the years 1963 and 1973. The emerging distributive pattern of the fiscal structure is then to be expressed as ratios of different income concepts so as to determine the progressivity, regressivity, or proportionality of the fiscal structure. Further, the magnitude and direction of income redistribution of government budget in 1973 are to be compared with that in 1963. The second objective is to statistically measure the tax burden and expenditure benefits of the agricultural sector and the nonagricultural sector in Sri Lanka, for the year 1973, and to determine whether inter-sectoral fiscal equity favors the agricultural sector or the nonagricultural sector. Moreover, the study will also focus on the fiscal performance of the government of Sri Lanka in the past and discuss some of the remedial measures in the light of the major findings of the analysis on the distribution of fiscal incidence by income groups and economic sectors.

Fiscal Incidence Analysis

What is meant by incidence? What is the measure of incidence? What is the appropriate framework to examine fiscal incidence? What is the underlying theoretical framework of distributive studies? These are some of the basic questions that arise in empirical work of the type undertaken in this study. This section describes, in brief, some of the guidelines suggested in the literature.

The fiscal operations of the government have an impact on income distribution and efficiency of resource use (micro-effects) as well as aggregate output, employment, and prices (macro-effects). Moreover, these two types of economic effects are inter-dependent, i.e., the micro-effects of a given fiscal measure depend on the macro-effects of the same fiscal measure and vice versa (24, 30, 33).

The distributive effects of fiscal measures are generally referred to as fiscal incidence. An individual's real income position might change either because of a change in factor income, a change in direct tax payments, a change in transfer income, or a change in the prices of the products purchased. An analysis of fiscal incidence deals with the change in the distribution of real income caused by either an introduction, removal, or change in the fiscal structure. The concept of incidence is relatively simple in the context of a change in fiscal policy which does not give rise to a change in aggregate output. For instance, if one tax is substituted for another with no effects on output and if the tax-yield is the same, the losses and gains of income available for private use will cancel out, and the incidence of the said fiscal measure will be reflected in the change in the distributive pattern of income. However, the concept of incidence

becomes more complex if a given fiscal measure causes a significant change in the level as well as in the distribution of real output. In such a case it is not possible to isolate the losses and gains due to distributive effects of the fiscal measure from the losses and gains due to resulting changes in the level of real output. All that can be done is to consider the final distribution of income at the changed level of aggregate output (25).

It is important that the fiscal incidence be distinguished from a statutory incidence of a fiscal measure. Though the legal liability of, say, a tax measure might fall either on an individual or on a firm, in the end the entire tax burden must be borne by individuals. Moreover, when a tax is imposed the tax-paying unit (individual or firm) could react by either avoiding tax-liability (substitution effect), shifting the tax burden forward or backward (price effect), or failing to shift or avoid tax-liability (income effect) (30). While the statutory incidence is the legal liability of tax payment (Musgrave calls it impact incidence), the fiscal incidence is the final distribution of the tax burden after all the reactions of the firms and individuals are taken into account. Similarly, the fiscal incidence of expenditure benefits might be different from the statutory incidence and of interest is the distributive pattern after shifting.

The distributive effects of a fiscal measure or a fiscal system may be examined in terms of (a) absolute incidence, (b) differential incidence, and (c) balanced fiscal or budget incidence (24). An examination of the distributive effects of a particular tax (expenditure) measure or a given tax (expenditure) structure, while holding the government expenditure (tax) constant, is referred to as an absolute incidence approach. The major

weakness of this approach is that it overlooks the distributional consequences of macro-effects caused by either the introduction, removal, or change in any one element of the fiscal structure. This difficulty is avoided if one examines the distributional changes caused by the substitution of one tax (expenditure) for another tax (expenditure), while holding government expenditure and total revenue constant. This approach is the differential incidence approach applied, however, to either the tax side or expenditure side of the budget. The third approach, balanced fiscal or budget incidence, examines the combined effect of equal changes in taxes and government expenditure on the final distribution of income.

The valuation of tax burden and expenditure benefits, the two components of fiscal incidence, is another aspect that needs a careful examination. In all empirical work on the distribution of tax incidence, the burden arising from the imposition of a tax is equated with the tax revenue, i.e., the burden inherent in 1 rupee of tax revenue is valued at 1 rupee. Though practical considerations warrant the adoption of this method of valuation, its limitations should be recognized. The burden of a tax would differ from tax revenue in the presence of what is referred to by economists as "excess burden," output effects, and employment effects. Assume, for the purpose of illustration, that a tax is imposed on radios in place of a head tax and the revenue yield is the same in the case of both taxes. The total burden or welfare loss of the tax on radios will be higher than the total burden of the head tax because the tax on radios (unlike head tax) interferes with consumer choice at the margin and, therefore, imposes an additional burden, that is other than the revenue burden, on consumers. Moreover, by equating tax burden with tax revenue, the burdens arising from

output effects and employment effects are ignored. As a result, the distributive pattern of tax burden based on revenue burden alone would be different from the one that is based on revenue burden, excess burden, output effects, and employment effects.

A similar kind of valuation problem, though of a greater magnitude, is also encountered on the expenditure side of the government budget. The transfer payment components of government expenditure can be considered as negative taxes and are subject to the same type of argument discussed in the analysis of tax incidence. Government expenditure on goods and services poses a different problem. Initially the problem is to identify and quantify the external benefits and the impact of the employment effect and output effect on factor earnings. The other problem is one of assigning a value to the direct benefits of government expenditure that accrue to individuals. A direct estimation of the value of public goods consumed by individuals is not possible in the absence of any information on consumer preference for social wants. In view of the difficulty of measurement of the value of public goods, in empirical work the usual approach is to measure the benefits of public goods on a "cost incurred on behalf of" basis. Thus, if defense expenditure amounts to 100 million rupees, it is presumed that the total benefits that accrue to individuals will also equal 100 million rupees. Notwithstanding the serious shortcomings of the "cost incurred on behalf of" approach, it has proved useful as a first step (18). The same method of valuation is also followed in the case of specific goods and services provided by the government, which would strictly fall under the category of private goods rather than public goods.

The incidence or the distributive effects of a fiscal structure, or changes therein, may be examined either at the micro-level or at the macro-level. At the micro-level, the changes in the origin and use of income caused by taxes and/or government expenditures are measured in terms of an individual unit classified by income brackets. The individual unit may be either an income receiver, spending unit, or a family unit. At the macro-level, however, the identification of fiscal incidence is in terms of groups, i.e., factor shares, economic or geographical sectors, intertemporal, social groups, etc. The classical economists examined incidence exclusively in terms of functional income groups (wages, interest, rents, and profits). In recent years, however, emphasis has switched to the personal income distribution.

Regardless of the form of fiscal incidence analysis (i.e., whether in terms of income groups, economic sectors, functional income groups, or any other category), the crucial aspect in the identification of the distribution of fiscal incidence is the theory of tax and expenditure incidence. The theory of tax and expenditure incidence attempts to answer such basic questions as: Is the tax (expenditure) shifted at all? To what degree? In which direction? And who is the ultimate beneficiary or loser of fiscal operations of the government? The traditional approach has been to utilize partial equilibrium analysis to find answers to these questions. The major weakness of the partial equilibrium analysis is its inability to identify fully the impact of taxes and expenditure on the distribution of income. As observed earlier, a given fiscal measure has distributive, output, and employment effects, and they are interdependent. A full analysis of the incidence of taxes and expenditures that produce such effects requires a

general equilibrium approach which explains, as far as possible, tax and expenditure induced changes in commodity and factor prices and the resulting change in income distribution (23). The employment of a general equilibrium analysis has shown that in certain cases the inferences drawn from partial equilibrium analysis are not conceptually correct. For example, the modern view that the burden of a general excise or sales tax in a competitive situation is a function of factor income and not borne in relation to consumer income (traditional view) is the result of the application of the general equilibrium approach to incidence analysis (23, 24, 33).

Methodology

The methodology adopted in empirical work to ascertain the distributive pattern of tax burden, expenditure benefit, and fiscal incidence in terms of income groups and economic sectors is fairly straightforward (8, 18, 26, 37). The estimation of fiscal incidence by income groups and economic sectors involves four basic steps: (a) construction of an income base; (b) allocation of taxes; (c) allocation of expenditure benefits, and (d) the computation of the ratios of tax burden, expenditure benefit, and fiscal incidence. This study follows the conventional technique to determine the fiscal incidence distribution. The underlying assumptions and the distributive series used in determining the distributive pattern of the income base, tax burden, expenditure benefit, and fiscal incidence by income class are described in Chapter 3. The derivation of the measure of sectoral fiscal incidence and the method of evaluating inter-sectoral fiscal equity is outlined in Chapter 4.

At this juncture, it seems proper to identify some of the major drawbacks of the conventional techniques. The fundamental criticism is that the conventional methodology is incapable of measuring the impact of government redistribution in any given year on the level of national income and the economic position of different income groups (29). The argument is that the general equilibrium problem is intractable with existing economic tools. The weight of this criticism diminishes, however, if the focus of the analysis is the magnitude and direction of change in size distribution of post-fisc income over a period of time and not the redistributive effects of the fiscal system in a given year.

A measurement of the change in post-fisc income distribution between years also obviates the need to assume a hypothetical counterfactual. The method of comparing pre-fisc income distribution with post-fisc income distribution presumes a counterfactual of zero government. The rationale of the zero-government counterfactual is that the individuals ought to be ranked according to the distribution of factor income prevalent in an economy with no public sector so as to compare with an income distribution that results with the introduction of the public sector. This approach, however, ignores the allocative function of government budget and the distortions caused by externalities in private consumption and production. Hence, this extreme conceptual experiment has been heavily criticized as will-o-the-wisp and useless (28). Alternative counterfactuals have been suggested with a view to overcoming the deficiency of the zero-government counterfactual. One approach is to define the primary distribution of income in terms of Lindahl equilibrium which would prevail if only benefit taxation was used (4). The counterfactual based on Lindahl equilibrium

also ranks individuals by their marginal products, but it includes the allocative activities of both the private and public sectors. Though the Lindahl counterfactual is conceptually superior to the no-government counterfactual, the primary distribution of income in the Lindahl equilibrium is not estimable with the available economic tools. One other alternative is to specify an optimal distribution of income and compare it with the final distribution of income. This counterfactual, suggested by Behrens and Smolensky (4), necessitates value judgments about vertical equity by requiring that an ability-to-pay criterion be specified in arriving at the optimal distribution of income. The conceptual deficiency of the zero government counterfactual, the measurement problem of the Lindahl counterfactual, and the need to make value judgment in deriving the Smolensky-Behrens counterfactual are, however, avoided in this study by comparing the post-fisc distribution in 1973 with that in 1963.

Data

The primary source of statistical information for this study is the data obtained from the Consumer Finance Surveys conducted by the Central Bank of Ceylon (Sri Lanka) in 1963 and 1973 (11, 13, 14). The survey data were supplemented with published data and information obtained from the Department of Economic Research of the Central Bank of Ceylon.

The distributive series pertaining to income, major items of expenditure, and population by income brackets of spending units in the urban, rural, and estate sectors are all based on the Consumer Finance Surveys of 1963 and 1973. Since these distributive series have a significant impact on the statistical estimates of this study, the nature and limitations of

the survey data should be recognized. At the outset, it should be noted that the objectives of the Consumer Finance Surveys were broad in scope and were not designed to meet all the requirements of a study of tax and expenditure incidence by income groups and economic sectors. Moreover, the statistical results of the two surveys were not documented in a form that would enable a reclassification of income groups to meet the specific needs of this study.

The sample data used in this study suffer from both sampling and non-sampling errors. Of concern to this study is the degree of bias encountered in the estimation of expenditure pattern and income distribution of the sample population. It is reported that there was a general tendency to over-state consumption expenditure and under-state income (13).

As far as consumption expenditure is concerned, the major problem encountered was the difficulty in computing the expenditure of the households. A large number of items that enters the daily consumption of households is difficult to quantify. In such cases the average consumption based on the pattern of purchases was the basis to derive household expenditure. A response bias or investigator bias may also be found in the valuation of own garden produce consumed at home. The effect of the over-statement of consumption on the results of this study depends on the degree of distortion in each income group. If the extent of over-statement is uniform among all income groups, the use of the distributive series of consumption expenditure will not distort the final incidence distribution. However, a significant variation in the degree of over-statement over the income range would affect the estimates of incidence of taxes and expenditure. The general presumption of this study is that the variations in the

over-statements of consumption expenditure, if any, are not significant enough to alter the basic features that are reflected in the distribution of tax burden and expenditure benefits by income groups and economic sectors.

The distortion in the data pertaining to income of the households appears to be more serious than that encountered in the estimation of consumption expenditure. It is reported that the major source of error in the income data is the nonsampling error and that the degree of bias varied with the source of income and the level of income (13). The degree of inaccuracy in the income data is very likely to be high at the low income groups and the high income groups vis-a-vis the middle income groups for a number of reasons. At the low income level, income is not regular and hence difficult to estimate. Moreover, there is the tendency for the poor to under-estimate their income with a hope to obtain some kind of relief from the government. At the other end of the income scale, the rich do not divulge all their income mainly as a result of the fear that their schedules may be examined by tax authorities. Moreover, the income sources of the rich are complex enough to prevent the investigators from ascertaining income correctly. Consequently the under-statement of income at the low income level and the high income level will be comparatively greater than that of the middle income groups. Though it is difficult to measure the degree of under-statement of income, they are significant enough to distort considerably the incidence estimates, particularly those relating to the lower and upper income groups. In view of the under-statement of income in the sample data, the distribution of tax burden and expenditure incidence ought to be evaluated with caution.

FISCAL OPERATIONS OF THE GOVERNMENT

This chapter describes, in brief, the salient features of the fiscal operations of the government in the period 1965 to 1974. The size and scope of the government budget has had significant transformations over the years. A more than seven-fold increase in total government outlays in the past 20 years, from less than 1,000 million rupees[1] in the mid '50's to well over 7,000 million rupees in 1975, is indicative of the tremendous growth in government budget in the post-independence era. This growth in the budget size is primarily the outcome of conscious efforts of successive governments to broaden the scope of the budget from a mere provision of basic services such as the maintenance of law and order to a wider range of activities with a view to promote social progress.

As shown in Table 1, the share of the government budget in the Gross National Product, at factor cost prices, has been substantial, averaging about 33 percent in the past decade. The most striking feature of fiscal performance is the continuous growth in the absolute size of budget deficits from about 520 million rupees in 1964/65 to about 1,599 million rupees in 1974. Moreover, in an attempt to bridge the budgetary gaps, successive governments have heavily relied upon domestic and foreign borrowings as the major source of funds. As a result, public debt (net) has nearly trebled in the last decade from 3,772 million rupees in 1965 to 11,027 million rupees in 1974. The creation of new money has also been a

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[1] The U. S. dollar is equivalent to about seven Sri Lanka rupees.

Table 1. Summary of government fiscal operations[abc]

	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Revenue	1,816	2,815	3,282	4,034	4,795
Expenditure	2,337	4,143	4,647	5,448	6,394
Budget deficit	520	1,327	1,366	1,414	1,599
Expansionary impact of fiscal operations	35	218	112	-53	24
Public debt outstanding (net)	3,772	8,108	9,448	10,281	11,027
Revenue as a % of G.N.P.	24.3	23.9	25.9	26.6	24.3
Current expenditure as a % of G.N.P.	25.3	26.3	25.8	25.1	22.8
Capital expenditure as a % of G.N.P.	7.1	6.8	7.2	7.7	6.6
Budget deficit as a % of total expenditure	22.3	32.0	29.4	30.0	25.0

[a]Source: (12).

[b]Data for years 1965 and 1971 relate to financial year ending September 30.

[c]Gross National Product is valued at factor cost prices.

regular method of financing budgetary deficits. The major components of the government budget are examined in the ensuing analysis.

Revenue

The major sources of government revenue are shown in Table 2. In the past decade the relative share of tax revenue in total revenue has increased by about 10 percentage points from 74 percent in 1965 to 84 percent in 1974, largely as a result of the upsurge in revenue collections from indirect taxes. The substantial increase, from 49 percent to 69 percent in ten years, in the relative share of indirect taxes in total revenue

Table 2. Revenue of the government of Sri Lanka[abc]

Items	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Personal and corporate income tax	295	444	453	700	606
General sales and turnover taxes	35	341	410	565	635
Selective sales taxes	185	302	381	408	750
Import duties	423	282	258	222	277
Export duties	249	266	233	386	660
Receipt from sale of FEEC's	--	396	536	674	964
Surplus of government monopolies[d]	90	149	244	220	--
Interest and dividends	41	81	87	120	118
Gross receipts of trading enterprises	176	304	339	351	434
Other[e]	323	250	341	388	351
Total revenue	1,816	2,815	3,282	4,034	4,795
Of which, total tax revenue	1,349	2,127	2,311	3,089	4,021

[a]Source: (12).

[b]Data for years 1965 and 1971 relate to financial year ending September 30.

[c]Due to errors in rounding, details may not add up to total.

[d]The revenue item "Surplus of government monopolies" refers to the profits earned by the government from the manufacture and sale of liquor known as arrack. With effect from 1974 these functions were taken over by the State Distilleries Corporation and bulk of this revenue will now accrue to the government under selective sales taxes, general sales and turnover taxes, taxes on corporate income, and profits and dividends from public corporations.

[e]Includes license taxes, property transfer taxes, profits from food sales, and current and capital receipts.

is, by and large, the result of (a) the introduction of the business turnover taxes (BTT) in the financial year 1963/64 and the foreign exchange entitlement certificate scheme (FEECs) in 1967, (b) the upward revisions of the rate structure and the broadening of the coverage of BTT, FEECs, and selective sales taxes (excise taxes) in subsequent years, and (c) the increases in the rate of inflation.

Personal and corporate income tax

About 2 percent of the population in Sri Lanka pay income taxes (36). The personal income tax is levied on the aggregate world income of residents and on the Sri Lanka income of nonresidents. Income from all sources other than profits of a casual and nonrecurring nature are included in the tax base with provisions for deductions of losses from aggregate income. Net capital gains are taxed at a maximum marginal rate of 25 percent, and capital losses are deductible only from capital gains except on death when they can be set off against income liable for personal income tax.

All resident individuals with an aggregate annual income of 6,000 rupees are subject to income tax. However, a number of deductions, exemptions, and reliefs are granted prior to the determination of the taxable income. Deductions include: (a) all expenses incurred in the production of income; (b) personal allowances of 3,000 rupees for an individual, of 600 rupees for a spouse, and a maximum of 1,200 rupees for children or dependents; and (c) earned income allowance of 1,200 rupees in respect of employment and profession. Moreover, tax reliefs are available for approved donations, investments, contributions to pension and provident funds, and for premium payments on life insurance and annuities. Exemp-

tions, up to specified limits, include: (a) interest earned from investments in government savings certificates and deposits in the National Savings Bank; (b) net annual value of one house; (c) income from certain types of business undertakings, like hotel, gem business, and sale of paddy (rice) to the Paddy Marketing Board. The nonresidents do not enjoy the tax-free family allowances nor the earned income relief.

The tax on individuals is progressive with different rate schedules applied to residents and nonresidents. In 1974 the marginal tax rates applicable for a family of four members were:

7 percent on the first 3,600 rupees of taxable income

10 percent on the next 3,600 rupees of taxable income

12½ " " " " 2,400 " " " "

15 " " " " 2,400 " " " "

17½ " " " " 2,400 " " " "

20 " " " " 2,400 " " " "

25 " " " " 3,600 " " " "

30 " " " " 4,800 " " " "

40 " " " " 7,200 " " " "

50 " " " " 10,800 " " " "

60 " " " " 10,800 " " " "

65 percent on the balance taxable income

The rate schedule applicable to nonresidents in 1974 was thus:

15 percent on the first 15,000 rupees of taxable income

20 percent on the next 6,000 rupees of taxable income

25 " " " " 6,000 " " " "

30 " " " " 6,000 " " " "

40 " " " " 6,000 " " " "

50 " " " " 6,000 " " " "

60 " " " " 10,000 " " " "

65 percent on the balance taxable income

A comparison of the burden of personal income tax in Sri Lanka and the United States is difficult because of the wide disparity in the standard of living, purchasing power of respective currencies, earning capacity of the people, and the wage rates prevalent in both countries. In such a context, the use of the exchange rate is apt to be unreliable and would only lead to distortions of the comparative tax burdens. Consequently, indirect methods have to be used in a comparative study of this nature in order to consider the tax variables of Sri Lanka and the United States.

One method of evaluating the personal income tax liability in both countries is to examine the extent of income subject to the minimum tax rate. This approach will determine how much income must be earned by a tax-paying unit to be subject to the minimum tax rate. Assume that (a) the income considered is that of a family of four members, (b) the average total income of the family could be derived by multiplying the per capita income in each country by the number of members in the family, and (c) the amount of personal exemptions allowed in each country is that which conforms to the maintenance of a certain standard of living. The average total income of a Sri Lanka family of four is roughly 4,800 rupees (per capita income of about $170), and, as noted earlier, this hypothetical family is liable for income tax only if income exceeds 6,000 rupees. In other words, the hypothetical family unit has to increase its income by more than 20 percent to become liable for income tax. The average total income of a

family unit of four members in the United States was about $21,000 in 1974. Applying the current tax laws, no income tax is payable if the total income of the family is less than $5,100. Thus, about 24 percent of the average total income of the hypothetical U. S. family unit is tax exempt. The fact that the average total income is lower than the amount required to maintain a certain standard of living largely explains the limited coverage of personal income tax in Sri Lanka.

A comparison of the income tax rate schedules of the U. S. and Sri Lanka reveals the following: (a) the lowest marginal rate applied in the U. S. (14 percent) is considerably higher than the rate (7½ percent) applied in Sri Lanka; (b) the highest marginal rate in the U. S. is 70 percent as compared to 65 percent in Sri Lanka; and (c) the degree of progression in the rate schedule is relatively smoother in the U. S. as compared to Sri Lanka. The lower exemption ratio and the higher rate structure in the U. S. are indications of the fact that the personal income tax structure is less burdensome in Sri Lanka as compared to the U. S. Moreover, the taxable income in Sri Lanka does not include the benefits that individuals receive from government expenditure (such as subsidies, free education, and free health services). Thus it seems reasonable to conclude that the burden of personal income tax is more onerous in the U. S. relative to that in Sri Lanka.

A 60 percent nonrefundable tax is levied on the taxable income of resident (except small firms) and nonresident businesses. Further, a 33 percent tax is also levied on the gross dividends of all businesses. A further levy of 6 percent of income is imposed on nonresident firms in lieu of estate duty. Resident firms with an issued capital of less than 250,000

rupees and where the assessable income does not exceed 50,000 rupees enjoy the small firm relief and are liable only to a reduced rate of 35 percent. General and specific exemptions, deductions, and reliefs are granted to corporate business with a view to promote the development of specific sectors of the economy like industry, agriculture, tourism, and exports.

The revenue collections from personal and corporate income tax amounted to about 606 million rupees in 1974 or about 15 percent of the total tax revenue. In 1974 income tax collections expressed as a percentage of Gross National Product, at current factor prices, were of the order of 3 percent. Despite the increases in absolute terms, the share of income tax in total tax revenue has declined by about 7 percentage points over the past decade. In the past, corporate income tax has not been a stable fiscal element because of fluctuating nature of business profits, particularly the export oriented business activity. Though income tax collections from personal income have been somewhat steady, their contributions towards government revenue have been relatively modest.

