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STUDIES IN ECONOMIC GROWTH NO. 2

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V. K. R. V. RAO

INDIAN TAX STRUCTURE AND ECONOMIC DEVELOPMENT

INSTITUTE OF ECONOMIC GROWTH

Studies in Economic Growth

1. *The Role of Small Enterprises in Indian Economic Development*
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2. *Indian Tax Structure and Economic Development* by G. S.
Sahota

INDIAN TAX STRUCTURE AND
ECONOMIC DEVELOPMENT

G. S. SAHOTA



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PREFACE

AS PART of its research programme, the Institute of Economic Growth proposes to bring out a series of monographs entitled *Studies in Economic Growth* setting out some of the results of the research work of its staff and scholars. These monographs will mainly concentrate on some of the major problems concerning the economic growth of India.

This monograph is the result of the research work undertaken by Shri G. S. Sahota as a Junior Research Fellow in the Institute. It is a study of the relation between the tax structure of India and its economic growth, and deals primarily with the response of the tax system to the increasing fiscal needs necessitated by a planned attempt at accelerated economic development. In undertaking this study, Shri Sahota had the benefit of special discussions with Dr. A. M. Khusro of the Institute and, in fact, worked under his guidance.

In placing this study before the public, the Institute hopes that it will lead to a fruitful discussion of the role of taxation in the financing of economic development and, more especially, of the measures necessary to make this role more effective than it is at present. This should be particularly timely now in view of the large place that has been assigned to tax receipts for the financing of the Third Plan.

June 29, 1961
Institute of Economic Growth
Delhi

V. K. R. V. RAO
Director

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EDITOR'S INTRODUCTION

IN this interesting study the author starts with the well-established thesis that ⁴for increasing the rate of investment and savings and setting an underdeveloped economy on the way towards a self-sustaining path of economic growth, it is essential that as large a portion as possible of the increments in income generated by economic development should be channelled into savings and investment. Part of this will of course be availed of by the private sector, but a larger part will have to be handled by the public sector, especially in the early stages of economic growth. The part that flows into the public exchequer takes the form of loans, taxes, and other non-tax receipts including profits of public enterprise, the latter two constituting what are called public revenues. This increment in public revenues has to finance the normal increase in public expenditure, increases in non-development expenditure, increases in current outlay on development, and at least a part of the investment in the public sector. As non-tax receipts are less liable to direct governmental control or influence, taxes constitute the most important element in public revenues that is responsive to official policy. Thus the extent to which increments in national income following economic development can get syphoned off into the public exchequer by the tax system becomes a crucial factor in the acceleration of economic growth with stability. 

The response of the tax system to increases in national income can be classified under two broad heads. One is the extent to which the tax system gives an increased return with every increase in the national income without any change in either the tax base or the rates of existing taxes or the addition of new taxes. This is what Shri Sahota calls the built-in flexibility of the tax system, the proportion of the rate of increase in tax yield to that of the increase in national income (or a given sector of the national income in the case of specific taxes) being termed the elasticity of the tax system. The other category of increase in tax yield is the result of changes in the rates and structure of the tax system, involving its widening and deepening by way of extension of base, additions to the number of taxes, and increase in rates of taxation. The two categories taken together account for the total increase that takes place in tax receipts; when linked to every increase in national income,

this is called by the author the buoyancy of the tax system. The rate of buoyancy is calculated as the proportion of the rate of increase in gross tax receipts to that of the increase in national income.

Shri Sahota uses three methods for calculating the elasticity and buoyancy of the Indian tax system and of the more important of the individual taxes, which are not alternative but complementary to one another. One is the use of regression analysis, linking tax receipts to changes in national income or its different components as the case may be; the second is the time rate of growth linking the growth of tax receipts with that of national income or its relevant component over a period of time; while the third is a simple computation of the percentage that a tax forms of national income for each of the periods studied. Using all these methods, and displaying a considerable measure of statistical ingenuity in the process, the author proceeds to calculate the elasticity and buoyancy of the Indian tax system and its principal components over the period 1948-49 to 1957-58. His findings in this respect are highly significant from the point of view of both understanding the current responses of our tax system to changes in national income and formulating a new tax policy more suited to the requirements of our developing economy.

A major finding of this study is the low degree of elasticity shown by the Indian tax system during the period 1951-52 to 1957-58 or the first seven years of our planned economy. Thus, the overall elasticity of Union taxes taken together is only 0.613, while that of Union and State taxes together is only 0.833. In other words, a one per cent increase in national income brings about only 0.833 per cent increase in central and state tax yields taken together, and only 0.613 per cent in central tax yields taken separately. An efficient tax system ought to give better results; and if it is progressive, it should possess an elasticity greater than unity. This is particularly necessary in the case of an underdeveloped economy that is seeking to raise its rate of saving and investment and has therefore necessarily to rely on getting a larger share of incremental incomes for this purpose.

A tax-wise analysis of the data further reveals the weaknesses of the Indian tax structure. Income tax as a variable of national income shows an elasticity of only 0.565, while central excises as a variable of national expenditure shows an elasticity of 1.610, and

motor vehicles tax as related to national income an elasticity of 1.917. Corporation tax as related to national income has a higher elasticity than income tax, being 1.25, but this is less than the central excise duties and the motor vehicle tax. Direct taxes have an elasticity of 0.674 in relation to urban income; the corresponding figure for indirect taxes is higher being at 1.065. Taking a weighted average of the elasticities of the top three direct taxes (which account for 21.7 per cent of total tax receipts) and the top two indirect taxes (accounting for 29 per cent of total tax receipts) and relating them to the national income as a whole, the author gets a weighted income elasticity of these direct and indirect taxes of 0.73 and 1.63 respectively. The author goes on to remark: "our supposedly progressive (direct) taxes are in fact regressive with an elasticity of 0.7 only; while our conventionally regressive (indirect) taxes are, in effect, progressive with an elasticity of 1.6." I must add that the word progressive and regressive are used here in the technical sense of a relation between two variables and should not be mixed up with the use to which these expressions are put when describing the incidence of taxation with regard to individuals.

This inelasticity of direct taxes is to some extent the result of the underdeveloped character of the economy with its comparatively low content of industrial and commercial output and the large segment of low incomes which are therefore rather unsuitable for direct taxation. Partly, of course, it is due to the significant extent to which the economy of the country is non-monetised, the relevant figure for India having been estimated by the Taxation Enquiry Commission at 37 per cent of the total consumer expenditure in 1954. But the major explanation, as far as India is concerned, of this low elasticity lies in the nature of our two most important direct taxes, viz., income tax and land revenue.

The Indian income tax is ~~one of the~~ most progressive taxes of its kind in the world; but this is so only in its upper ranges. As far as its lower and middle ranges are concerned as also the income level from which it starts, our income tax cannot be said to compare favourably with foreign income taxes. Thus, for example, our income tax becomes leviable on annual incomes exceeding 12 times the *per capita* income, while the corresponding ratios for other countries are much less, being between 1 and 3 for the United States, the white members of the Commonwealth including the United Kingdom, Norway, Sweden, France, Mexico, and Japan. This

is perhaps explicable in terms of the very low level of our *per capita* income (the third or fourth lowest in the whole world) and the consequent diseconomy by way of cost of collection in levying income tax on a small multiple of the *per capita* income. The same defence cannot, however, be made of the low rates of tax levied on the middle ranges of Indian incomes. This fact is brought out most graphically in the following table compiled by Shri Sahota for the income taxes paid in different countries as percentage of earned income for a married man with wife and three children :

INCOME TAX PAID AS PERCENTAGE OF INCOME

Country	Income as Multiple of Per Capita National Income		
	20	50	100
Australia	42.0	57.0	62.3
Canada	27.6	41.4	50.9
France : from labour	17.5	31.1	44.5
France : from other incomes	29.8	40.4	51.4
United Kingdom	44.1	64.9	79.4
United States	35.1	53.7	66.8
Japan : from labour	38.5	48.3	51.7
Japan : from other incomes	39.8	48.9	52.0
India	1.7	7.3	19.3

In view of the fact that, of the income assessed to income tax, a substantial portion is bound to find its way into the middle ranges, this leaves our income tax with a built-in capacity for a lower elasticity than is the case with the progressive income taxes in most of other countries. That this is more than a theoretical explanation is seen by the fact that between 1951-52 and 1957-58 individual incomes assessed to income tax between Rs. 10,000 and Rs. 25,000 a year increased by 68.7 percent while incomes above Rs. 80,000 a year actually showed a decline of 36.8 per cent. While the latter may be, at least in part, due to evasion and increasing avoidance at the higher ranges, there can be no doubt that the low levels of rates on the middle ranges is partly responsible for the low elasticity of the Indian income tax.

There is no need to dilate on the nature of the land revenue for explaining its lack of elasticity in response to increase in agricultural income. Land revenue settlements for the most part were determined well before the second world war and no subsequent changes have been made either for increase in productivity or for rise in prices. Nor does the tax contain any element of progression in relation to the income derived from land. The whole subject was examined by the Taxation Enquiry Commission, who made several recommendations for the reform of the tax system on land and agricultural income. It is a matter for regret that action has not been taken so far on many of these recommendations. When it is remembered that nearly half of the increment to Indian income is in the agricultural sector, it is not surprising that the nature of the land tax is partly responsible for the low elasticity of the Indian tax structure.

Tax yields are not only related to increases in national income but also to increases in taxation by way of either higher rates or expansion of tax base or imposition of new taxes. The effect of the two taken together is called by Shri Sahota the buoyancy of the tax system. The figures of buoyancy given by him for different taxes are not strictly comparable as they pertain to different periods of time, 1900-1947 for direct taxes and 1948-49 to 1957-58 for excise duties ; but they also confirm the greater response of excise duties as compared to income tax. It is interesting to note that income tax shows a greater buoyancy during the pre-independence period, while commodity taxes show a greater buoyancy during the post-independence and planning periods.

Shri Sahota's analysis of tax receipts and of national income and related variables over time shows that the relative time rate of growth is much higher in the case of most indirect taxes and underlines his earlier conclusion about the lower degree of responsiveness of direct taxes to income changes in terms of built-in flexibility. His figures also show that the growth of our tax receipts over time has been due much more to increase in taxation than to built-in flexibility. Even taking the increase in taxation into account, the rate of growth of tax receipts in the post-independence period has been much higher in the case of indirect taxes than in that of direct taxes. While a part of this is the result of greater scope for increased taxation in the indirect field as compared to the income tax, there is also no doubt that a part of the comparatively lower rate of

buoyancy of the income tax is due to the existence of widespread evasion. While the existence of evasion is almost universally recognised in the discussion on direct taxation, it has been difficult to work out a rational basis for calculating the amount involved. Several estimates of evasion have been made in the past, including the one by Mr. Kaldor, but Shri Sahota's is the first systematic estimate to be published on the subject. Proceeding on the assumption that the increase in national income is accompanied by a similar percentage increase in the income assessed to tax and that there has been no redistribution in favour of higher incomes within the income ranges assessed to tax, the author calculates the receipts that would have been realised in 1957-58 by applying the tax rates of 1951-52 to the increased incomes within each bracket ; and by comparing it with the actual receipts corrected for increase due to additional taxation, he estimates the amount of income tax evaded at Rs. 51 crores in addition to whatever evasion existed in the base year 1951-52. This figure compares well with the estimate of the Taxation Enquiry Commission who placed the income tax evaded at Rs. 50 crores. It is widely different from Mr. Kaldor's estimate of evasion at about Rs. 200 crores. Even allowing for the fact that there has been some change in the distribution of incomes in favour of the lower ranges within the income tax brackets, it nevertheless appears certain that evasion has continued to be a significant factor in explaining the comparatively lower rate of growth in our income tax receipts.

Shri Sahota's study also confirms the finding of the Taxation Enquiry Commission that the incidence of taxation on rural income is lower than on urban income. But, contrary to the commonly held view on the subject, he finds that the rate of increase in tax incidence has been greater in the rural sector than in the urban sector during the eight years ending with 1957-58, the relevant figures he gives being 6.5 per cent and 4.0 per cent respectively. There is, however, an element of doubt about the validity of this conclusion, as a part of the increase in land revenue receipts is due to the abolition of intermediaries in land and has to be offset by the compensation that has to be paid to the ex-zamindars and others whose rights in the land have been taken over by the state during this period.

Finally, the author attempts an exercise in projections of tax yields on the basis of the elasticity and buoyancy coefficients he

has worked out for the Indian tax system and on the assumption that income during the Third Plan period increases approximately at the rate expected by the Planners. He arrives at a figure of Rs. 1,130 crores as the additional tax yield that could be expected over the Third Plan period without any additional tax effort : i.e., as a result of the built-in flexibility in the tax system, provided national income increases at 6 per cent a year during the period. Assuming an additional tax effort of the same degree of magnitude as was undertaken in the eight years ending with 1957-58 and taking into account the effect of built-in flexibility as well, Shri Sahota advances the figure of Rs. 4,316 crores as the total additional tax receipts that would be realised during the Third Plan period. It must be remembered that all this amount would not be available for financing the Third Plan, as a substantial portion will have to go for meeting the normal increment in public expenditure during the period as well as any special increments that may take place in non-Plan expenditure. The Planning Commission's estimate of additional receipts from taxation that would be available for financing the Plan is Rs. 2,000 crores. It is not possible to compare the two estimates in the absence of figures on the projections made by the Planning Commission on normal increments in public expenditure and special increments in non-Plan expenditure during the Third Plan period.

In conclusion, I would like to underline the significance of built-in flexibility (or elasticity as Shri Sahota calls it) in the tax system as the crucial determinant of the role which public funds can play in economic development. When a country passes from a stage of comparative backwardness in economic development to one of self-sustaining growth and economic maturity, it does so mainly by using part of the funds that arise in the process of economic development as increments in national income resulting from economic growth. The tax system is a major instrument for the mobilisation of these funds. It must be noted, however, that there are severe political and administrative limitations on the extent to which additional taxation by way of either expansion of tax bases or increase in tax rates or imposition of new taxes can be resorted to for increasing the flow of tax receipts. For enlarging tax receipts, therefore, the tax system will have to rely largely on its built-in flexibility. The structure of the tax system should be such that an increasing proportion of the increments to national income gets

automatically syphoned off into the public exchequer without involving any additional tax effort on the part of Government. It is from this point of view that the Indian tax system should be subjected to a new look so that the necessary structural reorganisation could be effected to make it a more effective and less painful instrument for the mobilisation of public funds for economic development. Shri Sahota's work is only a preliminary study in this field. What is needed are more detailed studies and by individual taxes, as well as more analytical studies of the growth of national income by its various components and sectors. It is hoped that this subject will commend itself to the attention of both official and non-official research agencies interested in public finance and economic growth in this country.

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CHAPTER I

THE PROBLEM STATED

I. *Taxation as a Means of Development*

ECONOMIC growth everywhere has been accompanied, if not indeed initiated, by large revenue budgets. This may be visualised from Table 1, which shows the magnitude of the total tax revenue of central government and lower tiers, as a percentage of national income, in respect of some of the countries of the world.

TABLE I

TAX REVENUE OF THE CENTRAL GOVERNMENT AND LOWER TIERS OF CERTAIN COUNTRIES AS A PERCENTAGE OF THEIR NATIONAL INCOMES

<i>Country</i>	<i>Year</i>	<i>Total tax of central govt. and lower tiers as percentage of national income</i>	<i>Country</i>	<i>Year</i>	<i>Total tax of central govt. and lower tiers as percentage of national income</i>
Germany	1954-55	33.8	Japan	1953-54	19.5
U.K.	1954-55	30.8	Italy	1949-50	19.5
Mainland China	1953	25.3 ^a	Brazil	1952-53	15.9
Netherlands	1954-55	29.6	Indonesia	1952-53	11.3
Norway	1952-53	29.1	Pakistan	1952-53	8.9
Australia	1953-54	28.0	India	1952-53	6.86
U.S.A.	1952-53	27.4		1953-54	6.42
Sweden	1953-54	23.7		1954-55	7.50
Denmark	1952-53	23.5		1955-56	7.61
Israel	1954-55	21.9		1956-57	7.36
				1957-58	8.66

^a Although China is by no means a developed country, the size of the budget shows the current development effort of that country.

It is fairly evident from Table 1 that, in general, the economically developed countries, to whichever economic system they may

belong, have relatively larger revenue budgets in relation to their national products, in comparison with the less developed or underdeveloped countries. There is little doubt that higher incomes can support larger budgets. At the same time the positive role of the bigger budget as a contributory factor to economic development must not be neglected. Thus the larger the budget the wider the fiscal scope of restraining consumption (which is one of the major aims of taxation), of influencing consumers' wants and incomes and of allocating the factors of production for purposes of economic development and stability. The other prominent effects are on the incentives to work, save, invest and take risks, and on income re-distribution; and these can be produced more effectively when the budget size is large than when it is small.

In the underdeveloped countries where the budget forms one of the means of bringing about rapid economic growth and the state assumes a positive role in capital formation, increasing the proportion of people's incomes paid to the government in taxes becomes one of the immediate "objectives" in the drive to start economic development.

Apart from the surpluses out of current budgets which may be realised for capital formation, the mere bigness of the revenue budget in relation to National Income *per se* is ordinarily an important factor contributing to economic growth. This is so because as the budget grows in size relatively to National Income, the proportion of it which is allocated to "development expenditure" tends to grow increasingly faster than, and at the expense of, the "non-development expenditure".¹ This may be observed from Table II.

It will be noticed from Table II that in India at present more than two-fifths of the combined Union and State Governments revenue

¹ Traditionally the revenue expenditures are classified into two broad groups: (i) non-development expenditure and (ii) development expenditure. In the first group are included expenditures on the protection and safety of life, property and rights (defence, police, justice and prisons), while the second group comprises expenditures on the operation, maintenance, renewal, or replacement of existing capital, or on additions of new assets, in the following two categories:

(a) Social services, such as education, health, and medicine.

(b) Economic development, such as agricultural and rural development, veterinary, cooperation, industries and supplies, highways, irrigation, civil works, scientific departments, multipurpose river schemes, forests, aviation,

(Continued on page 4)

TABLE II
DEVELOPMENT AND NON-DEVELOPMENT EXPENDITURE OF THE INDIAN UNION AND
STATE GOVERNMENTS ON REVENUE ACCOUNT

Government unit	Year	Development expenditure															
		Non-development expenditure					Social services					Economic development					Total
		Rs. crores	Per-centage of total	Rs. crores	Per-centage of total	Rs. crores	Per-centage of total	Rs. crores	Per-centage of total	Rs. crores	Per-centage of total	Rs. crores	Per-centage of total				
3	4	5	6	7	8	9	10										
Union Govt.	1921-22	104.3	95	2.31	2	3.54	3	5.90	5	5.90	5	5.90	5				
	1936-37	74.94	93	1.74	2	4.23	5	5.97	7	5.97	7	5.97	7				
	1938-39	76.02	83	1.62	2	4.39	5	6.61	7	6.61	7	6.61	7				
	1950-51	295.62	88	14.62	4	26.23	8	40.85	12	40.85	12	40.85	12				
	1953-54	331.78	85	21.21	5	35.79	10	57.00	15	57.00	15	57.00	15				
	1956-57	357.91	76	28.84	6	85.56	18	114.40	24	114.40	24	114.40	24				
	1958-59 (B.E.)	493.84	71	29.40	8	148.06	21	197.46	29	197.46	29	197.46	29				
	1921-22	42.09	60	12.00	17	16.93	23	28.03	40	28.03	40	28.03	40				
	1936-37	47.43	62	16.40	21	12.86	17	29.26	38	29.26	38	29.26	38				
	1938-39	49.25	61	17.27	21	14.01	18	31.28	39	31.28	39	31.28	39				
1950-51	192.98	56	97.84	26	93.79	24	191.53	50	191.53	50	191.53	50					
1953-54	241.11	49	120.82	24	134.46	27	235.28	51	235.28	51	235.28	51					
1956-57	168.81	33	158.73	31	188.56	36	347.29	67	347.29	67	347.29	67					
1958-59 (B.E.)	302.99	43	203.65	29	211.93	28	395.58	57	395.58	57	395.58	57					
Combined Union & States	1921-22	146.39	81	14.31	8	19.57	11	33.93	19	33.93	19	33.93	19				
	1936-37	122.37	78	18.14	12	17.09	10	35.23	22	35.23	22	35.23	22				
	1938-39	125.27	77	18.89	12	18.40	11	37.39	22	37.39	22	37.39	22				
	1950-51	488.00	68	112.44	15	120.02	17	232.38	32	232.38	32	232.38	32				
	1953-54	572.89	65	142.01	16	170.25	19	312.28	35	312.28	35	312.28	35				
	1956-57	626.22	58	187.57	17	274.12	25	461.69	42	461.69	42	461.69	42				
	1958-59 (B.E.)	796.83	57	233.05	17	359.99	26	593.04	43	593.04	43	593.04	43				

SOURCE: Worked out from (1) Taxation Enquiry Commission's Report, Vol. I, Chapter III, Table 2; (2) Reserve Bank of India Bulletins; (3) Union Budgets.

spending is being incurred on "development expenditure", as against a ratio of 35 per cent in 1953-54, 23 per cent in 1938-39 and 19 per cent only in 1921-22. On the other hand, expenditure of the non-developmental type has fallen from 81 per cent in 1921-22, 77 per cent in 1938-39, 65 per cent in 1953-54 to 57 per cent in 1958-59.

