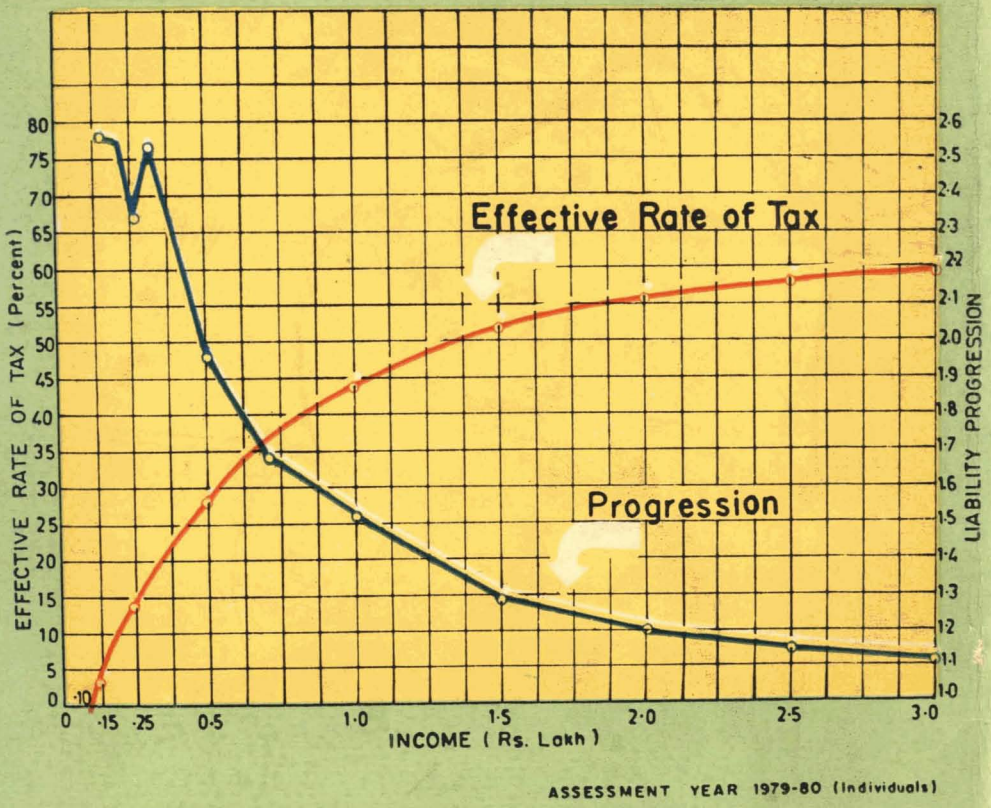
THE IMPACT OF THE PERSONAL INCOME TAX

ANUPAM GUPTA

with
contributions
by

PAWAN K. AGGARWAL



NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY

The personal income tax occupies an important place in the Indian tax structure. It is intended to impart elements of elasticity and progressivity to the tax system and is rightly looked upon as an instrument not only for regulating the flow of purchasing power but also for reducing economic inequalities. Only empirical studies can throw light on the extent to which the actual operation of the income tax has enabled the Government to secure the desired objectives. The present study seeks to examine the impact of the personal income tax on the basis of the data published by the Income Tax Department.

The study first examines critically the available data on income tax assessments and the characteristics of assessees in order to evaluate their reliability and comparability over time. In the light of the limitations of the data made available by the Income Tax Department, recommendations for improvement in the collection and presentation of income tax data are put forward. Second, estimates of the elasticity of the personal income tax with respect to the tax base and income are computed and are explained in terms of the progressivity of the tax structure and the distribution of income. Third, the impact of the personal income tax on the distribution of income among the taxpayers is examined on the basis of the comparisons of pre-tax and post-tax distributions.

Further, the redistributive impact of the tax is explained in terms of the progressivity of the tax structure and effective rates of tax. Finally, the study estimates the impact of inflation on the progressivity of the tax structure and the distribution of the real burden of tax.

The study is first of its kind in India in as much as no attempt has so far been made to empirically examine the manner in which the personal income tax affects the distribution of income and distributes the tax burden. It is likely to be of interest not only to scholars but also to policy makers and the general public.

Rs. 35/-

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PREFACE

The National Institute of Public Finance and Policy is an autonomous, non-profit organisation whose major functions are to carry out research, do consultancy work and undertake training in the area of public finance and policy.

In addition to the subjects on which the different sponsoring governments or governmental agencies may request the Institute to undertake research on their behalf, the Institute itself continuously carries out studies on subjects which are considered to be important especially from the point of view of policy formulation. It is a policy of the Institute to publish all its important reports and studies except those which are of a confidential nature. The Governing Body of the Institute does not take responsibility for any of the views expressed by the authors in the research publications of the Institute. The responsibility for the views expressed belongs to the Director and the staff of the Institute and more particularly to the authors of the report.

The staff members who worked on the project are Anupam Gupta (then Fellow in the Institute) and Pawan K. Aggarwal, Economist. Anupam Gupta planned the study and carried out the analysis contained in Chapter II (on data), Chapter III (on elasticity), most of Chapter V (on inflation) and Chapter VI (on conclusions). He also prepared the draft report which was circulated for comments. The analysis contained in Chapter IV (on distribution) was jointly carried out by Pawan K. Aggarwal and Anupam Gupta. Pawan K. Aggarwal also contributed to the analysis in Chapter V (on inflation). He is also the author of Annexure 1.

Most of the statistical work for Chapters IV and V was also done by Pawan K. Aggarwal, while most of the statistical work for Chapters II and III was done by S. Gopalakrishnan.

The draft report was revised in the light of comments received by Anupam Gupta. As he had left the Institute to rejoin his University by the time the report was prepared for the press, the task of editing, checking and revision fell on R.J. Chelliah and Pawan K. Aggarwal. In addition to the work mentioned above, Pawan K. Aggarwal has made a significant contribution to the task of revision and preparation of the manuscript for the press.

New Delhi
February 4, 1982

RAJA J. CHELLIAH
Director

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ANUPAM GUPTA

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I

INTRODUCTION

1. The Nature and Importance of Personal Income Tax in India

Personal income tax in India may be said to consist of taxes on the non-agricultural incomes of three types of assessees : individuals, Hindu undivided families and unregistered firms and other associations of persons. Hindu undivided families are a category of assessees peculiar to India; these are joint Hindu families in which there are at least two coparceners, one not lineally descended from the other, who have the right to claim partition of the family property. An unregistered firm, be it a partnership or single proprietorship, is treated as an individual and taxed on its total profits according to schedules applicable to individuals. If a firm is recognised and approved as a registered firm by the income tax authorities, its total profits are taxed according to a special moderate rate schedule, and the residual profits are allocated to the partners and taxed in their hands. Thus, the tax on the registered firm, which was introduced in 1955-56 is analogous to the corporation tax, and is therefore excluded from the definition of personal income tax. An "association of persons" is treated as a single assessee, if the persons concerned jointly pursue certain income earning activities and jointly earn the income. If the persons constituting "an association of persons" earn income from individual activities they are assessed as individuals.