Business turnover tax

The business turnover tax was first introduced in January, 1964, with a two-tier rate structure, 3 percent on specified manufactured goods and ½ percent on specified nonmanufactured goods. A business or manufacturing firm with an annual turnover of less than 100,000 rupees was exempted from the tax. With the passage of time, however, the rate structure was revised upwards coupled with an extension of the tax coverage. The current multiple rate structure ranges from a concessionary rate of 1 percent to a luxury rate of 35 percent. The net effect of these administrative measures

coupled with the effects of inflation resulted in an upsurge in revenue collections from the turnover tax from 35 million rupees in 1965 to 635 million rupees in 1974. As a result, the relative share of turnover taxes in total tax revenue moved up rather dramatically from 3 percent to 16 percent during the past decade. The continuance of the turnover taxes as one of the major sources of government revenue appears to be a certainty in view of its revenue potentiality. The multi-stage application of turnover tax at the manufacturer-wholesaler, wholesaler-retailer, and retailer-consumer levels generally results in tax pyramiding. Moreover, if the businesses follow a markup pricing policy and if the tax is fully shifted forward, the money burden of turnover tax would be higher than the revenue yield. The other undesirable consequence of a multi-stage turnover tax is that it provides a strong incentive for firms to short-circuit links in production and distributional channels by vertical integration. Thus, the tax discriminates severely against firms not in a position to integrate.

Selective sales taxes

Selective sales (excise) taxes are levied on tobacco, tea, and liquor. While a specific or a unit tax is levied on tobacco and liquor, an ad valorem tax of 50 percent on the difference between a base price (2.10 rupees per pound in 1974) and the Colombo tea auction price, subject to a maximum of 70 cents per pound (operative in 1974), was imposed on tea. Over the decade, the revenue collections from excise duties have substantially increased from 185 million rupees in 1965 to 750 million rupees in 1974. The relative share of excise taxes in the total tax revenue also increased significantly from 14 percent in 1965 to 19 percent in 1974. The

steady increase in the yield of excise duties in the period 1964 to 1973 is largely the result of periodic upward revisions in the rate structure applicable on tobacco and liquor. The sharp rise in the excise tax revenue in 1974 is mainly attributable to (a) the classification of "profits from government monopolies" as selective sales taxes consequent to the formation of the State Distilleries Corporation and (b) the substantial increase in the collection of tea tax on account of the marked improvement in the international tea prices.

Import duties

A wide variety of commodities ranging from capital goods to consumer goods is subject to import duties, specific or ad valorem. While high rates of duty are imposed (or total bans) on low priority goods either to conserve foreign exchange or to provide protection to domestic industry, concessionary rates are applied on capital goods and raw materials with a view to promote the development of the industrial sector. Imports of a number of items, such as food and textiles, are either duty free or enjoy concessionary rates in order to keep the cost of living at a relatively low level. The following rate structure was operative in 1974: (a) a free band consisting of food articles; (2) a 5 percent nominal rate on essentials and industrial raw materials; (3) a 25 percent concessional rate; (4) a 60 percent standard rate on most of the industrial imports; (5) a 100 percent protective rate; and (6) a 150 percent maximum rate on luxury and nonessential items (with the exception of automobiles which were subject to a prohibitive rate schedule with a maximum rate of 600 percent).

In the past decade, revenue from import duties has declined, both in absolute and relative terms, from 423 million rupees or 31 percent (of total tax revenue) in 1965 to 222 million rupees or 7 percent in 1973, with a slight recovery in 1974. The rate structure and the level and composition of imports primarily determine the revenue performance of import duties. Moreover, export earnings and the flow of external credit and aid, to a large extent, dictate the type and level of imports of a developing economy like Sri Lanka. Over the last decade, while the level of imports has remained constant or increased, there has been a significant change in the composition of imports in favor of essential consumer goods, raw materials, and capital goods. The drastic reduction in the import of luxury and semi-luxury consumer goods, which are good revenue providers, largely explains for the steady decline in import duty collections. Notwithstanding the effect of structural changes, revenue from this source is still substantial because of the upward rate adjustments and the maintenance of the total imports at a level higher than that warranted by export earnings. In view of the uncertainties attendant on Sri Lanka's external trade, the future yield of this source of revenue may be volatile.

Export duties

Export duties are levied on tea, rubber, coconut produce (the three major export commodities), and on a number of minor export products. A specific duty (unit tax) is levied on exports of tea. Since the basis of a specific duty is the physical unit and not the price, the revenue performance of the export duty levied on tea is not influenced by variations in the international market prices. However, this will not be the case of an

ad valorem export duty, levied on rubber, coconut produce, and other minor export products, for which the base is the price rather than the physical unit. The tax yield of an ad valorem export duty is dictated by the quantum of exports and the prices the export commodities fetch in international markets. To the extent the exports are primary products, the cyclical nature of export duty collections is largely attributable to fluctuations in export prices, as typified by the dramatic upswing in export duty revenue collections in 1973 and 1974. In the past decades, the relative share of export duties in total revenue has declined somewhat from 18 percent in 1965 to 16 percent in 1974 despite increases in absolute terms and the upswing in the last two years. The revenue yields of export duties, in the near future, would largely depend on the export performances of Sri Lanka's primary products.

Receipts from the sale of foreign exchange entitlement certificate

At present imports into Sri Lanka are classified into category A imports and category B imports. While external payments for category A imports are permitted at the official rate of exchange, a levy of 65 percent is imposed on foreign exchange payments on account of category B imports. The exports are similarly classified, whereby a premium of 65 percent is paid on specified export earnings.

The FEEC scheme, which was introduced in 1967 primarily to correct a persistent imbalance in the external payments, has in recent years become a top revenue provider. Its share in the total tax revenue increased from 5 percent in 1967/68 to 19 percent in 1970/71 and to 24 percent in 1974. In the last five years, it has recorded an annual growth rate of 30 percent

(compound). Despite the revenue potentiality of the FEECs, it is doubtful whether the government could rely on this source of revenue for long. The FEEC scheme was implemented as a temporary measure to offset the adverse trends in the external payments situation, and its coverage has been periodically but systematically widened over the years. When the entire external trade is brought under the scheme then its replacement by a devaluation of the Sri Lanka rupee will only be of academic interest. In such an event, this revenue item will disappear.

Wealth tax

A wealth tax is imposed on persons resident in Sri Lanka on the values of property wherever situated except immovable property outside the country. A nonresident individual is also liable to wealth tax on the value of property held in Sri Lanka. Nonresident business entities having property in Sri Lanka are also liable, while resident business entities are exempted from wealth tax. The wealth tax on individuals is progressive and the graduation effected by: (a) a tax-free net wealth of 100,000 rupees and (b) a progressive rate schedule, with the marginal rates increasing from ½ percent to 2 percent. The wealth tax on nonresident business entities is computed at a flat rate of 5 percent of that portion of their taxable income which is attributable to the income derived from their immovable property in Sri Lanka. The wealth tax has a limited coverage because of the number of exemptions, tax-free allowance of 100,000 rupees, and the widespread practice of under-valuation of property.

Estate duty

An estate duty is charged in the case of a deceased person who was domiciled in Sri Lanka on the value of property whether held in Sri Lanka or any other country (35). If the deceased person was domiciled outside Sri Lanka, the duty is levied on the value of properties held in Sri Lanka. The rate of duty is determined in both cases by reference to the value of the entire estate. The estate duty is progressive, and graduation is effected by: (a) a tax-free exemption limit of 50,000 rupees and (b) a progression of marginal rates from 5 percent to 70 percent.

Gifts tax

A person is liable to gifts tax, which is integrated with estate duty, if his gifts exceed 1,000 rupees in the aggregate for a year. Exemptions include: (a) gifts by will; (b) gifts to children in consideration of marriage (up to 10,000 rupees); (c) gifts of immovable property outside Sri Lanka; (d) gifts to approved charity (subject to a maximum), any local authority, or the government; and (e) gifts of immovable property outside Sri Lanka made by nonnationals. The rate structure applied for gifts tax is progressive, the marginal rates increasing from 3 percent to 100 percent.

Expenditure

Government expenditure comprises largely budgetary outlays, recurrent and capital, and payments under advance accounts operations.[1] As shown in

[1] Certain wholly or partially self-financing activities of the government, which are mostly of a commercial nature and receipts and payments of which are not easily ascertained in advance, are operated via advance accounts. The net payments under advance accounts are treated as items of expenditure in the government budget.

Table 3, the recurrent component of voted expenditure has been substantially higher than the capital component, though the relative share of the latter has increased over the decade. Moreover, expenditure has consistently exceeded revenue, thereby causing budget deficits of significant proportions. The most disturbing element in budget management in the past has been the inability of the government, at times, to even contain the level of recurrent expenditure to an amount dictated by revenue. As a consequence, in some years even the current account of the government budget was in the red. In recent years, however, there appears to be a marked improvement in fiscal management, particularly in the operation of the current account. The substantial current account surpluses generated in 1973 and 1974 are evidently a reflection of the improvements in the fiscal trend. The ensuing analysis of current expenditure and capital expenditure is based on economic and functional classification of government transactions.

Current payments

In Table 4A, details of current payments of the government are presented for the period 1965 to 1974. The relative shares of the major elements of the current payments are identified in Table 4B.

Current transfers In 1974 nearly one-half of the government's current expenditure was accounted for by transfer payments. The major components of transfer payments are consumer and producer subsidies, interest payments on outstanding domestic and external government debt, pension payments and current transfers to the household sector, state owned corporations, and local government authorities. Of significance is the relative shares of subsidies and interest payments in the total current transfers.

Table 3. Government expenditure[a]

	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Recurrent expenditure	1,803	2,981	3,386	3,857	4,506
As a % of voted expenditure	76	74	74	71	71
Capital expenditure	561	1,054	1,207	1,543	1,841
As a % of voted expenditure	24	26	26	29	29
Total voted expenditure	2,364	4,036	4,593	5,400	6,347
Payments under advance accounts	-28	108	54	48	47
Total expenditure	2,337	4,143	4,647	5,448	6,394
Current account surplus	41	-274	-158	129	242
Budget deficit	520	1,327	1,366	1,414	1,599

[a]Source: (12).

The major element in the subsidy bill is the food subsidy component, which averaged about 93 percent of total subsidies in the last five years. The nonfood subsidy component comprises mainly government assistance to cultivators for purchase of fertilizers, seed paddy, and payment of crop insurance premiums. The food subsidy bill consists of consumer subsidy on rice issued under the ration scheme, the producer subsidy under the guaranteed price scheme for paddy (rice) cultivators, the subsidy on the import and sale of sugar, flour and other food stuffs, and infants' milk. The food subsidy bill which was at manageable levels in the early fifties reached unprecedented levels in recent years, particularly in the years 1973 and 1974, primarily as a result of the sharp increases in the import

Table 4A. Current payments of the government of Sri Lanka[abc]

Items	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Administration	263	505	580	579	830[d]
Civil	202	329	418	434	660
Defense	61	176	163	145	170
Social services	491	747	800	856	912
Education	324	483	519	563	583
Health	149	238	254	262	292
Other	19	25	27	31	36
Economic services	105	152	145	166	165
Agriculture and irrigation	54	75	71	85	83
Communication	21	30	31	36	33
Other	29	47	43	46	49
Gross payments of trading enterprises	236	251	262	292	356
Intra-governmental payments	4	5	6	7	11
Transfer payments	798	1,422	1,464	1,896	2,209
Subsidies	462	665	627	757	964
(Of which, food subsidy)	(447)	(614)	(574)	(701)	(925)
Interest on public debt	106	337	413	514	580
Pensions	127	225	254	270	292
Households	49	51	52	66	71
To local authorities	40	60	61	65	70
Other	15	85	58	224	231
Total	1,896	3,097[e]	3,268[e]	3,799[e]	4,483[e]

[a]Source: (14).

[b]Data for years 1965 and 1971 relate to financial year ending September 30.

[c]Due to errors in rounding, details may not add up to total.

[d]Includes a sum of 150 million rupees being the cost of special living allowance granted to government employees and has not been apportioned under the respective heads of expenditure.

[e]Includes unallocable FEEC expenditure of 16 million rupees in 1971, 12 million rupees in 1972, 3 million rupees in 1973, and 7 million rupees in 1974.

Table 4B. Current payments of the government of Sri Lanka[a]

	Percentages				
	1965	1971	1972	1973	1974 (Prov.)
Administration	14	16	18	15	19
Civil	11	11	13	11	15
Defense	3	6	5	4	4
Social services	26	24	24	23	20
Education	17	16	16	15	13
Health	8	8	8	7	7
Other	1	1	1	1	1
Economic services	6	5	4	4	4
Agriculture and irrigation	3	2	2	2	2
Communication	1	1	1	1	1
Other	2	2	1	1	1
Gross payments of trading enterprises	12	8	8	8	8
Intra-governmental payments	--[b]	--[b]	--[b]	--[b]	--[b]
Transfer payments	42	46	45	50	49
Subsidies	24	21	19	20	22
(Of which, food subsidy)	(24)	(20)	(18)	(18)	(21)
Interest on public debt	6	11	13	14	13
Pensions	7	7	8	7	7
Household	3	2	2	2	2
To local authorities	2	2	2	2	2
Other	--[b]	3	2	6	5
Total	100	100	100	100	100

[a] Due to errors in rounding, details may not add up to totals.

[b] Less than 1 percent.

prices of rice, sugar, and flour. The increases in the guaranteed price paid to the domestic producers of paddy (rice) also contributed to the rise in the food subsidy bill. It should be noted, however, that the food subsidy bill would have reached staggering levels if not for the drastic measures adopted by the government to curtail Sri Lanka's consumption of cereals and sugar.

The other component of current transfers that merits consideration is the interest payments on public debt. During the last ten years, the interest bill of the government increased significantly from 106 million rupees in 1965 to 580 million rupees in 1974 at an annual rate (compound) of about 15 percent. Meanwhile, its relative share in the total current expenditure increased from about 6 percent in 1965 to about 13 percent in 1974. This pronounced increase in the interest bill is, to a large extent, a reflection of the heavy government borrowings in recent years. The higher interest cost of external suppliers' credit and medium- and long-term domestic borrowings has also caused the interest bill to increase substantially. Though direct participation by individuals in government bonds is not significant, the bulk of private savings is channeled into the government loan programs via financial intermediaries like commercial banks, provident and pension funds, savings institutions, and insurance funds.

The amount of current transfers to households and local governments and pension payments also constituted a significant portion of the total current transfers and have increased markedly over the decade. However, the outflows on account of thes items of expenditure have been contained at a level of about 11 percent of total current expenditure. In contrast

the relative share of transfers to public corporations to offset their operational losses has increased significantly in recent years.

Social services The current expenditure on social overheads in the year 1974 amounted to 912 million rupees and accounted for about 20 percent of the total current payments. The major item of expenditure under this head is the cost of providing free education from the primary to university levels. To a large extent, it represents salaries and wages of teachers and the administrative staff. The government of Sri Lanka also provides, virtually free of charge, in-patient and out-patient health care services and community health services. The cost of such services accounted for about 8 percent of the total current expenditure in 1974. In the period 1965 to 1974, though expenditure on social services increased in absolute terms at an annual rate (compound) of about 6 percent, the share of the social services component in the total current expenditure declined from 26 percent in 1965 to 20 percent in 1974.

Current expenditure, other In the period under review, current outlays on account of administrative charges and the provision of economic services were in the region of 20 to 23 percent of total annual current expenditure. While an annual growth rate of 10 percent in adminstrative expenditure has raised its share in the total current expenditure from 14 percent in 1965 to 19 percent in 1974, the relative share of economic services has declined from 6 percent to 4 percent due to a comparatively slower rate of increase. The increase in administrative expenditure is mainly attributable to the enhancement in the salaries and wages bill of the government. The increases in defense expenditure as a result of the

insurgency activities of 1971 is an added factor for the increase in administrative payments.

Capital expenditure

The magnitudes of government capital expenditure, in the period 1965 to 1974, are shown in Table 5A, and the relative shares of the major components of capital expenditure are identified in Table 5B. It would be seen that the bulk of the capital outlays is directed towards the buildup of social and economic overheads, namely construction and equipment of educational institutions and hospitals, low-cost housing, roads, agriculture projects, and irrigation facilities. Investment in the manufacturing sector is effected by channeling resources to public corporations rather than by direct expenditure. Of late acquisitions of financial assets (mainly loans to government agencies and institutions, National Housing Fund, the Local Loans and Development Fund, Port Cargo Corporation, etc.) have constituted a significant proportion of total capital expenditure of the government.

Financing of the Budget Deficit

The major categories of funds obtained by the government to bridge budgetary deficits in the period 1965 to 1974 are shown in Table 6. Funds from the domestic sector are obtained primarily by the issue of government bonds, medium and long term, and treasury bills. The government also obtains advances from the Central Bank to overcome temporary cash shortages. Foreign finance takes the form of project and nonproject (commodity) loans and grants.

Table 5A. Capital payments of the government of Sri Lanka[abcd]

Items	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Acquisition of real assets	346	437	543	611	781
Civil administration	7	22	42	51	61
Social services	74	104	133	133	128
Education	(31)	(44)	(49)	(39)	(40)
Health	(18)	(28)	(26)	(37)	(39)
Housing	(19)	(14)	(26)	(42)	(37)
Other	(6)	(18)	(32)	(16)	(12)
Economic services	265	310	363	419	590
Agriculture and irrigation	(79)	(132)	(133)	(160)	(316)
Fisheries	(1)	(3)	(4)	(3)	(13)
Manufacture and mining	(10)	(5)	(9)	(12)	(16)
Trade	(3)	(20)	(15)	(7)	(5)
Communication	(122)	(151)	(201)	(237)	(240)
Capital transfers	163	320	306	445	407
Local authorities	(8)	(16)	(15)	(15)	(15)
Public corporations	(147)	(281)	(258)	(384)	(378)
Other	(8)	(23)	(33)	(45)	(14)
Acquisition of financial assets	27	43	63	105	113
Total	535	800[e]	912[e]	1,161[e]	1,300[e]

[a]Source: (12).

[b]Net of debt repayments.

[c]Data for years 1965 and 1971 relate to financial year ending September 30.

[d]Due to errors in rounding, details may not add up to total.

[e]Includes unallocable FEEC expenditure of 2 million rupees in 1971, 8 million rupees in 1972, 7 million rupees in 1973, and 3 million rupees in 1974.

Table 5B. Capital payments of the government of Sri Lanka[a]

Items	Percentages				
	1965	1971	1972	1973	1974 (Prov.)
Acquisition of real assets	65	55	60	53	60
Civil administration	1	3	5	4	5
Social services	14	13	15	11	10
Education	(6)	(6)	(5)	(3)	(3)
Health	(3)	(4)	(3)	(3)	(3)
Housing	(4)	(2)	(3)	(4)	(3)[b]
Other	(1)	(2)	(4)	(1)	(--)[b]
Economic services	50	39	40	36	45
Agriculture and irrigation	(15)[b]	(17)[b]	(15)[b]	(14)[b]	(24)
Fisheries	(--)[b]	(--)[b]	(--)[b]	(--)[b]	(1)
Manufacture and mining	(2)[b]	(--)[b]	(--)[b]	(1)[b]	(1)[b]
Trade	(--)[b]	(3)	(2)	(--)[b]	(--)[b]
Communication	(23)	(19)	(22)	(20)	(18)
Capital transfers	30	40	34	38	31
Local authorities	1	2	2	1	1
Public corporations	27	35	28	33	29
Other	1	3	4	4	1
Acquisition of financial assets	5	5	7	9	9
Total	100	100	100	100	100

[a]Due to errors in rounding, details may not add up to total.

[b]Less than 1 percent.

Table 6. Financing of the budget deficit[abc]

Sources	Millions of rupees				
	1965	1971	1972	1973	1974 (Prov.)
Domestic nonmarket borrowing	50	140	199	251	-33
Domestic market borrowing	334	693	803	706	964
Bank sector	(18)	(94)	(226)	(-116)	(-15)
Nonbank sector	(316)	(599)	(577)	(622)	(976)
Foreign finance	117	370	478	394	629
Project loans	93	(141)	(93)	(153)	(83)
Nonproject loans		(169)	(325)	(194)	(214)
Grants	24	(60)	(60)	(47)	(221)
Decline in cash balances	20	123	-115	63	39
Budget deficit	520	1,327	1,366	1,414	1,599
Expansionary impact of fiscal operations	35	218	112	-53	24

[a]Source: (12).

[b]Data for years 1965 and 1971 related to financial year ending September 30.

[c]Due to errors in rounding, details may not add up to total.

Since the bank sector is precluded from subscribing directly to government bonds, the treasury bills market is virtually dominated by the banking system. Meanwhile, the government bond market is heavily dependent on the domestic nonbank market sector. The nonbank investor group constitutes, by and large, the National Savings Bank,[1] Sinking Funds, the

[1]The assets and liabilities of the Post Office Savings Bank, Ceylon Savings Bank, and the Savings Certificate Fund were taken over by the National Savings Bank, with effect from April 1, 1972.

Employee's Provident Fund, and the Insurance Corporation of Ceylon. These four sources of funds, which accounted for about 95 percent of the subscriptions to government bonds in 1974, are directly or indirectly administered by the government and are, therefore, "captive" funds. The role of voluntary private savings in the government loan program should not, however, be overlooked. Though direct participation of individuals and private funds in the government bond market is relatively insignificant, private savings do constitute an important source of loanable funds to the government. At present the National Savings Bank, which is the premiere vehicle for the channeling of private savings to the government bond market, is by far the largest contributor (about 36 percent) to the government loan program. In recent years its contributions to the government loan program has increased significantly both in absolute and relative terms. Higher interest rates on deposits compared with rates offered by competing financial institutions coupled with income tax concessions offered on interest income from deposits with the National Savings Bank have been the major factors responsible for the upsurge in the flow of private savings to the government loan program via the National Savings Bank. Life insurance funds, which are another form of private savings, also constitute an important source of funds to the government loan program.

Foreign finance, both loans and grants, has also been a vital source of budgetary finance in the past. In 1974 it accounted for nearly 40 percent of the budget deficit. The increase in the relative share of foreign finance in the total funds obtained, from 26 percent in 1965 to 40 percent in 1974, is a reflection of the growing dependence of the government budget in external aid and credit.

There is no doubt that the past levels of government expenditure could not have been maintained without the substantial flow of foreign loans and grants and the funds borrowed from the domestic market sector. Of concern is whether the government could continue to rely heavily on these two sources of funds to finance its steadily increasing budget deficits. It should be noted that in the last ten years the cost of servicing outstanding external and domestic debt rose from 106 million rupees in 1965 to 580 million rupees in 1974, an increase of about 450 percent. Meanwhile, the quantum of debt repayments has also increased significantly from 90 million rupees in 1965 to 564 million rupees in 1974. In the context of rising interest costs and debt repayments, the operation of public debt might soon become a source of financial embarrassment to the government rather than being a source of relief. A mere reduction in the dependency of the government on "borrowed funds" would not suffice, for it will only result in expansionary financing of the budget. It is important that the budgetary deficits be gradually reduced either by generating greater revenue or by reducing the current expenditure component of the budgetary outlay or a combination of both. Any delay in implementing a prudent budgetary management will only cause greater hardship at a later date.