A similar trend is manifest in Communist China.

TABLE III

DEVELOPMENT AND NON-DEVELOPMENT EXPENDITURE ON
REVENUE ACCOUNT IN COMMUNIST CHINA

	<i>As percentage of total expenditure</i>			
	1950	1951	1952	1953
<i>Development expenditure</i>				
Expenditure on national economic construction	25.5	29.5	44.8	44.3
Expenditure on educational, cultural, etc. projects	11.1	11.3	13.7	14.9
	36.6	40.8	58.5	59.2
<i>Non-development expenditure</i>				
National defence, state administration, etc.	63.4	59.2	41.5	40.8
	100	100	100	100

In the more advanced countries, the ratio of developmental to total revenue expenditure is even higher. In the U.K., for instance, this ratio was 61 per cent in 1936. The U.S.S.R. devoted 63 per cent of her budgets towards "national economy, education and health (excluding national insurance)", in 1938.

It may be assumed that during the next 15-20 years, until 1975-80, we in India will be concerned with the economics of the

ports and pilotage, community development projects. Since the relatively expanding part of the budgets (viz. development expenditure) undoubtedly contains a much higher content of productive capital than the relatively dwindling part (viz. non-development expenditure), the above is adequate enough a measure as an indicator of broad trends of allocation of revenues between capital and current expenditures, though a more appropriate measure of the contribution of the revenue budgets to capital formation will be available only when "economic classification" of the budgets of the Union and of all the States is available for the period under study.

“take off” period. This is perhaps the most crucial period in the history of an economy, during which not only the 5 per cent saving-investment economy transforms itself into 12-15 per cent saving-investment economy (and leads to a rise in real output per capita) but this transformation “carries with it radical changes in production techniques and the disposition of income flows which perpetuate the new scale of investment and perpetuate thereby the rising trend in per capita output”.²

Changes in “production techniques” require that an increasing proportion of national output goes to the share of the capital goods sector as against the consumption goods sector of the economy ; and the “disposition of income flows” needs to be transformed in such a way that larger and larger *savings* stream into the hands of those who will *invest* them. In a mixed economy like ours, with the avowed goal of a socialistic pattern of society, in which many an entrepreneurial function is taken over by the State, the “income flows” must be so channelised as to siphon off, more or less automatically, the increasing savings into the coffers of the State. The two main State channels through which these income flows pass are : (a) public enterprises, and (b) the government budget. Here we are concerned with the latter channel only.

While the need thus is for a very significant enhancement of the ratio of tax to National Income it is not feasible, politically or economically, to raise taxation to a very high level all at once. Frequent legislative measures to enhance tax rates, to extend the tax base and to increase the number of imposts may be unpalatable (even to the legislators) and often impracticable as they invite increasing resistance on the part of tax payers as also create “uncertainty” in tax structure which is so inimical to sustained growth of business and industry. Fortunately this is not absolutely necessary. The crux of the problem is “what happens to the increments of income”. The technique of increasing the relative share of a segment of National Income over time is to cause to be appropriated to it a high proportion of the *increments* of National Income. Herein lies the secret of economic growth. In other words, in order to raise the share of taxation in National Income to high levels the tax system must be made sufficiently income-elastic. It must be made progressive in terms of National

² W. W. Rostow, “The Take Off into the Self-Sustained Growth”, *Economic Journal*, March 1956, pp. 23-48.

Income. In what follows, therefore, we try to find answers to three questions :

1. Is our tax system income-elastic ?
2. If it is income-elastic, to what extent ? If it is not income-elastic (or, if moderately elastic), why is it not (more) so ?
3. How could it be made (more) income elastic ?

Before proceeding to take up these questions, it may be repeated that we are here concerned only with the "level" of taxation, and not with the "distribution" of taxation. In the jargon of Public Finance, we confine ourselves to the study of the "formal incidence" rather than the "effective incidence" (keeping in view that we are dealing with the "take-off" period). In effect this paper has to do primarily with consumption and saving and only remotely with production and allocation of resources. This is not to say that the effects of taxation on overall consumption can be studied without relation to the effects of taxation on production and income distribution. Far from that. The present method is followed merely to isolate a particular problem for exclusive study. Such a methodology of abstraction is not uncommon in the study of social sciences. The fact must be noted, however, that, broadly speaking, there is wider scope for manipulating the tax distribution for influencing production and income distribution in a high rather than in a low taxation economy.

CHAPTER II

ELASTICITY AND BUOYANCY OF TAX STRUCTURE

I. *Income-elasticity of Tax Structure*

THE income-elasticity of a tax or tax structure, that is, its capacity to increase the flow of revenues to the State treasury in terms of expanding National Income, is to be judged not so much by an increase in tax revenues through the revision of rates or extension of the base or multiplication of imposts, as by the responsiveness of tax yield at stable rates and base to increases in National Income. This responsiveness refers to the built-in flexibility of the tax structure at constant rates. Therefore, in computing the income-elasticity of our tax structure (in Table A-1 of the Appendix) we have taken care to *eliminate* as far as possible the effects of increases (or decreases) due to new imposts (or the abolition of certain taxes), due to changes in tax rates and due to the modifications of the base (vide "net" series in the Appendix).

Changes in tax rates and tax bases were compiled from various sources and estimates of yield due to such changes are based mainly on the Budget Estimates, Revised Estimates and Final Accounts of the Union and the State budgets.¹ Elimination is done in such a way that the changes in the yields due to changes in tax rates or the base, in a year, are accounted for only in that particular year. (Increases in the yield due to increase in tax rates or extension of the base are subtracted from the actual account of that year, and decreases in the yield due to reduction in tax rates or contraction of the base are added to the final account of the year.) Thenceforward, however, the changed tax rate structure and the altered base form part of the overall tax measure, so that for subsequent years the new rates and the new base are allowed to

¹ Changes in customs and excise duties effected through "notifications" of the Revenue Departments were also considered, for a couple of years. It was found, however, that not much material difference is made by going into this laborious process, because such changes are normally incorporated into one or the other of the Finance Minister's estimates.

wield their relative influence on the elasticity of the tax. (See also note 3 to Table A-1 in the Appendix under "Sources and Explanations".)

Elasticities of new imposts are considered only after a lag of two years, i.e. in the third year of the imposition of a new impost. This is done in order to give the requisite time to the administration to bring about the necessary adjustment of the base and to gain the required experience and knowledge of the implications of the new tax, and to the tax payers to adapt themselves to the new cut in their incomes. It is thus assumed that after a couple of years the response of the new tax to changes in National Income will become normal. In view of this the elasticities of wealth tax (levied in 1957-58) and of expenditure tax and gift tax (levied in 1958-59) have not been computed. Estate duty has been included only from 1956-57 (though it was levied in 1954-55). Changes in rates and the bases of old taxes, however, are reckoned for the whole period under consideration.

The period 1951-52 to 1957-58 could be considered as one during which our tax structure was perhaps becoming development-oriented. This, therefore, becomes our main period of inquiry in the case of almost all the taxes and tax groups. There is, however, a trough in the yields of almost all of the direct taxes towards 1953-54, which, as will be discussed later, is not explained adequately by any or all of the independent variables considered. All these taxes, therefore, including "combined direct taxes", "combined Union taxes", and "total tax revenues", are studied separately for the period 1953-54 to 1957-58 as well. In the case of those taxes in respect of which no major structural changes took place during the post-independence years prior to the commencement of the First Five Year Plan, the period 1948-49 to 1957-58 has also been considered. Lastly, an enquiry is also made into the behaviour of certain old taxes, viz. land tax, income tax, and total tax revenue, for a longer period, i.e. from 1900 to 1947.

2. *Buoyancy of Tax Structure*

The emergence of a built-in flexibility in the tax system irrespective of changes in tax rates and base, etc. on which main (if not sole) reliance can be put, is to be expected only gradually and in due course. In the short course, which in current conditions may well

extend to the periods of the Third and the Fourth Five Year Plans, Indian taxation needs to be so rationalised as to have maximum feasible yield in terms of expanding National Income. In addition to having an income-elastic tax structure, there is also the urgent need "to start at a higher level". In an underdeveloped ex-colonial long-stagnating economy, there are many untapped sources of finance. There is a big "slack" to be taken. As industrialisation starts and new tasks are undertaken, new incomes are generated, new aspirations are formed, new needs are felt, new values are developed and new shifts in demand take place. In these circumstances the economy has to cross a "hump" and it is necessary to widen and deepen the tax base, to increase appropriately the rates of old taxes and to levy new imposts. This kind of tax expansion is primarily necessary *to start* the cumulative forces, while the "income-elasticity of tax structure" is essential *to sustain* the cumulative process.

Therefore, in order to evaluate the overall tax effort of the Union and the State governments, we also study the *buoyancy* of our tax system—that is the capacity of our tax structure to increase the flow of income to the exchequer *including* the increase due to enhancement of rates, enlargement of the base or multiplications of levies. The relevant data are shown in series "gross", in the Appendix. In fact such expansion through legislative measures never ends. In an erstwhile underdeveloped economy there may be continuous opening-up of new fields of taxation owing to the monetisation of the economy if to nothing else. There are rapid shifts in demand, in the movement of goods and in income generation. These new sources are to be tapped. Requirements of current economic activity always necessitate changed fiscal and monetary measures.

However, as the economy grows, less and less reliance will have to be placed on legislative measures and more and more on the built-in flexibility of the tax structure. Needless to say, therefore, while expanding the tax net, the tax structure and the rate schedule should be formulated in such a manner that as far as possible the desired income-elasticity of overall taxes is ensured. It is only by ensuring that a large portion of the *increments* of income is automatically taxed away that we can presume to create those perpetual "cumulative forces" which are so much the burden of the theme of economic development.

3. *The Approach*

In order to estimate the built-in flexibility or buoyancy of a tax (a tax group, or the tax structure as a whole) three different measures have been tried :

- (1) If there exists a significant correlation between a particular tax (or tax group) and national income, or a component of national income, we proceed to use the method of regression analysis to find out the elasticity of the tax in relation to National Income or the relevant component of National Income to which that tax is related. The regression equation used for this purpose is

$$Y = a X^b$$

(or $\text{Log } Y = \log a + b \log X$) where the co-efficient 'a' denotes the level of the tax yield Y when the independent variable X is zero, and co-efficient 'b' gives the elasticity. The b co-efficient signifies the percentage rate of change in tax Y consequent upon a one per cent change in the independent variable X . For estimating buoyancy a slightly different equation but of the same form has been used:

$$Y' = a X^{b'}$$

$$(\text{or } \text{Log } Y' = \text{Log } a + b' \log X),$$

where b' is buoyancy. (Y' relates to "gross" tax yield, as distinguished from "net" tax yield Y .²)

Undoubtedly, this is a very compact and useful measure for the purpose in hand, provided there exists a significant correlation between the two variables. In those cases where there is no correlation, the computation of regression co-efficient b or b' conveys little meaning. However, the non-existence of correlation between a tax (especially a tax levied on income or incomes) and national income or a component thereof, is in itself a finding of meaningful significance.

² As explained elsewhere in the text, and in Appendix, the use of the word "net" tax yield in this paper signifies "yield from which effects of current year's legislative changes in tax rates and the base have been eliminated". This must be distinguished from the usual use of the word in the sense of "yield" exclusive of "collection charges".

- (2) In the absence of any significant correlation between a tax or tax group and National Income or a component of National Income, we try an alternative measure of 'time rate of growth', using the exponential type of function,

$$Y = ab^t$$

(or $\text{Log } Y = \log a + t \log b$, where t is time and b is the rate of growth of a tax Y per unit of time (a year), i.e.

$\frac{\Delta y}{y} \Big| \Delta t$. This rate of growth may be compared with National Income or one of its relevant components, say, $\frac{\Delta X_2}{X_2} \Big| \Delta t$.

- (3) In the case of each tax, tax group and overall tax structure, we also compute the percentage that a tax forms of National Income for each year of the period studied. These percentages are computed for the gross tax yields only (that is, between the "gross" series of the Appendix), and National Income. The change in this percentage over the years, therefore, gives an indication of the buoyancy of the tax; alternatively it shows the tax effort of the Union and States governments. See the Appendix.

4. *How Income-elastic Is Our Tax Structure ?*

The correlation co-efficients were computed between relevant independent variables (e.g. National Income or components of National Income) and the corrected series of various tax yields or indices thereof. (See Appendix.) Since the number of observations relevant for our study is only 7 (i.e. years 1951-52 to 1957-58), only those correlation co-efficients have been considered as "significant" whose values are at least .6 (vide Fisher). Such correlation co-efficients as also the regression values (elasticities) of the respective tax series are given in Table III.

An examination of Table III along with the detailed "net" series in the Appendix brings out certain interesting results.

4 (1). *Anomalous Correlation*

The first point that strikes one is the stark anomaly in the tax-income relationship of our tax structure. Our indirect taxes show better correlations with National Income, while our direct taxes,

TABLE IV
ELASTICITY OF VARIOUS TAXES AND GROUPS OF TAXES FOR THE PERIOD 1951-52 to 1957-58

Tax head (Y) ^a	Independent variables (X ₁ , X ₂ , X ₃ , . . .) ^b	Correlation coefficient	Elasticity (or Regression efficient) (b) ^{aa}	Remarks
(1)	(2)	(3)	(4)	(5)
1. Income tax	1. Urban Income 2. Wholesale prices	0.746 0.776	0.355 0.390	Lagged by one year $\left\{ \begin{array}{l} r_{YX_3} = .432 \\ r_{YX_4} = p.776 \end{array} \right. \left\{ \begin{array}{l} R_{YX_3, X_4} = .746 \\ R_{YX_4, X_1} = c.809 \end{array} \right.$
2. Corporation tax	1. National Income 2. Urban Income 3. Wholesale prices 4. Ordinary shares	0.854* 0.730@ 0.656* 0.730@	1.250 1.440 0.925 0.377	* Straight correlation shows a higher value than lagged one. @Lagged by one year.
3. Agricultural income tax	National Income	0.624	0.710	Lagged by one year
4. Central excise duties	National Expenditure at Market Prices	0.709	1.610	For the period 1948-49 to 1956-57
5. Motor vehicle tax	National Income	0.692	1.917	
6. Union taxes (overall)	National Income	0.714	0.613	Period considered: 1953-54 to 1957-58, there being no correlation for the period 1951-52 to 1957-58.
7. Direct taxes of the Union and the States	Wholesale prices	0.645	0.474	Correlation for 1951-52 to 1957-58 = 0.645 for 1953-54 to 1957-58 = 0.830
8. Total ordinary revenue of the Union and the States	National Income	0.708	0.833	

TABLE IV—(Contd.)
ELASTICITY OF VARIOUS TAXES AND GROUPS OF TAXES FOR THE PERIOD 1951-52 to 1957-58

Tax head (Y) ^a	Independent variable (X ₁ , X ₂ , X ₃ , ...) ^a	Correlation coefficient	Elasticity (or Regression coefficient) (b) ^{aa}	Remarks
(1)	(2)	(3)	(4)	(5)
9. Total taxes on the Rural Sector	Income arising in the Rural Sector	0.555	0.229	The correlation coefficient is slightly less than the value which is regarded as minimum to make it significant. However, in view of the importance that this tax group occupies vis-a-vis the corresponding tax group in Urban Sector, it has been included here for what it is worth from the viewpoint of elasticity comparisons.
10. (a) Indirect taxes on the Urban Sector	Income arising in the Urban Sector	0.792	1.065	
(b) Direct taxes on the Urban Sector	1. do	0.635	0.674	
	2. Wholesale Prices	0.831	0.541	Lagged by one year
(c) Total taxes on the Urban Sector	Income arising in the Urban Sector	0.667	0.293	

^a For details and explanations, see Appendix.

^{aa} *b* is regression coefficient in the equation of the type $Y = aX^b$.

$Y = \text{Tax}$ $X_1 = \text{National Income}$

$X_2 = \text{Income arising in urban sector; or income arising in rural sector; or income arising in agricultural sector, as the case may be.}$

$X_3 = \text{Index of Wholesale Prices.}$

$X_4 = \text{Price Index of Ordinary Shares.}$

NOTE: Taxes and tax groups which have not been included in this table are those which show no correlation with any of the independent variables considered to be relevant.

which are based on income and are highly progressive in rate schedule afford relatively weak correlations. Take the premier direct tax, the income tax. It is stubbornly non-correlative with any of the half dozen variables tested, viz. National Income, income arising in urban sector, business activity index, industrial profits, ordinary share prices, value added by manufacture. It has, however, a consolation correlation with some less relevant variables such as wholesale prices.³ A partial correlation is also discernible with relation to urban income (lagged) when the wholesale prices are held constant.

Corporation tax is the only single tax head which has a distinct correlation with National Income and with a number of other components of National Income. Land tax is notorious for its inelasticity. Agricultural income tax, surprisingly enough, has a high correlation with physical production of plantation crops but none with value of plantation crops. However, it shows a significant correlation with National Income (though a small income elasticity).

4 (2). *Anomalous Income-elasticity*

Among those direct and indirect tax heads which show correlation with National Income or with one or the other of the components of National Income, the direct taxes have a smaller elasticity as compared with indirect taxes. This may be visualised from the following comparison :

The significance of greater or smaller elasticity in relation to a component of National Income and its conversion in terms of National Income as a standard measure may be stated in Professor W. W. Heller's words : "Quite apart from what may be done to mobilise resources at the beginning, there remains the problem of sustaining development, i.e. how to plough back the increment resulting from growth. To assure this objective, we need a tax structure which will automatically achieve this result. This means that the tax base must grow as the income grows. Since the tax rates will only be a fraction of the base, the base must grow faster than State income in order to recapture a substantial part of the

³ One interesting correlation is found between income tax yields and adverse balances of trade on merchandise account (as a percentage of total imports on merchandise account). These strange bed-fellows have changed in sympathy with each other in prosperity as well as in adversity.