The revenue from the personal income tax is not given separately in the Budgets of the Government of India. The head 'taxes on income other than corporation tax' includes both the personal income tax and the income tax on registered firms. Of course, the income tax on registered firms constitutes only

a small proportion of this total[1]. We may, therefore, use the budget figures of 'taxes on income other than corporation tax' to stand for the personal income tax for some of the calculations.

The significance of the personal income tax in the national economy can be studied in various ways. Empirically, one may judge its importance in terms of the ratio of the personal income tax revenue to total tax revenue or alternatively to national income.

The role of taxes on incomes other than the incomes of corporations is much less significant in India than in developed countries such as the U.K., U.S.A. and Japan. This is evident from Table I.1. In the U.K. and U.S.A. in recent times, the income tax revenue is at least 10 per cent of net national product and nearly one-third of the total tax-revenue comes from the income tax, whereas in India it constitutes only 1·5 per cent of net national product and about 15 per cent of total tax revenue. Thus the personal income tax has a much wider base in the developed countries than in India. The two main reasons for the limited size of the tax base in India are the exclusion of agricultural income from the income tax base and the high ratio of exemption limit to the per capita income level. More than forty per cent of the national income in India arises from agriculture and so leaving agricultural income out of the income tax base means that nearly half of the national income is left out. Even if agricultural income were to be subjected to the personal income tax, since most of the agricultural incomes are small, with a relatively high exemption limit, a very large part of those incomes would be outside the pale of income taxation.

In the United States, the ratio of exemption limit to per capita income was 0·16 in 1970 and 0·14 in 1974, for a single person and 0·63 in 1970 and 0·55 in 1974, for a family of married

[1]This is evident from the statistics in *All India Income Tax Statistics* published by the Directorate of Inspection (Research, Statistics and Publication), Income Tax Department. The title of this publication was changed on various occasions. It was *Income Tax Revenue Statistics* upto 1961-62, *All India Income Tax Revenue Statistics* in 1962-63 and *All India Income Tax Statistics* since 1963-64. Hereinafter it is referred to as *AIITS*.

couple and two children[2], whereas in India the corresponding ratio for single persons was 6·27 and 4·89 respectively in 1970-71 and 1974-75.

In India the relative importance of revenue collected from income tax on incomes other than corporate incomes has declined over time, as it is evident from Table A.1[3]. Upto the financial year 1958-59 the corporate income tax paid on the distributed part of the profit of the companies used to be shown as personal income tax paid by the shareholders. In 1959-60 this practice was abolished. As a result of that there was a sharp fall in the revenue from taxes on incomes other than corporate incomes. But even after that year the downward trend of the share of the revenue from this head continued. Income tax revenue constituted 29·3 per cent of total tax revenue and 25·9 per cent of total revenue of the Centre in 1953-54. In 1960-61, the corresponding percentages were 18·4 and 15·6, respectively. Since then these percentages have almost monotonically decreased and in 1975-76 income tax revenue was less than 16 per cent of tax revenue and only 12·5 per cent of total revenue. Thus, its share in total revenue has declined from nearly one-sixth to one-eighth during the 15 years. Although the relative importance of the personal income tax as a means for raising revenue decreased over time, the size of income tax revenue, except for the two years 1959-60 and 1961-62, increased over the years (Table A.1). Between 1960-61 and 1975-76 there was more than seven fold rise in income tax revenue. The annual compound rate of increase in income tax revenue was 14·14 per cent during this period as against 10·8 per cent in personal income at current prices (Table I·2).

During the same period revenue from Union excise duties increased at an annual (compound) rate of nearly 16·0 per cent and the total revenue of the Central Government at more than 11 per cent. With growing industrialisation the coverage of the excise duty can be extended more easily, whereas the coverage

[2]For the ratios in U.S.A. see (Goode 1976, p. 214). Goode has given the ratios of personal exemption to per capita income. There is no distinction between exemption limit and personal exemption in the U.S.A.

[3]All tables numbered with the prefix 'A' are given in the Statistical Appendix.

TABLE I·1

Importance of Personal Income Tax in India, Japan, U K. and U.S.A.

Year	India		Japan		U.K.		U.S.A.	
	Income tax revenue as per cent of total tax revenue	Income tax revenue as per cent of NNP	Income tax revenue as per cent of total tax revenue	Income tax revenue as per cent of NNP	Income tax revenue as per cent of total tax revenue	Income tax revenue as per cent of NNP	Income tax revenue as per cent of total tax revenue	Income tax revenue as per cent of NNP
1966	13	1·3	16	3	31	11	28	8
1967	14	1·2	16	3	31	11	29	9
1968	15	1·3	17	4	30	12	31	9
1969	16	1·4	17	4	30	12	32	10
1970	15	1·4	17	4	31	13	33	11
1971	14	1·5	18	4	32	13	32	10
1972	14	1·6	19	5	31	12	32	10
1973	15	1·5	21	6	—	—	31	10

Source : Data on NNP of Japan, U.K. and U.S.A., *United Nations Statistical Year book*, 1970-74. Data on Income tax revenue and total tax revenue of Japan, U.K. and U.S.A. (federal government), *Revenue Statistics of OECD Member Countries*, 1965-74. Data on Income tax revenue and total tax revenue of India from '*Budgets*', Ministry of Finance, Government of India. Data on NNP of India, *National Accounts Statistics* 1960-61 to 1974-75, Central Statistical Organisation, Government of India, 1976.

TABLE I·2

Annual Compound Rate of Increase of Income Tax Revenue and Personal Income from 1953-54 to 1975-76

Years		Rate of increase of income tax revenue	Rate of increase of personal income
From	To		
1953-54	1958-59	6·93	4·35
1960-61	1975-76	14·14	10·8

of the income tax remains limited due to the low per capita income of the country.

Thus it is seen that as a source of revenue the personal income tax is not as significant as that in developed countries. Furthermore, in India its relative importance has declined over time.

2. Objectives of the Study

The personal income tax like any other tax is a means of raising revenue by the exchequer. But besides the objective of raising revenue there are other objectives which can be achieved by it. The progressivity in the personal income tax structure tends to reduce the degree of inequality in the distribution of income. Furthermore, the personal income tax could affect the supply of labour, savings and investment in the economy. Hence, it can be designed in a manner such that it produces certain desirable effects on the allocation of resources.

The main constituents of the personal income tax structure are the exemptions, the schedule of the statutory rates of tax and the deductions. These can be called the instruments of the tax structure. The instruments can be designed in such manner as to produce the desired effects in terms of yield, equity and allocation of resources.

The amount of revenue that can be raised by the personal income tax depends upon the overall average rate, or what is called the effective rate of tax on total taxable income and the size of the taxable income. The effective rate of tax depends upon the effective progression in the rates of tax and the distribution

of taxable income among the assessees. The effective progression in the tax structure is determined by the schedule of the statutory rates of tax and the distribution of exemptions and deductions among the income brackets. Given the tax structure, as the distribution of taxable income becomes more unequal over the years the effective rate of tax will tend to rise, and *vice versa.*

With rising effective rate of tax over time, the elasticity of the tax yield with respect to the tax base will be greater than unity; and conversely, with falling effective rate of tax this elasticity will be less than unity. Given the rate structure, the effective rate will remain constant (and the elasticity of tax to base will be equal to unity) if the distribution[4] of income among the tax brackets remains the same. But with a change in the distribution of income over the years the elasticity will be greater or less than unity. Further, for a given pattern of change in the distribution of income, the impact on elasticity will be greater, the more progressive the rate structure.