FISCAL INCIDENCE BY INCOME GROUPS, 1963 AND 1973

The objectives of this chapter are to statistically measure and evaluate the tax burden, expenditure benefit, and the net fiscal incidence (tax burden net of expenditure benefit) of the resident population by income groups for the years 1963 and 1973. The magnitude and direction of the changes in the post-fisc income distribution in the ten-year period will also be examined. The ensuing analysis will demonstrate whether Sri Lanka's fiscal structure is "regressive," "proportional," or "progressive" in its incidence among different income levels.

The conventional measure of fiscal incidence is given by (F_i/Y_i), where $(F_i/Y_i) = (T_i/Y_i) - (E_i/Y_i)$ and where T_i is the amount of tax allocated to the i^{th} income group, E_i is the expenditure incidence allocated to the i^{th} income group, Y_i is the "taxable capacity" of the i^{th} income group, and $i = 1,2,.....,9$, the number of income groups used in this study.

The basis to determine whether the tax structure, expenditure structure, or the fiscal structure is "regressive," "proportional," or "progressive" is shown in Table 7. Thus, when the average effective rate of taxation, (T/Y), increases (decreases) as income rises, the tax system is said to be progressive (regressive). The requirement for a proportional tax system is that the average effective rate of taxation remains the same at all levels of income.

The method of classifying the expenditure side of the fiscal structure into "regressive," "proportional," and "progressive" is similar to that of the tax structure, though the terms have opposite meanings. While a progressive tax structure is "pro-poor," a progressive expenditure structure

Table 7. Classification of fiscal structure

	Tax	Expenditure	Net fiscal incidence
Progressive	$T_1/Y_1 < T_2/Y_2 < \ldots < T_9/Y_9$	$E_1/Y_1 < E_2/Y_2 < \ldots < E_9/Y_9$	$F_1/Y_1 < F_2/Y_2 < \ldots < F_9/Y_9$
Proportional	$T_1/Y_1 = T_2/Y_2 = \ldots = T_9/Y_9$	$E_1/Y_1 = E_2/Y_2 = \ldots = E_9/Y_9$	$F_1/Y_1 = F_2/Y_2 = \ldots = F_9/Y_9$
Regressive	$T_1/Y_1 > T_2/Y_2 > \ldots > T_9/Y_9$	$E_1/Y_1 > E_2/Y_2 > \ldots > E_9/Y_9$	$F_1/Y_1 > F_2/Y_2 > \ldots > F_9/Y_9$

is "pro-rich." Similarly, a regressive tax structure is "pro-rich," while a regressive expenditure structure is "pro-poor." A proportional tax (expenditure) structure would mean that the incidence of burden (benefit) is neither "pro-rich" nor "pro-poor."

The algebraic value of (F_i/Y_i) will determine whether the fiscal structure, in the relevant income range, is "pro-poor" or "pro-rich"; the value of (F_i/Y_i) might be either negative (when $T_i<E_i$) or positive (when $T_i>E_i$). In the range where (F_i/Y_i) is positive, a regressive fiscal structure is "pro-rich," a progressive fiscal structure would be "pro-poor," and a proportional fiscal structure would be neither "pro-poor" nor "pro-rich." However, in the range where (F_i/Y_i) is negative, a regressive fiscal structure would imply that the fiscal system is "pro-poor," a progressive fiscal structure would be "pro-rich," and a proportional fiscal structure would mean that the net fiscal incidence is disbursed without reference to levels of income.

Fiscal equity may be evaluated in terms of either horizontal equity (equal treatment of individuals in similar economic position) or vertical equity (unequal treatment of individuals with unequal economic position). Of concern in distributive studies is the translation of the concept of vertical equity into a specified pattern of tax distribution that may be used as the norm to evaluate tax equity. In all distributive studies, the implicit assumption is that the marginal income utility is constant at all levels of income for all individuals, a necessary assumption if money burden of tax is to be equated with real burden. As demonstrated by Musgrave (24), the equitable (in the vertical sense) distributive pattern of tax burden that emerges under the assumption of constant marginal utility of

income depends on whether the equal sacrifice principle is to be applied in terms of equal marginal sacrifice, equal absolute sacrifice, or equal proportional sacrifice.[1] In the case of equal marginal sacrifice, any distribution (regressive, proportional, or progressive) of the tax burden is equitable. While an equal absolute sacrifice calls for a regressive tax structure, the application of the principle of equal proportional sacrifice clearly calls for a proportional tax system. As a consequence, almost all distributive studies have treated the proportional tax structure as the norm in evaluating tax equity. Thus, any deviation from proportional tax sacrifice or burden has been implicitly regarded as inequitable in the vertical sense.

In the context of a wide disparity in the distribution of income, welfare considerations may call for a progressive tax structure rather than a proportional tax structure. Thus, evaluation of the tax system with a proportional tax structure may not be a very useful exercise. Consequently, attempts have been made by Frank (16) and Bird (6) to specify a tax structure with some progression for use as the norm in evaluating vertical

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[1]Stated mathematically, the conditions for equal marginal sacrifice, equal absolute sacrifice, and equal proportional sacrifice are as follows:

Concept	Term (given as equal for all people, whatever their income)
Equal marginal sacrifice	$dU(Y-T)/d(Y-T)$
Equal absolute sacrifice	$U(Y) - U(Y-T)$
Equal proportional sacrifice	$[U(Y)-U(Y-T)]/U(Y)$

Where Y = income; T = amount of tax paid; U(Y) = total utility obtained from income Y.

Source: (24).

equity. Unfortunately, the move to introduce some progression in the tax structure is beset with problems. A welfare approach to the tax side of the budget suggests that the taxation required to finance government expenditure should be distributed in accordance with equal marginal or least aggregate sacrifice. A progressive tax structure will satisfy the principle of equal marginal sacrifice only under the assumption that marginal income utility declines. Apart from the conceptual problem of whether marginal income utility declines or not, a serious measurement problem arises. Under the assumption that marginal utility of income declines, the monetary burden of a tax will not equal real burden at each level of income. The problem is how to measure real burden. Moreover, equal marginal sacrifice in the context of a declining marginal income utility calls for a maximum progression in the rate structure. One could avoid maximum progression by the application of either the equal absolute sacrifice principle (when the percentage decline in the marginal utility of income is more rapid than the percentage increase in income) or the equal proportional sacrifice (when marginal utility declines more rapidly than average utility) based on certain value judgments. Yet the measurement problem remains. However, any attempt to derive a tax structure with some progression (based on value judgments as to what is the desirable rate of progression) without reference to the required assumption of diminishing marginal income utility is conceptually incorrect. In view of the measurement problem involved in the assumption of diminishing marginal income utility, this study follows the conventional assumption of constant marginal income utility and presumes that a proportional tax structure is the appropriate yardstick to evaluate fiscal equity.

Income Base

The reliability of the estimate of (F_i/Y_i) depends partly on the estimates of Y_i and partly on the estimates of T_i and E_i. The choice of an appropriate "income" base is, therefore, of vital importance for it would determine the level of fiscal burden and the progressivity, regressivity, or proportionality of the fiscal structure. However, the choice and derivation of an income base poses an array of conceptual and estimation problems.

Generally "income" is regarded as an acceptable measure of an individual's financial status or tax paying ability and has been employed to determine fiscal burden by income groups (9, 10, 18, 22, 26, 32, 41). Conceptually, however, a composite index accommodating income and wealth or net worth would be a better measure of an individual's tax bearing capacity as opposed to an index in terms of the income variable alone. Data pertaining to wealth distribution by income groups are not available, however, precluding the possibility of deriving a composite index of taxable capacity. Another shortcoming of the use of income as an index of taxable capacity should be recognized. An individual's income in any one year may be a poor indicator of the "true" financial status in view of transitory fluctuations in annual income (27). Information on income for a period in excess of one year is generally not available, however, resulting in the confinement of the "reference period" to one year. In this study the taxable capacity of an individual is expressed in terms of one year's "income" despite the stated shortcomings.

The term "income" remains to be defined precisely. Is "income" to be defined in terms of factor income (wages, rent, interest, and profit), per-

sonal income, or in terms of a broader income base, the net national product? The major drawback of the use of factor income as the income base is that it does not include transfer payments received by families. Yet transfer payments are part of household income and may be used to pay direct taxes or indirect taxes (shifted forward by business entities). Thus, the use of the factor income concept would distort significantly the distributive pattern of tax burden, expenditure benefits, and net fiscal incidence. It may be argued that since a household received the transfer gratis, the household cannot be said to bear the burden of taxes paid out of such transfer payments. Perhaps a measure of tax burden should be in terms of taxes paid out of factor income. Nevertheless, to relate tax burden by income groups to an income concept that includes transfers appears to be in conformity with the general usage of the term income.

The choice of personal income would overcome the major drawback of the income concept equivalent to national income. However, personal income excludes indirect business taxes, corporate tax liabilities, provident fund contributions, and undistributed corporate profits from its income base and, therefore, would be an inappropriate income concept to derive the fiscal incidence of the different income groups (31). Corporate tax liabilities, provident fund contributions, and retained corporate profits are part of factor income (though not distributed) and, therefore, ought to be included in the income base. A broader income concept equivalent to national income plus transfers appears to be a better measure of the income base as compared to national income or personal income. However, with the indirect taxes included in the numerator of the ratio, (T_i/Y_i), consistency calls for the inclusion of indirect taxes in the denominator, too.

Nevertheless, the choice of "national income plus transfers and indirect taxes" over "national income plus transfers" depends on how the problem of tax burden is formulated (25, 26). If the objective is to measure the burden which arises as taxes are imposed, then the effective rates or the average rate of taxation should be measured in terms of pre-tax income (i.e., inclusive of indirect taxes). On the other hand, if the purpose of the exercise is to measure the extent of relief that would result from a tax removal, the post-tax income level (i.e., the exclusion of indirect taxes from the income base) would be more appropriate.

In this study fiscal burden is estimated in terms of five income bases, namely, (a) national income, (b) national income plus transfers, (c) net national product, (d) net national product plus transfers, and (e) net national product less taxes plus government expenditures. The employment of different income bases helps to demonstrate the significance of the need to choose the appropriate income base in a study of fiscal burden by income groups. The methodology adopted to estimate the distribution of income bases by income groups is briefly described below, and the estimates are presented in Table 8.

National income

An estimate of the national income of Sri Lanka for the years 1963 and 1973 was first derived (see Appendix Table A4). Then the corporate income tax and undistributed corporate profits of the resident population were distributed among income groups on the basis of assumed distributive pattern of dividends (see Appendix Table A1). The balance was distributed to the income groups on the basis of total income, money income and income in

Table 8. Distribution of alternative income bases by income class, 1963 and 1973[a] (millions of rupees)

Income base	Year	Amount allocated	Income class of spending units (rupees for 12 months)								
			< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
National income	1963	6,118	18	107	579	1,594	1,605	1,135	249	269	562
	1973	13,914	1	13	202	1,841	5,562	3,812	703	714	1,067
National income plus transfers	1963	6,486	34	135	656	1,725	1,687	1,154	250	285	563
	1973	14,995	3	18	233	2,082	6,074	4,017	740	731	1,098
Net national product	1963	6,736	18	101	605	1,745	1,800	1,271	279	296	620
	1973	15,555	1	13	213	1,990	6,180	4,346	801	816	1,197
Net national product plus transfers	1963	7,104	33	128	682	1,877	1,881	1,289	279	314	621
	1973	16,636	3	18	245	2,231	6,692	4,551	838	833	1,228
Net national product, less taxes, plus government expenditure	1963	7,340	38	158	833	2,094	2,017	1,321	237	256	386
	1973	16,776	3	24	295	2,417	7,201	4,652	785	724	675

[a]Due to errors in rounding, details may not add up to totals.

kind, distribution as identified by the Consumer Finance Surveys of 1963 and 1973.

National income plus transfers

The distribution of the national income component of this income base is similar to the one described above. The transfer component consists of subsidies (net food subsidy and nonfood subsidy), pensions, and other transfers to households. The methodology adopted to allocate these components of transfer payments is explained elsewhere in this chapter (refer to section on expenditure allocation).

Net national product at current market prices

At the aggregate level, the net national product, at current market prices, is derived by adding indirect business taxes and current surplus of government enterprises less subsidies to national income. The method adopted to determine the distribution of national income has already been described. The indirect taxes were distributed on the basis of total income as suggested by Musgrave and Musgrave (25) and Musgrave et al. (26). For basis of allocation of the current surplus of government enterprises less subsidies by income groups refer to sections on tax and expenditure allocation.

Net national product plus transfers

The allocation of the major components of this income base among different income groups has been dealt with. The net distribution was obtained by summation.

Net national product-less-taxes-plus-government expenditure

This concept of income, suggested by Bishop (9), is a departure from the conventional notion of income, where all benefits of government expenditure, transfer payments, and income in kind are treated as income and all tax payments are exluded from the income base. The net national product is valued at current market prices, and its distribution is obtained first. Then the total postulated distribution of taxes by income groups was deducted from the income base. Finally, the total distribution of expenditure by income groups, as estimated in this study, was included in the income base. It is important to note that the limitations of the assumptions and method adopted in the allocation of taxes and government expenditure are equally applicable in the distribution of this income base.

Distribution of Tax Burden by Income Groups

A measurement of the tax burden by income brackets requires, in the first instance, the allocation of tax burdens and, secondly, the computation of the effective rates of taxation, i.e., the ratio of tax to "income" in each income bracket. The crucial problem is to determine what incidence assumptions are to be made. These assumptions form the basis of allocation of the tax burden in line with an appropriate distributive series. In the ensuing analysis, the various tax incidence assumptions used in this study are described coupled with the distributive series used in their implementation. The major features of the resulting distribution of tax burden by income groups are examined subsequently.

Tax incidence assumptions

Personal income tax It is assumed that personal income tax is borne fully by the individual taxpayer, an unrealistic assumption only under exceptional circumstances where the individual taxpayer is able to shift the tax forward as a result of a relatively stronger position vis-a-vis his employer. The concern of this study is to estimate the taxes paid by residents in Sri Lanka, and since personal income tax collections include taxes paid by nonresidents (which are exported), an adjustment of the data is called for. However, a breakdown of income tax payments by residents and nonresidents is not available. According to information reported by the Commissioner of Inland Revenue, nonresidents accounted for about 6 percent of the personal income tax collections in the tax year 1962/63, and their share has declined over the years to about 2.5 percent in the tax year 1970/71 (15). This study assumes that the share of the nonresidents in the personal income tax for the tax year 1972/73 would be in the region of 2 percent. The adjusted personal income tax is allocated on the basis of distributive pattern of income tax payments as identified by the Consumer Finance Surveys (see Appendix Table A3).

Corporate income tax This study assumes that, at least in the short run, the business entities in Sri Lanka bear fully the burden of corporate income tax. The process involved in tax shifting in the short run and in the long run is significantly different. In the short run, the tax burden may be shifted directly either by an increase in the price of goods and services (in the case of a forward shift) or by a reduction in the prices of factor inputs (in the case of a backward shift). In the long run, however, the tax is shifted by a somewhat indirect method; the tax

burden which initially reduces the rate of return on capital might in the long run reduce capital stock or some other resource input which in turn reduces long run output and increases prices of output. The traditional economists, like Seligman et al., believed that the corporate income taxes are not shifted, either in the short run or long run, in the case of firms in a perfectly competitive industry (cited in 17). In recent years, however, some economists have questioned the traditional "no-shift" stand (24). Though the issue is still being debated in public finance literature, there appears to be a growing concensus that there is a "conditional shifting" of the corporate tax, in whole or in part, to the consumers. It is contended that the corporate tax may be shifted in the following circumstances: (a) in the presence of oligopolistic entities or product differentiating in the commodity market; (b) if producers do not maximize their profits; (c) if the tax levy is on returns on "risk-element" or equity capital; (d) if a sellers' market is not already exploited in full; and (e) if the wage earners share a definite proportion of the profits after tax (24). The empirical inquiries by Krzyzakiak and Musgrave (19) and Adelman (2) have not led to any conclusive results. In the case of Sri Lanka, due to licensing of industrial units and the prevalence of the quota system in the import of both raw materials and final goods, the business firms enjoy a sellers' market in the domestic sector and, therefore, are able to earn monopoly profits. Moreover, the international markets for tea, rubber, and coconut are highly competitive, and, therefore, the corporate tax on business in the agricultural sector cannot be shifted. For reasons given above, it is assumed that the corporate tax in Sri Lanka is not shifted forward.

Further, it is also assumed that the corporate income tax is not shifted backwards.

The corporate income tax also requires an adjustment on account of tax payments by nonresident companies. It is reported that the nonresident companies accounted for about 54 percent of corporate taxes in 1962/63 but that their share declined to about 20 percent in 1970/71 (15). It is assumed that the share of nonresident companies in the corporate tax collections in 1972/73 would have been about 17 percent. The adjusted corporate income tax is distributed on the basis of assumed dividend income by income groups (see Appendix Table A2).

Business turnover tax The turnover tax, which is really a consumption tax, is assumed to be shifted forward by the businesses. The assumption of a forward shift in turnover tax will not be valid if the tax is levied on all goods, consumption goods as well as capital, and if the incidence of the tax is examined in the context of a neo-classical competitive economy. As shown by Rolph-Brown, et al., the burden of a general sales tax in a competitive economy with fixed factor supply will be a function of factor income rather than the level of consumption (cited in 23). However, the market structure prevalent in Sri Lanka is such that the assumption of a forward shift appears to be more appropriate than the assumption that the burden of turnover taxes will be borne in relation to factor income.

Though the coverage of turnover tax in Sri Lanka has been extended over the years, a substantial portion of market transactions is still tax exempt. Moreover, the rate structure of turnover tax is such that a relatively heavier burden is imposed on semi-luxury and luxury goods vis-a-vis the nonluxury goods. Consequently an introduction, removal, or change in

turnover tax would alter the relative-price structure. As pointed out by Musgrave (24), the argument that a general sales tax would reduce factor income rests on the assumption that relative-prices remain the same. To the extent the turnover tax is not universal, the tax will be burdensome to consumers of taxed commodities rather than factor income earners, provided factors of production are perfectly mobile between different industries. Moreover, the widespread practice of markup pricing by businesses in Sri Lanka adds more credentials to the assumption that turnover taxes will be shifted forward.

A breakdown of the turnover tax in line with the available data relating to expenditure patterns is not readily available. Therefore, the total of turnover tax was allocated to the income groups on the basis of nonfood expenditure, since turnover tax is levied mainly on nonfood items.

Excise taxes Excise taxes consist of liquor tax, tobacco tax, and tea tax. It is assumed that the burden of liquor tax and tobacco tax are shifted forward and are allocated to the income groups on the basis of liquor expenditure and tobacco expenditure, respectively. It is assumed that the tea tax will not be shifted in view of the highly competitive international market for tea. That portion of the tea tax paid by nonresident sterling companies is assumed to be exported to nonresident shareholders. On the basis of information relating to acreage and production, it is estimated that the share of the sterling companies in tea tax is 36 percent. The adjusted tea tax is allocated to income groups on the basis of dividend income.

Import duties

It is assumed that import duties paid by business are shifted forward. The total of import duties was classified into food, clothing, petroleum, vehicles and transport equipments, and others. Import duties levied on "food" and "clothing" were allocated in terms of food expenditure and expenditure on clothing. While one-half of the import duty on petroleum was allocated on the basis of transport expenditure, the other one-half was distributed in terms of total consumption expenditure. The assumption that consumption of petroleum by business and individuals (owners of transport vehicles and users of the transport system) is of the same magnitude is an arbitrary one and is not based on any statistical data. Another shortcoming of this assumption is that it does not take into account the amount consumed by the export sector (mainly tea, rubber, and coconut). To what extent these shortcomings will distort the distribution of tax burden of import duties by income class is difficult to estimate. However, its impact on the total distribution of taxes might not be that significant in view of its insignificant share in total taxes (see Table 10). In the case of imports of vehicles and transport equipment, it is assumed again that one-half is imported for business firms and the other one-half for direct users. That portion relating to imports for business firms is assumed to be shifted forward and is distributed on the basis of total consumption expenditure. The shortcomings of the assumption relating to the apportionment of import duty on imports of petroleum are also applicable in the case of import duties on vehicles and transport equipment. That portion of import duties paid by direct users in 1963 is allocated to the highest three income groups on the basis of income. However, the import duty paid

by direct users in 1973 is only allocated to the highest income group. The reason for the change in the assumption is largely explained in terms of the contrast in market conditions for motor vehicles in 1963 and 1973. In 1963 the purchase price of new motor cars, in most cases, was in the region of 10,000 rupees to 25,000 rupees and was within the reach of individuals with an annual income of 9,600 rupees or more. However, in 1973 the market price of a relatively cheap model was at least 75,000 rupees and, therefore, most income earners would have been priced out. Thus, the assumption that in 1973 the import duty levied on imported vehicles would fall on the highest income class appears to be reasonable. The import duty levied on "other" is distributed on the basis of nonfood expenditure.

Foreign Exchange Entitlement Certificates The revenue receipts from the sale of foreign exchange entitlement certificates are assumed to be borne by the consumers. That portion of the FEEC payment on sugar imports was allocated to the income groups on the basis of (a) population distribution, in the case of "sugar sales under ration" and (b) expenditure on sugar, in the case of "off-ration sales." The balance of FEEC revenue was allocated on the basis of nonfood expenditure pattern, since FEECs are levied mainly on nonfood imports.

Export duties The export duties collected are mainly from exports of tea, rubber, coconut, coconut products, and exports of other primary products. Since the international markets for all these exports are highly competitive, it is assumed that exporters will bear the export duties. The imposition of export duties enters as a wedge between factor incomes and prices, and it is assumed that the burden of export taxes falls fully on the shareholders. However, for purpose of the study of fiscal incidence by

income groups, that portion of export taxes borne by the nonresident shareholders will have to be netted out. The procedure followed to adjust for the export of the tax burden resulting from the imposition of export duties is basically the same as that adopted in case of tea tax. The adjusted export duty is distributed among the income groups on the basis of dividend income.

License taxes The license taxes are classified into liquor, vehicles, and "other." It is assumed that taxes on liquor and "other" are borne by the consumers and allocated in terms of liquor expenditure and total consumption expenditure, respectively. In the case of license tax on vehicles, while one-half is distributed on the basis of consumption expenditure, the other one-half is distributed (a) for the year 1963, to the upper three income groups on the basis of income and (b) for the year 1973, allocated wholly to the highest income group.

Estate and wealth taxes Allocated, in full, to the highest income group.

Bank debit tax It is assumed that bank debit tax paid by business is passed on to the consumers and the total consumption expenditure pattern forms the basis of allocation. The bank debt tax paid by individuals is ignored for want of data. However, this is not a serious problem in view of the minor role of checks in individual business transactions. Moreover, that portion of the bank debit tax borne by the export sector was also not isolated due to nonavailability of data.

Profit from liquor sale The profits earned by the government from the sale of liquor (Arrack) was distributed to the income groups on the basis of liquor expenditure.

Surplus of government enterprises The surplus of the government enterprises was allocated in terms of the distribution of total consumption expenditure by income class.