TABLE V
INCOME-ELASTICITY OF DIRECT AND INDIRECT TAXES COMPARED

Direct taxes			Indirect taxes				
Tax	Independent variable to which related	As percentage of total tax revenue	Elasticity	Tax	Independent variable to which related	As a percentage of total tax revenue	Elasticity
1. Income tax	Urban Income	16	.355	1. Central excises	National Expenditure	27	1.610
2. Corporation tax	National Income	5	1.25	2. Motor-vehicle tax	National income	2	1.917
3. Agricultural Income-tax	"	.7	.71	3. Indirect taxes on the urban section	"	25.5	1.065
4. Direct taxes on the urban sector	"	22	.674				

increment.”⁴ (In other words the marginal effective rate in terms of National Income must be high.) The elasticity co-efficient or the rate of growth of a tax relative to National Income or one of its relevant components provides a measure of the progressivity of the tax. In Table IV, for instance, the elasticity of income tax in relation to “income arising in urban sector” is seen to be .355 for the period 1951-52 to 1957-58. During the same period urban income increased at an average rate of 3.5 per cent per annum while National Income expanded at 2.2 per cent per annum. (See Table VI, p. 22.) This gives a kind of income-elasticity of income tax (as a crude measure) of $(.355 \times \frac{3.5}{2.2}) = .565$. This means that if National Income increases by one per cent (while urban income increases by 1.6 per cent, income tax increases by .565 per cent only—obviously a very regressive tax in effective rate indeed. Taking a weighted average of the elasticities of the top three direct taxes in Table IV (forming 21.7 per cent of total taxes) and the top two indirect taxes (constituting 29 per cent of total taxes), and converting components of National Income into National Income as above, we get a weighted income-elasticity of these direct and indirect taxes of 0.728 and 1.63 respectively. The result is quite antithetical. Our supposedly progressive (direct) taxes are in fact regressive with an elasticity of 0.7 only; while our conventionally regressive (indirect) taxes are, in effect, progressive with an elasticity of 1.6. This is also borne out by the incidence of direct taxes and indirect taxes on the urban sector item 4 in the left block and item 3 in the right block of Table IV which show an elasticity of .67 and 1.07 respectively.⁵

Apart from these, some alternative comparisons are also possible. The income-elasticity of the most elastic of direct taxes—viz. corporation tax, is 1.25 and the income-elasticity of the most elastic of indirect taxes—viz. motor vehicle tax, is 1.917. The income-elasticity of the premier direct tax—viz. income tax (forming 16 per cent of total tax revenue) is only 0.565. The income-

⁴ W. W. Heller, “A Survey of Agricultural Taxation and Economic Development”, in *Papers and Proceedings of the Conference on Agricultural Taxation and Economic Development*, held under the auspices of the International Programme in Taxation, Law School of University, 1954, H. P. Wald (ed.).

⁵ Elasticity could not be computed in respect of overall direct taxes and indirect taxes, since there is no correlation here. The non-correlative taxes distort the correlation of the others also when totalled up.

elasticity of the premier indirect tax, viz. central excise duties (accounting for 27 per cent of total tax revenue), is 1.61.

Our non-tax revenues have shown a much greater income-elasticity than tax revenues. It may, however, be noted that, as in the case of customs (see explanatory note to item 5 of Table A-1 of the Appendix), and for similar reasons no distinction has been made between the elasticity and the buoyancy of non-tax revenues.

Our overall tax structure is regressive in terms of National Income expansion. In particular, the following elasticity coefficients may be noted :

- (a) Union taxes have an elasticity of 0.613.
- (b) Total tax revenue of the Union and the States shows no correlation with National Income or any component thereof, but considered in terms of average annual time rates of growth, it has a miserably low rate, that is 0.5 per cent per annum, as compared with 2.2 per cent per annum for National Income (both in current prices).
- (c) Total ordinary revenue of the Union and the States has an income-elasticity of less than unity, i.e. 0.833.

4 (3). *Dichotomous Sensitivity to Price Changes*

If considered in current prices, any correlation of a tax yield (or of elasticity for that matter) with respect to price level, is of little economic significance. The disquieting feature of the relation of our direct taxes with price level, however, is their dichotomous behaviour in rising and falling prices. For instance, the elasticity of income tax in relation to wholesale prices has been .39, while that of the overall direct taxes of the Union and States .47, over the period 1951-52 to 1958-59. This means that on the average if wholesale prices rise by 1 per cent, the yields from income tax increase by .39 per cent and from overall direct taxes by .47 only. This period consists of 4 years of falling prices (1951-52 to 1954-55) and the other four years of rising prices (1955-56 to 1958-59). The regression equations during these two periods give the following relations :

1951-52 to 1954-55 (*Falling Prices*)

$$\text{Log } Y_1 = -.055 + 1 \log X_4'$$

$$\text{Log } Y_2 = -.057 + 1 \log X_4$$

1954-55 to 1958-59 (*Rising Prices*)

$$\text{Log } Y_1 = 1.148 + .4 \log X_4$$

$$\text{Log } Y_2 = 1.533 + .2 \log X_4$$

(Where Y_1 stands for income tax yields and Y_2 for total direct taxes. X_4 denotes wholesale prices).

These relations reveal that if prices fall by 1 per cent, the income tax and the overall direct taxes also fall by 1 per cent. Both possess an elasticity of unity during falling prices. In the reverse case, when prices rise by 1 per cent, these taxes rise only by .4 per cent and .2 per cent respectively. This is in complete contradiction of the progressive character of all direct taxes, which is that, as a rule, if a tax is progressive, the yields from it should rise at a relatively higher rate than the rise in incomes (prices here), and should fall at a relatively higher rate when the incomes (prices in this case) fall.⁶

5. *How Buoyant Is Our Tax Structure ?*

Having seen the rather weak responsiveness of our tax structure to National Income, particularly of the direct taxes, it remains to be seen whether this deficiency in the built-in structure of taxes is, to any significant extent, made up by the tax efforts of the Union and State governments in the form of expanding the base or enhancing the rates of existing taxes, and/or levying new taxes. Primarily such measures are to be aimed at increasing the tax revenue in order "to start at a higher level" ; they should not be considered as a substitute for built-in flexibility. Nonetheless, it is worthwhile to enquire to what extent the annual tax efforts of the government have enabled the public revenues to move in step with the expanding National Income.

We thus proceed to compute in Table V the b' (buoyancy) values for each tax and tax group, where b' represents the proportionate change in tax yield (inclusive of changes in the base and rates of tax and in the case of groups of, and overall, taxes, inclusive of the increase in the number of imposts) accompanying a proportionate change in National Expenditure or National Income or one of its components.

⁶ It may be noted that we are here dealing with the built-in mechanism only. Fiscal measures adopted to give tax concessions as incentives to economic activity during deflationary phases, and to increase tax incidence during inflationary phases, are apart.

TABLE VI
 BUOYANCIES OF VARIOUS TAXES AND GROUPS OF TAXES FOR
 THE PERIOD 1951-52 TO 1957-58

<i>Tax head (Y')^a</i>	<i>Independent variable (X₁, X₂, X₃ . . .)</i>	<i>Buoyancy (or regression coefficient) (b')^{aa}</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)
1. Income tax ✓	1. National Income	1.789	For the period 1900-1947 ^b
	2. Income arising in the Urban Sector	1.282	(lagged by 1 yr.)
	✓ 3. Index of Business Activity	2.367	Period 1900-1947 ^b
	✓ 4. Wholesale Prices Index	0.706	
2. Corporation tax ✓	National Income	1.473	
3. Agricultural Income tax	National Income	1.756	
4. Land tax	Income arising in the Agricultural Sector	0.128	Period 1900-1947 ^b
5. Central excise duties	National Expenditure at Market Prices	3.968	Period 1948-49 to 1957-58
6. Motor vehicle tax	National Income	2.250	
7. Overall Union taxes	National Income	2.397	Period 1953-54 to 1957-58
8. Total tax revenue of the Union and the States	National Income	0.996	Period 1900-1947 ^b
9. Non-tax revenue of the Union and the States	National Income	2.694	
10. Certain Union excises	1. National expenditure at Market Prices	3.103	} Period 1954-55 to 1957-58 only ^{bb}
	2. National Income	4.060	
11. Total ordinary revenue of the Union and States	National Income	1.694	
12. Total taxes on the Rural Sector	Income arising in the Rural Sector	1.106	

^a For sources, details and explanations, see Tables A-1 and A-2 in the Appendix.

^{aa} b' is regression coefficient in the equation of the type $Y' = ax^{b'}$

^b Source of data for the period 1900-1947, in respect of income-tax, land

tax, total tax revenue, national income, and index of business activity: "Banking and Monetary Statistics of India", Reserve Bank of India, 1954, pp. 872-74. National income estimates consist of three series :

(1) *Period 1900-1931*

Quinquennial averages of National Income, as computed by A. C. Arora and K. R. R. Iyengar, vide "Long Term Growth of National Income in India 1900-1955", *Preliminary Conference on National Income and Wealth*, Delhi, January 1957.

Their estimates were made in 1948-49 prices: These were converted into current prices by the price index computed by the authors in the same paper.

(2) *Period 1931-1940*

Estimates for this period were taken from G. S. Gauri, "National Income Estimates in India", *Indian Economic Journal*, July 1954, pp. 55-65. The estimates are based on Mr. Desai's *Study of Consumer Expenditure Values for India, 1931-32 to 1940*. They were "corrected for reliability" by Mr. Gauri.

(3) *Period 1940-47*

Ibid, G. S. Gauri. Estimates corrected for reliability from the *Eastern Economist's* estimates for British India for the period 1939-40 to 1946-47.

Since we have three series of National Income data, these were converted into indices by correcting for differentiation during the years 1931 and 1940. (As we are concerned only with the relative "rates of change" of the variables during this period, the index method gives us the workable results, even though there may be discrepancies in the basis and coverage of the three different series of National Income estimates.)

Source for income arising in Agricultural Sector: S. Sivasubramoniam, "Estimates of Gross Value of Output of Agriculture for Undivided India", *Preliminary Conference on National Income and Wealth*, New Delhi, January 1957. Here again, since we are concerned with the relative "rates of growth" of Agricultural Income (and not the absolute magnitudes), the data for undivided India is just as good for our purpose, under relevant assumptions, as for the Indian Union alone, for the series are divided by the same denominator throughout the period.

bb Those included are motor spirit, kerosene, matches, tyres and tubes, tobacco, vegetable products, cotton cloth, cement, paper, non-essential oils, refined diesel oil and steel ingots.

5 (I). *Anomalous Buoyancy*

It may be seen from Table V that the anomaly noticed in the foregoing sections also persists in this case. In particular the following results are significant for policy matters :

- (i) Buoyancy of the premier direct tax, viz. income tax (forming 16 per cent of total tax revenue) is 2.04.⁷

⁷ 1.282 in terms of income arising in the Urban Sector converted into National Income. That is $1.282 \times 3.5/2.2 = 2.04$.

- (ii) Buoyancy of the premier indirect tax, viz. central excise duties (constituting 27 per cent of the total tax revenue) is 3.786.⁸
- (iii) Buoyancy of the most lucrative (major) component of the premier direct tax, viz. income tax from professional and business income group is 3.27.⁹
- (iv) Buoyancy of the most lucrative (major) component of the premier indirect tax head, viz. certain excise duties (item 10 Table V) is 4.06.
- (v) The buoyancy of the only progressive tax for the agricultural sector, namely agricultural income tax is no more than 1.756.

6. *The Time Rate of Growth of the Indian Tax Structure*

The method of regression analysis can be counted upon to give reliable results only where there is significant correlation between the series of the dependent and independent variables. In those cases, however, where the dependent variable—the yield of a tax—shows no correlation with National Income or Expenditure or any other relevant component of National Income, we have tried two further measures. These measures may show results where the method of regression analysis does not, or they may enable us to reinforce or contradict the conclusions arrived at through regression analysis. One of these measures consists in comparing and relating the time rate of growth of the yield of a tax with the time rate of growth of a relevant independent variable, say an income or an expenditure. These results are shown in Tables VI(a), VI(b) and VI(c).

Table VI(a) gives for various taxes and tax groups the annual percentage rate of growth ($\frac{\Delta Y}{Y} / \Delta t$) this rate having been estimated through the value of the coefficient b in an exponential function of the type $Y = ab^t$. On similar calculations we

⁸ Buoyancy coefficient of 3.968 in relation to National Expenditure at market prices converted in terms of National Income at factor cost; that is, by a ratio of the time rate of growth of the National Expenditure at market prices to the time rate of growth of the National Income at factor cost. Thus $3.968 \times 2.1/2.2 = 3.786$.

⁹ 2.0 in relation to income arising in urban sector converted in terms of National Income as in the foregoing footnotes.

TABLE VII (a)

TIME RATE OF GROWTH OF VARIOUS TAXES OR TAX GROUPS FOR THE PERIOD 1951-52 TO 1957-58

S. No.	Tax head (Y)	Annual rate of growth	
		Net series (net of changes in tax rates, base, etc.) $\left(\frac{\Delta Y}{Y} / \Delta t\right)$	Gross series (inclusive of changes in tax rates, base, etc.) $\left(\frac{\Delta Y}{Y} / \Delta t\right)$
1	2	3	4
1.	Income tax	-1.45	0.60
2.	Corporation tax	1.00	2.40
3.	Agricultural Income tax	2.80	9.00
4.	Land tax	—	2.00
5.	Central Excise Duties	7.60	21.40
6.	Customs	—	-2.40
7.	Sales tax	7.90	8.60
8.	Motor vehicle tax	8.80	10.70
9.	Miscellaneous taxes	-0.85	1.00
10.	Union taxes	-0.46	4.80
11.	Total taxes (Union & States)	0.50	4.90
12.	Non-tax revenue	—	10.50
13.	Direct taxes (Union & States)	-2.20	4.00
14.	Indirect taxes (Union & States)	2.10	5.60
15.	Total Ordinary Revenue (Union & States)	3.30	5.90
16.	Indirect taxes on Rural Sector	4.10	7.70
17.	Direct taxes on Rural Sector	-1.26	2.30
18.	Total taxes on Rural Sector	2.50	6.50
19.	Indirect taxes on Urban Sector	2.10	7.70
20.	Direct taxes on Urban Sector	-0.70	2.30
21.	Total taxes on Urban Sector	0.70	4.00

TABLE VII (b)

TIME RATE OF GROWTH OF VARIOUS INCOMES,
EXPENDITURES, ETC. FOR THE PERIOD 1951-52 TO 1957-58

S. No.	<i>Incomes, Expenditures, etc.</i>	<i>Annual rate of growth</i> $\left(\frac{\Delta X}{X} / \Delta t \right)$
1	2	3
1.	National Income at factor cost	2.2
2.	National Expenditure at market prices	2.1 (for 1950-51 to 1956-57)
3.	Income arising in Urban Sector	3.5
4.	Income arising in Rural Sector	0.7
5.	Ordinary Share prices	5.2
6.	Industrial profits	7.9
7.	Value added by Manufactures	6.6
8.	Adverse balances of trade on merchandise account as a percentage of imports on merchandise account (for the period 1949-50 to 1955-56)	9.3

TABLE VII (c)

TIME RATE OF GROWTH OF VARIOUS TAXES DIVIDED BY
TIME RATE OF GROWTH OF NATIONAL INCOME
FOR THE PERIOD 1951-52 TO 1957-58

S. No.	Tax head	Annual rate of growth of tax divided by annual rate of growth of National Income	
		Net series (net of changes in tax rates, etc.) $\left(\frac{\Delta Y}{Y} / \frac{\Delta X}{X}\right)$	Gross series $\left(\frac{\Delta Y'}{Y'} / \frac{\Delta X}{X}\right)$
1	2	3	4
1.	Income tax	..	0.27
2.	Corporation tax	0.45	1.10
3.	Agricultural income tax	1.30	4.10
4.	Land tax	—	0.90
5.	Central excise duties	3.50	9.70
6.	Customs	—	..
7.	Sales tax	3.60	3.80
8.	Motor vehicle tax	4.00	4.90
9.	Miscellaneous taxes	..	0.45
10.	Union taxes	..	2.20
11.	Total taxes (Union & States)	0.23	2.30
12.	Non-tax revenue	—	4.80
13.	Direct taxes (Union & States)	..	1.70
14.	Indirect taxes (Union & States)	0.90	2.50
15.	Total Ordinary Revenue (Union & States)	1.50	2.70
16.	Indirect taxes on Rural Sector	1.80	5.30
17.	Direct taxes on Rural Sector	..	1.00
18.	Total taxes on Rural Sector	1.10	3.00
19.	Indirect taxes on Urban Sector	0.90	3.50
20.	Direct taxes on Urban Sector	..	1.10
21.	Total taxes on Urban Sector	0.32	1.80

obtain in Table VI(b) the annual percentage rate of growth of National Expenditure, National Income and some of its relevant components, $(\frac{\Delta X}{X} / \Delta t)$. In Table VI(c), percentage annual rates of growth of various taxes are brought face to face with the rates of growth of National Income. So that we get an idea of relative rates of change $(\frac{\Delta Y}{Y} / \frac{\Delta X}{X})$, where Y is tax and X National Income).

Table VI (a) reveals that the time rate of growth of indirect taxes has been faster than that of direct taxes, both when gross receipts and receipts net of changes in base and rates, etc. are taken into consideration. In fact, for many direct taxes the growth rates are negative when net receipts were considered. In particular, the time rates of growth of the following taxes (based on series "net") may be noted :

(i) Income tax	-1.45%
(ii) Union taxes	-0.46%
(iii) Direct taxes of the Union and States	-2.20%
(iv) Direct taxes on the Rural Sector	-1.26%
(v) Direct taxes on the Urban Sector	-0.70%

It will be observed from columns 3 and 4 of Table VI (c) that the results are similar to those noticed in the earlier study of elasticity and buoyancy of taxation. It will be seen that the rate of increase of most taxes relative to the rate of growth of income is small, the ratio of these two rates, which could be taken to be a kind of elasticity, working out to be less than unity in the case of many, in particular many direct taxes. For instance, the ratios of the rates of growth of taxes to the rate of growth of National Income were found to be +0.45 for corporation tax, +0.23 for total Union and State taxes, +0.32 for total taxes in the urban sector and so on.

On the other hand, the relative time rates of growth are much higher in the case of most indirect taxes, being 3.5 per cent for central excise duties, 3.6 per cent for sales tax, 4 per cent for motor vehicles tax, 1.8 per cent for indirect taxes on the rural sector and 0.9 per cent in the case of indirect taxes on the urban sector. These results underline our earlier conclusion that the direct and so-

called progressive taxes are less responsive to income changes, in terms of built-in flexibility, than the indirect taxes, quite contrary to the opinion generally held.

Column 4 of Table VI (c) shows that the major part of the responsiveness of our tax system to changes in income arises, not owing to any built-in flexibility, but owing to changes in the base and the rates and the addition of new tax heads. Hence the relative annual rates of *gross* tax receipts are higher than the relative annual rates of *net* tax receipts (i.e. net of changes in base, rates and number of imposts). But even these calculations do not alter the sluggishness of direct taxation relative to indirect taxation, the relative growth rate

$\left(\frac{\Delta Y'}{Y'} \bigg/ \frac{\Delta X}{X}\right)$ working out to be rather high in the case of indirect taxes and not so high in the case of direct ones.

6 (1). *Urban-Rural Disparity*

In addition to reinforcing the results found in the previous sections, this measure of relative time rate of growth brings into focus another important characteristic in our tax structure. This pertains to urban-rural relationship. Contrary to the commonly held view, the rate of increase of tax incidence has been greater in the rural sector than in the urban sector, during the past eight years.¹⁰ The following figures may be noted:

It is clear in Table VII that while total taxes paid by the rural sector¹¹ have increased at a rate of 2.5 per cent per annum due to built-in flexibility for the years 1951-52 to 1957-58, the corresponding increase in the urban sector is only 0.7 per cent per annum. The ratio of gross taxes (inclusive of changes in base and rates etc.)

¹⁰ This could not be established through computing elasticity and buoyancy as there is hardly any correlation between these tax groups on the one hand and income and expenditure on the other. The coefficient of correlation between total taxes paid by rural sector and income arising in that sector is .555, while that between total taxes on urban sector and income arising in the urban sector is .444 only.

¹¹ The direct and indirect taxes separately for urban and rural sectors in Table VII are not wholly comparable, because we have included the export duties on agricultural commodities in direct taxes paid by the rural sector, while we have excluded the export duties on industrial goods from direct taxes paid by the urban sector and have included them in indirect taxes paid by the urban sector. The comparison, however, lies in total taxes paid by each sector.

TABLE VIII

THE RATES OF INCREASE OF TAXES ON URBAN
AND RURAL SECTORS

	<i>Taxes paid by rural sector</i>		<i>Taxes paid by urban sector</i>	
	<i>Annual rate of increase due to built-in flexibility</i>	<i>Annual rate of increase due to all factors including changes in rates and coverage</i>	<i>Annual rate of increase due to built-in flexibility</i>	<i>Annual rate of increase due to all factors including changes in rates and coverage</i>
1. Indirect taxes				
1951-52—1957-58	4.1	7.7	2.1	7.7
1953-54—1957-58	4.3	11.7	2.8	10.4
2. Direct taxes				
1951-52—1957-58	-1.26	2.3	-0.7	2.3
1953-54—1957-58	0.1	4.1	2.9	8.0
Total taxes				
1951-52—1957-58	2.5	6.5	0.7	4.0
1953-54—1957-58	3.0	10.3	2.8	9.4

paid by each sector for the same periods is 6.5 and 4.0 respectively. This disparity also continues when we consider the five-year period 1953-54 to 1957-58. It is, however, clear that the relatively better performance of the rural sector (relatively to its own past) is conditioned wholly by the progress of indirect taxation of rural areas and not by the increase of direct taxation. In fact, taking direct taxation alone, the showing has been better in the urban sector than in the rural one.