One of the objectives of this study is to estimate the elasticity of the personal income tax yield in India with respect to the tax base. The estimates obtained are explained in terms of the progressivity in the income tax structure and the pattern of changes in the distribution of assessed income over time.

Even if the elasticity of the tax yield with respect to the tax base is less than unity, i.e., if the effective rate of tax is falling over time, total tax liability will rise with a substantial increase in the size of the tax base. The elasticity of the tax base with respect to personal income provides an idea about the changes in the ratio of total taxable income to total personal income. If the former constitutes an increasing proportion of the latter the elasticity of the tax base with respect to personal income will be greater than unity, and conversely. The relative size of the tax base depends on the one hand upon the distribution of income between the personal income tax assessees and the others, and on the other hand upon the relative size of exemptions and

[4]Here the distribution of income is taken to mean the distribution of income between the different marginal tax rate income brackets rather than the distribution of income between the assessees.

deductions in the incomes of the assessees. With a given distribution of income among the assessees and non-assessees, as the share of exemptions and deductions in the incomes of the assessees increases, the ratio of taxable income to personal income will decrease and the elasticity of the tax base with respect to personal income will be less than unity. In this study, the elasticity of the tax base with respect to personal income is estimated for the period 1954-55 to 1975-76.

The second objective of this analysis is to study the effect of the personal income tax on the distribution of income. The total income of an individual is comprised of incomes from different sources. As such the degree of inequality in the distribution of total income depends upon the degree of inequality in the distributions of incomes from different sources. The relative shares of the various sources of income in the total income of an assessee are different in the different income brackets. The distribution of income from each source is analysed in this study. Moreover, the relative share of each source in the incomes of the assessees in the different brackets are estimated. This information will be useful to the policy maker to identify the beneficiaries of a particular allowance granted to certain types of income, e.g., dividends or capital gains. Morever, information about the concentration of incomes from each source will help the policy maker to locate the sources of greater inequality in the distribution of assessed income.

There was a continuous increase in the price level over the period of this study which is generally the years 1960-61 to 1975-76. The "exemption limit" and the statutory rates of tax were revised on different occasions during this period. The provisions relating to exemptions in respect of items considered as forming part of costs of earning and those relating to various deductions were also revised on different occasions. To what extent these revisions neutralised the effect of inflation is examined in this study. Due to inflation, income earners, who were below the exemption limit, cross this limit and their incomes are subjected to income tax. The assessees who were already paying the tax are pushed up to higher income brackets and are subjected to higher rates of tax due to inflation. However, there is a non-confiscatory upper limit to the marginal rate of tax and

so in spite of the rise in income due to inflation the rates of tax applicable to the assessees in the very high income brackets do not increase considerably. All these factors together change the effective progressivity in the tax structure. The effect of inflation on the progressivity of the tax structure is studied for a few selected years. This also reveals how the distribution of the tax burden is affected by inflation.

The scope of the analysis in any empirical exercise is largely restricted by the quality of the data available. The homogeneity and comparability over time of the data are examined in detail. To the extent possible, the factors responsible for the inadequacy of the data are pointed out. On the basis of this examination, recommendations about the possible ways of improving the data are also put forward.

3. Plan of the Study

The present study is, primarily, empirical in nature. Available data on personal income taxation in India are analysed keeping in view the objectives mentioned in the preceding section. The period for which the data are analysed extends from 1953-54 to 1976-77. AIITS is the principal source of data on income tax assessments in India. Besides this, some additional information is available in *Audit Report (Civil) Revenue Receipts* of the Central Government and in the *Report of the Comptroller and Auditor General of India (Civil) Revenue Receipts*, Central Government.

In Chapter II, the quality of the official data is examined. This is done in order to assess their reliability and comparability over time. In any inter-temporal study, it is essential to know how far the data published under a particular category every year represent information about a specific phenomenon. To some extent the scope of a study is limited by the meaning or definition of the phenomenon for which data are presented. The meaning or definition of any relevant phenomenon in any work on income taxation has to be derived from the Income Tax Acts and the Finance Acts. To what extent the nature of the definitions of relevant phenomena given in the Income Tax Act are responsible for the limitations in the data are examined in this chapter. Income tax statistics are used by economists to

study such issues as the distribution of income, effective progression in the tax structure and changes in the composition of income. As such, it is also necessary to examine how far the data which are supposed to represent certain economic phenomena described them properly.

The measurement of the elasticity of personal income tax yield with respect to total personal income is the theme of Chapter III. In order to explain the measures of elasticity estimated, other relevant issues like progression in the effective rates of tax and the distribution of assessed income among the assessees are also brought into the discussion.

The subject matter of Chapter IV is the distribution of income among the assessees, both before and after tax. This study of distribution will provide some idea about effective progression as well. The incidence of the personal income tax is analysed in this chapter. Variations in the composition of income according to sources and income classes are also analysed for a few selected years.

The effect of inflation on the distribution of tax burden and on the progressivity of the tax structure are examined in Chapter V. In order to study how far the effects of inflation were neutralised by the statutory changes in the tax structure, the effects of the statutory tax structures of a few selected years are compared.

In the last chapter, a summary of the findings and the policy implications emerging from the analysis in the chapters on distribution, elasticity and inflation are brought together. Besides this, recommendations for improvement in the collection and presentation of these statistics are put forward in the light of the limitations of the available data pointed out in Chapter II.

II

A REVIEW OF THE DATA

1. Sources of Data

The scope of analysis in any empirical work is restricted by the nature and reliability of the available data. The sources of data on personal income taxation are the Budgets of the Union government and the *AIITS* published by the Income tax authorities in India[5]. The data in *AIITS* are supposed to provide quantitative information regarding assessed income, total income of assessees, etc., according to certain well-defined concepts. Unless these concepts are clearly and precisely defined, it is not possible to evaluate the usefulness or limitations of the data.

In the Budgets of the Union Government, the revenue collected from taxes on income other than the corporation tax are published with a two-year lag. As stated earlier, taxes on income other than corporation tax include the personal income tax on registered firms. From the Budget it is not possible to estimate the amount of revenue collected from the personal income tax alone. Moreover, in the Budget one does not get any information about the size of income from which this revenue is collected. One could, however, attempt to use the relevant part of total personal income as a proxy for the true income tax base. Data on total personal income for the nation are available in the publications of the Central Statistical Organisation (CSO 1976 and 1978). Total personal income in the non-agricultural sector can be derived by subtracting from total personal income

[5]This publication was brought out by Central Board of Revenue, Government of India upto 1961-62 and since 1962-63 it is being brought out by the Directorate of Inspection (Research, Statistics and Publication), Income Tax Department, Government of India.