Property transfer tax Property transfer taxes are paid by individuals and business in the export and nonexport sectors. The correct procedure would be to identify their relative shares and distribute to the income groups on the basis of appropriate distributive series. However, the required data for a proper allocation was not available. The property transfer tax is arbitrarily assumed to fall on the highest four income groups on the basis of following weights: 10 percent, 15 percent, 20 percent, 55 percent, respectively, to the highest four income groups.

Distribution of tax burden

Estimates of the allocation of taxes among income groups are given for 1963 and 1973 in Tables 9 and 10. The distributive patterns of tax burden that emerge when different income concepts are employed are presented in Table 11.

In both the years the tax burden of spending units with an annual income of more than 9,600 rupees was considerably higher than the tax burden of spending units in the lower income range. The tax burden of the lowest income group, which appears to be an exception to the general observation made above, ought to be interpreted with great care because of the distortion caused by "nonsampling errors." The payment of income tax by and the allocation of a large portion of corporate income tax, export duties, property transfer tax, wealth, and estate taxes to the income

Table 9. Allocation of tax burden by income class, 1963[a] (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Personal income tax	88.0	--	--	--	--	--	27.3	8.9	12.4	39.4
Corporate income tax	87.0	--	--	--	--	--	4.4	13.1	17.4	52.2
Business turnover tax	--	--	--	--	--	--	--	--	--	--
Excise										
Liquor	27.0	0.6	0.7	3.5	11.2	8.3	1.7	0.4	0.3	0.4
Tobacco	80.0	1.0	2.2	11.0	24.8	21.9	12.2	2.2	2.1	2.6
Tea	39.0	--	--	--	--	--	2.0	5.9	7.8	23.4
Import duties										
Food	25.0	0.4	0.8	4.4	8.8	6.5	2.9	0.5	0.4	0.4
Clothing	23.0	0.2	0.4	2.8	7.8	6.6	3.5	0.6	0.6	0.6
Petroleum	100.0	0.9	2.3	10.4	22.5	22.9	18.1	5.4	5.3	12.4
Vehicles and transport equipments	30.0	0.2	0.4	2.3	4.9	3.9	2.0	4.0	4.3	8.0
Other	211.0	2.3	4.9	26.4	61.6	55.7	34.0	7.6	7.2	11.4
Receipts from sale of foreign exchange entitlement certificates	--	--	--	--	--	--	--	--	--	--

[a]Due to errors in rounding, details may not add up to total.

Table 9. (Continued)

Details	Amount allocated	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Export duties										
Tea	99.0	--	--	--	--	--	5.0	14.9	19.8	59.4
Rubber	25.0	--	--	--	--	--	1.3	3.8	5.0	15.0
Coconut	19.0	--	--	--	--	--	1.0	2.9	3.8	11.4
Other	14.0	--	--	--	--	--	0.7	2.1	2.8	8.4
License										
Liquor	26.0	0.6	0.7	3.3	10.8	8.0	1.6	0.4	0.3	0.4
Vehicles	24.0	0.2	0.3	1.8	3.9	3.1	1.6	3.2	3.4	6.4
Other	2.0	0.03	0.1	0.3	0.7	0.5	0.3	0.1	0.05	0.07
Estate and wealth taxes	32.0	--	--	--	--	--	--	--	--	32.0
Bank debit tax	12.0	0.2	0.3	1.8	3.9	3.1	1.6	0.3	0.3	0.4
Profit from sale of liquor	98.0	2.2	2.5	12.5	40.6	30.1	6.1	1.6	1.2	1.5
Surplus of government enterprises	40.0	0.6	1.1	6.1	13.0	10.4	5.4	1.0	0.9	1.4
Property transfer tax	14.0	--	--	--	--	--	1.4	2.1	2.8	7.7
Total	1,115.0	9.2	16.5	86.7	214.4	181.0	133.9	80.7	98.1	294.7

Table 10. Allocation of tax burden by income class, 1973[a] (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months)								
		< 300	301- 600	601- 1,200	1,201- 2,400	2,401- 4,800	4,801- 9,600	9,601- 12,000	12,001- 18,000	> 18,000
Personal income tax	242.0	--	--	--	--	--	26.1	24.0	45.3	146.7
Corporate income tax	380.0	--	--	--	--	--	19.0	57.0	76.0	228.0
Business turnover tax	536.0	0.2	0.5	7.0	62.2	202.1	161.3	29.5	34.3	38.6
Excise tax										
Liquor	27.0	--	0.1	0.4	3.1	12.5	8.3	0.8	0.9	0.9
Tobacco	342.0	0.1	0.3	6.5	53.0	156.0	97.5	10.6	11.3	6.8
Tea	25.0	--	--	--	--	--	1.3	8.8	5.0	15.0
Import duties										
Food	57.0	0.02	0.1	1.5	9.9	26.4	14.4	1.9	1.5	1.3
Clothing	32.0	0.01	0.03	0.3	3.2	12.0	10.4	2.0	2.0	1.9
Petroleum	34.0	0.01	0.04	0.5	4.1	13.0	9.5	1.8	1.9	3.1
Vehicles and transport equipments	25.0	0.004	0.03	0.3	1.9	5.4	3.4	0.5	0.5	13.0
Other	74.0	0.02	0.07	1.0	8.6	27.9	22.3	4.1	4.7	5.3
Receipts from sale of foreign exchange entitlement certificates	674.0	0.2	1.0	10.5	93.9	276.5	189.7	31.3	34.1	36.4

[a]Due to errors in rounding, details may not add up to total.

Table 10. (Continued)

Details	Amount allocated	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Export duties										
Tea	95.0	--	--	--	--	--	4.8	14.3	19.0	57.0
Rubber	121.0	--	--	--	--	--	6.1	18.1	24.2	72.6
Coconut	32.0	--	--	--	--	--	1.6	4.8	6.4	19.2
Other	41.0	--	--	--	--	--	2.1	6.2	8.2	24.6
License										
Liquor	29.0	--	0.1	0.6	3.3	13.5	8.9	0.8	1.0	1.0
Vehicles	25.0	0.004	0.03	0.3	1.9	5.4	3.4	0.5	0.5	13.0
Other	3.0	0.001	0.006	0.1	0.5	1.3	0.8	0.1	0.1	0.1
Estate and wealth taxes	55.0	--	--	--	--	--	--	--	--	55.0
Bank debit tax	29.0	0.01	0.1	0.6	4.4	12.5	7.8	1.2	1.2	1.2
Profit from sale of liquor	220.0	--	0.9	3.1	25.3	102.1	67.5	6.2	7.3	7.7
Surplus of government enterprises	12.0	0.004	0.02	0.3	1.8	5.2	3.2	0.5	0.5	0.5
Property transfer tax	22.0	--	--	--	--	--	2.2	3.3	4.4	12.1
Total	3,132.0	0.6	3.3	32.8	277.1	871.7	671.4	223.1	290.1	761.2

Table 11. Tax burden as a percentage of income, 1963 and 1973

Income base	Year	Income class of spending units (rupees for 12 months)									
		< 300	301-600	601-1,200	1,201-2,400	2,401 4,800	4,801-9,000	9,601-12,000	12,001-18,000	> 18,000	Avg.
National income	1963	51.6	15.3	15.0	13.4	11.3	11.8	32.4	36.5	52.5	18.2
	1973	42.7	24.5	16.3	15.1	15.7	17.6	31.7	40.6	71.3	22.5
National income plus transfers	1963	27.5	12.2	13.2	12.4	10.7	11.6	32.3	34.5	52.4	17.2
	1973	20.6	18.4	14.1	13.3	14.4	16.7	30.2	39.7	69.3	20.9
Net national product	1963	52.4	16.3	14.3	12.3	10.1	10.5	29.0	32.9	47.5	16.5
	1973	39.6	24.9	15.4	13.9	14.1	15.4	27.9	35.6	63.6	20.1
Net national product plus transfers	1963	27.8	12.8	12.7	11.4	9.6	10.4	28.9	31.2	47.4	15.7
	1973	19.8	18.6	13.4	12.4	13.0	14.8	26.6	34.8	62.0	18.8
Net national product, less taxes, plus government expenditure	1963	24.2	10.4	10.4	10.2	9.0	10.1	34.0	38.4	76.3	15.2
	1973	18.5	13.5	11.1	11.5	12.0	14.4	28.4	40.0	112.7	18.7

groups with an annual income of at least 9,600 rupees largely explains the significant shift in the level of tax burden (see Table 11).

By and large the tax structure appears to be progressive, as illustrated by Figure 1. The degree of progression, however, differs with the definition of income used. The regressive distribution of tax burden of the income groups in the income range of 2,400 rupees or less is probably more a reflection of the distortion caused by "nonsampling errors" rather than any regressive feature of the tax system. At these low levels of income, the spending units do not have the economic capacity to save. Moreover, the differences in the annual income of individuals in these income groups are not significant enough to cause substantial differences in their expenditure patterns. Under these circumstances, the burden of taxes of the first through fourth income groups would be more in proportion to income rather than be regressive as portrayed by the estimates of this study. For purpose of illustration, assume that the annual income of spending unit A is 1,200 rupees and the income of spending unit B is 2,400 rupees and that all income is expended. Further, assume that neither spending unit A nor spending unit B is liable for any direct taxes. In this hypothetical case, given a rate structure of indirect taxes, the crucial factor that determines the distribution of tax burden is the product-mix of spending unit A and spending unit B. If they are different, then the regressivity or progressivity of tax burden will depend on whether the tax system discriminates against the product-mix of spending unit A or the product-mix of spending unit B. On the other hand, if the product-mix remains the same at both levels of income, the tax burden will be proportional to income, regardless of the basic structure of indirect taxes.

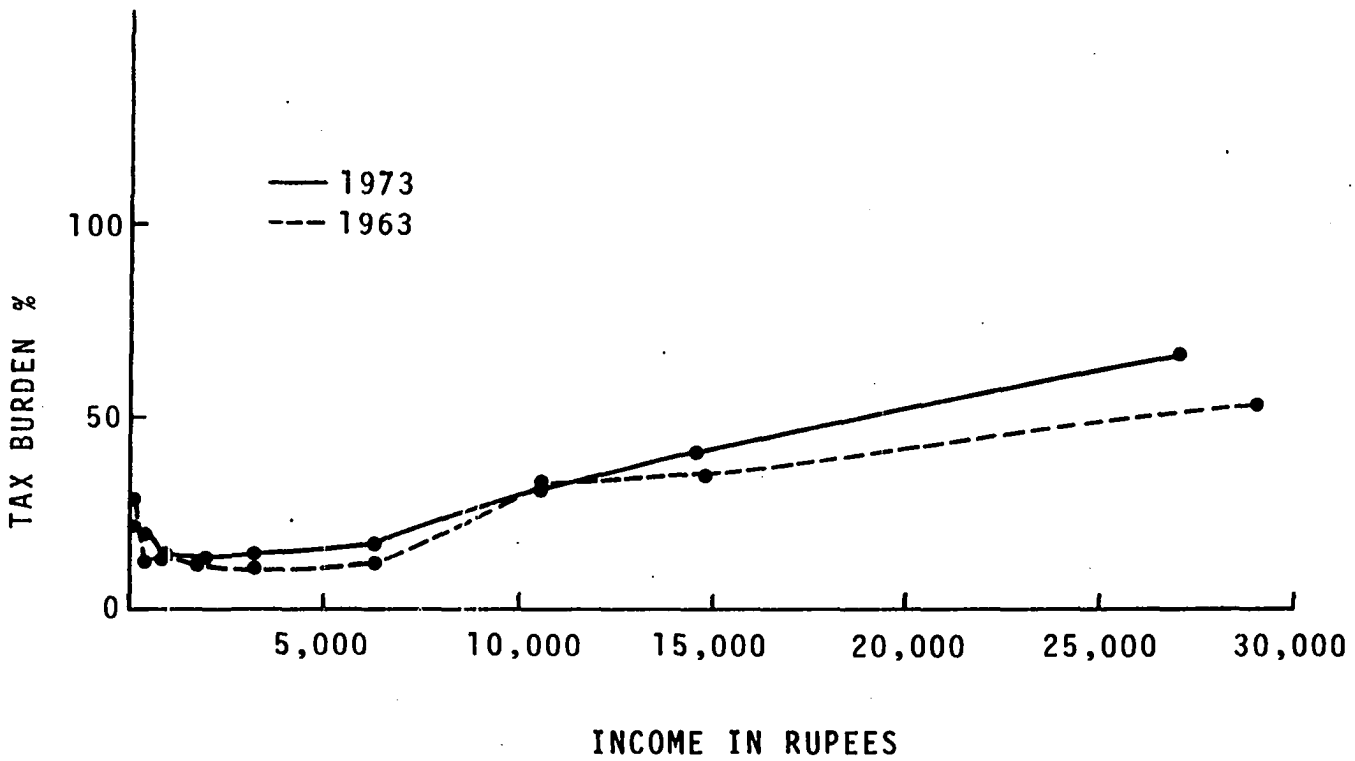

Figure 1. Tax burden expressed as a percentage of "national income plus transfers," 1963 and 1973

The estimates given in Table 11 effectively demonstrate the inherent deficiency of some of the income concepts examined in this study. The major drawback in excluding transfer income from the income base is that it results in over-estimation of the tax burden of income groups at the low levels of income, as indicated by the effective ratios of tax burden in terms of "national income" and "net national product." The income concept equivalent to "net national product - less taxes - plus government expenditure," on the other hand, tends to distort the progressivity of the tax structure by magnifying the tax burden of the high income groups to unrealistic levels. It is observable that these distortions of the tax burden of income groups at the two extremes of the income scale are avoided by the employment of either "national income plus transfers" or "net national product plus transfers."

In the period 1963 to 1973, there has been a significant increase in the tax burden, an increase of about 4 percentage points when the tax burden is expressed as a percentage of "national income plus transfers." The introduction of the business turnover taxes in October, 1963, rate increases and widening the coverage of the business turnover taxes in subsequent years, and the implementation of the Foreign Exchange Entitlement Certificate Scheme in 1967, by and large, account for the increase in the tax burden. All income groups appear to have experienced an increase in the tax burden over the decade, though in different degrees, with the exception of the income group with an annual income of 9,600 rupees to 12,000 rupees and the lowest income group. The distributive pattern of the tax burden of the major categories of taxes is given in Tables 12 and 13.

Table 12. Taxes expressed as a percentage of "national income plus transfers," 1963

Taxes	Income class of spending units (rupees for 12 months)									
	< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000	Avg.
Personal income tax	--	--	--	--	--	2.4	3.6	4.4	7.0	1.4
Corporate income tax	--	--	--	--	--	0.4	5.2	6.1	9.3	1.3
Business turnover tax	--	--	--	--	--	--	--	--	--	--
Excise taxes	4.9	2.1	2.2	2.1	1.8	1.4	3.4	3.6	4.7	2.3
Import duties	11.8	6.5	7.1	6.1	5.7	5.2	7.2	6.2	5.8	6.0
Receipts from sale of foreign exchange entitlement certificates	--	--	--	--	--	--	--	--	--	--
Export duties	--	--	--	--	--	0.7	9.4	11.0	16.7	2.4
License taxes	2.3	0.8	0.8	0.9	0.7	0.3	1.5	1.3	1.2	0.8
Estate and wealth taxes	--	--	--	--	--	--	--	--	5.7	0.5
Bank debit tax	0.5	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2
Profit from sale of liquor	6.4	1.8	1.9	2.3	1.8	0.5	0.6	0.4	0.3	1.5
Surplus of government enterprises	1.7	0.8	0.9	0.8	0.6	0.5	0.4	0.3	0.2	1.6
Property transfer tax	--	--	--	--	--	0.1	0.8	1.0	1.4	0.2

Table 13. Taxes expressed as a percentage of "national income plus transfers," 1973

Taxes	Income class of spending units (rupees for 12 months)									
	< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000	Avg.
Personal income tax	--	--	--	--	--	0.7	3.2	6.2	13.4	1.6
Corporate income tax	--	--	--	--	--	0.5	7.7	10.4	20.8	2.5
Business turnover tax	6.0	3.0	3.0	3.0	3.3	4.0	4.0	4.7	3.5	3.6
Excise taxes	3.8	2.1	2.9	2.7	2.7	2.7	2.0	2.3	2.1	2.6
Import duties	2.3	1.6	1.5	1.3	1.4	1.5	1.4	1.5	2.3	1.5
Receipts from sale of foreign exchange entitlement certificates	7.7	5.4	4.5	4.5	4.6	4.7	4.2	4.7	3.3	4.5
Export duties	--	--	--	--	--	0.4	5.9	7.9	15.8	1.9
License taxes	0.2	0.8	0.4	0.3	0.3	0.3	0.2	0.2	1.3	0.4
Estate and wealth taxes	--	--	--	--	--	--	--	--	5.0	0.4
Bank debit tax	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Profit from sale of liquor	--	4.9	1.3	1.2	1.7	1.7	0.8	1.0	0.7	1.5
Surplus of government enterprises	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.04	0.1
Property transfer tax	--	--	--	--	--	0.1	0.4	0.6	1.1	0.1

Distribution of Expenditure Benefits by Income Groups

The procedure to determine the distribution of expenditure benefits by income groups is similar to the one adopted to estimate the distributive patterns of tax burden among income groups. Again the crucial problem is to determine the incidence assumptions and selection of the appropriate distributive series. In the ensuing analysis, the expenditure incidence assumptions of this study are discussed. This is followed by a discussion of the major features of the estimates of the expenditure incidence for the years 1963 and 1973.

Expenditure incidence assumptions

In examining the incidence of government expenditure, it is necessary to distinguish between transfer payments and expenditures on goods and services. Moreover, the public sector expenditure on goods and services may be directed to satisfy either private wants (private goods) or social wants (public goods). The transfer component of government expenditure can be considered negative taxes and treated analogously. Thus the assumptions regarding the degree and direction of shifting coupled with the distributive series used in allocation would determine the distributive pattern of benefits of transfer payments by income groups. In other words the incidence analysis of transfer payments is subject to the same level of argument as the tax incidence analysis. A different kind of problem is encountered in examining the incidence of government expenditure on goods and services. The problem of measuring the benefits of government expenditure has been noted in Chapter 1 and will not be repeated here, except for a restatement that the benefits of government expenditures are valued on a

"cost incurred on behalf of" basis. The beneficiaries of government expenditure that satisfy private wants, e.g., education, highway, irrigation, and health, are identifiable, and imputation of such benefits to particular income groups becomes feasible. However, the imputation to particular income groups of benefits of public goods, e.g., administration and defense, is difficult in view of the problem of identifying the beneficiaries. The underlying assumptions and the distributive series employed to allocate the major categories of government expenditure are outlined below.

Administration One-half of civil expenditure is allocated to income groups in terms of population distribution, and the other one-half is distributed on the basis of total consumption expenditure pattern. The benefit of the administrative work of the government is shared by individuals and business in their day-to-day transactions with the government. The benefits that accrue to business are ultimately passed on to individuals either in the form of reduced prices or higher factor income. It is assumed that the benefits that accrue to business would be passed on to the consumers. Further, it is assumed that the population distribution would properly reflect the benefits of civil expenditure accruing to individuals directly. The expenditure on defense, which in the case of Sri Lanka is in reality an expenditure to maintain "law and order," may be regarded as a benefit that accrues to all individuals rather than any specific group of people. It might be argued, however, that preservation of "law and order" really benefits "citizens with property" vis-a-vis "citizens without property." However, data on property ownership by income groups is not available. It is arbitrarily assumed that one-half of defense expenditure will

benefit all the citizens and other one-half is distributed on the basis of income.

Economic services While expenditure under agriculture and irrigation is allocated to the income groups on the basis of farm income, the expenditure on manufacturing and mining is distributed in terms of nonfood expenditure pattern. Meanwhile, government expenditure classified as trade is allocated in terms of distribution of total consumption expenditure by income groups. The transport and communication services provided by the government benefit individuals and business in the export and nonexport sectors. The benefit accruing to the export sector was estimated (on the basis of its share in the expenditure of the business ector) and netted out. Of the balance, one-half is allocated on the basis of expenditure on transport by income groups, and the other one-half is distributed in terms of total consumption expenditure pattern. The expenditure benefits of "economic services, other" is assumed to benefit the population in proportion to their total consumption expenditure.

Social services Expenditure on social overheads includes expenditure on education, health, housing, special welfare services, and community services. The benefits of free education are directly allocated to income groups on the basis of estimated school-going student population. One-half of the expenditure on health services, which are virtually free to the population of all income groups, is allocated on the basis of population distribution, and the other one-half is distributed on the basis of expenditure on medicine by income groups. No information is available on the distribution of benefits of government expenditure on "housing" by income groups. However, housing expenditure is directed to provide housing at

nominal rents to the relatively poor income groups and middle-income groups. In the absence of any data on this aspect of government expenditure, housing expenditure is allocated to spending units in the third through sixth income groups with weights of 1: 2: 3: 4, respectively. It is presumed that the spending units in the lowest two income groups are too poor to pay even the nominal rents and that the spending units with an annual income of 9,600 rupees or above would be denied subsidized housing. The arbitrary nature of the assumptions underlying the allocation of the expenditure on housing should be recognized, though its share in the total expenditure of the government is less than 1 percent. Expenditure on special welfare services constitutes services provided by departments of labor, social services, probation, child care services, and rehabilitation. It is assumed that the benefits of these services accrue to the lower four income groups, and expenditure on special welfare services is allocated to these income groups on the basis of population distribution. The expenditure on community services, which includes expenditure on zoological gardens, kandyan peasantry rehabilitation scheme, national archives, departments of town and country planning, wild life, cultural affairs, etc., is allocated to the income groups on the basis of population distribution.

Transfer payments Government expenditure under "transfer payments" comprises subsidies to consumers and farmers, interest on domestic debt, pension payments and transfers to households, local governments, public corporations, and other institutions.

The major component of the government subsidy bill is the "net food subsidy," which is the net financial loss incurred by the food commissioner in the procurement and sale of rice, sugar, flour, and other food stuffs.

Since the composition of the net food subsidy in 1973 was significantly different from that in 1963, the underlying assumptions of the allocation of net food subsidy differ and are, therefore, described separately. The paddy (rice) producer is subsidized whenever the guaranteed price of paddy is higher than the domestic market price of paddy. In 1963 the average market price of 10.59 rupees of a bushel of paddy was lower than the guaranteed price of 12.0 rupees per bushel of paddy, and since the domestic procurement of paddy by the Food Commissioner in that year amounted to 28 million bushels of paddy, the subsidy to paddy cultivators is estimated at 39.5 million rupees. This subsidy element is distributed to income groups on the basis of farm income. The consumer subsidy on rice (i.e., total rice subsidy less estimated producer subsidy) in 1963 is distributed as per consumption of ration rice by income groups. The profits earned in 1963 from the sale of sugar and flour were distributed on the basis of sugar and flour expenditure patterns (see Appendix Table A5).