Moreover, the better performance of rural taxes during the past eight years should not be confused with matters of equity. Since the base rates and yields of rural taxes are small to start with, a small increase in the base, the rate or the number of imposts can bring about a large change in yields—large only proportionate to itself but small indeed in absolute terms. It may be that taxes on the urban sector have already hit against the taxable capacity ceiling or at any rate have got close to it, so that in spite of concerted tax collection drives, yields have been rising slowly, and in the case of

income tax, have indeed been negative. It follows that in that event the chances of enhancing yields through changes in base, rate and number of taxes are much better in the rural sector than in the urban sector. It may also be that tax evasion and tax avoidance are more subtle among urban communities and that tax administration is less capable of coping with such problems. These matters will be considered in Chapter III.

7. *Ratio of Taxes to National Income*

The conclusions arrived at in the foregoing sections are tenaciously borne out by yet another measure, as used in Table VIII.

It may be seen from Table VIII that even after the inclusion of gross receipts of tax yields resultant upon all the measures of changes in rates and the coverage, income tax as a percentage of National Income has fallen from 1.83 per cent to 1.37 per cent during the years 1948-49 to 1957-58. The ratio in the case of corporation tax has remained almost constant. On the other hand, outlay taxes have shown a remarkable expansion. Thus the central excise duties have increased from .6 per cent to 2.33 per cent and sales tax from .38 per cent to .85 per cent during the same period. In aggregate terms, overall direct taxes show only a slight increase from 2.42 per cent to 2.75 per cent, while direct taxes have nearly doubled from 3.33 per cent to 5.91 per cent during the ten-year period.

Tables VIII and IX reveal further the urban-rural disparity in the tax structure. It may be seen from Table IX that the urban communities paid nearly 13 per cent of their incomes in taxes while the rural people paid 6.8 per cent in 1957-58. Again, the urban sector comprising 31.69 per cent of National Income paid 46.8 per cent of total taxes, while the rural sector with an income of 68.31 per cent of National Income paid 53.2 per cent of total taxes. This picture, however, changes radically, if incomes and taxes are considered in per capita terms. It may also be noted that although rural income in proportionate terms has declined somewhat from 69.81 per cent of National Income in 1951-52 to 68.31 per cent in 1957-58, rural tax incidence has gone up from 50.4 per cent to 53.2 per cent of total taxes. That however could be due partly to larger evasion of taxes in the urban sector. A final assessment of rural-urban tax differences, therefore, must take all such factors

into consideration, apart from other economic and political factors which have not been touched upon here.

TABLE X

INCIDENCE OF TAXES PAID BY THE RURAL AND URBAN SECTORS

<i>Year</i>	<i>Income arising in rural sector as a percentage of National Income</i>	<i>Taxes paid by the rural sector as a percentage of income arising in rural sector</i>	<i>Taxes paid by the urban sector as a percentage of income arising in urban sector</i>	<i>Rural taxes as a percentage of total taxes</i>	<i>Urban taxes as a percentage of total taxes</i>
1951-52	69.81	5.4	12.35	50.4	49.6
1952-53	69.65	5.0	11.51	49.7	50.3
1953-54	70.71	4.8	10.58	52.1	47.9
1954-55	66.36	6.0	10.48	53.1	46.9
1955-56	65.83	6.2	10.44	53.3	46.7
1956-57	69.05	5.8	11.49	53.0	47.0
1957-58	68.31	6.8	12.92	53.2	46.8

CHAPTER III

THE CAUSES OF INELASTICITY OF THE INDIAN TAX STRUCTURE

1. *Taxes Mainly Responsible for the Inelasticity of the Tax Structure*

As is evident from the foregoing analysis, four tax heads in the Indian tax structure are specially responsible for its inelasticity. These are income tax, land tax, customs and state excise duties. As explained elsewhere,¹ the non-responsiveness of the latter pair to income expansion is tolerable, or at least has to be tolerated, for certain weighty reasons. For instance, the sluggishness of state excise duties is explainable by the prohibition policy. Economists may not agree with that policy, specially in the present phase of economic development, but this is a field where economists do not have the last word. In the case of customs there is hardly any choice, perhaps, before the legislature. Given our requirement for investment and/or pattern of output and consumption, our imports are determined, while the pattern of our out-going trade and the need to earn foreign exchange determine our exports. Thus since the size and the composition of our foreign trade can change only very slowly, it becomes necessary to make autonomous changes in the base from which customs revenue is drawn. As such, legislative changes in the base of export and import duties (including trade controls) themselves may be regarded as a function of the system. They may be taken to be related to particular rates and phases of economic development. There is reason, however, to be optimistic about this head in the Third Five Year Plan, when, for instance, we start exporting iron and steel products and light engineering products and pro tanto liberalise imports.

We have also seen that in spite of the fact that customs and state excise duties² have negative buoyancies, the overall indirect

¹ See, e.g. Table A-1, "Sources and Explanations" in the Appendix.

² For purposes of aggregation these have been included in indirect taxes, except in the case of taxes paid by the rural sector where export duties on agricultural commodities have been included in "direct taxes paid by the rural sector".

taxes of the Union and the States are nevertheless elastic and buoyant.³ The main trouble lies with the direct taxes, particularly the income tax and the land tax, which are distressingly and regrettably inelastic.

2. *Income Tax*

With respect to income tax the following questions may be posed :
Is our income tax inelastic due to

- (1) defective slab structure and rate schedule ?
- (2) characteristics inherent in an underdeveloped economy ?
- (3) income redistribution in favour of the non-income tax payers in general, or in favour of the low income brackets within the tax paying groups ?

³ This is not to say, however, that indirect taxes other than customs and state excise duties cannot be made more elastic. The elasticity can be further increased by taxing at appropriately higher rates those commodities for which the marginal propensity to consume is greater than the average propensity to consume. For instance, the element of progressivity in some of the British outlay taxes (in which country, income-tax is also a mass tax) may be noted from the following statistics prepared by Colin Clark :

Annual Income of the Head of the Family, U.K., 1953-54

- A=£. 1,250 or more (upper class)
B=£. 750-1,250
C=£. 400-750 (lower middle class)
D=£. 225-600 (working class)
E=£. 225 or under

<i>Income group</i>	A	B	C	D	E
<i>Percentage of families</i>	3.6	7.8	17.4	63.2	8.0
	11.4			71.2	

Percentage of total tax paid on :

Tobacco	14	18	68
Beer	14	17	69
Wines and spirits	24	21	55
Entertainments	18	23	59
Private motoring (cars/petrol)	42	25	33
Purchase tax	36	21	43

(4) tax evasion and administrative inefficiency ?

2 (1). *Slab Structure and Rate Schedule*

The analysis of slab structure and the rate schedule is presented in Tables X to XII from which it could be seen that out of the sixteen countries studied, India has the highest tax exemption limit next alone to Pakistan. This gives extremely low average yields from income tax. There are only 673 thousand assesseees in a population of 380 million. The total receipts under income tax are only 1.37 per cent of National Income as against a percentage of 10 to 15 in countries like Japan and the U.K. where income tax has become a mass tax. This is an unhappy position. An earner does not have to pay any income tax until he earns at least ten to twelve times the national per capita income. Assuming one adult earner in a family of four, the family is not subjected to income tax until it enjoys an income level above three times the national average. Since the national per capita figure is an average figure and since this average itself consists of a large number of small incomes and a small number of large incomes, there must be a very large number of families who receive an income below the national average and a still larger number who get less than three times this average. All these are exempt from income tax. If (and plausibly⁴ of course) national per capita income were to be taken to be the subsistence level, those who enjoy this level and more would, relatively speaking, be better off than most others and therefore would have to be subjected to income tax.

However, the predominance of self-supporting income-earners like farmers, shop-keepers, small artisans, etc. and the prevalence of a large non-monetary sector make it administratively difficult to assess and collect taxes from these scattered sections of the society. The services of the revenue department may be better rewarded if tax efforts are concentrated on currently taxed (higher) slabs instead of diverting the energies of the staff to below Rs. 3,000 groups of income-earners, among which the cost of collection may be disproportionately high. The only alternative way of reaching these pockets is through increased sales and excise taxes, or through

⁴ Since per capita income is about Rs. 300 and since an average family consists of five persons, an average family income may be Rs. 1,500 per annum. This gives a monthly income of Rs. 125 per family which can be taken to represent the subsistence level.

a compulsory savings scheme such as the one advocated by I. M. D. Little.⁵

Data in Tables XI, XII and XIII show that there is ample scope for improving upon the tax rate structure in India which is characterised by extremely low rates on lower and middle income brackets. Whereas in a majority of the countries studied the rate of income

TABLE XI
INCOME AT WHICH TAX LIABILITY BEGINS

Country	Year	Rupee equivalent	
		(2)	(3)
			(4)
1. Australia	1954-55	3,904	.9
2. Canada	1954-55	11,330	1.8
3. Ceylon	1954-55	6,000	11.4
4. Egypt	1951	..	3.6
5. France : from labour	1950	..	2.6
from other incomes	..	..	0.4
6. India	1954-55	4,200	14.5
	1957-58	3,000	12.0
7. Israel	1952-53	14,961	6.6
8. Japan : from labour	1953-54	2,100	2.3
from other incomes	..	1,735	1.9
9. Mexico	1950	..	1.5
10. New Zealand	1953-54	7,186	1.5
11. Norway	1952-53	4,000	1.1
12. Pakistan	1954-55	6,054	18.0
13. Sweden	1951-52	6,822	1.5
14. U.K.	1954-55	6,865	1.8
15. U.S.A.	1954-55	11,430	1.3
16. West Germany	1954	3,205	1.3

* National Income figures were taken from the Statistical Office of the United Nations, "Per Capita National Product of Fifty-five Countries", 1952-54 (*Statistical Papers Series E*, No. 4, 1957), Table 1.

SOURCE: *Income-tax Rates Compared*, the Association of Indian Trade and Industry, 1955. (Figures for India revised.)

⁵ I. M. D. Little, *Tax Policy and the Third Plan*, paper presented at a Seminar held at the Institute for Research in Social and Economic Growth, University of Delhi, May 1959 (Mimeo).

tax on the initial slab ranges between 10 and 15 per cent of earned income, in India it is only 3 per cent. When an Indian tax payer enjoys an income 50 times as high as the national per capita income, he pays only 7.3 per cent of his income in income tax, while an Australian tax payer at that relative income layer pays 57 per cent and a British tax payer 65 per cent of his income. In 1950, a Japanese citizen had to pay 20 per cent in income tax on the first slab of his earned income above the minimum exemption limit, when he attained hardly double the national per capita income.

TABLE XII

INCOME TAXES AS PERCENTAGE OF EARNED INCOME AT UPPER INCOME LEVELS FOR A MARRIED MAN WITH WIFE AND THREE CHILDREN IN 1950

<i>Income as multiple of national per capita income</i>	10	20	50	100
Australia	25.4	42.0	57.0	62.3
Canada	16.1	27.6	41.4	50.9
France :				
from labour	9.7	17.5	31.1	44.5
other incomes	23.6	29.8	40.4	51.4
Japan :				
from labour	26.7	38.5	48.3	51.7
other incomes	29.2	39.8	48.9	52.0
U.K.	27.5	44.1	64.9	79.4
U.S.A.	20.5	35.1	53.7	66.8
Argentina :				
from labour	1.4	5.1	11.9	16.4
from commercial income	2.4	7.0	14.9	17.3
Egypt :				
from labour	3.0	3.9	9.6	13.3
from commercial income	16.0	16.0	18.2	21.6
Mexico :				
from labour	1.5	2.3	4.2	7.7
from commercial income	4.1	5.7	9.2	13.2
Burma	..	..	6.3	10.7
Ceylon	..	0.3	10.0	18.0
India (1950)	..	2.3	5.7	11.6
(1957-58)	..	1.7	7.3	19.3
Philippines	..	1.2	9.1	17.8

SOURCE : *Economic Bulletin for Asia and the Far East*, Vol. IV, No. 3, 1953.
(Figures for India revised.)

In India, under the 1958-59 schedule, one pays 20 per cent of ones income only when one grows 60 times richer than the average citizen. In view of this there is need for a sharp increase in tax rates in the lower and middle income brackets.

Moreover there is the general proposition that except in the case of corporations and people with "large incomes", these taxes mostly absorb consumption expenditure. In other words, while very high tax rates on upper income brackets may adversely affect the incentives to save, invest and take risks and create temptations to evade and avoid taxes, the middle income classes will probably suffer cuts in their consumption standards and try to keep up their savings. Whatever the social reasons (e.g. reduction in the inequalities of income distribution) for semi-confiscatory rates on high income brackets, and low rates on low income brackets, from the standpoint of revenue (as well as of investment) these rates are disappointing.

TABLE XIII

HIGHEST AND LOWEST TAX RATES IN VARIOUS COUNTRIES

Country	Year	Rate on lowest slab		Rate on highest slab	
		Income above Rs.	Rate Per- cent- age	Income above Rs.	Rate Per- centage
India	1953-54	3,500	3.3	1,50,000	82.0
	1957-58	3,000	3.0	30,00,000	78.0
Australia	1953-54	1,073	6.4	1,71,619	66.6
Pakistan	1953-54	5,045	1.2	1,44,144	78.1
W. Germany	1953-54	458	9.0	2,51,788	80.0
Ceylon	1953-54	6,000	10.0	1,20,000	85.0
Sweden	1951-52	926	10.0	1,85,185	70.0
U.K.	1954-55	1,335	12.5	2,60,000	95.0
New Zealand	1953-54	1,335	12.8	50,755	60.0
Canada	1954-55	4,926	15.0	19,70,500	80.0
Japan	1953-54	264	15.0	66,155	65.0
U.S.A.	1954-55	9,525	20.0	14,28,750	92.0

SOURCE: *Income Tax Rates Compared*, the Association of Indian Trade and Industry, Bombay, 1955. (Figures for India revised.)

TABLE XIV
 PERCENTAGE OF INCOME PAID AS TAX BY MARRIED PERSON WITH TWO CHILDREN
 (IF INCOME IS WHOLLY EARNED)
 (Income and Super Taxes only)

Income Rs.	India		U. K.		U. S. A.		Canada		France		S. Africa		Japan		Sweden		Brazil		Egypt	
	1945-46	1954-55	1957-58	1954-55	1954-55	1954-55	1954-55	1953-54	1953-54	1954-55	1953-54	1954-55	1953-54	1953-54	1951	1951	1951	1951	1951	1951
National per capita income (Rs.)	N.A.	288	300	3,744	8,976	6,288	3,555	1,440	412	4,500	1,104	576								
3,600	..	..	..	..	..	..	14.2	..	7.2	2.2	..	..	..	..	..	..	..	..	..	..
4,000	..	..	3	..	..	..	14.6	..	8.7	3.1	..	..	..	..	..	..	..	..	..	..
5,000	4.7	2.3	.8	..	..	..	15.2	..	12.9	4.7	..	..	..	..	..	..	..	..	..	..
6,000		2.6	1.7	..	..	..	15.7	..	16.6	6.1	..	..	..	..	..	..	..	..	..	..
7,000		3.3	2.3	6.6	..	..	16.0	..	19.7	7.3	..	..	..	..	..	..	..	..	..	..
8,000		4.0	3.3	1.8	..	..	16.3	..	22.2	8.4	..	..	..	..	..	..	..	..	..	..
9,000		4.6	3.9	3.5	..	..	16.4	..	24.2	9.3	..	..	..	..	..	..	..	..	..	..
10,000	7.9	5.2	4.4	5.1	..	..	16.6	..	26.3	10.1	..	..	..	..	..	..	..	..	..	..
15,000		7.6	7.3	12.9	4.8	3.7	19.3	2.5	32.5	14.1	..	..	..	..	..	..	..	..	..	..
20,000		10.0	10.2	18.4	8.6	6.9	21.6	4.0	36.7	18.7	..	..	..	..	..	..	..	..	..	..
25,000	17.6	13.2	14.8	20.7	10.9	9.2	23.3	5.8	39.4	22.6	..	..	..	..	..	..	..	..	..	..
30,000		18.7	19.3	26.1	12.4	10.9	24.3	9.1	31.4	25.3	..	..	..	..	..	..	..	..	..	..
50,000	42.1	30.9	32.8	39.5	16.2	16.0	29.3	17.0	47.6	33.9	..	..	..	..	..	..	..	..	..	..
100,000	63.7	50.1	51.5	56.0	22.9	27.2	38.0	27.3	55.4	44.0	..	..	..	..	..	..	..	..	..	..
200,000	75.9	55.2	64.1	71.1	34.1	37.8	46.4	38.2	60.2	52.2	..	..	..	..	..	..	..	..	..	..
300,000	79.9	70.8	68.6	79.5	42.6	43.4	50.6	42.1	61.8	58.0	..	..	..	..	..	..	..	..	..	..
500,000	84.4	75.3	71.8	85.7	52.9	50.4	57.0	45.2	63.1	62.8	..	..	..	..	..	..	..	..	..	..
1,000,000	88.8	78.5	74.4	90.3	67.3	59.6	62.2	47.5	64.0	66.4	..	..	..	..	..	..	..	..	..	..

SOURCES : 1. *Income Tax Rates Compared*, *ibid*.

2. For India figures have been worked out from Finance Bills.

3. National per capita income figures, *op. cit*.

2 (2). *Is the Inelasticity of Income Tax a Characteristic of an Underdeveloped Economy?*

There is no doubt that an underdeveloped economy is underdeveloped in more than one field—it is also underdeveloped in the matter of taxation. The general poverty and the prevalence of self-employment—characteristics of underdeveloped economies—are major reasons why such a low percentage of population comes under the tax net. Another important reason is the tax-payer's resistance to suffer cuts in his income which is conditioned by various factors such as low per capita incomes, ignorance of the beneficent effects of tax financed expenditure, lack of development-consciousness, psychological and political effects inherited from the colonial days, etc. The existence of a non-monetary sector, which was estimated by the Taxation Enquiry Commission to be around 37 per cent of the total consumer expenditure in 1954, baffles many an attempt to collect taxes via the monetary and fiscal mechanism. Lastly, there is the underdevelopment of administration: the inefficiency and low integrity of the administrative staff, coupled with the lack of tax morality of the tax payers lead to much of tax avoidance, evasion and graft. More on this topic later.

Needless to say, however, these features of underdevelopment, characteristic though they are of an underdeveloped economy, may not be taken to be non-eradicable and irremediable, for they will be mitigated as development proceeds and economic and social environment changes as new attitudes develop and as the tax machinery is geared up.

2 (3). *Has There Been Income Redistribution?*

A progressive rate schedule can bring in increasing yields only if the tax payers keep on shifting to upper income brackets as income expands. If there is a redistribution of income in favour of the low income brackets within the tax payers, or in favour of the non-tax payers, tax yields may not increase in consonance with the progressivity of the rate schedule. In fact, if the rate of levelling down due to redistributive measures is greater than the rate of levelling up due to income expansion, the increments in the progressive tax yields may become very small or even negative.

A priori there appears to be no reason to assume otherwise than that there has been no redistribution of income in favour of the low income brackets among the income tax payers, and in favour of the non-tax payers as against the tax payers in the community as a whole since 1951-52. Indeed, since 1951-52, empirical evidence indicates that the position may have changed the other way round. As far however as the results can be based on the income tax data, they point unambiguously towards a reduction in income inequalities more progressively as one moves up the scales of income. Such results can be realistic only under the very important condition that there has been no tax avoidance or tax evasion, or that if there has been, the phenomenon has spread over all the income tax ranges in proportion to their respective incomes since the base year 1951-52. We must hasten to add, however, that the fulfilment of either of these conditions is at best very doubtful and this issue is examined in the following section.