(*a*) agricultural income, (*b*) government transfers to the agricultural sector and (*c*) interest on public debt going to the agricultural sector and then adding (*a*) the undistributed profits of corporations out of income arising in agriculture and (*b*) the corporate income tax paid by corporations on income from agriculture. Undistributed profits of corporations out of income arising in the agricultural sector and the corporate income tax paid on income from agriculture are to be added because they have already been subtracted once in the calculation of personal income for the whole nation. Income arising in the agricultural sector is of course available in the *National Accounts Statistics* but information on the other categories mentioned above are not available. So on the basis of published data it is not possible to make an estimate of personal income in the taxable sector.

In the AIITS, data on income assessed to tax, the number of assessees and tax demand are given according to ranges of assessed income. In India income earned in a particular year becomes assessable to income tax in the following year. However, the bulk of the tax on income earned during a financial year is collected during the same financial year, through advance payment of tax and deduction of tax at source. So a considerable part of the tax collected and shown in the budget for a financial year is demanded on assessment for the following year. Hence the assessment figures published in *AIITS* for an assessment year should be compared with the collection figures of the previous year in the Budgets and, for the same reason, related to incomes earned in the previous year.

AIITS, an annual publication, is available for all the years covered by the study, except for 1970-71 and 1973-74. It gives fairly comprehensive data relating to income tax assessment, including in particular (*a*) source-wise breakdown of total income or total gross income for all categories of assessees (Statement 3A); (*b*) source-wise breakdown of gross income arranged according to assessed income ranges, since 1959-60 (Statement 5 A); (*c*) assessed income for every category of assessees according to ranges of assessed income (Statement 5) and corresponding data in relation to net income (Statement 6); and (*d*) gross income and amounts of various deductions

arranged according to assessed income ranges since 1963-64 (Statement 5E).

2. Deficiencies of Indian Income Tax Revenue Statistics

(*a*) *Arrears*

The data on assessments published in *AIITS* annually are not homogeneous. For any given year, they consist of current assessments and arrear assessments. As such the distribution of assessed income, tax demand, net income, etc., given according to the ranges of assessed income for any particular assessment year do not relate to that particular year only. They are just mixtures of distributions of incomes related to different years and on the basis of these data it is not possible to draw accurate conclusions about the distributions of income or assessments in that particular year. So one should be cautious in one's attempt to make estimates of distribution of income and tax among the assessees in a particular year on the basis of *AIITS* data.

A break-up of assessments completed within a year in terms of current assessments and arrear assessments and also the total number of assessments pending at the end of a year are given in another publication of the Central Government[6]. The total number of assessments completed in a year as shown in this publication are much higher than the total number of assessments given in *AIITS*. The reason for the difference seems to be that a large number of assessments in any year do not result in either demand or refund. The assessments not resulting in tax demand or refund are not reported in *AIITS*. Besides, until 1973, in the *Report of the Comptroller and Auditor General*, the year-wise data of arrears were not shown according to the category of assessees; only the total number of arrears relating to an assessment year pending at the end of the next assessment year was shown. The arrears related to different categories of assessees such as corporations and registered firms besides

[6] *Audit Report (Civil)—Revenue Receipts* (upto 1968-69); *Report of the Comptroller and Auditor General of India, Central Government (Civil), Revenue Receipts* (since 1969-70). The latter is referred to as the *Report of the Comptroller and Auditor General.*

assessees under the personal income tax. Arrears pending at the end of the year classified according to categories of assessees are being published only since 1973. Even then, only the break-up of the total number of assessments completed in a year into current and arrears is shown, but the corresponding figures of assessed income and tax demand are not given. Thus the figures available in the *Report of the Comptroller and Auditor General* cannot themselves be used for analysis.

The total number of assessments completed in particular years and the number of assessments pending at the end of those years are reproduced in Table A.3. The year-wise break-up of arrear assessments pending at the end of different assessment years are reproduced in Table A.4. From the data in Table A.4, we have worked out the year-wise composition of arrear assessments completed in a year, and these are given in Table A.5. It would be expected that these estimates of arrear assessments completed in the course of a year should be equal to the figures of arrear assessments given in Table A.3. But excepting for 1967-68, our estimates of arrear assessments made on the basis of data in Table A.4 do not tally with the figures in Table A.3. The figures of Table A.3 and Table A.4 are taken from the same publication. This raises doubts about the reliability of these data.

As the data on arrear assessments completed do not tally with the estimates from year-wise break-up of arrears, the data on current assessments completed are also to be adjusted accordingly. The difference between the total number of assessments completed in a year as shown in Table A.3 and the estimate of total number of assessments completed out of arrears shown in Table A.5 is taken to be equal to the estimate of the total number of current assessments completed in a year.

The year-wise break-down of arrear and current assessments completed in a particular year as estimated by us are expressed as percentages of total assessments completed. This has been done for every year for which data are available, *i.e.*, from 1964-65. These percentages are presented in Table A.6. It appears from this table that current assessments as percentage of total assessments completed ranges from 52 per cent to 80 per cent. It

is less than 70 per cent for six out of the eleven years for which the data are examined. Also, this percentage has not improved over time. In 1972-73 it was above 80 per cent and in 1974-75 it is found to be less than 67 per cent. Because of such variations we cannot use the data on the break up of assessments for deriving estimates of current assessments from the *AIITS* data.

(*b*) *Computation of assessed income*

Upto 1956-57, total "Assessed Income" for all categories taken together as presented in Statement 5 are found to be equal to total "Income" or total "Gross Income" in Statements 3A minus the amount of "loss set off" according to sections 24 (1) and 24 (2) of the Income Tax Act of 1922 (given in Statements 3B). The capital gains tax was reintroduced by the Finance Act of 1956. (It had existed earlier from 1947 to 1948). The *AIITS* presents data on capital gains assessed to tax and tax demand on capital gains from the assessment year 1957-58. From 1957-58 to 1964-65 total "Assessed Income" as presented in Statement 5 is equal to total "Income" or total "Gross Income" as presented in Statement 3A minus "loss set off", minus the amount of capital gains (the last as presented in Statement 3A). Again from 1965-66 onwards, total "Assessed Income" as presented in Statement 5 is found to be equal to total "Gross Income" in Statements 3A less the total amount of "Deductions" including "loss set-off" as shown in Statement 3B. Upto 1966-67 most of the concessions used to be given as tax rebates. This did not affect the amount of assessed income recorded. Since 1967-68 as more and more concessions were being granted as deductions, the difference between assessed income and gross income increased.

Upto the assessment year 1962-63, rebate was granted to all types of capital gains; as such, irrespective of the period of holding, these were taxed at a concessional rate. The Finance Act of 1962 introduced a distinction between short term and long term capital gains, according to the length of time for which a capital asset was held by an assessee. Short-term capital gains were treated as income and subjected to personal income taxation in the same way as income from other sources. Long term capital gains continued to obtain rebates. The Finance Act of

1967, however, replaced the income tax rebate on long-term capital gains by a percentage deduction of long-term capital gains before inclusion in taxable income and therefore, since the assessment year 1968-69, a part of the long-term capital gains was excluded from taxable income.