A number of estimation problems is encountered in determining the final distribution of net food subsidy in 1973. As far as rice subsidy is concerned, there is the need to isolate the producer subsidy element from the subsidy to consumers of rice. However, in 1973 the "open-market" for paddy was nonexistent as a result of prohibition of private sale of paddy. In the absence of an open market price, the subsidy to paddy cultivators is not estimable. Nevertheless, since the average import price of rice valued at the FEEC rate of exchange (i.e., the official rate of exchange plus cost of Foreign Exchange Entitlement Certificates) was higher than the average price paid by the Food Commissioner on local rice, it may be reasonably assumed that in the year 1973 the paddy cultivators were not subsidized

under the guaranteed price scheme. Consequently the total subsidy on rice is treated as subsidy to the consumers. Since the distributive patterns of fully subsidized (free rice) and partially subsidized (paid rice) rice issued on ration are, more or less, the same (see Appendix Table A3), the total consumer subsidy is allocated on the basis of consumption of ration rice by income groups. The profit from sale of sugar is the net outcome of the loss incurred in the issue of sugar on ration and the profit earned from "off-ration" sales. The subsidy on "ration" sales of sugar was estimated and allocated to income groups on the basis of the population distribution. The estimated profit from "off-ration" sales of sugar is allocated in terms of sugar expenditure pattern. The loss incurred in the sale of flour and other food stuffs are allocated in terms of flour expenditure and food expenditure patterns (see Appendix Table A6).

The government debt is held by individuals, commercial banks, sinking funds (managed by the central bank on behalf of the government), Central Bank, state-owned corporations, other financial institutions, such as savings banks, and nonresidents. The interest earnings of the Central Bank Sinking Funds and state-owned corporations whose net revenue accrue to the government are excluded from the amount allocated to the various income groups. Further, interest payments to nonresidents are also excluded since they do not accrue to individuals in Sri Lanka. The interest expenditure of the government net of these exclusions was allocated to the income groups in terms of interest income. The correct procedure to allocate interest expenditure would be (a) to determine the amount of interest paid to each class of owner of government debt and (b) to allocate the interest payments attributable to each major category of owner to the income groups by

employing appropriate distributive series based on incidence assumptions. However, the relevant data for such a detailed allocative procedure are not available. It is, therefore, presumed that the distributive pattern of interest income would be a reasonable reflection of the distribution of benefits that accrue from government interest expenditure.

While the pension payments are directly allocated in terms of distribution of pension income, transfers to local governments are allocated on the basis of population distribution on the assumption that local government expenditures benefit all individuals rather than a group of people. Government transfers to public corporations are assumed to benefit individuals as consumers and, therefore, are allocated on the basis of total consumption expenditure pattern. Transfers to households are mainly financial assistance to tuberculosis patients, relief of distress on account of crop failure, storms, floods, drought, etc. It is assumed that such transfer payments would benefit, by and large, the "poorer section" of the community and allocated to the lower five income groups. "Transfers, others" are arbitrarily allocated on the basis of population distribution.

Distribution of expenditure benefits

Details of the allocation of expenditure benefits for 1963 and 1973 are given in Tables 14 and 15. The overall distribution of expenditure benefits expressed as a percentage of income is shown in Table 16, and the distributions are identified in terms of the different income concepts examined in this study. As shown in Figure 2, the expenditure benefits are, to a large extent, equitably disbursed among all income groups. The pro-poor configuration of expenditure at the low-income range is probably

Table 14. Allocation of government expenditure by income class, 1963[a] (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Administration										
Civil	194.0	3.3	9.1	35.7	67.4	47.3	21.0	3.3	2.8	3.9
Defense	60.0	0.7	2.5	9.2	18.9	14.7	8.1	1.4	1.5	3.0
Economic services										
Agriculture and irrigation	123.0	1.7	10.8	34.2	33.9	23.9	10.5	2.0	1.8	4.7
Manufacture and mining	17.0	0.2	0.4	2.1	5.0	4.5	2.7	0.6	0.6	0.9
Trade	18.0	0.3	0.5	2.8	5.9	4.7	2.5	0.5	0.4	0.6
Transport and communication	132.0	1.1	3.0	13.7	29.7	30.1	23.8	7.1	7.0	16.3
Other	49.0	0.7	1.3	7.5	16.0	12.8	6.7	1.3	1.1	1.7
Social services										
Education	317.0	--	--	57.1	137.3	84.6	30.1	2.9	2.2	2.5
Health	160.0	2.8	8.4	31.1	53.0	38.2	18.9	3.1	2.6	1.8
Housing	31.0	--	--	3.1	6.2	9.3	12.4	--	--	--
Special welfare services	13.0	0.9	2.1	10.0	--	--	--	--	--	--
Community services	8.0	0.2	0.5	1.7	3.0	1.8	0.6	0.1	0.05	0.1
Transfers										
Net food subsidy	213.0	4.8	22.5	60.3	82.9	33.0	8.6	0.3	0.8	0.6
Subsidy, other	11.0	0.1	1.0	3.1	3.0	2.1	0.9	0.2	0.2	0.4
Interest on domestic debt	69.0	--	--	--	--	6.9	10.4	13.8	17.3	20.7
Pension	102.0	9.2	1.2	1.0	22.7	45.0	8.3	--	14.6	--
To households	39.0	1.2	2.7	12.9	22.2	--	--	--	--	--

[a]Due to errors in rounding, details may not add up to total

Table 14. (Continued)

Details	Amount allocated	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
To local authorities	48.0	1.0	3.2	10.3	17.7	10.9	3.9	0.4	0.3	0.3
To public corporations	86.0	1.2	2.3	13.2	28.0	22.4	11.7	2.2	2.0	2.9
Transfers, other	29.0	0.6	1.9	6.2	10.7	6.6	2.3	0.2	0.2	0.2
Total	1,719.0	29.9	78.6	315.1	563.6	399.0	183.5	39.4	55.3	60.8

Table 15. Allocation of government expenditure by income class, 1973[a] (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Administration										
Civil	485.0	0.2	1.2	11.4	89.8	224.3	117.4	15.0	13.3	12.4
Defense	145.0	0.03	0.3	2.7	24.8	64.5	37.0	5.3	4.8	5.6
Economic services										
Agriculture and irrigation	245.0	0.5	5.6	35.8	64.7	90.9	32.8	4.2	3.4	6.9
Manufacture and mining	33.0	0.01	0.03	0.4	3.8	12.4	9.9	1.8	2.1	2.4
Trade	28.0	0.01	0.1	0.6	4.3	12.1	7.6	1.1	1.1	1.1
Transport and communication	248.0	0.1	0.3	3.7	29.9	94.6	68.9	13.3	14.0	22.9
Other	7.0	0.002	0.01	0.2	1.1	3.0	1.9	0.3	0.3	0.3
Social services										
Education	602.0	--	--	--	45.2	336.6	157.1	14.4	10.8	7.2
Health	299.0	0.1	0.7	5.4	52.0	135.4	76.8	10.8	8.4	9.4
Housing	45.0	--	--	4.5	9.0	13.5	18.0	--	--	--
Special welfare services	19.0	0.03	0.2	1.9	16.8	--	--	--	--	--
Community services	26.0	0.01	0.08	0.7	5.7	12.8	5.6	0.5	0.4	0.3
Transfers										
Net food subsidy	679.0	0.1	2.0	15.9	156.7	356.0	134.0	9.0	3.9	1.5
Subsidy, other	56.0	0.1	1.3	8.2	14.8	20.8	7.5	1.0	0.8	1.6
Interest on domestic debt	393.0	--	--	--	--	39.3	59.0	78.6	98.3	117.9

[a]Due to errors in rounding, details may not add up to total.

Table 15. (Continued)

Details	Amount allocated	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Pension	270.0	0.8	0.8	5.1	48.6	88.3	61.3	25.7	12.4	27.0
To households	66.0	0.03	0.3	2.2	19.4	44.1	--	--	--	--
To local authorities	80.0	0.03	0.3	2.0	17.4	39.5	17.1	1.7	1.2	0.1
To public corporations	551.0	0.2	1.1	12.1	83.8	237.5	148.8	22.6	22.0	22.6
Transfers, other	76.0	0.03	0.2	1.9	16.6	37.5	16.3	1.6	1.1	0.8
Total	4,353.0	2.2	14.5	114.7	704.3	1,893.2	977.0	207.0	198.5	240.0

Table 16. Benefits of government expenditure as a percentage of income, 1963 and 1973

Income base	Year	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
National income	1963	166.9	68.5	54.4	35.4	24.9	16.2	15.8	20.6	22.6
	1973	169.7	108.1	56.9	38.3	34.0	25.6	29.4	27.8	22.5
National income plus transfers	1963	89.2	54.6	48.0	32.7	23.7	15.9	15.8	19.4	21.4
	1973	81.7	81.4	49.2	33.8	31.2	24.3	28.0	27.1	21.8
Net national product	1963	169.7	72.8	52.1	32.3	22.2	14.4	14.1	18.5	20.4
	1973	157.6	109.8	53.9	35.4	30.6	22.5	25.9	24.3	20.0
Net national product plus transfers	1963	90.0	57.3	46.2	30.0	21.2	14.2	14.1	17.6	19.3
	1973	78.8	82.3	46.9	31.6	28.3	21.5	24.7	23.8	19.5
Net national product, less taxes, plus government expenditure	1963	78.1	46.5	37.8	26.9	19.8	13.9	16.6	21.6	23.8
	1973	73.5	59.4	38.9	29.1	26.3	21.0	26.4	27.4	35.5

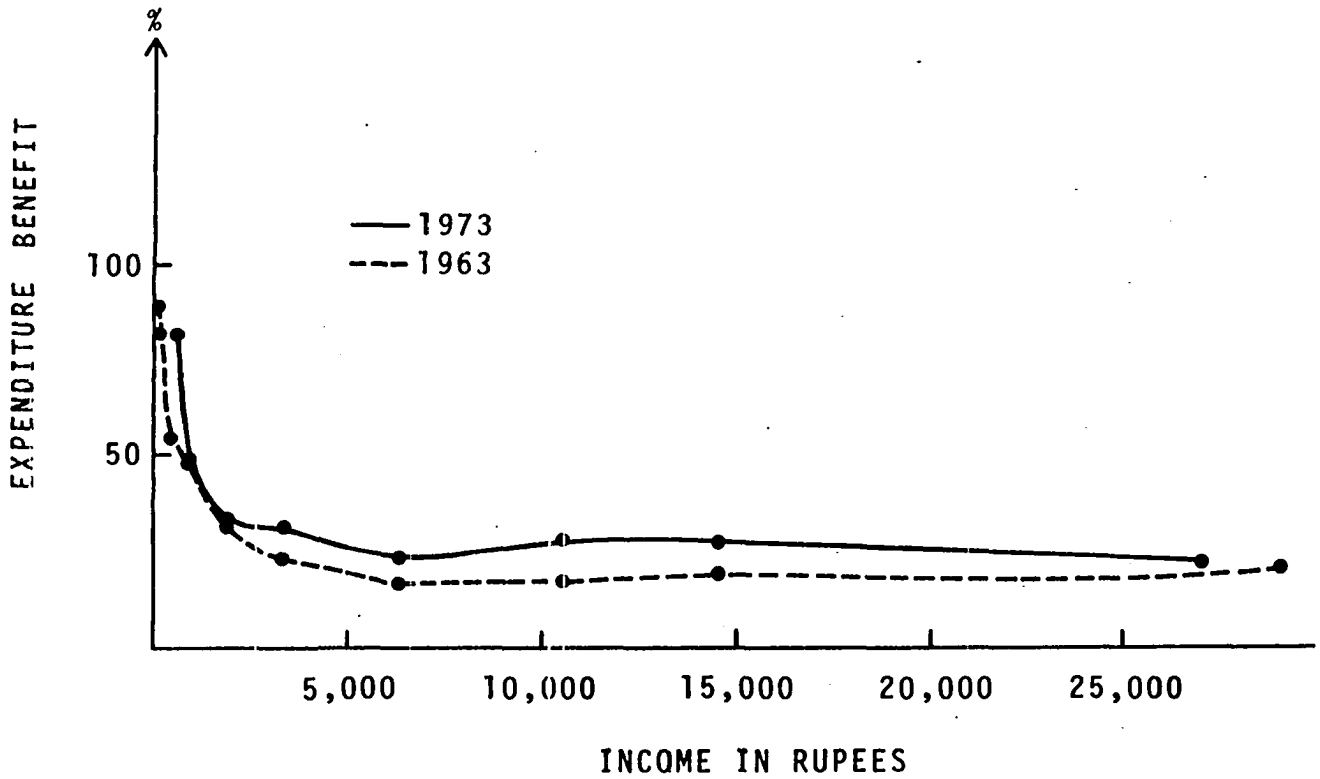

Figure 2. Expenditure benefits expressed as a percentage of "national income plus transfers," 1963 and 1973

less regressive than that indicated in Figure 2 in view of the nonsampling errors in the data. A reasonable conclusion would be that the expenditure incidence is mildly regressive at the income range below the income level of about 6,000 rupees and that it is proportional or equitable in distribution beyond the income level of about 6,000 rupees. The fact that the benefits of government expenditure on administration, education, health, consumer food subsidy, economic overheads and transfers to corporations, local governments and other institutions are practically enjoyed by all income groups explains the distributive pattern of expenditure incidence. Over the decade the increase in level of expenditure incidence appears to be somewhat in favor of spending units in the income range from about 9,000 rupees to about 15,000 rupees vis-a-vis the increase in the expenditure incidence of other spending units.

Distribution of Fiscal Incidence by Income Groups

The distribution of fiscal incidence (tax less expenditure) by income groups is derived by combining the burden and benefit sides of the budget equation. The fiscal incidence may be either negative or positive depending on whether the benefits of government expenditure outweigh tax burden or vice versa. The distributive patterns of fiscal incidence expressed as a percentage of the different income concepts are shown in Table 17. As will be seen from the table, Sri Lanka's fiscal structure is pro-poor. In both years 1963 and 1973, expenditure benefits of the income groups in the income range of 9,600 rupees and less have exceeded tax burdens, and the fiscal structure has been highly regressive in this income range. In contrast the tax burden of income groups in the income range of 9,600 rupees

Table 17. Fiscal incidence as a percentage of income, 1963 and 1973

Income base	Year	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
National income	1963	-115.1	-53.2	-39.5	-21.9	-13.6	-4.4	16.6	15.9	41.7
	1973	-130.8	-83.6	-40.6	-23.2	-18.4	-8.0	2.3	12.8	48.8
National income plus transfers	1963	-61.5	-42.4	-34.8	-20.2	-12.9	-4.3	16.5	15.0	41.6
	1973	-63.0	-62.9	-35.1	-20.5	-16.8	-7.6	2.2	12.5	47.5
Net national product	1963	-117.0	-56.5	-37.8	-20.0	-12.1	-3.9	14.8	14.3	37.7
	1973	-121.4	-84.8	-38.4	-21.5	-16.5	-7.0	2.0	11.2	43.6
Net national product plus transfers	1963	-62.0	-44.5	-33.5	-18.6	-11.6	-3.8	14.8	13.6	37.6
	1973	-60.7	-63.6	-33.4	-19.1	-15.3	-6.7	1.9	11.0	42.5
Net national product, less taxes, plus government expenditure	1963	-53.9	-36.1	-27.4	-16.7	-10.8	-3.7	17.4	16.7	60.5
	1973	-56.7	-45.9	-27.8	-17.7	-14.2	-6.6	2.1	12.7	77.2

and above has been in excess of the benefits of government expenditure in both the years 1963 and 1973. Further, the progressivity of the fiscal structure, in the relevant income range, appears to be more pronounced in 1973 than in 1963.

The distribution of fiscal incidence for the years 1963 and 1973 is shown in Figure 3, where fiscal incidence as a percentage of "national income plus transfers" is plotted against average income in each income group. Spending units below the income level of about 16,000 rupees appear to have been better off in 1973 than in 1963. The economic gain was reflected either in an increase in income or a reduction in the net loss arising from the fiscal operations of the government. Though the spending units below the income level of about 3,000 rupees were better off in 1973 as compared to 1963, the change in the economic position was not significant. In contrast the economic gains of spending units in the income range from about 3,000 rupees to about 14,000 rupees appear to be significant, the maximum gain accruing to those with an income of about 10,000 rupees. Another prominent feature of Figure 3 is the pronounced increase in the progressivity of the net loss of the spending units beyond the income level of about 18,000 rupees. Over the decade the breakeven point has risen from about 7,500 rupees to about 9,500 rupees.

The size distribution of income in 1963 and 1973 after allocating all taxes and expenditures across spending units is compared with the income distribution prior to fiscal operations of the government in Figure 4. The emerging Lorenz curves of "pre-fisc" and "post-fisc" income distribution suggest that in both years the fiscal operations of the government have significantly reduced the inequality in the "pre-fisc" income distribution.

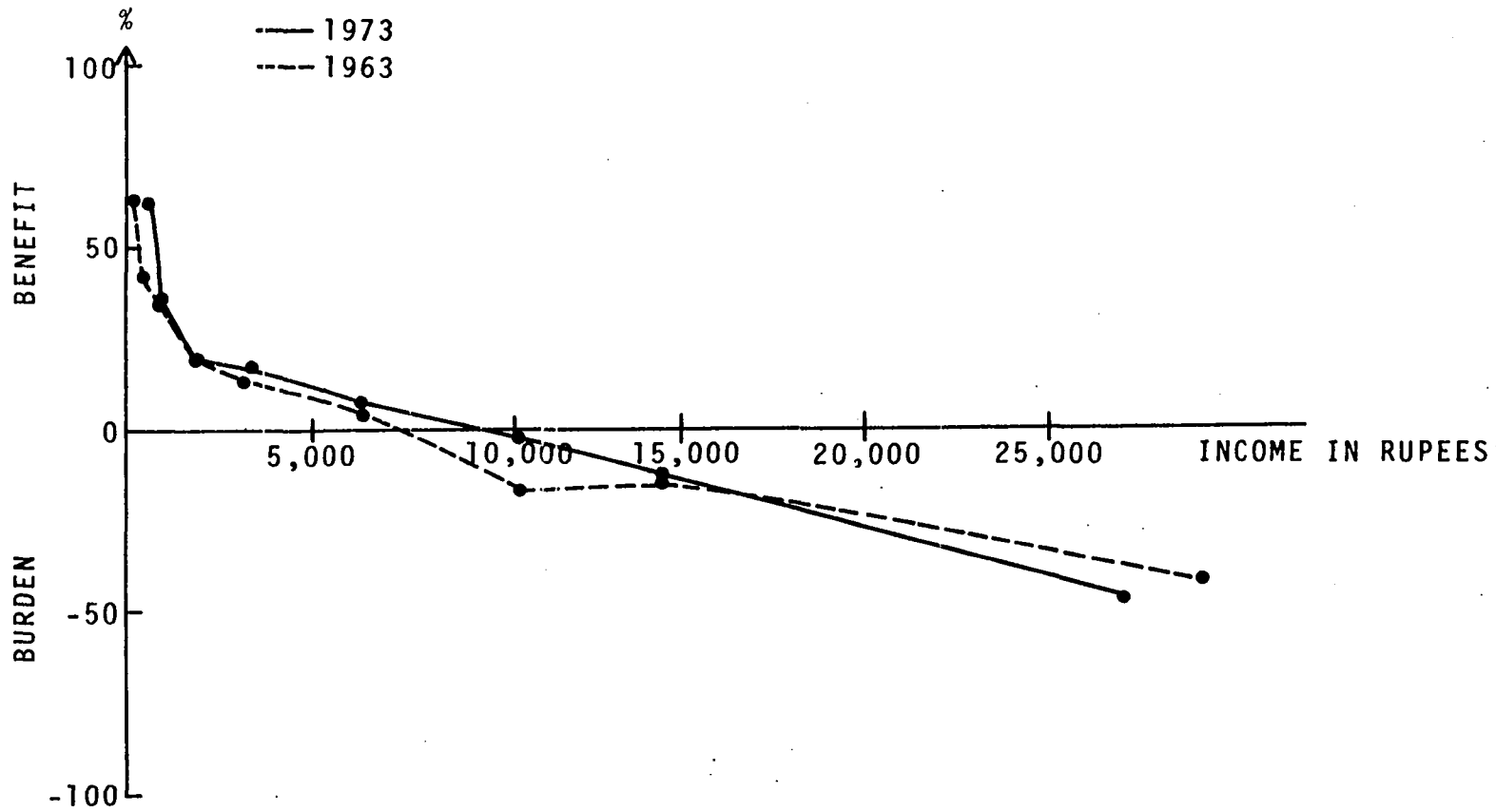

Figure 3. Fiscal incidence expressed as a percentage of "national income plus transfers," 1963 and 1973

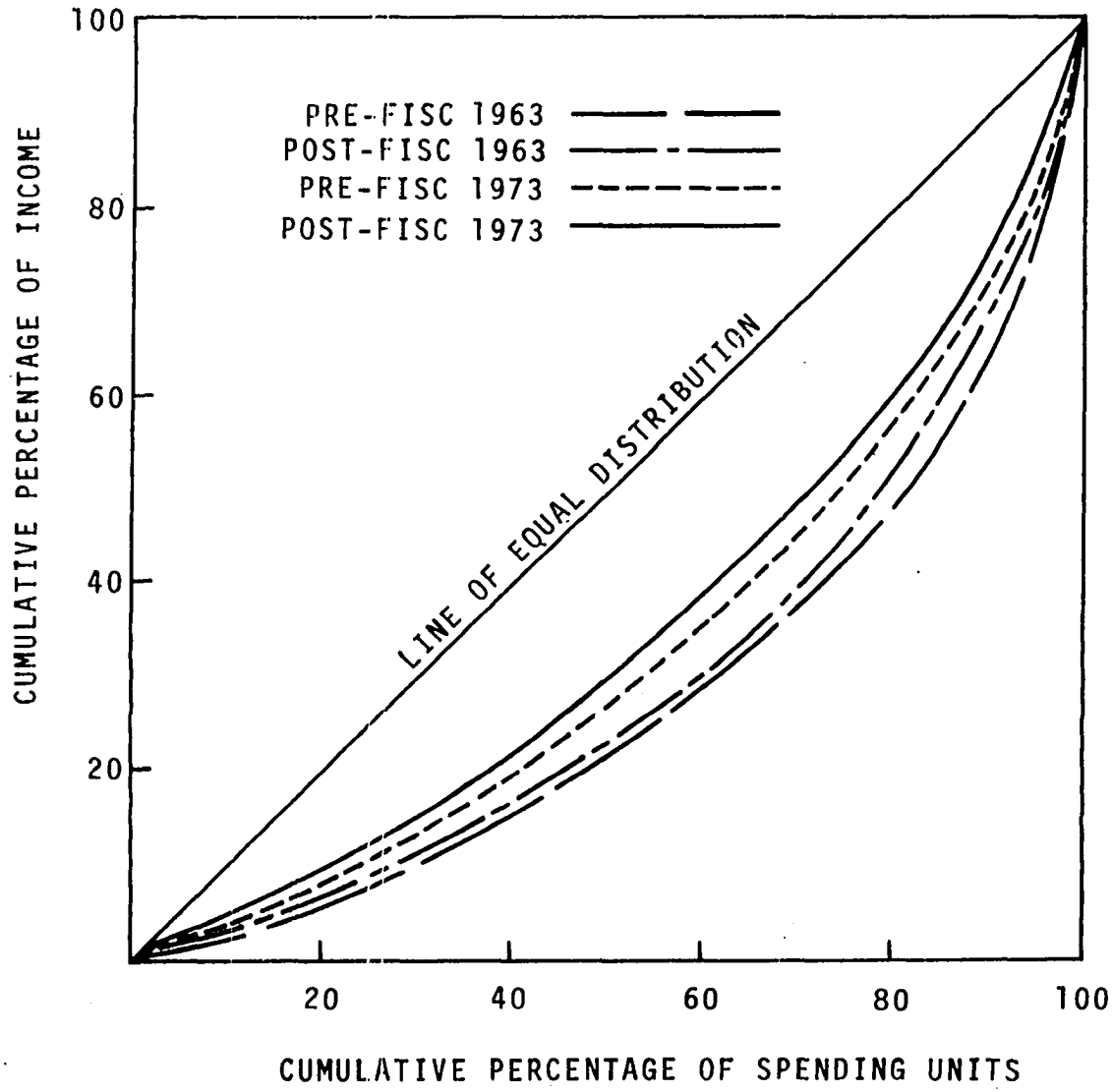

Figure 4. A Lorenz curve comparison, 1963 and 1973

It is apparent that the overall impact of the fiscal operations upon the distribution of income has significantly increased over the decade.