As far as the income tax statistics are concerned the position is classified in Table XIV.

TABLE XV (a)
EFFECTS OF INCOME TAX ON INCOMES AFTER TAX EXCLUDING CORPORATION TAX AS "PROVIDED" IN THE TAX RATE SCHEDULE

Income groups	Tax as percentage of total income assessed		
	Under rate schedule 1951-52	Under rate schedule 1957-58	Change
4,201— 10,000	3.20	2.22	-0.98
10,001— 15,000	6.27	6.50	0.23
15,001— 25,000	9.97	11.40	1.70
25,001— 40,000	18.54	23.20	4.66
40,001— 55,000	27.89	30.50	2.61
55,001—1,00,000	38.22	45.30	7.08
1,00,001 and over	61.05	69.89	8.75

Table XIV(a) shows the changes in income tax incidence on various income-ranges, in 1957-58 over 1953-54. This is what may be called the change in the effect "provided" for or built into the tax rate schedule. It is apparent that the burden of tax "provided" has been raised progressively as income increases—from a

TABLE XV (b)

EFFECTS OF THE ROLE OF TAXES ON INCOMES AFTER TAX, AS IN "ACTUAL" PERFORMANCE

Income range	Tax demand as percentage of income		
	1951-52	1957-58	Change
3,000— 5,000	2.6	1.4	— 1.2
5,001— 7,500	3.9	2.4	— 1.5
7,501— 10,000	5.8	4.0	— 1.8
.			
.			
.			
50,001— 60,000	16.7	23.0	+ 6.3
60,001— 70,000	17.9	24.9	+ 7.0
70,001— 80,000	20.9	27.0	+ 6.9
80,001— 90,000	22.0	29.9	+ 7.9
90,001—1,00,000	23.5	31.5	+ 8.0
1,00,001—1,50,000	26.9	34.8	+ 7.9
1,50,001—2,00,000	30.4	39.7	+ 9.3
2,00,001 and over	35.1	48.9	+13.8
TOTAL	13.1	14.0	+ .9

(Worked out from data from Central Board of Revenue, *All-India Income Tax Revenue Statistics.*)

decrease by .98 per cent on income range 4,201-10,000, through an increase by 2.61 per cent on income range 25,001-40,000, to an increase by 8.75 per cent on income range 1,00,000 and over.

The income tax demand in 1957-58 over 1951-52 has changed concomitantly, as seen in Table XIV(b). Thus for the lower income-range of people having an income of up to Rs. 10,000 per year, the tax demand as percentage of National Income has fallen. On the upper brackets this tax demand has increased gradually—by 6.3 per cent on income-range 50,001-55,000 and by 13.8 per cent on incomes above 2 lakhs.

Table XIV(c) shows that the incomes assessed to income tax have fallen at the upper brackets and increased at the lower ranges. Thus assessed incomes increase over the range of Rs. 3,000 (which is the exemption limit) to Rs. 25,000—mostly salary earners of the middle and lower middle classes—rather progressively. After the

TABLE XV (c)
 SHIFTS IN INCOME DISTRIBUTION AMONG INDIVIDUALS
 ASSESSED TO INCOME TAX

Income range	Total income assessed (Rs. crores)		
	1951-52	1957-58	Percentage change
3,000— 7,500	165.55	184.20	+11.3
7,501— 10,000	81.65	84.43	+ 3.4
10,001— 12,500	43.45	61.68	+42.0
12,501— 15,000	31.23	48.52	+55.4
15,001— 20,000	40.46	66.56	+64.5
20,001— 25,000	38.05	46.16	+21.3
25,001— 50,000	159.14	122.13	-23.3
50,001— 60,000	30.47	28.67	- 6.2
60,001— 70,000	22.78	20.80	- 8.7
70,001— 80,000	15.77	16.01	+ 1.5
80,001— 90,000	13.28	12.38	- 6.8
90,001—1,00,000	11.60	9.95	-14.2
1,00,001—1,50,000	33.47	30.00	-11.6
1,50,001—2,00,000	17.90	14.62	-18.3
2,00,001 and over	71.09	43.61	-38.7
TOTAL	786.23	790.88	+ 0.6

(Worked out from income tax data from Central Board of Revenue, *All-India Income Tax Revenue Statistics*.)

Rs. 50,000 level, assessed incomes have decreased at an increasing rate. Statistically, thus, there is evidence that income inequalities have been reduced since 1951-52. These results, one must hasten to add, are based on the "assessed incomes" only.⁶ Whether all the incomes, earned and un-earned, have wholly been assessed and have not escaped the tax net is a matter which, in the absence of relevant data, is to be left to individual judgment.

2 (4). *Is Tax Evasion, Tax Avoidance and the Inefficiency of the Administrative Staff the Reason ?*

Various estimates have been made of the extent of tax evasion. For instance, according to Mr. Kaldor's guess the extent of tax evasion was almost equal to or even greater than what was being collected in 1955-56, i.e. Rs. 200 crores or so. The estimates of the Taxation Enquiry Commission put the figure around Rs. 50 crores.

⁶ In the case of Table XIV(a) on The "provided effects" of income tax structure.

Mr. C. D. Deshmukh's estimates are close to those of the Taxation Enquiry Commission. We make no pretension of entering into quantitative enquiries here. Nevertheless, in search of the causes of the inelasticity of income tax, we make an attempt at some rough estimates of the rate at which evasion is taking place, in order to indicate as far as possible, certain probable and interesting orders of magnitude. The method we employ for this purpose is the same as has been used primarily in this paper, that is, the method for the measurement of elasticity.

Due to large minimum exemption limit and high tax rates in the upper slabs (as seen in Tables X to XIII) the Indian tax structure may be said to have the steepest progression in the world.⁷ In

⁷ How a larger minimum exemption limit in an income tax with a proportionate rate can produce steeper progression than a low exemption limit may be illustrated by an example. Here we study two cases of different minimum exemption levels of Rs. 300 (national per capita income in India) and Rs. 3,000 (current exemption level) under a 10 per cent income tax. It will be seen that in Case I, the progression within Rs. 4,000-10,000 range rises from 9.25 per cent to 9.7 per cent of total income only, whereas in Case II when the exemption limit is raised to Rs. 3,000 the progression rises from 2.5 per cent to 7 per cent of total income. (It may also be noted that it is the high or low exemption limit which has introduced a progression at all in an otherwise proportionate income tax. This shows the fallacy of the statement often made that the U.K. income tax rate schedule is more progressive than the Indian rate schedule, and thus deprives the latter of top position in the world. Case I may be taken to conform to the British exemption pattern and Case II to the Indian exemption pattern.)

<i>Case I</i>				<i>Case II</i>			
<i>Total Income</i>	<i>Taxable Income</i>	<i>Tax</i>	<i>Tax as Percentage of total income</i>	<i>Total income</i>	<i>Taxable income</i>	<i>Tax</i>	<i>Tax as Percentage of total income</i>
300	..	..	..	
400	100	10	2.5				
500	200	20	4.0				
600	300	30	5.0				
750	450	45	6.0				
1,000	700	70	7.0				
1,500	1,200	120	8.0				
2,000	1,700	170	8.5				
3,000	2,700	270	9.0	3,000	..	..	..
4,000	3,700	370	9.25	4,000	1,000	100	2.5
5,000	4,700	470	9.4	5,000	2,000	200	4.0
6,000	5,700	570	9.5	6,000	3,000	300	5.0
7,500	7,200	720	9.6	7,500	4,500	450	6.0
10,000	9,700	970	9.7	10,000	7,000	700	7.0

general, the steeper the progression, the higher should be the income elasticity (provided incentives to work, save and invest are not adversely affected). It may be inferred, therefore, that the Indian income tax should have the highest income-elasticity among the countries of the world. But the results are quite the contrary. Thus while in the U.S.A., roughly a one per cent increase in personal income causes nearly 2 per cent increase in personal income tax, and while in the U.K., income tax yields have been substantially increasing during the past few years in spite of frequent reductions in tax rates by the conservative government, in India despite continual increases in rates and coverage and intensified collection campaigns, gross income tax receipts have increased only at 0.6 per cent per annum as against a rise of 2.2 per cent per annum in National Income and 3.5 per cent per annum in incomes arising in the urban sector, since 1951-52 as seen in Chapter II. The elasticity of income tax in relation to urban income is only 0.335.

In order to see the relation which "ought to exist" between the income tax yields and National Income at the tax rate schedule of 1957-58 (which we may call the "provided" income-elasticity of our income tax), we analyse the income tax data in Tables XV(a) and XV(b).⁸ The main assumption made is of constant relative income distribution among the tax payer groups. (See Table XV.)

It is clear from Table XV that the elasticity built into our income tax rate schedule is quite high so that a one per cent increase in the incomes of the income tax payers should lead to a 1.82 per cent increase in tax yields. (Table XV (a), col. 10.)⁹

Under the same procedure, Table XV (b) shows the extent of evasion since 1951-52. Under a constant rate schedule the tax

⁸ The methodology and assumptions underlying this analysis are given at the bottom of this table (Table xv) under 'methodology and explanations'.

⁹ Furthermore, since income tax yields have been found to be correlated with income arising in the urban sector, and since empirically it is known that income tax is almost wholly paid by the urban people, it is not implausible to assume that a one per cent increase in "income arising in urban sector" at constant distributional pattern, should lead to equal (one per cent) increase in assessed incomes. Now urban incomes have increased at 3.5 per cent per annum (in current prices) when national income has increased at 2.2 per cent per annum (in current prices) over the period of seven years from 1951-52 to 1957-58. It follows that if the built-in elasticity of our income tax structure with respect to "income arising in urban sector" is 1.82 per cent it should be roughly $1.82 \times 3.5 / 2.2 = 2.89$ with respect to National Income. (See "Methodology and Explanations" for further details.)

CAUSES OF INELASTICITY

15,001 —	20,000	66.56	8.90	5.92	67.23	+3.16	-3.03	=67.36	6.00	.08
20,001 —	25,000	46.16	12.80	5.91	46.62	+3.03	-2.56	=47.09	6.03	.12
25,001 —	30,000	34.56	17.26	5.97	34.91	+2.56	-2.25	=35.22	6.08	.11
30,001 —	35,000	25.86	21.46	5.55	26.12	+2.25	-1.94	=26.43	5.67	.12
35,001 —	40,000	19.46	24.90	4.85	19.65	+1.94	-1.66	=19.93	4.96	.11
40,001 —	45,000	22.95	28.83	6.62	23.18	+1.66	-2.18	=22.66	6.53	— .09
45,001 —	50,000	19.30	30.71	5.93	19.50	+2.18	-2.03	=19.65	6.03	.10
50,001 —	55,000	16.62	32.94	5.15	15.78	+2.03	-1.79	=16.02	5.28	.13
55,001 —	60,000	12.95	36.55	4.73	13.08	+1.79	-1.62	=13.25	4.84	.11
60,001 —	65,000	11.29	38.88	4.35	11.31	+1.62	-1.52	=11.41	4.44	.09
65,001 —	70,000	9.60	41.06	3.94	9.70	+1.52	-1.38	= 9.84	4.04	.10
70,001 —	75,000	8.45	43.11	3.64	8.54	+1.38	-1.30	= 8.62	3.72	.08
75,001 —	80,000	7.56	45.12	3.41	7.64	+1.30	-1.24	= 7.70	3.47	.06
80,001 —	85,000	6.33	45.46	2.88	6.40	+1.24	-1.10	= 6.54	2.97	.09
85,001 —	90,000	6.05	48.33	2.92	6.11	+1.10	-1.11	= 6.10	2.95	.03
90,001 —	95,000	5.11	49.69	2.54	5.16	+1.11	— .99	= 5.28	2.62	.08
95,001 —	1,00,000	4.84	50.91	2.46	4.90	+ .99	-1.00	= 4.89	2.49	.03
1,00,001 —	1,50,000	30.00	56.58	16.97	30.30	+1.00	-1.07	=30.23	17.10	.13
1,50,001 —	2,00,000	14.62	62.41	9.22	14.77	+1.07	— .67	=15.17	9.47	.23
2,00,001 —	3,00,000	15.28	66.80	10.21	16.43	+ .67	— .55	=15.55	10.39	.18
3,00,001 —	4,00,000	8.00	70.00	5.60	8.08	+ .55	— .36	= 8.27	5.79	.19
4,00,001 —	5,00,000	4.83	71.25	3.44	4.88	+ .36	— .27	= 4.97	3.54	.10
5,00,001 and over		15.50	75.40	11.68	15.66	+ .27	— ..	=15.93	12.01	.33
TOTAL		790.88	..	145.78	798.78	(+51.16)	-48.96	=800.98	148.44	2.66(or 1.82%)

a Includes generally non-residents liable to tax on the basis of their total world income.

b This income-range is assumed to consist of unmarried single persons only.

TABLE XVI (b)
 BUILT-IN ELASTICITY IN THE SLAB SYSTEM AND RATE STRUCTURE OF TAXES ON INCOMES
 (OTHER THAN CORPORATION TAX)

For Actual Growth in Average National (and Urban) Income during 1951-52 to 1957-58

Range of income	Total income assessed in 1957-58	1957-58 tax rate, for a family with two children, as percentage of total income	Tax yields in 1951-52 at 1957-58 tax rates	Required assessment in 1957-58, if assessed incomes increase at the rate of increase of 'income arising in urban sector', viz. at 20% and individual incomes at national average, viz. 8%			Required tax yield in 1957-58, col. (3) yields in 1957-58 over 1951-52, col. (9) minus col. (4)	Percentage increase in tax yields in 1957-58 over 1951-52, col. (9) minus col. (4)	
				Initial increase at 20 per cent	Shift into, from lower slabs	Shift out to upper slabs			Final position
(Rs.)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
— 1,500	.35	.50	0.0018	.42	..	..	= .42	0.0021	16.6
1,501— 3,000	11.36	2.00	0.2260	13.86	..	..	= 13.86	0.2771	23.3
3,001— 3,600	29.45	0.49	0.1443	35.34	..	..	= 35.34	0.1731	20.0
3,601— 5,000	61.74	0.49	0.3025	73.68	+15.72	-19.53	= 69.87	0.3423	13.1
5,001— 7,500	74.36	1.87	1.39	89.23	+19.53	-20.24	= 88.52	1.66	19.1
7,501—10,000	81.65	3.31	2.70	97.98	+20.24	-29.40	= 88.82	2.94	8.1
10,001—12,500	43.45	5.18	2.25	52.14	+29.40	-19.29	= 62.25	3.22	-1.1
12,501—15,000	31.23	6.62	2.07	37.46	+19.29	-16.66	= 40.09	2.65	28.2
15,001—20,000	46.46	8.90	3.60	48.55	+16.66	-14.39	= 50.82	4.52	25.6

20,001—25,000	38.05	12.80	4.87	45.66	+14.39	-16.91	=43.14	5.25	13.4
25,001—30,000	42.00	17.26	7.25	50.40	+16.91	-22.40	=44.91	7.75	6.9
30,001—40,000	74.24	23.30	17.30	89.09	+22.40	-26.40	=85.09	19.83	14.6
40,001—50,000	42.90	33.10	12.78	51.48	+26.40	-19.07	=58.81	19.47	52.3
50,001—60,000	30.47	29.80	10.09	36.56	+19.07	-16.25	=39.38	11.74	16.3
60,001—70,000	22.78	40.00	9.11	27.34	+16.25	-14.18	=29.41	12.06	32.3
70,001—80,000	15.77	44.20	6.97	18.92	+14.18	-11.21	=21.89	9.68	39.0
80,001—90,000	13.28	47.60	6.32	20.70	+11.21	-13.80	=18.11	8.62	36.4
90,001—100,000	11.60	50.30	5.83	13.92	+13.80	-10.31	=17.41	8.76	50.3
100,001—150,000	33.47	56.58	18.94	40.16	+10.31	-8.03	=42.44	24.01	26.9
150,001—200,000	17.90	62.41	11.17	21.48	+8.03	-6.36	=23.15	44.45	29.4
over —200,000	71.09	75.00	53.32	85.31	+6.36	..	=91.67	68.75	29.0
TOTAL	786.23	..	176.63	949.68	+300.15	-284.43	=965.40*	226.41	28.2

* This total exceeds the total assessed incomes of Rs. 949.68 crores of col. (5) by an amount of Rs. 15.72 crores being the assessed incomes of new entrants in the slab 3,000—3,600 (see Explanations on p. 48).

Methodology and Explanations

Col. 1 and col. 2 : Income ranges have been slightly adjusted to make them conform to the break-up in which data is available on assessed incomes. Also, in a few cases assessed incomes have been split into neighbouring slabs in order to keep a uniformity of steps in the slabs.

Data shown here is taken from the Central Board of Revenue "All-India Income Tax Revenue Statistics", statement V. Income tax statistics given in these reports have been analysed in two parts : (a) assessee falling in the category of "companies and other concerns assessable to company rate" and (b) all the rest of the classes of assessee. The former are taxed at a flat rate. Therefore, for the purpose in hand, their study according to various income ranges gives not much advantage over the aggregate computations. The latter category of income tax proper, however, must needs be studied slab-wise. This has, therefore, been subjected to a somewhat detailed study.

Assessee in the income range below Rs. 3,000 are generally non-residents liable to tax on the basis of their total world income.

Column 3. We have used quantity index of Pasche type, that is, the Welfare Equation $P = \frac{\sum P_1 Q_1}{\sum P_1 Q_0}$, using tax rate schedule of the year 1957-58, as P_1 , and actual incomes (in current prices) for the years 1951-52 as Q_0 , and for 1957-58 as Q_1 .

It has been assumed that all assessee above Rs. 3,600 income level consist of families with more than one child with incomes wholly earned. The income bracket "3,000-3,600" is assumed to be made up of unmarried persons only.

The percentage of income paid in income tax has been calculated on the mid-value of the respective income range. This is done under the assumption that the assessed incomes are evenly spread over the whole of each of different income slabs.

Tax rate for the incomes assessed in "below-1,500" and "1,500-3,000" brackets has been estimated by dividing the actual tax receipts by the incomes assessed in the year 1951-52. This gives approximate percentages of tax of .50 and 2.0 respectively. These percentages have been assumed to remain more or less constant in the year 1957-58 also. In any case incomes assessed in these two slabs are quite small and do not make material difference if they get altered from year to year.

It was found somewhat awkward to assign any average tax rate ratio to incomes "over-2,00,000", in Table 15(b), as the assessment of incomes in this range in the year 1951-52, in the break-up according to which tax rates of 1957-58 are graduated, is not available. However, we followed the same procedure as before and took the mid-value between Rs. 2,00,000 and Rs. 30,00,000, i.e. Rs. 17,50,000 in Table 15(b), for purposes of calculating the average tax rate on these income brackets. The results do not appear implausible.

Col. 4 : The figures in this column are obtained by multiplying assessed incomes of col. (2) with the tax rates of col. (3). Since the tax rate given here is

the average rate of each particular slab (calculated on the mid-value of the respective income range), it has certain drawbacks to which arithmetical averages are prone. This, however, is the best that could be done in face of the form in which data is available.

Cols. 5-8 : During the period under study—1951-52 to 1957-58—overall per capita incomes increased by about 8 per cent, National Income by over 14 per cent and income arising in the urban sector by approximately 20 per cent (each measured in current prices). Since income tax is almost wholly paid by the urban sector, it is assumed that the total incomes assessed in each slab went up by 20 per cent, while the incomes of individual families are assumed to have risen by the overall per capita growth rate.

The effects of overall increase in the assessed incomes on increased individual incomes, and on shifts of incomes in, and between, various slabs, need some explanation :

It is assumed that an increase of aggregate (urban) income (20 per cent here) is experienced in each slab and that everybody moves up by the per capita rate of growth of income, viz. 8 per cent. Therefore, relative distribution among the assesseees remains constant. This enables us to segregate the effects of income redistribution (which has been taken account of elsewhere in this chapter).