It may be pointed out that the entire amount of capital gains was excluded from "Assessed Income" upto 1964-65, even though from the assessment year 1963-64 short-term capital gains were being taxed in the same manner as income from other sources. Again, as assessed income was estimated as gross income minus deductions since 1965-66, the entire capital gains were included in the assessed income in *AIITS* of the years 1965-66 to 1967-68. Since 1968-69, long term capital gains are being excluded from assessed income. Thus the assessed income figures of different years given in AIITS are not strictly comparable.

As pointed out already, the implicit definition of assessed income was affected by changes in the method of granting concessional treatment to savings and investment in specific financial assets, such as Provident Fund and Life Insurance since 1967-68. Moreover, in course of time a number of additional provisions for deductions were introduced. This has further affected the comparability of assessed income over time. From Table A.2 it is evident that upto 1965-66 assessed income formed 99 per cent of gross income. But in 1966-67 the ratio of assessed income to gross income came down to around 96 per cent. In 1976-77 assessed income was less than 91 per cent of gross income.

The *AIITS* presents data on "gross" income, "assessed" income, number of assessees and tax demand according to the ranges of assessed income. The data on gross income from all sources are published since 1962-63 in Statement 5E; however, the gross income figures are presented according to assessed income ranges. On the basis of these statistics progression in the effective rate of tax can only be measured with respect to assessed income. A proper study of the impact of progression on the distribution of income can be done only with reference to gross income assuming gross income is defined adequately for economic analysis. A study of distribution and progression in

terms of assessed income will be far from satisfactory because it is given net of a number of deductions. However, assessed income, gross income and tax data according to the assessed income classes are the only available statistics. If assessed income and gross income were close to each other or, alternatively, if assessed income constituted a fixed proportion of gross income, then the results of the study of distribution and progression in terms of assessed income can be interpreted meaningfully.

3. Definition of Income

The definition of assessed income has changed over the years and as such the data on assessed income are not comparable over time. The estimates of the effective rates of tax for the different brackets are therefore also not comparable over time. An identical amount of tax relief can be granted in respect of a particular item, either through tax rebates or through deductions. If it is granted through tax rebates the effective rates calculated from assessed income will appear to be lower than what they would be if tax relief had been given through deductions.

The problem regarding comparability over time would still remain if the data on the number of assessees, gross income and tax demand had been presented against gross income ranges. This is because gross income is derived from total income by excluding the types of income listed mainly under Section 10 in the Income-tax Act, 1961, and these have been changed from time to time. In this list, are given incomes arising from specified sectors (*e.g.*, agriculture), specified sources (*e.g.*, interest income from 15—year Annunity Certificates, National Defence Gold Bonds, National Savings Certificates), incomes received to meet specified expenditures (*e.g.*, house rent allowance, leave travel concessions), income earned as compensation (*e.g.*, compensation received by a worker on retrenchment), etc[7]. An assessee does not have to include most of these types of incomes in his return. Since "gross" income as presented in *AIITS* is mainly total income net of the exemptions listed under Section 10, loss

[7]In the Income-tax Act, 1922 most of these items were treated under Section 4, sub-Section 3.

set-off and other exemptions, comparability of gross income over time is affected because of statutory changes in the provisions under the Sections in the first six Chapers of the Income Tax Act. For example, the clause granting exemption of house rent allowance upto a certain specified limit was introduced in 1964; and the scope of the clause granting exemption of leave travel facilities was broadened in 1970. Besides, these exemptions also affect the comparability of tax demand of two assessees with the same total income in an assessment year but having differences with respect to items of receipts for which exemptions can be claimed under Section 10. So even if the data on the total number of assessees, gross income and the total tax demand are presented against gross income ranges, estimates of effective rates of tax and of the distribution of income before tax will suffer from lack of comparability over time and between assessees in the same period of time.

Ideally, for the purpose of economic analysis, the definition of income should be comprehensive. That is, it should be based on the total accretion or spending power of an assessee during a year; only then would it reflect relative economic positions, apart from wealth. However, there is controversy as to what items should be considered as accretion in an economic definition of income. Moreover, in practice it is not possible to measure the income of an individual defined in the comprehensive manner. However, a workable approximation to the economic definition of income should be taken as the basis for studying interpersonal distribution of income and the impact of the income tax on income distribution. Unfortunately, gross income as given in *AIITS* is by no means a close approximation to an economic definition of income; assessed income, by whose ranges data on tax demand are presented, is even less satisfactory for the purpose of analysis.

The income-tax statistics are to be used among other things for studying such phenomena as the distribution of income, the impact of the tax on inequalities, progression in the effective rates of taxation and the source-wise composition of total income. The economic analyst is also interested in studying the causes of slow or fast growth of income tax revenue as well as the relationship between growth of revenue and growth of income

and other more closely related components of national income such as personal income. For carrying out these studies and analyses, one needs income tax data which can be meaningfully and readily related to economic data. Our analysis of *AIITS* data would show that they fall far short of the required standard. Their major limitations may be summarised as follows :

First, among the categories used in *AIITS*, "gross income" seems to come closest to the concept of income normally used in economic discussions. However, since gross income as given in *AIITS* is derived after the deduction of a number of allowances such as standard deductions and house rent allowance, and since the rules relating to these allowances have changed over time, we do not get comparable series of gross income. Besides, gross income does not include certain items of receipt such as income from Post Office savings deposits and National Savings Certificates.

Secondly, although data on gross income are available since 1959-60, most of the information on distributions given only according to assessed income by itself is not of interest either to the economists or to the policy makers. A far more realistic picture could have been obtained if data on the number of assessees, taxable income and tax payable etc., had been presented by ranges of gross income.

Thirdly, even the data presented according to ranges of assessed income lack homogeneity because the figures given for any one year contain a mixture of current assessments and arrear assessments. The composition of this mixture could have been changing from time to time. Detailed information on this aspect is not available. The net result is that assessed income or gross income or taxable income or tax payable for any given year as presented in *AIITS* cannot be related to economic data for any particular year. Given these limitations, it is clear that the data presented in *AIITS* cannot be properly used for any time series analysis. Since the data lack homogeneity, strictly speaking, they cannot be used even for purposes of cross section analysis to derive an accurate picture of distribution or composition of income, nor could they be used for comparing two cross-sections. A really satisfactory analysis of

the impact of income tax and of the underlying income distribution itself will be possible only if the entire system of presentation of income tax data is changed.

Since the above was written, a significant improvement in the presentation of assessment data in the *AIITS* has been effected. In this publication for the years 1974-75 and 1975-76 an attempt has been made to pull together all assessments belonging to one previous year, *i.e.*, the year of earning income. Complete year-wise assessment data are presented for 3 years namely 1974-75, 1975-76 and 1976-77. In view of this, for these years as well as for future years, it would become possible to relate figures of assessed income, tax paid, etc., to the relevant economic data for given years. The discussion earlier in this chapter had shown that this was one of the important improvements to be brought about in the presentation of *AIITS* data. Other desirable improvements would be indicated in the concluding chapter.