An unweighted ordinary least squares regression with rupees gained (or lost) as the dependent variable and the mean income of spending units in each income group as the independent variable for each year supports some of the observations made earlier. The regression estimates in Table 18 serve as a convenient summary of the changes in the composition of the fiscal structure over the decade. The estimated tax functions of 1963 and 1973 confirm the observation made earlier that the tax structure of Sri Lanka is basically progressive. Moreover, the increase in the slope coefficient of the tax function from 0.51 in 1963 to 0.66 in 1973 is a reflection of the increase in the progressivity of the tax structure in the ten-year period. The failure to reject the null hypothesis of the intercept of the expenditure function of 1963 confirms the observation that expenditure benefits appear to be equitably disbursed. However, the estimated expenditure function of 1973 portrays a regressive or pro-poor distribution of expenditure benefits. The combined effect of the increase in the progressivity of the tax structure and the change in expenditure pattern from proportional to regressive has caused the fiscal structure to become more favorable to the relatively poorer sections of the community in 1973 as compared to 1963. These features are illustrated in Figure 5, where the regression lines for the tax and expenditure functions are plotted for 1963 and 1973.

Until now the form of incidence analysis has been carried out as though the budgets of 1963 and 1973 were balanced. Thus the distributive effects of deficit financing have been ignored. At the outset it should be

Table 18. A regression comparison of fiscal incidence, 1963 and 1973

	Intercept		Slope		R^2	
	1963	1973	1963	1973	1963	1973
Tax burden	-1,022.4**	-1,469.1*	0.51**	0.66**	.96	.94
Expenditure benefit	41.0	306.4**	0.20**	0.22**	.99	.99

*Significant at 10 percent.

**Significant at 5 percent.

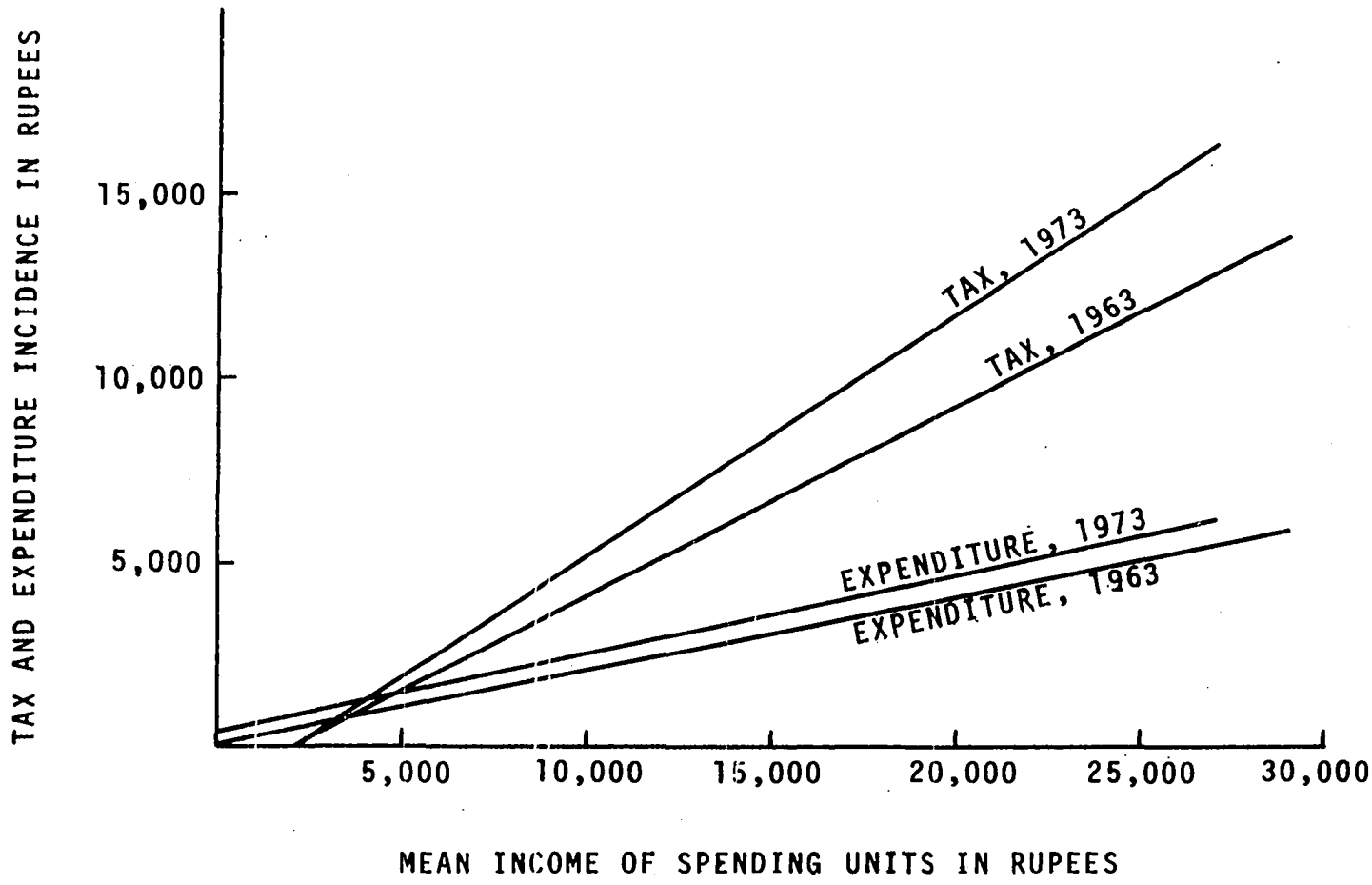

Figure 5. Expenditure and tax functions, 1963 and 1973

recognized that the distributive effects of a budgetary deficit or surplus depend on the measures taken to correct the imbalance and how the economy reacts to such corrective measures (18, 25, 26).

In the case of a deficit budget, the government may either borrow from the domestic nonbank market sector, obtain foreign credit or grants, or opt for inflationary financing. Domestic nonbank market borrowing leads to a restructuring of the subscribers' portfolio-mix and causes no reduction in the money value of net worth. The burden that arises from the domestic borrowing from the nonbank market sector is equivalent to the present value of future tax payments to service the debt plus the redistributive effects of changes in the levels of aggregate output and employment caused by government expenditure. In the case of external borrowing, the burden of government debt will also include the principal amount borrowed. Two problems are encountered in the allocation of the burden arising from domestic nonbank market borrowing and external borrowing by the government. The first is the problem of measuring the real burden. The second is the difficulty in ascertaining the method of distributing the burden, i.e., the identification of the group that will bear the burden of government borrowing. A similar problem is also encountered in allocating the burden of inflationary financing. If the economy is at the full employment level, the expansionary component of deficit financing may be considered an inflationary tax. Here again the problem is one of identifying the distributive pattern of the burden of inflationary tax. If inflation reduces real income uniformly, one could allocate the burden of inflationary tax in terms of income distribution. But the problems are severe in a context where the effects of inflation are not uniform. Moreover, if the economy is yet to

reach the level of full employment, the burden of inflationary tax would be less severe depending on how the economy reacts to deficit financing. In view of the above difficulties in the measurement of the burden of deficit financing and the problem of identifying the groups that would bear the burden, no attempt is made in this study to allocate the distributive effects of the budget deficits of 1963 and 1973. This shortcoming of the study, however, may not alter significantly the basic feature of the distributive pattern of tax burden, i.e., if the tax system is progressive (regressive), the allocation of the burden of debt financing would probably alter the rate of progression (regression) but not the progressiveness (regressiveness) of the tax structure.

FISCAL INCIDENCE BY ECONOMIC SECTORS, 1973

The objective of this chapter is to estimate the fiscal incidence (taxes net of benefits of government expenditure) of specified economic sectors and to evaluate the inter-sectoral fiscal equity. Taxes paid, benefits derived from government expenditure programs, and net fiscal incidence are estimated for each economic sector. The results should throw some light on the question of whether there is an inter-sectoral fiscal equity. The reference period of this chapter is the calendar year 1973.

Definition of Economic Sectors

This study examines three economic sectors, namely the plantation agricultural sector, the nonplantation agricultural sector, and the nonagricultural sector. The plantation agricultural sector consists of all tea and rubber estates over 20 acres and with more than ten resident workers.[1] The nonplantation agricultural sector comprises largely the cultivation and processing of coconut, rice, subsidiary food crops, forestry, and livestock. The nonagricultural sector includes all other economic activities such as manufacturing, construction, mining, services, power, and public administration.

The term "agricultural sector" as defined above is evidently a broad one and may not satisfy a vigorous and precise definition of the term "agriculture." It is not within the scope of this study, however, to dwell on the question of what is and what is not an agricultural activity. The

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[1] This is the definition of the estate (plantation) sector used in the "Survey of Sri Lanka's Consumer Finances 1973" (13).

tea and rubber plantations are treated separately and for analytical purposes may be grouped under agriculture or under nonagriculture.

Another important group that needs to be defined is the population related to, or supported by, each of the economic sectors. For instance, does the nonplantation agricultural sector refer to an economic sector of farms or a group of people earning a living from farm operations? Or does it include the dependents too? In this study the term "nonplantation agricultural population" is defined to include all members of the households of farmers, noncultivating land owners, and landless farm labor. Similarly, the term "plantation agricultural population" would include all members of households related to the plantation agricultural sector. The population under the "nonagricultural sector" would, therefore, include all individuals not supported by the agricultural (plantation and nonplantation) sector.

Measurement of Inter-Sectoral Fiscal Equity

The measurement of inter-sectoral fiscal equity involves (1) the measurement of inter-sectoral tax equity and (2) the measurement of inter-sectoral expenditure equity. The statistical measure of tax equity, expenditure equity, and fiscal equity between any two sectors is discussed below.

Measurement of inter-sectoral tax equity

One measure of inter-sectoral tax equity is the tax burden of one economic sector expressed as a ratio of the tax burden of another economic sector (5, 17). Two basic steps are involved in deriving such a statistical measure. The first is the measurement of the tax burden of each of the

economic sectors under review. The second is the statistical comparison of the tax burdens of two economic sectors at a time.

The tax burden of the i^{th} economic sector is measured by (T_i/C_i), where T_i is the total taxes allocated to the i^{th} sector and C_i is the economic capacity of the i^{th} sector and i = 1, 2, 3, 4, i.e., (1) plantation agricultural sector, (2) nonplantation agricultural sector (3) agricultural sector, and (4) the nonagricultural sector. The degree of inequity, denoted by r_T, in the tax burdens of two economic sectors, say the agricultural sector and the nonagricultural sector, is measured by the ratio of (T_3/C_3) to (T_4/C_4), which will be $\lesseqgtr 1$. If $r_T = 1$, then it is an indication of an equitable distribution of the tax burden between the two economic sectors. If r_T takes the value of <1, then it could be concluded that there exists a situation of inter-sectoral tax inequity in favor of the agricultural sector. The conclusion would be just the opposite if the value of r_T is >1. It is important to note that r_T, which is the degree of inequity between any two economic sectors, is only a measure of horizontal tax equity. It does not take into account the differences in the distributive pattern of income distribution by income groups in each of the economic sectors. Nor does it accommodate the disparities in the concentration of wealth among income groups in each of the economic sectors. Any judgment on the extent of vertical tax equity between economic sectors with different taxable capacities would warrant consideration of these economic variables. This study is confined to the assessment of horizontal intersectoral tax equity. The question of vertical equity between sectors is left unanswered partly because of the paucity of relevant data and partly

on account of the critical value judgments that may have to be made in evaluations of vertical tax equity.

Measurement of inter-sectoral expenditure equity

Following the methodology adopted in the measurement of inter-sectoral tax equity, a measure of expenditure benefits of the i^{th} economic sector is equivalent to (E_i/C_i) where E_i is the expenditure allocated to the i^{th} sector and C_i is the economic capacity of the i^{th} sector and i = 1, 2, 3, 4. Inter-sectoral expenditure equity is measured by r_E which equals the ratio of expenditure benefits of one economic sector to the expenditure benefits of another economic sector, i.e., $(E_i/C_i)_{i=1}/(E_i/C_i)_{i\neq 1}$. The value of r_E will again be $\lesseqgtr 1$. Assuming that the two sectors to be compared are the agricultural and nonagricultural sectors and if $r_E = 1$, then it would imply that the distribution of the benefits of government expenditure programs is equitable between the two sectors. If $r_E<1$, then it could be concluded that the inter-sectoral expenditure equity is favorable to the nonagricultural sector or against the agricultural sector. If $r_E>1$, then the opposite conclusion would follow.

Measurement of inter-sectoral fiscal equity

The measure of fiscal incidence is given by $(F_i/C_i) = (T_i/C_i) - (E_i/C_i)$ where F_i = the fiscal incidence of the i^{th} sector. The other variables are as defined above. It follows that a measure of inter-sectoral fiscal equity is equal to r_F where $r_F = (F_i/C_i)_{i=1}/(F_i/C_i)_{i\neq 1}$ and that r_F will be $\lesseqgtr 1$.

Definition of economic capacity

The definition of a suitable income base to express the tax burden, expenditure benefits, and the net fiscal incidence poses a problem. Is the income base to be measured in terms of money income, money income plus income in kind, national income, or the Gross National Product at current market prices? The relevance and shortcomings of the different measures of income were dealt with in the third chapter in the context of an analysis of fiscal incidence by income groups and are not repeated here. In this study to examine inter-sectoral fiscal equity, the broadest measure of total income or output of the economy is defined as the economic capacity; the contributions of each of the economic sectors toward the Gross National Product, at current market prices, represents the economic capacity of each sector. It is important to note that the income of each economic sector, whatever the measure of income may be, does not necessarily reflect the differences in taxable capacity. Apart from income, distribution of income and concentration of wealth are also vital determinants of taxable capacity. In arriving at a realistic index of taxable capacity of each sector, these economic variables will have to be accommodated. Despite the shortcomings of the use of income as an index of taxable capacity, this study opted to use the Gross National Product, at current market prices, as the economic capacity of each sector. The prime reasons are the paucity of the required data base and the necessity of having to make value judgments in developing a composite index of taxable capacity.

Method of Allocation of Tax Burden by Economic Sectors

Personal income tax

Personal income tax, inclusive of taxes paid by nonresident individuals, is apportioned in two steps: First, the tax is allocated by income class, all island. Then the personal income tax of each income class is distributed to the sectors on the basis of income distribution by economic sectors. The tax burden of personal income tax is presumed to fall directly on the taxpayer.

Corporate income tax

The corporate income tax is first allocated to agriculture and nonagriculture on the basis of industrial classification of corporate tax payments.

It is assumed that the corporate tax is borne by shareholders and that it is not shifted backward or forward. Data relating to tax payments by business in tea, rubber, coconut, and other agricultural sectors are not available. However, the number of corporate entities involved in agricultural activity other than tea, rubber, and coconut is negligible. Hence it is assumed that the corporate income tax under agricultural sector is paid by business in tea, rubber, and coconut. Finally it is assumed that the export earnings of business in tea, rubber, and coconut are a realistic reflection of corporate income tax payments, and the tax is apportioned to the plantation and nonplantation sectors accordingly.

Business turnover taxes

The burden of business turnover taxes is allocated first to the urban, rural, and estate sectors in terms of their relative shares in total non-

food expenditure. The relative shares were obtained by multiplying per capita nonfood expenditure by population in each sector. Then the tax was allocated to plantation, nonplantation, and nonagricultural sectors on the basis of distribution of population by economic sectors. The tax is assumed to be shifted forward.

Excise tax

Excise tax consists of taxes on liquor, tobacco, and tea. While the excise tax on tea was allocated to the plantation sector, liquor tax and tobacco tax were apportioned first to the urban, rural, and estate sectors on the basis of respective expenditure shares in liquor and tobacco and second to the economic sectors on the basis of population distribution. It is assumed that the liquor tax and tobacco tax will be shifted forward. The tea tax is, however, assumed to fall on the shareholders of tea firms.

Import duties

Each of the major categories of import duties, food, clothing, petroleum, vehicles and transport equipment, and others were allocated to the urban, rural, and estate sectors following the same incidence assumptions as given in the third chapter and the methodology adopted above, i.e., by obtaining the relative shares of the urban, rural, and estate sectors in total expenditure. Then the import duties were allocated to the economic sectors as per population distribution except in the case of import duties levied on vehicles and transport equipment where a combination of population and income variables was employed. That portion of import duties on petroleum, vehicles and transport equipment, and raw materials, particularly chemicals, used by business in tea and rubber is either borne by

shareholders or passed on to foreign buyers. For reasons discussed in the third chapter, it would be a reasonable presumption that the taxes borne by business in tea and rubber are not shifted forward. Nevertheless, in allocating import duties by economic sectors, the basis was primarily expenditure patterns of the resident population in Sri Lanka for want of the relevant data base. Thus the allocation procedure adopted in this study with regard to import duties would tend to under-estimate slightly the tax burden of the plantation agricultural sector and over-estimate the tax burden of other economic sectors. However, the magnitude of this error is not expected to be very significant.

Foreign Exchange Entitlement Certificates

A major portion (about 67 percent) of the revenue from the sale of Foreign Exchange Entitlement Certificates was on account of nonfood imports and, therefore, was allocated to the economic sectors on the basis of nonfood expenditure distribution. The balance of about 33 percent is the FEEC revenue on account of sugar imports by the Food Commissioner, the sole importer and distributor of sugar. That portion of FEECs on sugar issued on ration was directly allocated to the economic sectors on the basis of population distribution. The amount of FEECs applicable on the off-ration sale of sugar was allocated to the economic sectors via the urban, rural, and estate sectors by utilizing information on relative shares of sugar expenditure and population distribution by economic activity. Direct imports by business in tea and rubber are not subject to FEECs and, therefore, the shortcomings in the allocation of import duties are not appli-

cable in the case of FEECs. The burden of FEECs is assumed to be shifted forward.

Export duties

The export duty collections on the export of tea (net of export duty rebate) and rubber was directly allocated to the plantation sector. Similarly the export duties on coconut and coconut products and minor agricultural exports were allocated to the nonplantation sector. Duties levied on the export of nonagricultural goods were allocated to the nonagricultural sector.

License taxes

License taxes were apportioned to the respective economic sectors based on relative liquor expenditures by uran, rural, and estate sectors and distribution of population by economic sectors. The same methodology was adopted in the allocation of license taxes on vehicles and miscellaneous license taxes, though taking into account the relevant assumptions given in the third chapter with regard to the incidence of license taxes on vehicles by income groups.

Bank debit tax

The bank debit tax was apportioned to the plantation, nonplantation, and nonagricultural sectors on the basis of data relating to relative shares of urban, rural, and estate sectors in total consumption and by using data on population distribution by economic sectors.

Profit from sale of liquor

The allocation ratios employed in the distribution of profits from sale of liquor by economic sectors are the same as used in the distribution of excise tax on liquor among economic sectors.

Surplus of government enterprises

The surpluses generated by government enterprises are allocated to the three economic sectors on the basis of relative shares of urban, rural, and estate sectors in total consumption expenditure and the pattern of population distribution by economic sectors.

Property transfer tax

To obtain the share of each of the economic sectors in the tax burden on account of property transfer tax, the tax was in the first instance allocated to the highest four income classes (all island). Subsequently the taxes paid by each income group were apportioned to the different economic sectors on the basis of income.

Method of Allocation of Expenditure Benefits by Economic Sectors

Administration

One-half of the total civil expenditure is directly allocated to the economic sectors on the basis of population. The other one-half of civil expenditure is allocated on the basis of relative shares of each economic sector in the total consumption expenditure. In the case of defense expenditure, one-half is distributed on the basis of population, and the other one-half on the basis of income distribution by economic sectors.

Economic services

The amount expended under agriculture and irrigation is allocated fully to the nonplantation agricultural sector. Expenditure under manufacturing and mining is allocated to the different economic sectors on the basis of nonfood expenditure pattern. Similarly expenditure under trade was allocated to the economic sectors according to relative shares of each sector in total consumption expenditure. About 9 percent of the total expenditure under transport and communication was estimated earlier in this study (see third chapter) to be that amount benefiting nonresident corporate entities. Since almost all nonresident firms in Sri Lanka are engaged in the cultivation of tea and rubber or in providing services to the plantation sector, the expenditure incidence falling on nonresident business is allocated to the plantation sector. Of the balance of expenditure on transport and communication, one-half is allocated to the economic sectors on the basis of expenditure on transport and communication and the other one-half in terms of total consumption expenditures by economic sectors.

Social services

The total expenditure on education is distributed among the economic sectors on the basis of distribution of population in the 5 to 18 years age group adjusted for school avoidance by plantation, nonplantation, and nonagricultural sectors. One-half of the total expenditure under health is allocated directly on the basis of population. The other one-half is allocated based on expenditure on medicine by economic sectors. The expenditure on housing is allocated in full to the nonagricultural sector. The total expenditure on special welfare services is first allocated to the

four low-income groups (all island) and then allocated to the economic sectors on the basis of distribution of population in these income groups by economic sectors. Expenditure under community services is directly allocated to economic sectors on the basis of population.

Transfers

It will be recalled that the net food subsidy is the net outcome of the operations of the Food Commissioner in respect of rice, sugar, flour, and others. It was estimated earlier in the study (see third chapter) that in the year 1973 there would be no element of producer rice subsidy and that the consumer subsidy is enjoyed by almost all the residents in Sri Lanka. Therefore, the subsidy on rice is distributed among the economic sectors on the basis of population. The loss incurred by the Food Commissioner on the sale of sugar under ration is also distributed to the economic sectors in terms of population distribution. The surplus realized from off-ration sales of sugar and the losses incurred from sales of flour and other food stuffs is allocated on the basis of expenditures in sugar, flour, and food, respectively, by the economic sectors. The nonfood subsidy component is allocated in full to the nonplantation agricultural sector.

The allocable interest component of government expenditure is first allocated to income groups (all island) and then allocated to the economic sectors in terms of income distribution by economic sectors. The expenditure under pension is allocated in full to the nonagricultural sector. The expenditure classified as transfers to household is first allocated to the five low income groups (all island) and then allocated to the economic sec-

tors on the basis of population distribution of these income groups by economic sectors. Transfers to public corporations are distributed in terms of the relative shares of each economic sector in the total consumption expenditure. The distribution of population by economic sectors is the basis of allocation of transfers to local authorities and other transfers.