The results of a certain percentage increase in incomes show themselves in two ways : (i) assessed incomes of each slab expand by the aggregate increase in incomes, viz. by 20 per cent, and (ii) some assesseees shift up to the next higher income range. The latter effect has been taken account of as follows :

It is assumed that the assesseees in each income range are equally distributed over the whole range of that particular income bracket, taking one rupee as the smallest unit for this purpose. In this way we are able to find out the number of assesseees, and their incomes that will cross over to the next higher slab when a certain increase takes place in their incomes. For instance, when there is a one per cent increase in per capita income, those assesseees in the range 3,600-5,000 whose incomes were $Rs. 5000 \times 100/101 = 4950$ or more previously, will move up to the next income range of Rs. 5,000-7,200. Similarly, if family incomes rise by 8 per cent, as in Table xv (b), all the assesseees of this income range getting an income of $Rs. 5000 \times 100/108 = Rs. 4,630$ or over, will cross the 5,000 level and enter the next income range, where they start paying 6 per cent on additional incomes instead of the previous 3 per cent.

This procedure is followed in the case of incomes above Rs. 3,600. Below this level it is assumed that new entrants join, and while an appropriate number of assesseees cross over to the next higher range the new comers enter and cause the previous period's assessed incomes in this slab to rise by the average rate of increase, 20 per cent in this case.

Col. 9 : The figures in col. 8 show the final shape of assessment in each slab. This multiplied by the tax rate in col. 3 gives the tax payable in 1957-58, shown in this column.

Col. 10 : shows the percentage increase in tax yields in each slab and in the aggregate, in the year 1957-58 over 1951-52.

yields should have increased from Rs. 176.63 crores in 1951-52 (column 4) to Rs. 226.41 crores (by 28.2 per cent) in 1957-58 (column 9), in case the assessed incomes rose at the same rate as income arising in the urban sector, viz. 20 per cent, and individual tax payers' incomes rose by national per capita growth rate, viz. 8 per cent. This increase should have taken place entirely at constant tax rates, i.e. due to the flexibility built into our tax structure. As against this, the index of actual tax yields, after eliminating the effects of changes in rates and the coverage (item 1, col. 2, in Table A-1, Appendix), has dropped from 100 in 1951-52 to 93.47 in 1957-58. Assuming that the tax payers' incomes rise at the national average rate (a conservative assumption indeed), the extent of evasion by 1957-58 (in addition to whatever evasion existed before 1951-52), amounts to Rs. 61.31 crores. This figure is made up of two components; approximately Rs. 49.78 crores is due to shortfall through the built-in factor under the condition that tax yields had remained constant in absolute money terms; and Rs. 11.53 crores due to the fall in actual tax yields from an index figure of 100 in 1951-52 to 93.47 in 1957-58. The income tax yields due to built-in factors should have increased by 28.2 per cent, whereas they have actually fallen by 6.53 per cent, giving a total shortfall, during the 7 years, of 37.2 per cent.

These estimates are subject to limitations owing to certain assumptions stated in the footnote entitled "Methodology and Explanations", under Table XV, namely that the income distribution pattern among the tax payers does not alter, that income distribution among the 1 per cent or so income tax payers and the vast majority of non-income tax payers remains constant and that our statistical assumptions regarding, for instance, the distribution of assessee within a particular slab of income, the family composition of tax payers, etc. are plausible. To the extent to which these assumptions are not valid our results will need to be modified *pro tanto*. But since it is most likely, as deductive reasoning suggests, that in the generally inflationary era of 1951-58 the distribution of income has moved in favour of the higher rather than the lower slabs of income, our estimates of evasion would seem to be erring in the direction of underestimating rather than over-estimating the degree of evasion. Even as estimated here the fact stands out clearly and unambiguously that there is widespread tax evasion in our economy which, probably, is the prime

cause of the inelasticity of our income tax.

Income tax evaders are not the only category of individuals responsible for the frustration of the tax efforts of the government. As stated above, evasion is an outcome of the inefficiency and ineptness of the administrative staff as well as the low tax morality of the tax payer. Moreover, the apathy, and even resistance, to tax payments, the willing tolerance and overt social sanction of avoidance, evasion and graft in general seems to have become, for the time being at any rate, a characteristic of society. Even the corporation tax, which was found to be an income-elastic tax, has not shown the responsiveness which it should have. For example, during the 7 years from 1951-52 to 1957-58, while industrial profits increased by 7.9 per cent per annum, value added by manufacture increased by 6.6 per cent per annum and income arising in urban sector increased by 3.3 per cent per annum, yields from corporation tax, exclusive of effects of changes in rates and coverage, increased hardly at a rate of 1 per cent per annum. This tax, no doubt, is levied at a flat rate but its base, i.e. profits, expands and has expanded during this period much more rapidly than average income. Its yield, therefore, should have expanded increasingly in terms of National Income. Even having made allowance for development rebates, depreciation and exemptions from payment of tax to the new industrial undertakings under Section 15-c of the Incometax Act, it is inconceivable that the net profits of these allocations have not increased at least at the same rate as the National Income, especially when one looks at such indicators of rate of profit as the index of yield on variable dividend securities. Again, the low yield from estate duties can hardly be ascribed to the bankruptcy of our wealthy class. There are *a priori* reasons to believe that there has been and is a large-scale evasion, or avoidance, in the payment of this tax. Likewise, evasion of purchase tax is not unknown even to an ordinary shopper. In the Third Five Year Plan, therefore, it will probably pay higher dividends to expand the field staff, to gear up the administrative set-up and to educate the tax payer than to go on following the policy of raising a rate here and levying an impost there. As far as the technique of assessment and collection of direct taxes is concerned, there is an urgent need for introducing some such evasion-proof system as, for instance, has been suggested by Kaldor in his proposal for a self-checking single comprehensive consolidated return.

3. *Land Tax*

No labour need be wasted in search of the causes of the inelasticity of the land tax; the rigidity of rate structure and the inflexibility of the tax base, i.e. area of the land, are obvious reasons for this inelasticity.

Two factors between themselves can make a tax progressive in terms of National Income: (i) progressive rate structure, (ii) the tax base increasing at a higher rate than the rate of increase of National Income. Income tax is supposed to be a progressive tax in terms of National Income because it has a progressive rate schedule and the main part of its base—profits or industrial growth or urban income—expands or ought to expand at a faster rate than the National Income. On the other hand, our land tax lacks both these attributes: it has a flat rate, and its base does not expand at a rate which is anywhere near the rate of growth of National Income.

Indeed, the base is more crucial to the elasticity of a tax. For instance, if the tax rate is a flat rate, but the base is an expanding function of National Income, the tax yields will also be an increasing function of National Income. On the other hand, if the base is constant, as land is more or less, even a progressive rate schedule alone cannot fetch increasing revenues. Therefore, unless the base on which land tax is levied is made to change, hardly any increase in tax yields may be expected with an increase in National Income, however progressive the land tax rate schedule may be made.

The base of land tax can be physically expanded by bringing under cultivation the previously uncultivated land through providing irrigation works, transport facilities, reclamation, levelling and bunding, aiding through credit facilities the more enterprising peasants to colonise the waste lands, incentive price guarantees and other such means. The most effective alternative in the circumstances, however, is to make the tax base reflect productivity. It may be noted that wherever land tax is related in one way or the other to agricultural output, the tax yields are invariably higher in relative magnitudes whether as ratios of National Income or proportions of total government revenue. This may be seen from Table XVI.

The very strategic role of agricultural output during the early phase of economic development—to meet population explosion, foreign exchange requirements, inflationary pressures, etc.—makes

TABLE XVII

ESTIMATED YIELD OF LAND TAXES IN SELECTED COUNTRIES
EXPRESSED AS PERCENTAGE OF TOTAL TAX RECEIPTS^a

Country	Type of land tax	Fiscal year ^b	Per cent of totals
Mainland China	Gross produce (in kind)	1953	24 ^a
Republic of Korea	Gross produce (in kind)	1954	24
Ethiopia	Area (Classified rate)	1953	22
Iraq	Marketed produce	1952	20 ^d
Syria	Marketed produce	1951	15 ^d
Paraguay	Capital value and area	1948	12
Egypt	Annual rental value	1952	11
India	Annual rental value	1954	9 ^e
Panama	Capital value	1951	8
Burma	Annual rental value	1952	5
Costa Rica	Capital value	1950	5
Mexico	Capital value	1947	5 ^e
Pakistan	Annual rental value	1952	5 ^e
Chile	Capital value	1948	4
Cuba	Annual rental value	1950	4
Iran	Annual rental value	1950	4
Nicaragua	Capital value	1951	3
El Salvador	Capital value	1951	2
Guatemala	Capital value	1949	2
Bolivia	Capital value	1950	1
Brazil	Capital value	1950	1

^a Land taxes are defined to include all taxes (other than general income taxes and death duties) on the ownership or use of agricultural land, and also taxes on marketed produce (other than export duties).

^b Fiscal years ending in years shown.

^c Unless otherwise indicated, the totals refer to central government tax receipts (including receipts of fiscal monopolies, but excluding other non-tax revenue).

^d Estimate is for the "istihalak" (marketing tax) collected in lieu of a land tax.

^e Percentage applies to combined receipts of central government and states or provinces.

SOURCE: H.P. Wald, *Taxation of Agricultural Land in Under-developed Economies*, 1959, p. 62.

it imperative for a nation determined to "take off", to put in all possible efforts to increase agricultural productivity. The realisation of this factor has already dawned upon the Indian government and planning experts. Gradually, as we proceed through our Five Year Plans, therefore, the productivity of land may be expected to

rise. As such, if productivity can be made the basis of taxation in the agricultural sector, the tax base is sure to expand and with it the tax yields. The problem, therefore, is how to relate tax to productivity. In the following paragraphs we briefly review some of the major methods by which land tax can be made progressive and elastic in terms of increasing agricultural output.

(1) *Keeping the Base Current.* The Taxation Enquiry Commission thoroughly discussed the possibility of maintaining "land" as the base of taxation and still keep the base, as far as possible, current. After diagnosing the various ills and their possible remedies, the Commission recommended resettlements based on decennial assessments of land—a most sensible recommendation indeed, so far as it goes, in face of the ever-increasing improvements on land, and in the absence of any fundamental change in our land tax system.

(2) *Taxes in Kind.* In-kind taxes are conventionally linked with inefficient practices of tax collection; also they are generally associated with totalitarianism. Given proper tax collection machinery, however, as for instance the proposed transfer of land tax collection powers to the Panchayats, in-kind taxes on output or incomes from agricultural sector need not be associated with either totalitarianism or inefficiency. On the contrary, this system appears to be specially suited for the economic development of the underdeveloped countries. The following advantages may be specially mentioned:

(a) In the first place, in-kind taxes offer more opportunities than cash taxes for influencing the composition of production, for instance, food *versus* cash crops. This can be done by fixing the equivalency ratios between various crops from which farmers may have option to pay their taxes.

(b) In the second place, during the current phase of economic development when we need more and more "surpluses" from all possible sources, in-kind taxes open up wider possibilities of mobilising surpluses from the agricultural sector. After all, during the "take off" period of most of the countries, notably, Japan, the U.S.S.R., and now mainland China, it has been the agricultural sector that has borne the brunt of economic development.¹⁰ Among the countries studied in Table XVI, the two

¹⁰ For instance, during her "take off" period (1878–1900) Japan collected between 12 to 22 per cent of the net income of agriculture via direct taxes on agriculture. They formed 51.7 per cent of total tax revenue in 1890.

countries at the top of the list, which levy in-kind taxes on the agricultural sector, provide a particularly striking comparison with the much smaller proportions in countries with cash taxes. For instance, the proportion of the total grain harvest absorbed by the in-kind taxes is approximately one-third in China and over one-tenth in South Korea.¹¹

It must also be added that in-kind taxes include more than the tax yield alone. The government can reasonably earn profits which would otherwise have accrued to the private distributors, since now the government is performing the middleman's functions and carrying his risks. These taxes have particular potentialities for India since they can be linked up with the proposed State trading in foodgrains. The co-operative farming system proposed to be introduced during the forthcoming years will also facilitate assessment and collection processes.

(c) Thirdly, the government can exert some control over the distribution and prices of agricultural products in times when the demand for foodgrains is mounting up, and thus discourage the unsocial practices of hoarders and profiteers. This can be done, for example, through the operation of buffer stocks based on local collections of grain as well as imports. The suggestion also affords a check against wage inflation—the workers can be assured many of the benefits available under the escalator clauses, through grain supplements to their wages. In-kind taxes may thus ease many of the government's problems with respect to food distribution and wage-price control.

(d) Lastly, from the stand-point of the revenue department, in-kind taxes have a distinct superiority over cash taxes during rising prices. They provide the treasury with a kind of insurance against depreciation of revenue money because food stocks at worst retain their value during rising prices.

The arguments of the critics of in-kind taxes, who dismiss this system as anti-democratic and totalitarian must be judged against the background of ancient Indian democratic traditions (while taxes were paid in kind) as well as the requirements of economic development which alone can safeguard democracy in the long run. As for doubts regarding the administrative

¹¹ Haskell P. Wald, *Taxation of Agricultural Land in Underdeveloped Economies*, Harvard Law School International Programme in Taxation, Harvard University Press, Cambridge, Massachusetts, 1959, p. 62.

efficiency and equity of such a system one has only to have a look at the relative efficiency and the remarkably successful accomplishment of the allotment of land in the Punjab to the refugees from West Pakistan. Even the most illiterate among the illiterate farmers of the Punjab has gradually become accustomed to and satisfied with the allotment system based on "standard acre". Moreover, if the Panchayats were to be entrusted with the task of collection of land tax, it will not be difficult for them who know, or at least are able to know, even the small differences in the fertilities of various tracts and plots of the village land, to fix various grades and categories of land based on soil classification and rating according to indices of productive capacity and relative income potential of various plots. Thus it appears that in the institutional set-up that has prevailed in the past and is proposed to be introduced in its modern form in the future, the collection of taxes in kind may neither be dubbed as undemocratic, nor be dismissed as unworkable.

(3) *Agricultural Income Tax.* At present agricultural income tax is levied in a few States at relatively high exemption limits. If a much wider section of agriculturists were to be brought under a progressive tax, no doubt agricultural income tax would be made to apply at lower levels of agricultural incomes. But even if this were done in view of the large majority of farmers who will fall below any reasonably fixed minimum exemption level, and also in view of the prevalence of illiteracy and the absence of any accounting records, it does not seem likely that the imposition of an agricultural income tax will bring in any better returns than even the current system of land tax.

(4) *State Trading.* To go into the complete pros and cons of State trading in foodgrains (as indeed of other measures) would obviously be outside the scope of this paper. It need only be mentioned that given the formulation of a well defined policy and a certain amount of administrative efficiency, State trading in food grains offers large potentialities of getting surpluses from agriculture as well as of fair distribution of food and control of prices and wages. The reason for mentioning this in the present paper is that in a sense this system may also be viewed as an instrument of taxation in kind. There is an element of tax in State trading to the extent to which the gap between the retail prices and the prices

paid to the farmer is in excess of the legitimate profits due to distribution and trading services. Burma's State Agricultural Marketing Board has been described as "the Government's main instrument for taxing the farmer". The only difference between grain tax proper and State trading in food with a tax element in purchase-sale price disparity, from the economic point of view, is that in the case of State trading, increasing revenues as agricultural incomes expand, can be realised only to the extent the marketed surpluses increase. In any case, if in-kind taxes were supposed to go against the spirit of democracy, State trading in foodgrains (and gradually, if need be, in certain non-food agricultural commodities) provides the next best alternative.

(5) *Indirect Taxes on Goods which the Farmers Buy.* These can be divided into two parts :

(i) *Indirect taxes on consumer goods and services purchased out of agricultural income.* At present the non-monetary sector accounts for about 45 per cent of the rural income. As development proceeds in rural areas, the monetary sector is going to expand, as also the consumption of industrial goods by the rural population. To that extent taxes paid by the agricultural sector will increase. There are very few goods, however, which are consumed primarily by the rural population and these include mill cloth, kerosene and matches. Urban people, by and large, consume all those commodities which the rural people consume, though the reverse is not true. Therefore, a sale tax or excise duty on a particular good has to take account of the income elasticity of demand of both the sectors. In the absence of detailed data on sector-wise income elasticities, no specific opinion can be hazarded here. But it may be stated that the case for increasing commodity taxation on the agricultural sector is particularly strong not only owing to movements of the terms of trade which have since 1939 generally been in favour of this sector but also because increased taxation on this sector, by increasing its cash requirements will make for a larger marketing of produce and hence larger and faster monetization of the economy. Wherever, therefore, the case of indirect taxation of a commodity exists with respect to the non-agricultural sector, its taxation should not be held up on grounds connected with the agricultural sector.

(ii) *Indirect taxes on investment goods purchased by the agricultural sector.* The use of producer goods, such as fertilisers, irrigation water, cement, electricity, tractors, etc., may be expected to increase as development takes place. Since the vast majority of the farming community, however, is poor, high prices may render these goods outside the buying power of these people. But it is a good rule to have that simultaneously with an effort to enhance the supplies of such producer goods either from home or foreign sources. The pricing of these commodities must be done either through taxation or otherwise, with a view to clearing the market, that is, equilibrating demand and supply, or else either blackmarketing will arise if the commodity is produced in the public sector (e.g. fertilisers) or extraordinary profits will accrue in private hands. In either case there will occur a serious loss of resources which could have been ploughed into economic development.

In the case of permanent improvements like canals, cesses and betterment levies offer the best solution.

(6) *Turning Terms of Trade against the Farmers.* Farmers can be indirectly taxed by turning terms of trade against the agricultural sector. This implies that the benefits of increased productivity in the agricultural sector are passed on to the non-agricultural consumers, while the benefits of increased productivity in the industrial and commercial sectors are retained by the producers themselves (via increased wages and profits).¹² This will raise the purchasing power of the non-agricultural sector which can be taxed away. Thus the higher the productivity in agriculture, which leads to fall in prices, relatively to a productivity increase in the industrial sector which, *ex hypothesi*, does not lead to, or leads to less than proportionate, fall in prices, the greater will be the benefits accruing

¹² In fact, in the underdeveloped countries, such benefits will accrue more to the profit earners than to the wage earners, because wages in the industrial sector, in a country with large supplies of labour, are based on the level of incomes in the rural areas, plus a certain mark-up to attract the rural labour to adopt industrial life and discipline. Since by a fall in the terms of trade for the farmers, the rural income levels will lag behind the industrial income levels, the wage rates will remain depressed. As a result the proportion of profits and hence of savings (and investment) in National Income will rise. In this connection, see Arthur W. Lewis's model of economic development in "Economic Development with Unlimited Supplies of Labour", *The Manchester School*, May 1954.

to the non-agricultural sector and the higher will be the taxable capacity of the non-agricultural population for the government to tap. However, this principle has many more economic and social implications than appears on the surface and it is not proposed to enter into a discussion of these here. This aspect, therefore, is better left alone while considering the possibilities of increasing taxes on the agricultural sector through direct and indirect means.

CHAPTER IV

AN EXERCISE IN PROJECTIONS

HOWEVER scientific a method one may use in estimating future tax yields, one would only be exposing conclusions to a serious margin of error if one makes revenue estimates for a period longer than one financial year. One may, therefore, not expect through such long-period estimates a degree of accuracy anywhere close to, for instance, the Finance Minister's budget estimates. The latter estimates are never very accurate either. To have an idea of the error of estimation, the following differences between the "budget estimates" made by the Finance Minister in the beginning of the financial year, "revised estimates" made some three months before the end of the year and the "final account" for the year, may be noted.

Logically enough, the longer the period of estimation, the greater the margin of error. Yet, in order to have the Five Year plans, some such estimates cannot be entirely dispensed with, provided of course the shortcomings of the *ceteris paribus* assumption are fully recognised. After all, the Planning Commission did make certain revenue estimates for the Second Five Year Plan, and surprisingly enough, they have not proved far wrong in comparison with the annual and three-monthly estimates of the Finance Minister, given in Table XVII. The intention in the remaining part of this paper, however, is not to make estimates or forecasts. But since we have already worked out the elasticity and buoyancy co-efficients (i.e. estimates of proportionate changes in tax yields both net of changes in tax rates, base and number of taxes, and gross of such changes), we propose to project the net and gross yields that might be expected without any greater effort than hitherto, provided that income increased approximately at the rate expected in the Third Plan.