Since the present study covers the period going backwards to 1960-61, the limitations of the *AIITS* data discussed above affect our analysis and the conclusions of the study are subject to a margin of error as a result of these limitations. This must be kept in mind while evaluating the former. It is sometimes argued that the income tax data cannot reveal the true state of distribution of income or changes in it because of large scale evasion of the income tax. Evasion could of course affect the base of the tax and would show the effective rate of tax to be higher than what it really is in terms of "true" income. Also if the degree of evasion practised by different income classes differs significantly, then the picture of distribution of income for any given year yielded by the income tax data would not truely reflect the actual state of distribution. Thus, it is not just the fact of evasion, but the possibility that the degree of evasion is not uniform among the different classes that should lead us to suspect the reliability of the income tax data for drawing conclusions regarding the distribution of income in a given year. If, as is widely believed, the degree of evasion is larger among those with higher incomes, who draw them mainly from business and professions, than among the lower income groups, the major part of whose income consists of salaries, it would follow

that the actual distribution of income could be more unequal than what is revealed by the income tax data.

For considering changes in the distribution of income, however, the income tax data are more reliable and useful. This is because so long as the degree of evasion practised by the different income groups remains more or less constant, then any changes in the distribution of income indicated by the income tax data for several years could be taken to be reflective of the actual trend. We could conclude, therefore, that the comparisons of the distribution of income as between different years that we make in this study have more empirical validity.

III

ELASTICITY OF PERSONAL INCOME TAX

1. Elasticity and Distribution

An analysis of the sensitivity of income tax yield with respect to changes in income will provide an estimate of the automatic response of tax revenue to increases in national income. The personal income tax as the name suggests is to be related to the total personal income in the economy. For this reason the sensitivity of income tax revenue is estimated both with respect to national income as well as personal income. The concept of elasticity, which is the ratio of the relative change in tax yield to the relative change in income, is used for this purpose. The value of elasticity depends upon the tax structure; and so for different tax structures the estimates of elasticity will be different. The tax structure is determined by the exemptions, the statutory rates of tax and the distribution of deductions and rebates among the assessees in different income ranges. For estimating the elasticity of a given structure, the yield of that structure in different years must be obtained by applying the same tax structure to the incomes of different years. In reality, discretionary changes of various degrees of importance are introduced into the tax structure in almost every year. The choice and application of the method for removing the effects of discretionary changes from the tax yield and the tax base in order to derive the yield of an unchanged tax structure forms a significant part of the exercise of elasticity estimation.

The elasticity of the personal income tax may be decomposed into two constituent parts : one is the elasticity of the tax yield with respect to the tax base, and the other is the elasticity of the tax base with respect to national income or alternatively to

personal income. The elasticity of the tax yield with respect to national income (personal income) is the product of the two components.

The elasticity of the tax base with respect to national income (personal income) depends upon changes in the distribution of income between the taxpayers and the non-taxpayers. If the share of the taxpayers in national income (personal income) rises over time, the elasticity of the tax base with respect to national income (personal income) will be greater than unity, and the opposite will happen in the case of a fall in the share of the taxpayers in national income (personal income). The elasticity of the tax base with respect to national income (personal income) will be exactly unity if the share of the taxpayers in national income (personal income) remains constant over time.

The "exemption limit" acts as a dividing line between the income levels of the taxpayers and the income levels of the non-taxpayers. Individuals or institutions with income above the "exemption limit" pay personal income tax and those below the "exemption limit" are statutorily exempted from it. The nominal level of the "exemption limit" is an aspect of the tax structure, and as such in an exercise of elasticity estimation this has to be kept unchanged over time. With rising national income (personal income), if the distribution of income in the country remains unchanged, the ratio of total taxable income to national income (personal income) will remain unchanged only if the exemption limit is raised by the same rate at which the national income (personal income) rises. But if the tax structure remains unchanged the nominal level of the "exemption limit" will also remain constant. In this situation, due to a general increase in national income (personal income), new assessees will enter the group of taxpayers. The incomes of these new entrants into the group of taxpayers cross the "exemption limit". The incomes of these new assessees will raise the share of the taxpayers in national income (personal income). Thus, the "exemption limit" remaining unchanged, if the distribution of income over the entire income range remains unchanged with rising national income (personal income) the share of the taxpayers in national income (personal income) will rise. That is, with the distribution of income remaining unchanged the elasticity of the tax

base with respect to national income (personal income) will be greater than unity.

An estimate of the elasticity of the tax base with respect to national income (personal income) less than unity will indicate that the share of the taxpayers in national income (personal income) decreased over time.

The elasticity of the tax yield with respect to the tax base depends upon the nature of the tax structure on the one hand and the changes in the distribution of income among the assessees over the years on the other. The tax structure remaining unchanged, if the effective rate of tax on the total tax base rises over time the elasticity of the tax yield with respect to the tax base will be greater than unity. The elasticity will be equal to unity if the effective rate of tax remains constant over time and will be less than unity if the effective rate of tax decreases over time. The effective rate of tax on the total tax base is the weighted average of the effective rates of tax applicable to the different levels (amounts) of income, the shares of taxable income of those levels or sizes being the weights.

Under a progressive personal income tax structure, if the shares of the assessees in the upper income levels rise, or if the shares of different sizes of income remain constant in the course of a given period, the effective rate of tax on total taxable income will rise. That is, if the inequality in the distribution of income among the assessees increases or remains constant the effective rate of tax on the total taxable income will be rising over the years and the elasticity of the tax with respect to base will be greater than unity. But the elasticity may be less than unity in the case of decreasing inequality in the distribution of taxable income among the assessees. (Gupta 1975, Ch. VII, sec. 2).

2. Elasticity and Progressivity

The elasticity of the tax yield with respect to the tax base equals unity under proportional taxation. Under progressive taxation the higher the progressivity the more will the elasticity deviate from unity. The elasticity will be greater than unity, if the inequality in the distribution of taxable income increases over time and will be higher for more progressivity in the rates

of tax. If the inequality in the distribution of taxable income decreases over time, the elasticity would tend to be less than unity and it would tend to be greater than unity if taxable income per assessee increases. The elasticity will, if less than unity, be smaller for a more progressive tax structure The relationship between elasticity and progressivity in the tax structure is explained below with the help of simple illustrations[8].

There are different definitions and approaches to the measurement of progression of the tax structure. Among the different types of progression the liability progression is more directly related to the estimate of elasticity[9]. The liability progression will remain unchanged if the tax liability at every level of income is increased by a constant proportion. The liability progression will rise if as the income rises the tax liabilities are increased by successively larger proportions. So long as the liability progression remains unchanged the distribution of tax liability among the income brackets, for a given distribution of income, will remain unchanged. With rising liability progression, the share of the assessees in the upper income levels in the total tax liability will rise and that of the assessees in the lower income levels will fall. This means that the difference between the Lorenz ratios of the tax liability (C) and the distribution of the assessed income (L) is directly related to the degree of liability progression.

In the illustration in Table III.1, the rate of tax at every income level in case II is 20 per cent higher than the corresponding rate of tax in case I. That is, the liability progressions of these two tax structures are equal. With respect to any given distribution of income before tax, the distribution of total tax liability among the assessees is the same for tax structures I and II.

The ratios between the successive rates of tax of structure III are greater than the corresponding ratios for I and II. This indicates that the liability progression of tax structure III is

[8]The generalised propositions and the sketches of proof are given in Annexure 2.