Evaluation of Inter-Sectoral Fiscal Equity

Inter-sectoral tax equity

Data relating to taxes allocated by economic sectors are presented in Table 20. In the period under review, the taxes raised from the plantation agricultural sector amounted to about 582 million rupees or 17.6 percent of tax revenue and that of the nonplantation agricultural sector amounted to 851 million rupees or 25.7 percent. Thus the taxes levied on the agricultural sector amounted to 1,433 million rupees or 43.2 percent as compared to a tax levy of 1,880 million rupees or 56.8 percent on the nonagricultural sector.

An estimate of the Gross National Product, at current market prices, originating from each of the economic sectors is presented in Table 19. A comparative study of the data given in Tables 19 and 21 reveals a significant feature of Sri Lanka's tax structure, that is, the importance of the plantation sector and the vulnerability of government revenue to fluctuations in the export prices of tea and rubber in particular. It will be observed that though the share of the plantation agricultural sector in the GNP was only 9 percent, it accounted for about 18 percent of the tax revenue. In contrast the relative share of the nonagricultural sector in the GNP of about 66 percent was considerably higher than its share of about

Table 19. Gross national product at current market prices by economic sectors, 1973[ab]

Sectors	Millions of rupees	
	Amount	Percent
Agriculture	5,685.3	33.7
Plantation	(1,514.9)	(9.0)
Nonplantation	(4,170.3)	(24.7)
Nonagricultural	11,199.9	66.3
Total	16,885.5	100.0

[a]Source: Central Bank of Ceylon, Sri Lanka.

[b]Due to errors in rounding, details may not add up to total.

57 percent in the total tax revenue. Meanwhile the relative role of the nonplantation agricultural sector in the GNP and total tax revenue seems to be somewhat balanced. Thus the preliminary indications are that in the year 1973 the government was able to extract a relatively higher proportion of the GNP of the agricultural sector as compared to that of the nonagricultural sector. The ensuing analysis would provide an estimate of the tax burden of the economic sectors and evaluate the degree of inter-sectoral tax equity.

The tax burden of the plantation agricultural sector, nonplantation agricultural sector, and the nonagricultural, expressed as a percentage of the Gross National Product originating from each of the economic sectors, is detailed in Table 21. It will be observed that the tax burden of 38.4 percent imposed on the plantation agricultural sector is significantly

Table 20. Allocation of tax burden by economic sectors, 1973

Details	Economic sectors (millions of rupees)				
	Agriculture				
	Plantation	Nonplantation	Total	Nonagriculture	Total[a]
Personal income tax	19.72	44.76	64.48	181.87	246.0
Corporate income tax	30.64	2.31	32.95	425.18	458.0
Business turnover tax	43.25	162.74	205.99	329.74	536.0
Excise tax					
Liquor	3.91	9.4	13.3	13.67	27.0
Tobacco	28.29	124.58	152.87	189.13	342.0
Tea	39.0	--	39.0	--	39.0
Sub-total	71.2	133.98	205.17	202.8	408.0
Import duties					
Food	5.57	21.53	27.11	29.09	57.0
Clothing	3.64	11.30	14.94	17.06	32.0
Petroleum	2.38	12.57	14.95	19.05	34.0
Vehicles and transport equipment	2.63	4.63	7.25	17.75	25.0
Other	6.05	25.85	31.91	42.09	74.0
Sub-total	20.27	75.88	96.16	125.84	222.0
Receipts from sale of foreign exchange certificates	54.73	241.24	296.07	378.03	674.0
Export duties	291.2	64.35	355.56	9.21	365.0

[a]Due to errors in rounding, details may not add up to total.

Table 20. (Continued)

Details	Economic sectors (millions of rupees)				
	Agriculture				
	Plantation	Nonplantation	Total	Nonagriculture	Total[a]
License					
Liquor	4.20	10.11	14.31	14.63	29.0
Vehicles	2.44	6.88	9.31	15.69	25.0
Other	0.27	1.1	1.37	1.63	3.0
Sub-total	6.91	18.09	24.99	31.95	57.0
Estate and wealth	5.78	10.18	15.95	39.05	55.0
Bank debit	2.62	10.59	13.21	15.79	29.0
Profit from sale of liquor	31.85	76.75	108.6	111.4	220.0
Surplus of government enterprises	1.08	4.38	5.47	6.53	12.0
Property transfer tax	2.34	5.68	8.02	22.94	31.0
Total[a]	581.6	850.9	1,432.6	1,880.3	3,313.0

Table 21. Tax burden as a percentage of Gross National Product by economic sectors, 1973[a]

	Economic sectors (millions of rupees)				
	Agriculture				
	Plantation	Nonplantation	Avg. (ag.)	Nonagriculture	Average (all sectors)
Personal income tax	1.3	1.07	1.13	1.62	1.46
Corporate income tax	2.02	0.06	0.58	3.8	2.71
Business turnover tax	2.85	3.9	3.62	2.94	3.17
Excise tax	4.7	3.21	3.61	1.81	2.42
Import duties	1.33	1.82	1.7	1.12	1.3
Receipts from sale of foreign exchange entitlement certificates	3.6	5.78	5.21	3.38	3.99
Export duties	19.2	1.54	6.25	0.08	2.16
License tax	0.46	0.43	0.43	0.29	0.34
Estate and wealth tax	0.38	0.24	0.28	0.35	0.33
Bank debit tax	0.17	0.25	0.23	0.14	0.17
Profit from sale of liquor	2.1	1.84	1.91	1.0	1.3
Surplus of government enterprises	0.07	0.11	0.1	0.06	0.07
Property transfer tax	0.15	0.14	0.14	0.2	0.18
Total[b]	38.4	20.4	25.2	16.8	19.6

[a]Gross National Product valued at current market prices.

[b]Due to errors in rounding, details may not add up to total.

higher than that of 20.4 percent on the nonplantation agricultural sector and 16.8 percent on the nonagricultural sector. Thus the average tax burden of 25.2 percent imposed on the agricultural sector is relatively higher than the tax burden of 16.8 percent imposed on the nonagricultural sector. The tax burden of all the economic sectors expressed as a percentage of the Gross National Product, at current market prices, averaged 19.6 percent in 1973. The fact that a relatively higher percentage of the tax burden falls on the agricultural sector vis-a-vis the nonagricultural sector is not all that surprising in the context of Sri Lanka's tax structure. The tax system of Sri Lanka is, by and large, structured around consumption taxes, and the regressive nature of consumption taxes coupled with the fact that nearly one-half of the population is supported by agriculture explains largely why the tax burden is relatively high in the agricultural sector as compared to the nonagricultural sector. Another significant explanatory variable is the importance of export duties in government revenue and the fact that tea, rubber, coconut, and other agricultural exports account for about 98 percent of the export duties.

An estimate of the degrees of inter-sectoral tax equity between pairs of economic sectors is given by value of r_T and is presented in Table 24. A comparison of the plantation agricultural sector with the nonagricultural sector reveals that the tax structure of Sri Lanka is very much favorable to the nonagricultural sector or relatively unfavorable to the plantation sector. The spread in the tax burden (expressed as a percentage of GNP) of these two economic sectors in 1973 appears to be in the region of 2.21 rupees, i.e., for every rupee equivalent of tax burden borne by the nonagricultural sector the corresponding tax burden of the plantation agricul-

tural sector amounted to 2.21 rupees. The disparity in the tax burdens of the nonplantation agricultural sector and the nonagricultural sector, however, appears to be considerably less, though the inter-sectoral tax equity is again in favor of the nonagricultural sector. The spread in the tax burden of these two sectors amounts to 1.21 rupees.

If the agricultural sector (as defined in this study, that is, the combination of the plantation agriculture and nonplantation agriculture) is compared with the nonagricultural sector, r_T takes on the value of 1.5. The spread between the tax burden of the agricultural sector and that of the nonagricultural sector, however, appears to be very close to zero if the tea and rubber plantations are classified as "nonagriculture" instead of "agriculture." Thus the distribution of the tax burden between the nonplantation agricultural sector and all other economic sectors appears to be equitable.

It should be noted that the nonplantation agricultural sector includes the cultivation and processing of coconut products, desiccated coconut, copra, and coconut oil. If the cultivation and processing of tea and rubber are to be classified as nonagricultural activities, then the same reasoning also calls for the inclusion of the tax burden of the population supported by the coconut sector under the nonagricultural sector. However, the relevant data needed to estimate the tax burden of the coconut sector is not readily available. Consequently a measure of inter-sectoral tax equity between the "farm sector" (defined to include all nonplantation agricultural activities except that related to the coconut sector) and the "nonfarm sector" (defined to include tea, rubber, coconut, and the nonagricultural sector) is not estimable.

Inter-sectoral expenditure equity

In Table 22 details of the allocation of government expenditure by economic sectors are given for the year 1973. It would appear that in the year under review about 53.5 percent of government expenditure benefited the nonagricultural sector while the balance of about 46.5 percent benefited the agricultural sector. However, if the expenditure benefits are expressed as a percentage of the contribution of each of the economic sectors to the Gross National Product, at current market prices, the expenditure programs of the government appear to be pro-agriculture, in favor of nonplantation agricultural sector in particular. The value of r_E, which is the measure of inter-sectoral expenditure equity, is given for each comparable pair of economic sectors in Table 24.

Inter-sectoral fiscal equity

An estimate of the tax burden, expenditure benefits, and the net fiscal burden or incidence attributable to each of the economic sectors are presented in Table 23. It will be observed that in the case of the plantation agriculture the tax burden of 582 million rupees is significantly in excess of the expenditure benefits of 360 million rupees. Thus in 1973 the net fiscal burden of the plantation agricultural sector is estimated at 222 million rupees or 14.6 percent of its economic capacity. In contrast the estimated tax burden of the nonplantation agricultural sector is considerably less than its share of expenditure benefits, thus resulting in a negative fiscal burden of 827 million rupees. Moreover the nonagricultural sector, too, appears to have been a net beneficiary (to the tune of 460 million rupees) of the fiscal operations of the government in 1973.

Table 22. Allocation of benefits of government expenditure by economic sectors, 1973

Details	Economic sectors (millions of rupees)				
	Agriculture				
	Plantation	Nonplantation	Total	Nonagriculture	Total[a]
Administration					
Civil	44.0	184.85	228.84	256.16	485.0
Defense	12.77	52.27	65.05	79.96	145.0
Sub-total	56.77	237.12	293.89	336.12	630.0
Economic services					
Agriculture and irrigation	--	245.0	245.0	--	245.0
Manufacture and mining	2.7	11.53	14.23	18.77	33.0
Trade	2.53	10.23	12.75	15.25	28.0
Transport and communication	42.37	91.67	134.04	138.96	273.0
Economic services, other	.63	2.56	3.19	3.81	7.0
Sub-total	48.23	360.99	409.21	176.79	586.0
Social services					
Education	35.65	248.89	284.54	317.46	602.0
Health	20.38	119.63	140.0	159.0	299.0
Housing	--	--	--	45.0	45.0
Special welfare services	5.36	6.04	11.4	7.6	19.0
Community services	2.37	10.32	12.69	13.31	26.0
Sub-total	63.76	384.88	448.63	542.37	991.0
Transfers					
Net food subsidy	92.64	269.66	362.31	316.59	679.0
Subsidy, other	--	56.0	56.0	--	56.0
Interest on domestic debt	22.44	80.66	103.1	289.9	393.0
Pension	--	--	--	270.0	270.0

[a]Due to errors in rounding, details may not add up to total.

Table 22. (Continued)

Details	Economic sectors (millions of rupees)				
	Agriculture				
	Plantation	Nonplantation	Total	Nonagriculture	Total[a]
To households	12.34	22.77	35.11	30.89	66.0
To local authorities	7.28	32.88	40.16	39.84	80.0
To public corporation	49.72	201.25	250.97	300.03	551.0
Transfers, other	6.92	31.24	38.15	37.85	76.0
Sub-total	191.34	694.46	885.8	1,285.1	2,171.0
As a percentage of Gross National Product, at market prices, originating from each economic sector	23.0	40.2	35.8	20.9	25.9
Total	360.1	1,677.5	2,037.5	2,340.4	4,378.0

Table 23. Fiscal incidence by economic sectors, 1973

Details	Economic sectors (millions of rupees)			
	Agriculture			
	Plantation	Nonplantation	Total	Nonagriculture
Tax burden	581.6	850.9	1,432.6	1,880.3
Tax burden expressed as a percentage of GNP, at current market prices, originating from each sector	38.4	20.4	25.2	16.8
Expenditure benefits	360.1	1,677.5	2,037.5	2,340.4
Expenditure benefits expressed as a percentage of GNP, at current market prices, originating from each sector	23.8	40.2	35.8	20.9
Fiscal incidence (tax burden minus expenditure benefits)	221.5	-826.6	-604.9	-460.1
Fiscal incidence expressed as a percentage of GNP, at current market prices, originating from each sector	14.6	-19.8	-10.6	-4.1

An estimate of the measure of inter-sectoral fiscal equity denoted by r_F for all pairs of economic sectors is given in Table 24. If the fiscal burden of the plantation agricultural sector is compared with the fiscal burden of the nonagricultural sector, the value of r_F is estimated to be less than one, which implies that the inter-sectoral fiscal equity is favorable to the nonagricultural sector. However, a comparison of the non-plantation agricultural sector with the nonagricultural sector reveals that the fiscal structure is favorable to the nonplantation agriculture, i.e., the estimated value of $r_F > 1$. Thus it is reasonable to conclude that Sri Lanka's fiscal system is least favorable to the plantation agricultural sector and most favorable to the nonplantation agricultural sector. Consequently, if the two agricultural sectors are combined together and compared with the nonagricultural sector, the spread in fiscal inequity, i.e., the value of r_F, narrows down to 2.6 in favor of the agricultural sector. If "plantation agriculture" is classified as "nonagriculture," the spread in the fiscal burden of the agricultural sector vis-a-vis the nonagricultural increases to 10.42 in favor of agriculture. Thus whether the "plantation agriculture" is classified as "agriculture" or "nonagriculture," equity favors the agricultural sector vis-a-vis the nonagricultural sector. The extent to which the agricultural sector is favored, however, depends on how the plantation agricultural sector is classified.

It is widely believed that a tax system that imposes a heavier burden on the agricultural sector vis-a-vis the nonagricultural sector is conducive to economic growth (7, 20, 38). The argument is that agricultural taxation would lead to efficient use of scarce resources and thereby increase agricultural output. Further it is contended that a tax system

Table 24. Measures of inter-sectoral tax equity (r_T), expenditure equity (r_E), and fiscal equity (r_F), 1973

Pairs of economic sectors	Values of r_T	Values of r_E	Values of r_F
Plantation agricultural sector vs. nonagricultural sector	2.29	1.14	-3.56
Nonplantation agricultural sector vs. nonagriculture	1.21	1.92	4.8
Agricultural sector vs. nonagricultural sector	1.5	1.71	2.6
Plantation agricultural sector vs. nonplantation agricultural sector	1.88	.59	-7.4
Nonplantation agricultural sector vs. all other sectors (continuation of plantation agricultural sector and nonagricultural sector)	1.05	1.89	10.42

that discriminates against the agricultural sector would facilitate the transfer of resources from the agricultural sector to the relatively more productive nonagricultural sectors and thereby promote economic growth. To reinforce these theoretical arguments, the experience of the developed countries (both market-oriented and centrally-planned) has often been cited. An examination of the output effects and the desirability of the resource transfer from the agricultural sector to the nonagricultural sector, though essential elements of an evaluation of the case for additional taxation of the agricultural sector, is not within the scope of this study. To the extent additional taxes on the agricultural sector have beneficial economic effects, they reinforce the case for additional taxes on agriculture based on equity considerations.

SUMMARY AND CONCLUSIONS

The disturbing feature of government budgetary operations in the past decade has been the successive budget deficits of substantial proportions. Of real concern is the persistent growth in the size of the budget deficits. As shown in Table 1, the size of budget deficits has grown by more than 300 percent over the decade because of the higher annual growth rate of about 11 percent (compound) in government expenditure as compared to an annual growth rate of about 10 percent (compound) in government revenue. If the past fiscal trends extend into the future, the management of the government budget in the years to come will become an increasingly difficult and painful operation.

Over the years successive governments have heavily relied upon domestic and external borrowings to finance budget deficits. To the extent the "borrowed funds" fell short of resource requirements, successive governments have resorted to inflationary financing. These two methods of deficit financing, though designed to be temporary fiscal measures, have become permanent features of government fiscal operations. A continued reliance on "borrowed funds" and "new money" may not be a very sound budgetary policy. Budgetary outflows on account of amortization and debt service charges are expected to increase by substantial amounts in the near future because of the heavy short-term and medium-term government borrowing in the recent past. In such a context this method of deficit financing (i.e., borrowed funds), if relied upon heavily, might soon emerge as a source of financial embarrassment rather than one of relief to the government. Further, reliance on the inflationary method of deficit financing would be a

self-defeating policy at a time when much of government efforts are directed towards the containment of the rate of inflation at a bearable level. In such circumstances it becomes imperative that efforts be directed to reduce future budget deficits by implementing appropriate fiscal measures.

This study was designed to estimate the distribution of tax burden, expenditure benefit, and fiscal incidence by income groups and economic sectors, and it seems appropriate to discuss the major findings of the study in the light of the resource needs of the government.

By and large the estimates of the distribution of tax burden by income groups reveal a progressive tax structure. The degree of progression, however, differs with the definition of income. At the lower end of the income range (i.e., below the income level of 2,400 rupees), the tax burden would probably be proportional to income rather than be regressive as shown by the estimates. Over the period 1963 to 1973, there has been a significant increase of about 4 percentage points in the tax burden (when expressed as a percentage of "national income plus transfers"). Further, the additional tax burden appears to have affected the spending units with an annual income of at least 12,000 rupees more than the spending units with an annual income of less than 12,000 rupees. As a result there has been an increase in the rate of progression in the tax structure over the ten-year period.

The distribution of expenditure benefits appears to be mildly regressive (or pro-poor) at the income range below the annual income level of about 6,000 rupees and proportional beyond the income level of 6,000 rupees. Over the decade the increase in government expenditure appears to

be somewhat in favor of spending units in the income range from about 9,000 rupees to about 15,000 rupees vis-a-vis the increase in the expenditure incidence of other spending units.

The distribution of fiscal incidence (tax less expenditure) in both years 1963 and 1973 has been pro-poor. The expenditure benefits of income groups in the income range of 9,600 rupees and less were in excess of tax burden, and the distributive pattern of fiscal incidence in this income range has been significantly pro-poor. In contrast the tax burden of income groups in the income range of 9,600 rupees and above has been in excess of expenditure benefit, and the fiscal structure in the relevant income range has been progressive. Moreover the progressivity of the fiscal system in the income range of 9,600 rupees and above appears to be more pronounced in 1973 than in 1963. Over the ten-year period the breakeven point has risen from about 7,500 rupees to about 9,500 rupees. A comparison of "pre-fisc" and "post-fisc" size distribution of income suggests that in both years the fiscal operations of the government have significantly reduced the inequality of "pre-fisc" income distribution. Moreover it appears that the overall impact of the fiscal operations upon the distribution of income has significantly increased over the decade.

The estimates of the distribution of tax burden by economic sectors indicate that the tax structure is least favorable to the plantation agricultural sector and most favorable to the nonagricultural sector. The tax burden of all economic sectors expressed as a percentage of the Gross National Product, at current market prices, averaged 20 percent in 1973. The tax burden of the plantation agricultural sector (38 percent) was significantly higher than that of the nonplantation agricultural sector

(20 percent) and the nonagricultural sector (17 percent). The average tax burden of the agricultural sector (25 percent) was also significantly higher than the tax burden imposed on the nonagricultural sector (17 percent). The spread in the degree of tax inequity between the plantation agricultural sector and the nonagricultural sector appears to have been in the region of 2.21 rupees, i.e., for every rupee equivalent of tax burden borne by the nonagricultural sector, the corresponding tax burden of the plantation agricultural sector amounted to 2.21 rupees. The disparity in the tax burdens of the nonplantation agricultural sector and nonagricultural sector, however, appears to be considerably less, though the intersectoral tax equity is again in favor of the nonagricultural sector. The spread in the tax burden of these two economic sectors amounts to 1.21 rupees. Thus the tax system favors the nonagricultural sector vis-a-vis the combined agricultural sector, and the spread in the tax burden of these two sectors appears to be 1.5 rupees, i.e., for every rupee equivalent of tax burden borne by the nonagricultural sector, the corresponding tax burden of the agricultural sector amounted to 1.5 rupees. The spread between the tax burden of the agricultural sector and that of the nonagricultural sector, however, appears to be very close to zero if the tea and rubber plantations are classified as "nonagriculture" instead of "agriculture."

The distribution of expenditure benefits expressed as a percentage of the Gross National Product appears to be pro-agriculture, in favor of the nonplantation agricultural sector in particular. In 1973 for every rupee equivalent of expenditure benefits received by the nonagricultural sector, the corresponding benefit to the plantation agricultural sector was 1.14 rupees, and the benefit derived by the nonplantation agricultural sector

was 1.92 rupees. Thus the most favored sector as far as government expenditure programs are concerned is the nonplantation agricultural sector.

A comparison of the fiscal incidence of the plantation agricultural sector and the nonplantation agricultural sector indicates that the inter-sectoral fiscal equity is favorable to the nonplantation agricultural sector. In 1973 the tax burden (582 million rupees) of the plantation agricultural sector was significantly in excess of its share of expenditure benefits (360 million rupees). Thus the net fiscal burden of the plantation agricultural sector was about 222 million rupees or about 15 percent of its contribution towards the Gross National Product, at current market prices. In contrast the estimated tax burden (851 million rupees) of the nonplantation agricultural sector is considerably less than its share of the expenditure benfits (1,678 million rupees), thus resulting in a negative fiscal burden of 827 million rupees or about 20 percent of its share of the Gross National Product, at current market. The nonagricultural sector, too, appears to have been a net beneficiary (to the tune of 460 million rupees or about 4 percent of its contribution towards the Gross National Product) of the fiscal operations of the government. Thus Sri Lanka's fiscal system is least favorable to the plantation agricultural sector and most favorable to the nonplantation agricultural sector. If the plantation agricultural sector is combined with the nonplantation agricultural sector, inter-sectoral fiscal equity favors the agricultural sector vis-a-vis the nonagricultural sector. Moreover fiscal equity favors the agricultural sector even if "plantation agriculture" is classified as "non-agriculture." Thus whether the "plantation agriculture" is classified as

"agriculture" or "nonagriculture," equity favors the agricultural sector vis-a-vis the nonagricultural sector.

In the context of a growing need to correct the persistent growth in budget deficits, the findings of this study prompt the following observations:

1. In the past the plantation agricultural sector has been a major source of government revenue. Nevertheless its revenue yield has been vulnerable to fluctuations in international prices. In this regard it is important to bear in mind the fact that one significant factor that determines export prices is the quality of Sri Lanka's primary exports. Hitherto Sri Lanka was able to dominate the world tea market and fetch premium prices because of the high quality of exported tea. To what extent the recent nationalization of tea estates will affect the quality of Sri Lanka tea is difficult to assess at this point of time. Nevertheless the need to manage the nationalized estates efficiently, at least at the same level of efficiency as before, should be recognized. If not, the price of mismanagement would be rather high in the form of revenue loss and foreign exchange loss.
2. The estimates of this study indicate that the average personal income tax burden of the nonplantation agricultural sector is lower than that of the plantation agricultural sector and nonagricultural sector. This is largely attributable to the widespread practice of under-reporting of agricultural income. If income tax cannot be extended to the tax-liable farmer, there appears to be a need to devise some other form of taxing agricultural income. In

this context, the desirability of the exemption of income from the sale of paddy (rice) to the Paddy Marketing Board should be re-examined.