Table XVIII gives the projections of the yields of various taxes for the last two years of the Second Five Year Plan and the whole of the Third Five Year Plan period, due to the built-in flexibility of the tax structure under the assumption that National Income increases at 6 per cent per annum. It will be seen that total

TABLE XVIII
 PERCENTAGE ERROR IN THE THREE MONTHLY REVISED ESTIMATES AND YEARLY BUDGET ESTIMATES,
 INDIAN UNION GOVERNMENT

Head of revenue	1950-57			1957-58							
	Budget Revised Account (in lakhs of rupees)	Annual percentage error	Three monthly percentage error	Budget Revised Account (in lakhs of rupees)	Annual percentage error	Three monthly percentage error					
1. Customs	15,000	17,100	17,323	15.5	1.3	1.3	18,300	17,999	7.4	7.4	-1.6
2. Union Excise Duty	17,035	18,873	19,043	11.8	0.9	0.9	25,957	26,455	5.4	5.4	3.4
3. Corporation Tax	4,824	4,824	5,118	6.1	6.1	6.1	5,050	5,013	11.1	11.1	1.1
4. Taxes on Income	14,136	14,136	15,174	7.3	7.3	7.3	15,590	16,370	5.0	5.0	5.0
5. Estate Duty	250	252	271	-8.4	-7.5	-7.5	252	230	-8.7	-8.7	-8.7
6. Wealth Tax							1,250	900	-43.7	-43.7	-21.8
7. Tax on Railway Fares							700	484	-47.4	-47.4	-24.0
8. Expenditure Tax											
9. Gift Tax	210	234	219	4.3	-2.2	-2.2	250	329	14.8	14.8	12.8
10. Opium Duty	549	524	565	2.9	7.8	7.8	490	615	26.1	26.1	0.5
11. Interest	1,106	1,549	1,428	29.1	-7.8	-7.8	4,321	5,679	-4.9	-4.9	-27.7
12. Civil Administration	2,367	2,448	2,429	2.6	-0.8	-0.8	3,602	3,684	-7.6	-7.6	-9.7
13. Currency & Mint	239	270	262	9.6	-3.0	-3.0	295	278	-14.6	-14.6	-9.4
14. Civil works	1,939	1,932	2,122	9.4	9.8	9.8	2,765	2,156	-14.4	-14.4	9.7
15. Other sources of revenue							395		-6.1	-6.1	
16. Posts & Telegraphs (net contributions)	530	632	632	19.2	19.2	19.2	677	371	-5.7	-5.7	-0.6
17. Railways (net contributions)	657	603	586	-10.8	-2.8	-2.8		633			
18. Deduct State Share											
Income Tax	5,501	5,875	5,875	6.8	6.8	6.8	6,598	7,343	11.3	11.3	
Estate Duty	232	241	241	3.9	3.9	3.9	243	240	-1.2	-1.2	
Tax on Rly. Fares							700	481	-37.0	-37.0	-8.3
TOTAL	52,739	57,149	58,996	11.9	3.2	3.2	70,803	72,463	2.5	2.5	0.2

TABLE XIX

PROJECTIONS OF THE YIELDS OF VARIOUS TAXES FOR THE THIRD FIVE YEAR PLAN ON THE BASIS OF THE BUILT-IN FLEXIBILITY IF NATIONAL INCOME INCREASES AT 6% p.a.

(in crores of Rs.)

Tax	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Remarks
1. Income tax	161.60	165.04	168.56	172.82	175.82	179.56	183.38	187.29	Projected at $b = .355$
2. Corporation tax	56.00	58.75	63.16	67.90	72.90	78.46	84.34	90.67	" " $b = 1.25$
3. Agricultural income tax	7.81	8.14	8.49	8.85	9.23	9.62	10.03	10.46	" " $b = .71$
4. Land tax	95.00	95.00	95.00	95.00	95.00	95.00	95.00	95.00	" " $b = 0.00$
5. Central excise duties	304.70	334.20	366.48	401.88	440.70	483.27	529.95	581.14	" " $b = 1.61$
6. Customs	170.00	150.00	136.00	167.00	167.00	167.00	167.00	167.00	See note 1 below.
7. State excise duties	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50	See note 1 below.
8. Sales tax	75.30	80.81	86.73	93.07	99.88	107.19	118.18	125.76	Projected at $b = 1.22$
9. Motor vehicle tax	19.60	21.85	24.36	27.16	30.28	33.76	37.64	41.97	" " $b = 1.917$
10. Estate duty	3.50	3.50	4.00	4.500	5.00	5.50	6.00	6.50	See note 2 below.
11. Taxes under misc. head	76.30	75.65	75.00	74.36	73.72	73.09	72.47	71.85	No correlation with income, therefore projected at an annual rate of growth of $1951/2-1957/8 = -.85$ per cent
12. Expenditure tax	1.00	1.00	2.00	2.00	3.00	3.00	3.00	3.00	See note 1 below
13. Wealth tax	12.50	13.00	14.00	15.00	16.00	18.00	19.00	21.00	See note 1 below

14. Tax on railway fares	9.68	10.00	11.00	11.00	12.00	12.00	13.00	13.00	13.00	See note 1 below
15. Gift tax	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	See note 1 below
Total tax revenue	1029.60	1068.44	1100.28	1185.37	1246.12	1310.95	1383.49	1460.64		
Increase during the year	..	32.84	40.84	88.09	63.75	67.83	75.54	79.65	79.65	Total increase during whole period of 7 years
										Rs. 1520.59 crores.
National income at an expected increase of 6% p.a.	12042	12665	13425	14231	15085	15990	16950	17967		
Tax revenue as % of National Income	8.55	8.39	8.19	8.33	8.26	8.20	8.16.	8.13		
Non-tax revenue	315.80	366.84	425.14	495.02	575.02	668.00	776.00	901.43	901.43	Projected at b=2.694
As % of National Income	2.62	2.90	3.17	3.48	3.81	4.18	4.58	5.00		

NOTE: (1) In the case of Customs and State excises, the changes take place due to extraneous considerations. The last four taxes, items 12-15, are new taxes. As such, past performance provides no guidance for the future. In the case of all these taxes, therefore (forming nearly 1/5th of total) we have used the projections as made by I. M. D. Little (op.cit.)

(2) The elasticity coefficients (b), as shown in the remarks column, are taken from Table III above. Since these coefficients are for a 1% increase in National Income, and since an annual rate of growth of 6% is assumed for the Third Five Year Plan, the annual coefficient b in this table is calculated by multiplying the coefficients in Table III by figure 6.

TABLE XX

PROJECTIONS OF THE BUOYANCIES OF VARIOUS TAXES WHEN NATIONAL INCOME IS ASSUMED TO INCREASE AT 6% p.a.

Tax	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Remarks <i>b'</i> = buoyancy
1. Income tax	161.60	166.93	172.23	177.80	183.55	189.49	195.62	201.95	$b' = 0.539 \times 6 = 3.234$
2. Corporation tax	56.00	58.75	63.94	69.59	75.74	82.43	89.72	97.65	$b' = 1.473 \times 6 = 8.838$
3. Agricultural in-come tax	7.81	8.63	9.54	10.55	11.66	12.89	14.25	15.75	$b' = 1.756 \times 6 = 10.536$
4. Land tax	95.00	97.53	100.13	102.80	105.54	108.36	111.25	114.22	$b' = 0.445 \times 6 = 2.670$
5. Central excises	304.10	377.21	466.98	578.12	715.71	886.05	1096.89	1357.50	$b' = 3.968 \times 6 = 23.808$
6. Customs	170.00	150.00	136.00	167.00	167.00	167.00	167.00	167.00	b' = see note 1 below
7. State excise duties	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50	" "
8. Sales tax	75.30	85.18	96.36	109.00	123.30	139.47	157.76	178.45	$b' = 2.186 \times 6 = 13.116$
9. Motor vehicle tax	19.60	22.24	25.24	28.65	32.52	36.91	41.89	47.55	$b' = 2.25 \times 6 = 13.50$
10. Estate duty	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	See note 1 below
11. Miscellaneous	76.30	77.06	77.83	78.60	79.39	80.18	80.98	81.79	Time rate of growth = 1% p.a.
12. Wealth tax	12.50	13.00	14.00	15.00	16.00	18.00	19.00	21.00	See note 1 below
13. Expenditure tax	1.00	1.00	2.00	2.00	3.00	3.00	3.00	3.00	" "
14. Railway fares tax	99.68	10.00	11.00	11.00	12.00	12.00	13.00	13.00	" "
15. Gift tax	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	" "
16. Total tax revenue	1029.60	1116.43	1224.75	1400.11	1575.37	1786.78	2041.86	2350.86	

17. Additions to tax revenue during year	86.83	108.38	175.36	175.26	212.41	255.08	309.00
18. Non-tax revenue	315.80	426.14	495.02	575.02	668.00	776.00	901.43
							$b' = 2.694 \times 6 = 16.164$
19. Total revenue	1345.40	1483.27	1650.89	1895.13	2150.39	2454.75	2817.86
20. National Income (N. Y.)	12042	12665	13425	14231	15085	15990	16950
21. Tax as percentage of N.Y.	8.55	8.82	9.12	9.84	10.44	11.18	12.05
22. Total revenue as percentage of N.Y.	11.17	11.71	12.30	13.30	14.26	15.35	16.62
							18.10

NOTE: In the case of Customs and state excises, the changes take place due to extraneous considerations. The last four taxes (items 12-15) are new taxes. As such, past performance provides no guidance for the future. In the case of all these taxes (forming nearly 1/5th of total) therefore, we have used the projections as made by I. M. D. Little (op. cit.)

The buoyancy coefficients (b'), as shown in the remarks column, are taken from Table V. Since these coefficients are for 1 per cent change in National Income, and since an annual rate of increase of 6 per cent is assumed for the Third Five Year Plan, the annual coefficient b' is calculated by multiplying the coefficients in Table V by figure 6.

additional receipts during the seven years would be of the order of Rs. 1520.59 crores and annual yields would increase by 431.04 crores in 1965-66 over 1958-59. Tax yields as a percentage of National Income would, in fact, fall from 8.55 per cent in 1958-59 to 8.13 per cent in 1965-66. This means that tax yields would not be keeping pace with the increases in National Income and taxes would show a regressiveness in terms of National Income. Therefore, unless additional tax measures to increase tax rates and coverage and levy new imposts are adopted, there is absolutely no likelihood of getting budget surpluses during the Third Five Year Plan through the built-in mechanism, as it stands at present. In fact, if governmental expenditure increases somewhat in proportion to National Expenditure, that is, if per capita expenditure on defence, education, health and other government services increases at least at the rate at which national per capita income is increasing, we may not even get balanced budgets without additional measures.

However, our non-tax revenues are quite buoyant. If the buoyancy which has been observed during the past seven years is kept up—and there is no reason why it should not be—the proportion of non-tax revenues to National Income will nearly double by the end of the Third Five Year Plan. Probably, however, it will not be a good policy to use the entire non-tax revenue to make up the deficits on the tax budget. Moreover, the expenditure side must not also be neglected. A non-tax revenue is also accompanied by additional expenditure. If past experience is any guide, governmental (non-plan) expenditure, in spite of economy drives, is likely to increase rather faster than the national average. As such, additional tax measures appear to be absolutely necessary. Moreover, as discussed in Chapter I above, the budget size itself is the *sine qua non* of a government's developmental effort. It will not, therefore, be a futile exercise to view the future tax effort required for the accomplishment of the Third Five Year Plan.

In Table XIX are projected the yields of various taxes on the basis of the buoyancy co-efficients found during the period 1951-52 to 1957-58 (Table V), that is, the regression co-efficients which are based on the total tax effort of the Union and the State governments (including increases of rates, extension of coverage and levy of new imposts, and, of course, the built-in factors). A mere glance at column 17 will show that in order to maintain the same relative rate of increase of additional taxation in relation to the rate of

increase of National Income as was achieved during 1951-52—1957-58, in order, that is, to mop up through taxation the same proportion of increments to income as during 1951-52—1957-58, a very concerted effort will have to be made. For instance, when the additional taxation during each of the past seven years is put against the corresponding years of the ensuing seven year period, as in Table XX the situation becomes clear enough.

TABLE XXI

ADDITIONAL TAX PERFORMANCE DURING THE PAST SEVEN YEARS, COMPARED WITH THE ADDITIONAL TAXATION AS PROJECTED FOR THE ENSUING SEVEN YEARS UNDER THE ASSUMPTION, WITH APPROPRIATE CONCESSIONS, THAT THE PAST BUOYANCY RATE IS KEPT UP

<i>Additional tax performance achieved during the past seven years of development planning</i>		<i>Projected additional taxation during the ensuing seven years, assuming that the past rate of additional tax measures is maintained. (Alternatively, the additional tax effort required during the ensuing seven years of development planning, in order to mop up the same proportion of increments to National Income as were possible during the seven years noted in the preceding column.)</i>	
<i>Years</i>	<i>Rs. crores</i>	<i>Years</i>	<i>Rs. crores</i>
1951-52	123.54	1959-60	86.83
1952-53	33.05	1960-61	108.32
1953-54	16.78	1961-62	175.36
1954-55	17.60	1962-63	175.26
1955-56	35.15	1963-64	212.41
1956-57	76.31	1964-65	255.08
1957-58	107.53	1965-66	309.00
1958-59	(34.70) (excluded from total)		
1951-52 to 1957-58	* 343.86	1959-60 to 1965-66	1,322.26

Thus, in order to achieve the marginal rate of tax of the past seven years, a revenue of Rs. 265 crores per year on the average will have to be raised. By the nature of the problem this marginal

rate of taxation will not be achieved automatically because such flexibility has not been built into our tax structure. These figures, in fact, amount to fixing the targets which must be achieved in order to "carry on" at the same marginal rate of taxation which was realised during the past seven years. This, then, is the task during the Third Five Year Plan which the Finance Ministers of the Union and the States must perform, if the requirements of the "take off" period are to be fulfilled.

APPENDIX

STATISTICAL ANALYSIS OF VARIOUS TAXES AND
TAX GROUPS

TABLE A—1

ACTUAL RECEIPTS, AND 'YIELDS AFTER ELIMINATING EFFECTS OF CHANGES IN TAX RATES AND THE TAX BASE', IN RESPECT OF VARIOUS TAXES AND TAX GROUPS

Year	Income tax ✓		Corporation tax ✓		Land tax (3)		Central excises (4)		Customs (5)		State excise duties (6)	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
	Rs. cr. (1)	Rs. cr. (2)	Rs. cr. (1)	Rs. cr. (2)	Rs. cr. (1)	Rs. cr. (2)	Rs. cr. (1)	Rs. cr. (2)	Rs. cr. (1)	Rs. cr. (2)	Rs. cr. (1)	Rs. cr. (2)
1948-49	119.50	119.50	62.6	62.6	159.86	78.36	51.76	51.76	84.60	127.59	34.32	34.32
1949-50	121.59	127.89	83.86	39.3	98.80	83.86	68.94	57.82	94.51	126.65	49.50	36.26
1950-51	132.89	149.28	102.27	40.49	103.38	102.27	51.58	69.60	95.83	157.15	47.33	46.85
1951-52	145.99	129.94	100.00	41.41	39.16	100.00	51.75	85.78	72.63	100.00	231.69	52.09
1952-53	141.41	141.41	96.86	43.80	105.78	96.86	51.75	82.45	82.45	96.12	173.75	46.45
1953-54	122.83	123.65	84.70	41.54	99.21	84.70	55.67	95.20	95.20	110.98	158.71	44.68
1954-55	122.28	122.28	84.32	37.33	89.17	84.32	57.42	108.23	97.33	113.46	184.86	44.67
1955-56	131.47	124.77	86.04	37.04	83.70	86.04	57.50	145.26	128.46	134.67	166.77	43.56
1956-57	136.01	132.51	86.72	48.02	108.52	86.72	57.60	187.55	147.15	136.42	171.00	43.31
1957-58	155.90	146.60	93.47	50.50	104.12	93.47	58.70	264.50	201.90	146.86	183.00	43.20
1958-59	161.60	161.50	96.82	56(RE)	126.50	96.82	61.00	304.70	297.40	165.13	170.00	42.50
												39.40
												71.82

Tax yields—"gross" (i.e. actual receipts) and "net" (i.e. after eliminating effects of changes in tax rates and the tax base)

Year	(7) Agri. income tax			(8) Sales tax			(9) Motor vehicle tax			(10) Estate duty			(11) Miscellaneous taxes		
	Gross	Net	Index	Gross	Net	Index	Gross	Net	Index	Gross	Net	Index	Gross	Net	Index
	Rs. cr. (1)	Rs. cr. (2)	(3)	Rs. cr. (1)	Rs. cr. (2)	(3)	Rs. cr. (1)	Rs. cr. (2)	(3)	Rs. cr. (1)	Rs. cr. (2)	(3)	Rs. cr. (1)	Rs. cr. (2)	(3)
1948-49	1.34	1.34	76.11	32.95	32.95	90.02									
1949-50	3.17	1.34	101.30	49.51	38.89	106.25									
1950-51	4.16	3.02	96.51	56.42	46.43	100.50									
1951-52	4.37	4.84	100.00	59.04	56.14	100.00	10.16	8.66	100.00						
1952-53	4.06	4.54	103.89	57.19	62.86	106.47	11.52	11.52	113.38						
1953-54	3.78	3.63	92.89	62.31	61.82	115.09	13.45	12.93	127.26						
1954-55	4.81	4.27	104.93	73.38	72.68	134.24	14.24	14.02	132.65	.81	.81		59.42	58.74	100.00
1955-56	5.78	5.13	111.91	76.25	76.17	139.34	15.37	15.37	143.18	1.90	1.90		55.54	55.54	93.47
1956-57	5.83	5.83	112.90	79.19	74.79	134.05	16.02	16.03	149.33	2.48	2.48	100.00	59.00	58.25	98.03
1957-58	6.77	5.90	114.25	97.00	88.00	148.96	18.90	18.89	176.06	2.50	2.50	100.81	56.78	56.94	94.11
1958-59	7.81	7.10	119.82	75.30	66.90	102.74	19.60	19.60	182.58	3.00	2.50	100.81	54.94	54.80	90.81
													58.90	55.50	91.74
													64.60	61.50	95.78
													76.30	69.20	102.60

Year	(12) Union taxes			(13) Tax revenue of the Union and States			(14) Non-tax revenue of the Union and States			(15) Direct taxes of the Union and States			(16) Indirect taxes of Union and States			
	Gross		Net	Gross		Net	Gross		Net	Gross		Net	Gross		Net	
	Rs. cr.	Rs. cr.	Index	Rs. cr.	Rs. cr.	Index	Rs. cr.	Rs. cr.	Index	Rs. cr.	Rs. cr.	Index	Rs. cr.	Rs. cr.	Index	
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
1948-49	319.94	319.94	107.07	578.11	578.11	108.22		209.03	209.03	85.64	288.08	288.08	85.64	288.08	288.08	97.80
1949-50	311.54	289.91	97.02	512.07	469.52	87.90		193.86	196.84	80.65	318.21	272.70	80.65	318.21	272.70	92.59
1950-51	357.00	334.36	104.13	628.01	592.29	101.67		299.12	244.51	101.73	398.89	349.33	101.73	398.89	349.33	101.64
1951-52	460.00	342.84	100.00	741.70	618.16	100.00	169.76	242.52	225.59	100.00	498.18	392.44	100.00	498.18	392.44	100.00
1952-53	370.23	416.23	90.48	673.92	706.97	95.31	157.48	247.12	228.66	93.87	426.80	478.47	93.87	426.80	478.47	96.04
1953-54	347.73	346.65	84.72	673.15	656.37	92.83	176.05	239.80	227.14	86.28	433.35	429.23	86.28	433.35	429.23	96.59
1954-55	348.15	335.06	81.58	720.79	703.19	96.97	192.29	238.63	234.00	84.19	482.16	469.99	84.19	482.16	469.99	104.76
1955-56	411.47	386.47	90.60	759.60	724.45	97.46	224.58	257.45	239.89	84.63	552.15	484.56	84.63	552.15	484.56	105.28
1956-57	493.76	438.76	96.61	832.48	756.17	97.02	236.54	285.56	262.54	86.30	546.98	493.63	86.30	546.98	493.63	103.49
1957-58	557.60	458.50	89.71	983.40	875.87	102.08	394.10	312.20	285.76	86.38	671.20	590.11	86.38	671.20	590.11	111.65
1958-59	572.34	564.74	90.86	1029.60	994.90	103.27	315.80	335.20	322.90	89.34	694.40	671.50	89.34	694.40	671.50	111.70