[9]Liability progression is the schedule of the ratios of the marginal rate of tax to the average rate of tax at every level of taxable income (Musgrave and Tun Thin, 1948).

TABLE III.1

Effect of Changes in Distribution and Progressivity on the Elasticity of the Tax Yield with Respect to the Tax Base—An Illustration

Effective rates of tax			Share of income before tax	
Case I	Case II	Case III	Distribution *A*	Distribution *B*
0·10	0·12	0·10	0·20	0·25
0·30	0·36	0·35	0·30	0·35
0·50	0·60	0·70	0·50	0·40

Share of total tax liability

IA and IIA	IB and IIB	IIIA	IIIB
0·0555	0·0756	0·0421	0·0585
0·2500	0·3182	0·2210	0·2865
0·6945	0·6062	0·7369	0·6550

The effective rate of tax on total assessed income

I A	I B	II A	II B	III B	III B
0·3600	0·3300	0·4320	0·3960	0·4750	0·4275

greater than the liability progressions of either I or II. The distribution of the tax liability among the assessees under tax structure III is more unequal than that of tax structure I or II for either pattern of distribution of assessed income before tax, A or B. Here the pattern of distribution A is more unequal than the pattern of distribution B.

In this study, the difference between the Lorenz ratios of the distribution of the tax liability (C) and of the income distribution before tax (L) is taken as an estimate of the liability progression.

If the distribution of income before tax is assumed to change from pattern A to pattern B in the course of a year, the effective rate of tax on total taxable income will fall by 8·33 per cent under tax structure I and II. But for a similar change in the distribution, the effective rate of tax on total taxable income will fall by 10 per cent under tax structure III. The elasticity of the tax

yield with respect to the tax base will be the same for tax structure I and II but lower with tax structure III. If the distribution of income before tax changes from B to A, that is, it tends towards greater inequality, the elasticity of the tax yield with respect to the tax base will be higher for tax structure III than for tax structures I and II[10]. The relationships derived in the above discussion are briefly listed below :

(*i*) Under progressive taxation the elasticity of the tax yield with respect to taxable income will be greater than unity if the inequality in the distribution[11] of income increases or remains constant. The elasticity may be less than unity if the inequality decreases over time.

(*ii*) The difference between the Lorenz ratios of tax liabilities and taxable income is directly related to the degree of liability progression in the tax structure; this difference can therefore be used as a summary estimate of liability progression.

(*iii*) The absolute difference between the elasticity of the tax yield with respect to taxable income and 1, increases with increasing liability progression. The more progressive the tax structure the higher will be the elasticity, if it is greater than 1; and the lower will be the elasticity, if it is less than 1.

3. The Data

The income-elasticity of the personal income tax in India can be computed either on the basis of budgetary figures of tax collections or on the basis of *AIITS* data. Both sets of data have

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[10](*a*) If the initial income is Rs. 1000 and the income in the next year is Rs. 1200, the elasticity is 0·5 for a change in the distribution of income from A to B in case of tax structures I and II. Under similar circumstances, the elasticity is 0·4 with tax structure III.

(*b*) If the pattern of distribution changes from B to A, other things remaining the same as in (*a*) the elasticity is 1·55 for tax structures I and II and it is 1·66 in the case of tax structure III.

[11]Here the distribution of income is assumed to be continuous i.e., at every evel of income there are a certain number of income earners.

their own limitations. The revenue figures given in the budgets under the head "taxes on income other than Corporation tax" include, as already indicated, revenue from the tax on registered firms also; so they cannot, strictly speaking, be taken as representing figures of personal income tax yield. Besides this, for computing the built-in-elasticity of the tax, revenue series net of the effects of discretionary changes would have to be generated. But the ex-post estimates of the effects of such changes are not available. However, data on the distribution of assessed income and of the tax liability in different income ranges are available in *AIITS*. The effective rates of tax in different income ranges can be derived from these data. Assuming that the discretionary changes in the taxable base were not significant, the effective tax rates of the base year may be applied to the distribution of the assessed income in different years to compute revenue series at constant tax rates, which in turn can be used to compute elasticity. But *AIITS* data relate to assessments in given years which bear no close relation to revenue collections in the corresponding years so the tax demand given in *AIITS* will not give a true idea of the actual income tax revenue in a particular year. Hence it becomes difficult to establish a relationship between tax revenue and income figures. Considering that there are limitations in both sets of data (from the budgets and the AIITS), we have made two alternative estimates of elasticity using the two sets. The limitations of the data must be borne in mind while interpreting the results.

It has been pointed out earlier that because of the abolition of the system of giving tax credit to the shareholders of companies in 1961-62, the figures of revenue from taxes on income other than corporation tax from 1961-62 onwards are not comparable to those for the earlier years. Considering this fact we have estimated elasticity on the basis of the budget data for the period 1961-62 to 1975-76 only. In *AIITS* the method of deriving assessed income from gross income was changed in 1965-66; hence elasticities on the basis of these data are estimated separately for two periods, assessment years 1954-55 to 1964-65 and assessment years 1965-66 to 1975-76[12].

[12]For the second period, data are available for only nine years out of the eleven years; data relating to 1970-71 and 1973-74 were not published.

On the basis of the data in *AIITS*, the elasticity of tax assessed with respect to assessed income as well as the elasticity of assessed income with respect to national and personal income are estimated. For estimating the latter, it is assumed that assessed income for a given year largely reflects taxable income in that year. For income tax purposes the assessment year corresponds to the previous financial year. For this reason, in estimating the elasticity of the assessed income with respect to national and personal income, assessed income is regressed on national or personal income with a one-year lag.

4. The Method

Elasticities are estimated by fitting log linear regressions to the data. This implies the assumption of constant elasticity over time. If the elasticity is variable over time the estimate of elasticity obtained by fitting a log linear regression is an average of the different elasticities in the period.

For estimating elasticity, the effects of discretionary changes in the 'exemption limit' and the tax structure are to be eliminated from the data[13]. There are three alternative methods available for eliminating the effects of the discretionary changes introduced from time to time. These three methods are (*i*) the proportional adjustment method, (*ii*) the constant rate-base method, and (*iii*) the dummy variable method. The first method is based on two limiting assumptions. They are (*i*) the estimates of the revenue repercussions of the discretionary changes made by the Finance Ministry are nearly correct and (*ii*) the discretionary changes have no effect on the elasticity. Looking at the extent of the difference between actual total revenue collections from taxes on income other than corporation tax and their *ex ante* budget estimates, the first assumption may seem to be questionable. An alternative assumption could be that the actual additional revenue from discretionary changes differs from the estimate by the same proportion by which actual total revenue from taxes on income other than corporation tax differs from the corresponding *Budget*

[18]Here by tax structure is meant the structure of the effective rates of tax, that is, it includes the rates of tax, personal allowances given as exemptions and the rates of deductions and rebates.

estimate. In estimating elasticity by the proportional adjustment method we have made this assumption. In this method the revenue in years other than the base year are adjusted by the proportion of revenue from discretionary changes to total revenue. Estimates of buoyancy and elasticity worked out on the basis of revenue figures in the budgets are given in the next section.