3. There appears to be an urgent need to examine the desirability of continuing the government welfare programs in their present form. As noted earlier a large portion of government expenditure is devoted to the provision of free education and medical services at nominal costs, and these services are made available to all income groups. Moreover the consumer subsidy on rice, issued on ration, is enjoyed virtually by all individuals. Further the subsidy on sugar, issued on ration, is enjoyed by everyone regardless of his level of income. Apart from the question of equity, the continuation of these welfare programs, in the current form, is a luxury the government can ill afford. A welfare scheme that delimits these welfare programs to the poorer sections of the community merits immediate attention in view of the potential expenditure savings in substantial amounts.
4. Finally, the public corporations should be required to generate surpluses in their commercial operations and become a source of funds to the government rather than seek financial assistance from the budget to offset their operating losses. Towards this end managerial efficiency and appropriate pricing policy should be introduced into the public corporate sector. Failure to make the public corporate sector commercially viable would cause a heavy strain on future budget resources.

In conclusion some of the shortcomings of the analysis of fiscal incidence by income groups and economic sectors should be recalled. The major limitation inherent in this analysis is that for some taxes and expenditures, the distributional conclusions crucially depend on the incidence assumptions. The second is the fact that the distribution of particular tax or expenditure items has to be based on data which are not altogether satisfactory. The third is the measurement of expenditure benefits on a "cost incurred on behalf of" basis and the arbitrary allocation of "public goods." The fourth is the failure to allocate the burden of deficit financing. Finally the study does not treat asset creating expenditures differently from outlays which provide current goods and services only, even though many governmental expenditures do create assets which yield benefits much beyond the year in which they are purchased.

BIBLIOGRAPHY

1. Aaron, Henry, and Mcguire, Martin. "Public Goods and Income Distribution." Econometrica 38 (November, 1970): 907-920.

2. Adelman, M. A. "The Corporate Income Tax in the Long Run." Journal of Political Economy 65 (April, 1957): 151-157.

3. Adler, John H. "The Fiscal System, The Distribution of Income and Public Welfare." In Fiscal Policies and the American Economy, pp. 359-409. Edited by Kenyon E. Poole. New York: Prentice-Hall, 1951.

4. Behrens, Jean, and Smolensky, Eugene. "Alternative Definitions of Income Distribution." Public Finance/Finances Publiques 28, No. 3-4, (1973): 315-332.

5. Bhargava, P. K., and Srivastava, G. S. "Tax Burden of Indian Agriculture." Bulletin for International Fiscal Documentation 28 (February, 1974): 54-66.

6. Bird, Richard M. "A Note on 'Tax Sacrifice' Comparisons." National Tax Journal 17 (September, 1964): 303-308.

7. Bird, Richard M. Taxing Agricultural Land in Developing Countries. Cambridge, Mass.: Harvard University Press, 1974.

8. Bishop, George A. "Income Redistribution in the Framework of the National Income Accounts." National Tax Journal 19 (December, 1966): 378-390.

9. Bishop, George A. Tax Burdens and Benefits of Government Expenditures by Income Class, 1961 and 1965. New York: Tax Foundation Inc., 1967.

10. Brownlee, O. H. Estimated Distribution of Minnesota Taxes and Public Expenditure Benefits. Minneapolis: University of Minnesota Press, 1960.

11. Central Bank of Ceylon. Survey of Ceylon's Consumer Finances 1963, Part II Statistical Tables. Colombo, Sri Lanka: Department of Economic Research, undated.

12. Central Bank of Ceylon. Annual Report of the Monetary Board to the Minister of Finance. Colombo, Sri Lanka: Department of Economic Research, Annual issues.

13. Central Bank of Ceylon. Survey of Sri Lanka's Consumer Finances 1973. Colombo, Sri Lanka: Department of Economic Research, 1974.

14. Central Bank of Ceylon. Survey of Sri Lanka's Consumer Finances 1973, Part II, Statistical Tables. Colombo, Sri Lanka: Department of Economic Research, (forthcoming).

15. Commissioner of Inland Revenue. Administrative Report of the Commissioner of Inland Revenue. Colombo, Sri Lanka: Government Publication Bureau, Annual Reports.

16. Frank, Henry J. "Measuring State Tax Burdens." National Tax Journal 12 (June, 1959): 179-185.

17. Gandhi, V. P. Tax Burden on Indian Agriculture. Cambridge, Mass.: Harvard Law School, 1966.

18. Gillespie, Irwin W. "Effect of Public Expenditures on the Distribution of Income." In Essays in Fiscal Federalism, pp. 122-186. Edited by Richard A. Musgrave. Washington, D.C.: The Brookings Institution, 1966.

19. Krzyzakiak, M., and Musgrave, Richard A. The Shifting of the Corporation Income Tax. Baltimore, Md.: Johns Hopkins Press, 1964.

20. Lent, George E. "Taxation of Agricultural Income in Developing Countries." Bulletin for International Fiscal Documentation 27 (August, 1973): 324-342.

21. Maital, Shlomo. "Public Goods and Income Distribution: Some Further Results." Econometrica 41 (May, 1973): 561-568.

22. McLure, Charles E., Jr. "The Distribution of Income and Tax Incidence in Panama: 1969." Public Finance Quarterly 2 (April, 1974): 155-201.

23. Mieszkowski, Peter. "On the Theory of Tax Incidence." Journal of Political Economy 75 (June, 1967): 250-262.

24. Musgrave, Richard A. The Theory of Public Finance. New York: McGraw-Hill, 1959.

25. Musgrave, Richard E., and Musgrave, Peggy B. Public Finance in Theory and Practice. New York: McGraw-Hill, 1973.

26. Musgrave, Richard A., Case, Karl E., and Leonard, Herman. "The Distribution of Fiscal Burdens and Benefits." Public Finance Quarterly 2 (July, 1974): 259-311.

27. Okner, Benjamin A., and Pechman, Joseph A. "Who Paid the Taxes in 1966?" American Economic Review, Papers and Proceedings 64 (May, 1974): 168-174.

28. Prest, A. R. "Statistical Calculations of Tax Burdens." Economica 22 (August, 1955): 234-245.

29. Reynolds, Morgan, and Smolensky, Eugene. "The Post Fisc Distribution: 1961 and 1970 Compared." National Tax Journal 27 (December, 1974): 515-530.

30. Rocktenwald, Horst C. Tax Incidence and Income Redistribution. Translated by Martha V. Stolpher. Detroit: Wayne State University Press, 1971.

31. Rosen, Sam. National Income and Other Social Accounts. New York: Holt, Rinehart and Winston, Inc., 1972.

32. Roskamp, Karl W. "The Distribution of Tax Burden in a Rapidly Growing Economy: West Germany in 1950." National Tax Journal 16 (March, 1963): 20-35.

33. Shoup, Carl S. Public Finance. Chicago: Aldine Press, 1969.

34. Shoup, Carl S. Public Expenditures and Taxation. New York: National Bureau of Economic Research, 1972.

35. Sri Lanka, Department of Revenue. The New Tax Structure, 1972-73. Colombo, Sri Lanka: Government Publication Bureau, 1972.

36. Taxation Inquiry Commission. Report of the Taxation Inquiry Commission. Colombo, Sri Lanka: Government Publication Bureau, 1968.

37. Tucker, Rufus S. "The Distribution of Government Burdens and Benefits and Discussion." American Economic Review, Papers and Proceedings 48 (May, 1953): 518-534.

38. Wald, Haskell P. Taxation of Agricultural Land in Under-Developed Economies. Cambridge, Mass.: Harvard University Press, 1959.

39. Yamamura, Kozo. "Tax Burden on Wage Earners in Postwar Japanese Economic Growth." National Tax Journal 19 (March, 1966): 58-69.

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APPENDIX

Table A1. Percentage distribution of income of spending units in sample population by income class, 1963 and 1973[a]

Details	Year	Income class of spending units (rupees for 12 months)									
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,000-18,000	< 18,000	Total
Money income	1963	0.3	1.7	9.1	26.2	26.3	18.8	3.9	4.4	9.5	100
	1973	0.004	.08	1.2	12.4	39.5	29.6	5.3	5.2	6.7	100
Income in kind	1963	0.4	2.2	12.9	29.1	28.8	19.5	3.1	2.4	1.6	100
	1973	0.01	0.28	2.6	17.9	46.6	23.7	2.8	2.8	3.3	100
Total income	1963	0.3	1.8	9.7	26.7	26.9	18.9	3.8	4.0	7.9	100
	1973	0.01	0.1	1.5	13.7	41.4	28.2	4.7	4.6	5.8	100
Farm income	1963	1.35	8.75	27.8	27.6	19.4	8.5	1.6	1.5	3.8	100
	1973	0.22	2.3	14.6	26.4	37.1	13.4	1.7	1.4	2.8	100
Dividend income	1963	--	--	1.6	4.8	7.1	12.7	1.5	26.4	50.0	100
	1973	--	0.05	0.12	0.5	2.23	7.2	17.8	23.2	48.9	100
Alternative assumption for 1963 and 1973		--	--	--	--	--	5.0	15.0	20.0	60.0	100
Interest income	1963	--	--	0.2	7.7	21.4	9.7	8.2	21.3	31.6	100
	1973	--	--	3.4	6.9	19.5	51.0	--	5.2	14.0	100
Alternative assumption for 1963 and 1973		--	--	--	--	10.0	15.0	20.0	25.0	30.0	100
Pension income	1963	9.0	1.2	1.0	22.3	44.1	8.1	--	14.3	--	100
	1973	0.3	0.3	1.9	18.0	32.7	22.7	9.5	4.6	10.0	100

[a]Source: (11, 14).

Table A2. Distribution of sample population by income class of spending units, 1963 and 1973[a]

Details		Year	< 300	301-600
Spending units	Nos.	1963	193	484
	Nos.	1973	6	50
	%	1963	3.6	9.0
	%	1973	0.1	0.9
Population	Nos.	1963	574	1,291
	Nos.	1973	11	82
	%	1963	2.0	6.7
	%	1973	0.04	0.3
Population in the age group 5 to 18 years	Nos.	1963[b]	260	870
	%	1963	2.0	6.7
	Nos.	1973	4	16
	%	1973	0.04	0.2
Estimated school-going student population between the ages of 5 and 18	Nos.	1963[c]	--	--
	%	1963	--	--
	Nos.	1973[c]	--	--
	%	1973	--	--

[a]Source: (11, 14).

[b]It is assumed that the distribution of the school-going age group by income class would have been similar to the distributive pattern of the sample population. This assumption appears to be a reasonable one in view of the similarities in the two distributions in 1973.

[c]The estimated total number of children not attending school was allocated in full to the relatively poorer sections of the community. (For school avoidance rates by age groups refer to Table A10.)

Income class of spending units (rupees for 12 months)							
601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000	Total
1,316	1,898	1,027	368	45	34	34	5,399
314	1,466	2,439	893	88	64	43	5,363
24.4	35.2	19.0	6.8	0.83	0.63	0.63	100
5.9	27.3	45.5	16.7	1.6	1.2	0.8	100
6,163	10,578	6,507	2,321	230	173	201	28,668
707	6,221	14,132	6,114	587	440	293	28,587
21.5	36.9	22.7	8.1	0.8	0.6	0.7	100
2.5	21.8	49.4	21.4	2.1	1.5	1.0	100
2,793	4,794	2,949	1,052	104	78	91	12,992
21.5	36.9	22.7	8.1	0.8	0.6	0.7	100
195	2,043	5,634	2,419	224	170	114	10,819
1.8	18.9	52.1	22.3	2.1	1.5	1.1	100
1,991	4,794	2,949	1,052	104	78	91	11,060
18.0	43.3	26.7	9.5	0.9	0.7	0.8	100
--	691	5,634	2,419	224	170	114	9,252
--	7.5	60.9	26.1	2.4	1.8	1.2	100

Table A3. Percentage distribution of expenditure of spending units in sample population by income class, 1963 and 1973[a]

Details	Year	Income class of spending units (rupees for 12 months)									
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	18,000	Total[b]
Total consumption	1963	1.4	2.7	15.3	32.6	26.1	13.6	2.6	2.3	3.4	100
	1973	0.03	0.2	2.2	15.2	43.1	27.0	4.1	4.0	4.1	100
Food	1963	1.6	3.0	17.5	35.2	25.9	11.7	1.8	1.5	1.7	100
	1973	0.03	0.2	2.7	17.4	46.4	25.2	3.3	2.6	2.3	100
Nonfood	1963	1.1	2.3	12.5	29.2	26.4	16.1	3.6	3.4	5.4	100
	1973	0.03	0.1	1.3	11.6	37.7	30.1	5.5	6.4	7.2	100
Wheat flour	1963	1.1	2.1	16.5	41.8	29.5	6.9	1.0	0.5	0.6	100
	1973	0.01	0.2	1.9	23.2	53.5	17.8	1.9	0.9	0.7	100
Sugar	1963	1.7	3.7	18.6	35.5	26.2	10.8	1.3	0.9	1.3	100
	1073	0.03	0.2	1.9	17.1	47.1	25.57	3.3	2.7	2.1	100
Clothing	1963	0.7	1.9	12.3	33.7	28.7	15.3	2.6	2.4	2.5	100
	1973	0.03	0.1	0.9	10.1	37.7	32.5	6.4	6.4	6.0	100
Medical	1963	1.5	3.9	17.4	29.4	25.0	15.5	3.1	2.6	1.6	100
	1973	--	0.18	1.1	13.0	41.2	30.0	5.1	4.1	5.3	100
Education	1963	0.6	1.7	8.7	19.1	23.9	21.6	7.9	7.4	9.1	100
	1973	0.03	0.004	0.6	6.9	34.6	35.7	5.9	8.6	7.7	100

[a]Source: (11, 14).

[b]Due to errors in rounding, details may not add up to totals.

Table A3. (Continued)

Details	Year	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	18,000	Total[b]
Tobacco	1963	1.3	2.7	13.8	31.00	27.4	15.3	2.8	2.6	3.2	100
	1973	0.03	0.08	1.9	15.5	45.6	28.5	3.1	3.3	2.0	100
Alcohol	1963	2.2	2.5	12.8	41.4	30.7	6.2	1.6	1.2	1.5	100
	1973	--	0.4	1.4	11.5	46.4	30.7	2.8	3.3	3.5	100
Transport and communication	1963	0.3	1.9	5.5	12.4	19.6	22.5	8.2	8.3	21.4	100
	1973	0.03	0.04	0.8	8.9	33.2	28.6	6.7	7.3	14.4	100
Rice											
Issues on ration	1963	2.1	4.8	23.4	40.6	21.1	6.6	0.6	0.5	0.4	100
Issues on ration (free)	1973	0.01	0.3	2.3	22.3	51.9	20.8	1.4	0.7	0.3	100
Issues on ration (paid)	1973	0.03	0.1	1.8	22.3	48.9	22.4	1.9	1.6	0.8	100
Income tax liability	1963	--	--	--	--	--	31.0	10.1	14.1	44.8	100
	1973	--	--	--	--	--	10.8	9.9	18.7	60.6	100

Table A4. National income[a]

	Millions of rupees	
	1963	1973
Gross National Product, at market prices[b]	7,282	16,816
Less: Capital consumption allowances (7½ percent)[c]	546	1,261
Equals: Net national product	6,736	15,555
Less: Indirect business taxes[b]	704	2,144
Current surplus of government enterprises minus subsidies[b]	-86	-503
Equals: National income	6,118	13,914

[a]Not adjusted for business transfer payments and statistical discrepancy.

[b]Source: (12).

[c]Estimate.

Table A5. Subsidy on rationed rice and tax on sugar and flour, 1963[ab]

Details	Income class of spending units (rupees for 12 months)								
	< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	18,000
Average subsidy on rationed rice as a percentage of average income[c]	24.23	14.43	8.65	5.34	2.88	1.34	0.63	0.50	0.17
Average tax on sugar as a percentage of average income[d]	6.69	8.79	5.42	3.86	2.87	1.77	1.01	0.73	0.51
Average tax on flour as a percentage of average income[d]	1.17	0.58	0.55	0.5	0.36	0.12	0.07	0.05	0.02

[a]Source: (11).

[b]Data relate to two months, March and April, 1963, the period covered by the consumer finance survey.

[c]Subsidy is the difference between the average import price of one measure of rice in March, 1963, and the average selling price of rice (weighted for the island).

[d]Tax is defined here as the profits to the government from the sale of sugar and flour.

Table A6. Allocation of the net food subsidy, rice subsidy, and profits on the sale of flour and sugar, 1963 (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months)								
		< 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Rice subsidy	417.0									
Producer subsidy	(39.5)[a]	0.533	3.456	10.981	10.902	7.663	3.358	0.632	0.593	1.501
Consumer subsidy	(377.5)[a]	7.550	26.048	86.448	146.093	79.653	26.048	2.265	1.888	1.510
Less										
Profit from sale of sugar	173.0[a]	2.938	6.394	32.141	61.344	45.274	18.662	2.246	1.555	2.246
Profit from sale of flour	31.0[a]	0.336	0.641	5.033	12.749	8.998	2.104	0.305	0.153	0.183
Equals										
Net food subsidy	213.0	4.809	22.469	60.255	82.902	33.044	8.64	0.346	0.773	0.582

[a]Estimates.

[b]Source: (12).

Table A7. Allocation of profit or loss from the sale of rice, sugar, flour, and other food stuffs by the food commissioner in 1973 by income class[ab] (millions of rupees)

Details	Amount allocated	Income class of spending units (rupees for 12 months) < 300	301-600	601-1,200	1,201-2,400	2,401-4,800	4,801-9,600	9,601-12,000	12,001-18,000	> 18,000
Rice (loss)	563.9[c]	0.056	1.692	12,970	125.750	292.664	117.291	7.895	3.947	1.692
Sugar										
1. Loss on "ration" sales	95.3[d]	0.038	0.286	2.383	20.775	47.078	20.394	2.001	1.430	0.953
2. Profit on "off-ration" sales	117.1[d]	0.035	0.234	2.225	20.024	55.154	29.942	3.864	3.162	2.471
3. Net profit (2-1)	21.8[c]	-0.003	-0.052	-0.158	-0.751	8.076	9.548	1.863	1.732	1.518
Flour (loss)	111.1[c]	0.011	0.222	2.111	25.775	59.439	19.776	2.111	1.0	0.778
Other food stuffs (loss)	25.1[c]	0.008	0.051	0.694	4.472	11.925	6.476	0.848	0.668	0.591
Net food subsidy	679.0[c]	0.078	2.017	15.933	156.748	355.952	133.995	8.991	3.883	1.543

[a]For methods of allocation, see Chapter 3.

[b]Due to errors in rounding, details may not add up to totals.

[c]Source: (12).

[d]Estimates.

Table A8. Per capita expenditure on selected items of expenditure by sectors, 1973[ab]

Items of expenditure	Rupees			
	Sectors			
	Urban	Rural	Estate	All island
Food	75.37	60.93	68.89	64.41
Nonfood	82.40	44.66	46.66	52.43
Flour	1.53	1.86	9.87	2.58
Sugar (off-ration)	2.99	1.84	1.65	2.04
Clothing	11.79	7.74	10.98	8.85
Medical	2.30	1.90	0.92	1.88
Tobacco	3.51	2.24	2.25	2.48
Alcohol	1.74	1.27	2.32	1.46
Transport and communication	5.98	3.65	2.15	3.96
Total consumption	157.77	105.99	115.55	116.84

[a]Source: (14).

[b]Data relates to a period of two months.

Table A9. Distribution of sampled population by sectors, 1973

	Sectors			
	Urban	Rural	Estate	All island
Population[a]				
Nos.	5,378	20,432	2,777	28,587
%	18.8	71.5	9.7	100.0
Income receivers[a]				
Agriculture				
Nos.	75	2,562	1,217	3,854
(%)	(5.8)	(54.0)	(94.0)	(52.6)
Nonagriculture				
Nos.	1,210	2,184	78	3,472
(%)	(94.2)	(46.0)	(6.0)	(47.4)
Total				
Nos.	1,285	4,746	1,295	7,326
(%)	(100.0)	(100.0)	(100.0)	(100.0)
Population (estimate) by economic sectors[b]				
Agriculture				
Nos.	312	11,442	2,610	14,364
(%)	(5.8)	(54.0)	(94.0)	(50.2)
Nonagriculture				
Nos.	5,066	8,990	167	14,223
(%)	(94.2)	(46.0)	(6.0)	(49.8)
Total				
Nos.	5,378	20,432	2,777	28,587
(%)	(100.0)	(100.0)	(100.0)	(100.0)

[a]Source: (14).

[b]The sampled population by political sectors is allocated to the agricultural sector and nonagricultural sector on the basis of distribution of income receivers by economic sectors. Moreover, it is assumed that the estate population in the agriculture sector is equivalent to the population supported by the plantation agricultural sector.

Table A10. Distribution of sample population by selected age groups and sectors, 1973

	Sectors			
	Urban	Rural	Estate	All island
Population by age group[a] (numbers)				
5-9	691	2,930	364	3,985
10-13	678	2,569	294	3,541
14-18	632	2,383	278	3,293
Total	2,001	7,882	936	10,819
Age specific school[a] avoided rates (%)				
5-9	17.6	21.9	49.5	23.7
10-13	6.3	7.8	32.7	9.6
14-18	5.7	8.0	37.1	10.0
Estimate of student population attending school (numbers)				
5-9	569	1,941	159	2,669
10-13	635	2,701	245	3,581
14-18	596	2,363	185	3,144
Total	1,800	7,005	589	9,394
%	19.2	74.5	6.3	100.0

[a]Source: (13).

Table A11. Distribution of total income of income receivers by income groups and economic sectors[ab]

Rupees for 2 months	Economic sectors			
	Agriculture			
	Plantation sector	Nonplantation sector	Nonagriculture	Total
<50	779	1,123	2,616	4,518
51-100	9,743	10,341	12,892	32,976
101-200	90,429	47,798	74,050	212,277
201-400	110,716	255,385	279,049	645,150
401-800	34,108	520,626	800,273	1,355,007
801-1,600	14,095	182,418	528,348	724,861
1,601-2,000	1,940	23,450	70,784	96,174
2,001-3,000	7,776	11,912	100,431	120,119
Over 3,000	15,002	26,273	101,108	142,383
Total	284,588	1,079,326	1,969,551	3,333,465

[a]Data relates to a period of two months.

[b]Source: (14).

Table A12. Distribution of total income[a] of income receivers by income groups and economic sectors

Rupees for 2 months	Economic sectors (percentages)			
	Agriculture			
	Plantation sector	Nonplantation sector	Nonagriculture	Total
50	17.2	24.9	57.9	100.0
51-100	29.5	31.4	39.1	100.0
101-200	42.6	22.5	34.9	100.0
201-400	17.2	39.6	43.3	100.0
401-800	2.5	38.4	59.1	100.0
801-1,600	1.9	25.2	72.9	100.0
1,601-2,000	2.0	24.4	73.6	100.0
2,001-3,000	6.5	9.9	83.6	100.0
Over 3,000	10.5	18.5	71.0	100.0
Total	8.5	32.4	59.1	100.0

[a]Source: (14).