Year	(17) Certain Union excise items			✓ (18) Total ordinary revenue of Union & States			(19) Indirect taxes paid by rural sector			(20) Direct taxes paid by rural sector			(21) Total taxes paid by rural sector			(22) Indirect taxes paid by urban sector						
	Gross	Rs. cr.	Index	Net	Gross	Rs. cr.	Index	Net	Gross	Rs. cr.	Index	Gross	Rs. cr.	Index	Gross	Rs. cr.	Index	Net	Gross	Rs. cr.	Index	
1948-49																						
1949-50																						
1950-51																						
1951-52		911.46	100.00	263.85	100.00	114	114.00	100.00	377.85	100.00	100.00	377.85	100.00	184.33	184.33	100.00						
1952-53		831.40	870.08	95.46	237.88	270.43	102.50	101	101.48	89.01	388.88	371.91	98.40	157.92	177.04	96.05						
1953-54		849.20	842.30	96.71	245.01	242.42	104.50	108	101.00	89.01	353.01	343.44	99.70	160.34	158.82	94.60						
1954-55	99.00	913.08	895.92	102.03	278.76	271.09	116.00	105	107.46	88.56	383.76	378.55	107.00	178.40	173.90	104.77						
1955-56	134.17	984.19	956.50	106.98	293.35	282.27	117.00	113	104.57	88.20	406.35	386.84	108.00	185.80	179.29	105.29						
1956-57	174.33	1069.02	1004.51	109.09	328.60	295.00	118.00	125	113.20	88.36	453.60	408.19	108.50	202.38	182.64	103.50						
1957-58	236.21	1287.50	1173.31	119.73	406.86	355.77	128.00	121	126.79	89.62	527.87	482.56	115.40	248.34	218.34	111.66						
1958-59	244.81	1345.40	1315.80	122.36	N.A.	N.A.	..	N.A.	N.A.	..	N.A.	N.A.	..	256.93	248.96	111.66						

(23) *Direct taxes paid by urban sector* (24) *Total taxes paid by urban sector*

Year	Gross		Net	
	Rs. cv. (1)	Rs. cv. (2)	Index (3)	Index (3)
1948-49	187.40	187.40	100.00	371.73
1949-50	185.21	185.21	98.72	343.13
1950-51	164.37	165.19	88.15	324.70
1951-52	160.42	160.42	86.53	338.82
1952-53	170.41	161.71	86.72	356.21
1953-54	199.74	188.64	96.53	402.12
1954-55	216.87	200.07	96.16	465.21
1955-56	230.58	230.58	102.24	487.51
1956-57				371.73
1957-58				362.25
1958-59				324.00
				334.32
				341.00
				341.00
				95.35
				371.28
				99.38
				418.41
				103.41
				479.04
				106.48

Sources and Explanations : Table A-1.

(1) Data for "gross" (*actual*) yields has been taken from the Union and the States budgets. Such data is also available in the annual Reports *Currency and Finance* of the Reserve Bank of India, which give combined revenues of all the States under various tax heads for a number of years.

(2) "Net" yields here refer to the yields net of changes in tax rates and the tax base. That is, these columns contain yields which are the result of "built-in structure" of taxes. The estimates are based on the Finance Ministers' "Budget Estimates", "Revised Estimates", and the "Final Account", of various States and the Union budgets. These are available from the annual budgets, as also in the monthly *Bulletins* of the Reserve Bank of India. The Planning Commission has also started giving "detailed estimates of yield from measures of additional taxation in the Centre and States" for the preceding three years, in its Appraisal and Prospects of the Second Five Year Plan, starting with the issue of May, 1958. These estimates are collected and compiled in Table A-3.

Apart from legislative measures, there are also occasional changes in customs and excises made by issuing "Notifications" by the Revenue Department, as well as other administrative action. To compile this information from various records of the Central Board of Revenue and other administrative agencies is a laborious task for an individual researcher. Since 1956-57 the Reserve Bank of India has started collecting this information which is published in the *Currency and Finance*. For instance, statements 76, 77, 81 and 85 of the 1956-57 issue give detailed information on "major changes in import controls and import policy", "some important import control announcements", "changes in export duties", and "India's trade agreements", during the year 1956-57. However, a study of these changes for the year 1956-57 and 1957-58 showed that not much material difference is made by going into these details. Most of such changes are, in fact, taken into consideration by the Finance Minister in one or the other of his budget estimates. No account of changes outside the annual budgets has, therefore, been taken.

Since the first two years yields from new imposts are not considered for elasticity computation (see text, Chapter II), these yields go in this column.

(3) Procedure for computing the *index of "net" yields* may in particular be mentioned. In order that the alterations in the base and the rate structure in any one year, if capable of enhancing or retarding the degree of built-in elasticity to the particular tax, have their full play in subsequent years, elimination of tax yields due to legislative changes in tax rates and coverage is done for the current year only of the introduction of such changes. Increases in the yield due to increase in tax rates or extension of the base are subtracted from the actual account of that year, and decreases in the yield due to reduction in tax rates or contraction of the base are added to the final account of the year. Thenceforward, however, the changed tax rate structure and the altered base form a part of the overall tax measure, so that for subsequent years the new rates and the new base are allowed to wield their relative influence on the elasticity of the tax. This may be explained by an example.

Thus the yields due to legislative changes in the rates and coverage in respect of the "central excise duties", during the years 1951-52 to 1958-59, were estimated as follows :

TABLE A - I(a)

CALCULATION OF INDEX OF GROWTH DUE TO BUILT-IN FLEXIBILITY, IN RESPECT OF UNION EXCISE DUTIES

Year	Receipts actual		Estimated yield due to changes in rates and coverage (Rs. crores)	Yield after eliminating the effects of current year's changes in rates and coverage (Column 2 minus 4)	
	(Rs. crores)	Index		(Rs. crores)	Index
(1)	(2)	(3)	(4)	(5)	(6)
1950-51	69.60	81.14			
1951-52	85.78	100.00	+ 13.15	72.63 (85.78)	100.00
1952-53	82.45	96.12	..	82.45	96.12
1953-54	95.20	110.98	..	95.20	110.98
1954-55	108.23	126.17	+ 10.9	97.33 (108.23)	113.46
1955-56	145.26	169.34	+ 16.8	128.46 (145.26)	134.67
1956-57	187.55	218.64	+ 40.4	147.15 (187.56)	136.42
1957-58	264.50	308.34	+ 62.4	201.90 (264.50)	146.86
1958-59	304.70	355.21	- 7.3	297.40	165.13

Columns (2) and (3) provide "gross" yields, while columns (5) and (6) show "net" yields, as explained earlier. Any change in yield

which remains after eliminating the yield due to changes in rates and coverage is a change due to the built-in flexibility of the tax. Therefore, while computing the index of column (6), i.e. the index of change due to built-in flexibility, the base figure used for each year's change is always the previous year's figure under column (2). For instance, the change for the year 1957-58 is calculated on the base figure of the year 1956-57 as given in col. (2), i.e. $(201.90/187.55)100$, and not $(201.90/147.15)100$, nor $(264.50/187.55)100$, where the figure Rs. 201.90 crores is net of legislative changes of the current year, i.e. Rs. 264.50 crores minus Rs. 62.4 crores. Thus the index for year 1957-58 becomes $(201.90/187.55)136.42=146.86$, when the index for the previous year was 136.42.

(4) *Item 3 : Land tax.* These yields are found after accounting for the compensation paid for the abolition of intermediary rights and the rents which were formerly paid to the Zamindars and are now diverted to the government.

Any increase that is not accounted for by changes in land tax law as such—changes in irrigation charges, surcharges on land revenue, betterment levies, etc.—is supposed to be a change due to land reforms. Thus rents diverted to the government under land reforms show as follows :

(Rs. crores)	$\frac{1951-52}{—}$	$\frac{1952-53}{+6.10}$	$\frac{1953-54}{+9.88}$	$\frac{1954-55}{—}$	$\frac{1955-56}{+7.78}$
$\frac{1956-57}{+11.80}$	$\frac{1957-58}{-6.66}$	$\frac{1958-59}{+5.10}$	$\frac{1951-52 \text{ to } 1958-59}{+34.00}$		

Compensation figures are not available for year-wise payment, but are known in overall amount. Legal payment per year can be calculated on the basis of interest rates charged by the government and amortisation period for such compensation. Roughly it comes to about Rs. 35.75 crores per year. It is thus found that compensation is more or less equal to increase in land revenue due to land reforms.

Increase in costs of collection of revenue and rents or of payment of compensation or for the administration of land is not accounted for.

Since the land tax base (i.e. land area) in India is known to be notoriously inelastic in relation to National Income or any component of income (see text), no attempt has been made to

eliminate "changes in rates and base", in this table. All that makes sense is to compute what we have called "buoyancy", or tax effort of the state governments.

(5) *Item 5: Customs.* Series of net yields¹ after eliminating changes in tax rates and the base are of no significance from the point of view of "elasticity" of customs revenue with relation to National Income, or any other component of National Income. For the structure and composition of our foreign trade is such, at least in the present phase of development, that the needs of foreign exchange and requirements of internal production (and consumption) activity of the people make it necessary to change the base from which customs revenue is drawn. As such, changes in export/import duties and in trade control themselves become a function of the system. They hardly remain a legislative choice; they are related to a particular rate (and type) of economic growth. In view of this, "buoyancy" series is more significant here than the "elasticity". Indeed the former may itself be regarded as the elasticity of the customs revenue.

(6) *Item 7: Agricultural income tax.* Reduction in agricultural income tax due to the abolition of intermediary rights has been taken into account.

(7) *Item 11: Miscellaneous taxes.* Miscellaneous taxes include registration and stamps, entertainment duties, electricity duties, tobacco duties, inter-state transit duties, taxes on trades, callings and professions, taxes on urban immovable property, taxes on passengers and goods, taxes on forward contracts, duty on raw jute, etc.

(8) *Item 14: Non-tax revenue of the Union and the States.* This item includes revenues from railways, posts and telegraphs, currency and mint, civil administration, defence, civil works, forests, irrigation, electricity schemes, roads and water transport schemes and others.

(9) *Item 17: Certain excise duties.* Those included are: motor spirit, kerosene, sugar, matches, tyres and tubes, tobacco, vegetable products, cotton cloth, cement, paper, non-essential oils, refined diesel oils and steel ingots.

(10) *Item 19: Indirect taxes on the rural sector.* Contributions of the rural sector in the Union and States indirect taxes has been worked out as under:

Rural/Urban Ratio (1952-53)

Population ratio 82:18 (Census 1951)

Per capita indirect tax ratio 62:169 (Taxation Enquiry Commission, Report I, p. 66)

Therefore ratio of indirect taxes paid by the rural sector = $62 \times 82 / 169 \times 18$ or 63:37.

The same ratio has been assumed for the whole period of study. The total of combined urban and rural indirect taxes will be less by the amount of "export duties on agricultural products" from that given in item 16 above.

Effects of changes in indirect taxes are assumed to be proportional to the contributions of the two sectors.

(11) *Item 20: Direct taxes on rural sector.* Direct taxes on the rural sector include: agricultural income tax, land revenue, irrigation levies, export duties on agricultural products. Estimates of export duties have been taken from H. W. Arndt's paper "A Note on the Taxable Capacity of the Agricultural Sector". Figures for years 1953-54 and 1954-55 (not computed by Mr. Arndt) were simply interpolated.

The major fall in yields is primarily accounted for by fall in export duties on agricultural products.

(12) *Item 23: Direct taxes paid by the urban sector.* All of the following direct taxes are assumed to fall on urban incomes: income tax, corporation tax, estate duty, and wealth tax.

TABLE A-2
SERIES OF VARIOUS INDEPENDENT VARIABLES CONSIDERED RELEVANT FOR VARIOUS TAXES AND TAX GROUPS (IN CURRENT PRICES)

Year	Natio- nal in- come at pend- ing factor cost (Rs. cro- res)	Natio- nal ex- pendi- ture at market prices (Rs. cro- res)	Income arising in ur- ban sec- tor (Rs. cro- res)	Capital index of whole sale prices (1935 = 100)	Adverse balan- ces of mer- chandise as per- centage of total imports on mer- chandise ac- count	Price index of ordi- nary mer- chandise shares (1935 = 100)	Index number of in- dus- tries at pro- fits	Value added by ma- nu- factures (Rs. cro- res)	Index No. of pro- duc- tion plan- tion crops	Value of plan- tion crops (Rs. cro- res)	Value of plan- tion crops im- ports (Rs. cro- res)	Value arising in Agric. Sector (Rs. cro- res)	Income arising from Agric. Sector (Rs. cro- res)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1948-49	8650	9060	..	..	107.6	98.8	..	..	..	..	86.5	125.2	100	4250	..
1949-50	9010	9460	..	..	109.4	101.3	23.49	100.0	..	..	88.7	97.5	98	4490	..
1950-51	9530	10030	..	..	110.8	107.6	13.81	108.9	100.0	100.0	94.2	108.0	106	4890	94
1951-52	9970	10560	3010	6960	125.7	114.2	7.22	112.0	132.4	122.3	100.0	81.3	147	5020	95
1952-53	9820	10340	2980	6840	132.4	100.0	9.56	94.0	86.6	110.9	105.76	118.4	128	4810	105
1953-54	10480	11040	3070	7410	130.4	104.6	13.54	95.6	100.9	120.9	95.00	166.3	118	5310	120
1954-55	9610	10230	3233	6377	141.3	97.4	26.42	112.9	121.6	131.3	103.50	162.7	114	4350	122
1955-56	9980	10660	3410	6570	151.2	92.5	31.25	121.6	150.1	147.7	108.30	N.A.	111	4520	123
1956-57	11310	12080	3550	7810	164.5	105.3	N.A.	121.2	167.2	N.A.	109.87	..	116	5520	131

1957-58	11360	N.A.	3600	7760	175.4	108.4	..	117.88	N.A.	..	N.A.	..	97	5330	119
															(Provi- sional
1958-59	N.A.	..	N.A.	N.A.	112.9	..	..	129.06	..	..	..	..	93	N.A.	N.A.

SOURCES:

Cols. 2-3: National Income and Expenditure: C.S.O. *Estimates of National Income*.

Col. 4: Income arising in urban sector: Income arising in urban sector has been estimated after the method used by S. K. Chakravarty, Uma Dutta and V. Sirinivasan in their joint paper, "Share of Urban and Rural Sectors in the Domestic Product in 1952-53"; Preliminary Conference on National Income and Wealth, New Delhi, January 1957.

Col. 5: Income arising in Rural Sector: Ibid, as in col. 4.

Col. 6: "Capital" index of Business Activity: *Capital*, Calcutta.

Col. 7: Official index of the Ministry of Commerce and Industry, Government of India.

Col. 8: Calculated from original data.

Col. 9: Price Index of Ordinary Shares: Reserve Bank of India, *Bulletin*, June 1959, p. 796.

Col. 10: Index No. of Industrial Profits: *Statistical Abstract*.

Col. 11: Value added by Manufacture: *Economic Trends*, Vol. VII, Nos. 2, 3, 4, April-December 1957, Table IV.

Col. 12: Index No. of Production of Plantation Crops. Annual Reports on *Currency and Finance*, Reserve Bank of India.

Col. 13: Value of Plantation Crops: P. V. John, Delhi School of Economics, unpublished thesis for Ph.D.

Col. 14: Value index of imports: Ministry of Commerce and Industry, Government of India.

Col. 15: Agricultural Income: C. S. O., *Estimates of National Income*.

Col. 16: Index of agricultural production: Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India.

TABLE A-3

CHANGES IN YIELDS OF VARIOUS TAXES AND TAX GROUPS DUE TO LEGISLATIVE AND OTHER AUTONOMOUS
CHANGES IN TAX RATES AND THE TAX BASES

(Rs. Crores in Current Prices)

Year	(1) Income tax	(2) Corpo- ration tax	(3) Land tax		(4) Central excises	(5) Customs	(6) State excise duties	(7) Agricul- tural income tax	(8) Sales tax	(9) Motor vehicle tax
			Due to land reforms	Due to tax reforms						
1950-51	-15.39	..	—	—	- 0.30	+25.37	+ 0.48	+ 1.14	+ 9.59	—
1951-52	+16.05	+ 2.25	—	—	+13.15	+84.91	+ 2.80	- 0.47	+ 2.90	+ 1.50
1952-53	..	..	+ 6.10	..	..	-46.00	..	- 0.48	- 5.67	..
1953-54	- .82	..	+ 9.88	+ 3.92	..	..	+ 0.08	+ 0.15	+ 0.89	+ 0.52
1954-55	..	..	..	+ 1.75	+10.9	+ 3.0	+ 0.07	+ 0.54	+ 0.70	+ 0.22
1955-56	+ 6.7	+ 2.0	+ 7.78	+ 0.08	+16.8	- 0.50	+ 0.25	+ 0.65	+ 0.08	..
1956-57	+ 3.5	+ 7.6	+11.80	+ 0.10	+40.4	+ 2.50	+ 0.62	..	+ 4.4	..
1957-58	+ 9.3	+ 7.5	- 6.66	+ 1.10	+62.4	+ 6.00	+ 1.20	+ 0.87	+ 9.00	..

Year	(10) Estate duty	(11) Miscel- laneous taxes	(12) Union taxes	(13) Tax revenues of the Union and the States	(14) Non-tax revenue of the Union and the States	(15) Direct taxes of the Union and the States	(16) Indirect taxes of the Union and the States	(17) Certain Union excise items
1950-51	—	—	+ 22.64	+ 35.72	(Changes were	- 15.39	+ 49.56	(Changes were
1951-52	—	+ 0.68	+ 117.16	+ 123.54	not	+ 17.83	+ 105.74	not
1952-53	—	..	- 46.00	- 33.05	ascr-	+ 18.52	- 51.67	ascr-
1953-54	—	+ 0.75	+ 1.08	+ 16.78	tained)	+ 12.66	+ 4.12	tained)
1954-55	..	+ 0.14	+ 13.09	+ 17.60		+ 4.63	+ 12.17	
1955-56	..	+ 0.14	+ 25.00	+ 35.15		+ 17.56	+ 17.59	
1956-57	..	+ 3.4	+ 55.00	+ 76.31		+ 22.96	+ 53.35	
1957-58	..	+ 3.1	+ 99.10	+ 107.53		+ 26.44	+ 81.09	

Year	(18) Total ordinary revenue of the Union and the States	(19) Indirect taxes (excluding export duties on agricultural goods) paid by the rural sector	(20) Direct taxes (including export duties on agricultural products) paid by the rural sector	(21) Total taxes paid by the rural sector	(22) Indirect taxes paid by the urban sector	(23) Direct taxes paid by the urban sector	(24) Total taxes paid by the urban sector
1950-51	—	—	—	—	—	—	—
1951-52	+124.01	—	—	—	—	+ 18.30	—
1952-53	— 38.68	— 32.55	— 0.48	— 33.03	— 19.12	..	— 19.12
1953-54	+ 6.90	+ 2.60	+ 7.00	+ 9.60	+ 1.52	— 0.82	+ 0.70
1954-55	+ 17.16	+ 7.66	— 2.46	+ 5.21	+ 4.50	..	+ 4.50
1955-56	+ 27.69	+ 11.08	+ 8.43	+ 19.51	+ 6.51	+ 8.7	+ 15.21
1956-57	+ 64.51	+ 33.61	+ 11.80	+ 45.41	+ 19.74	+ 11.1	+ 30.8
1957-58	+ 114.19	+ 51.09	— 5.79	+ 45.30	+ 30.00	+ 16.8	+ 46.8

SOURCES: 1. Union and States Annual Budgets

2. Monthly Bulletins of the Reserve Bank of India

3. *Appraisal and Prospects of the Second Five Year Plan*, Planning Commission, May, 1958

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The following abbreviations are used :

desc = described
irt = in relation to
qirt = quoted in relation to
rirt = referred in relation to

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