The method of dummy variables is not used here because discretionary changes of almost equal importance were introduced on a number of occasions during the period of this study. In the first period from 1954-55 to 1964-65, family allowances were introduced in the assessment year 1956-57, the rates of tax and exemption limit were drastically reduced in the assessment year 1958-59, and the system of giving tax credit on dividend income was abolished in the assessment year 1960-61. Besides these, a number of other changes in the rates of tax and provisions of tax rebates were introduced from time to time. If dummy variables are introduced for every change of similar importance, there will be too many of them and with a limited number of observations the reliability of the estimates will be poor.

In this study the constant rate-base method of eliminating the effects of discretionary tax changes is also used. The principle underlying this method is that the rates prevailing in a chosen base year are to be applied to the tax bases of different years, the latter being derived according to the definition of assessable income that obtained in the base year. *AIITS* data relating to assessments are used for this purpose. In practice, since for lack of information, legal or statutory rates cannot be used, effective rates in the base year for different income ranges are computed, and these are applied to the assessed income in the corresponding income ranges in tne other years to derive hypothetical tax yield figures under an unchanged tax structure. We have estimated the elasticities of total income tax demand for individuals, Hindu undivided families and unregistered firms and other associations of persons.

The method of adjustment of data on tax liability and on assessed income are given in Annexure 4. The effective rates of tax in the different income ranges were estimated for two alter-

native years, 1972-73 and 1974-75[14]. These effective rates of tax for different income ranges combine the effects of statutory rates of tax, personal exemption, rebates and deductions[15]. Applying this method, two series of hypothetical tax liabilities, one according to the tax structure of 1972-73 and the other according to that of 1974-75 were derived for the three categories of assessees separately; these were then added together. Thus, time series of personal income tax liabilities are obtained under 1972-73 and 1974-75 tax structures.

Log-linear regression equations are fitted to the adjusted data on tax liability and assessed income. It has been already pointed out that the data on assessed income from 1954-55 to 1964-65 are not comparable to the data on assessed income in the later years. Hence the elasticities are estimated separately for the periods 1954-55 to 1964-65 and 1965-66 to 1975-76.

The elasticities are estimated in two parts—one that of tax liability with respect to assessed income and the other that of assessed income with respect to national income or, alternatively, personal income. The product of the two elasticities can be taken as an estimate of the elasticity of tax yield with respect to national income or personal income.

5. The Results

The estimates of buoyancy and elasticity for the period 1961-62 to 1975-76 calculated by the proportional adjustment method are given below :

Buoyancy/Elasticity	*Intercept*	R^2
Buoyancy		
1.2021	0.0007	0.9702
Elasticity		
0.9348	0.0417	0.9357

[14]The AIITS of 1975-76 has come out since this exercise was done. Elasticity and buoyancy is estimated later by taking the data of 1975-76 into account.

[15]The application of the effective rates for different income ranges in the base year to the assessed income in the corresponding ranges in the other years in order to derive hypothetical tax yields according to an unchanged tax structure carries with it the assumption that the distribution of income within each range remains the same.

As most of the discretionary changes in the period 1961-62 to 1975-76 led to positive changes in revenue, the estimate of buoyancy is found to be higher than that of elasticity.

Next we come to the results obtained by the constant rate-base method. At 1972-73 rates of tax the elasticity of tax yield with respect to assessed income works out to 0·5015 in the period 1954-55 to 1964-65. At 1974-75 rates it is estimated at 0·6026 during the same period. These estimates of elasticity of tax yield are less than unity because the estimate of the overall effective rate of tax according to each tax structure, as shown in Table A. 23, decreased from 1954-55 to 1964-65. The overall effective rate of tax according to a given tax structure decreased over time because the distribution of assessed income as given in *AIITS* tended towards more equality during this period. The deviation of elasticity from unity is greater under the tax structure of 1972-73 than under the tax structure of 1974-75 due to the higher progressivity[16] of the former.

The estimate of the elasticity of tax yield with respect to assessed income is much higher in the period 1965-66 to 1975-76. It is 0·9013 on the basis of the 1972-73 rates of tax and 0·9334, on the basis of the 1974-75 rates of tax. There was a slow tendency towards increase in the effective rate of tax from 1965-66 to 1971-72, and towards a decrease between 1971-72 and 1975-76.

The elasticities of the tax yield with respect to the assessed incomes estimated in this section for the two different tax structures satisfy the relationships discussed in the first section of this chapter. The liability progression of the tax structure of 1972-73 is higher than that of the tax structure of 1974-75. For the more progressive tax structure the elasticity of the tax yield with respect to the tax base is lower because in both periods the estimates are less than unity.

Usually, if the distribution of income remains unchanged, the elasticity of the assessed income with respect to national income is expected to be greater than 1. A value of less than 1 for this elasticity indicates that the income below the "exemption limit" increased at a faster rate than the income above it. The

[16]This is shown in the next chapter.

TABLE III.2

Estimates of Elasticity on the Basis of AIITS Data

Form of the regression equation	From 1954-55 to 1964-65				From 1965-66 to 1975-76			
	a	*b*	R^2	*t*	*a*	*b*	R^2	*t*
$\log X = a + b \log Y$	—3·2368	1·0519	0·95	12·54	1·07759	0·6242	0·88	6·97
$\log X = a + b \log Y_1$	—3·9642	1·1382	0·94	12·00	1·0570	0·6324	0·88	7·02
$\log T_1 = a + b \log X$	1·6153	0·5015	0·74	5·12	—0·0431	0·9013	0·94	9·61
$\log T_2 = a + b \log X$	0·9738	0·6026	0·84	6·79	—0·2846	0·9334	0·95	8·13

X—Adjusted assessed income, Y—National income, Y_1 —Total personal income
T_1—Total tax liability at 1972-73 tax structure
T_2—Total tax liability at 1974-75 tax structure

estimate of elasticity of assessed income with respect to national income is more than 1 in the period 1954-55 to 1964-65 but is as low as 0·62 in the period 1965-66 to 1975-76. This indicates that between 1965-66 and 1975-76 the rate of growth of assessed income was much less than the rate of growth of national income or personal income. In the earlier period when the elasticity of tax yield with respect to the tax base was low, the tax base to national income elasticity was high and in the later period the former increased, but the latter fell considerably.

The elasticity of the tax yield with respect to national income or personal income, which is the product of the two component parts, was less than unity in both the periods.

TABLE III.3

Elasticity of the Tax Yield

Independent variable	1954-55 to 1964-65		1965-66 to 1975-76	
	Under 1972-73 tax structure	Under 1974-75 tax structure	Under 1972-73 tax structure	Under 1974-75 tax structure
National income	0·5266	0·6339	0·5626	0·5826
Personal income	0·5708	0·6859	0·5700	0·5902

The estimates of buoyancy are shown in Table III.4. The estimates of buoyancy of assessed income with respect to national income and with respect to personal income are greater than 1 in the period 1954-55 to 1964-65. One of the reasons for this is that the "exemption limits" for all categories of assessees decreased between 1954-55 and 1955-56 and did not change during the rest of the period. The "exemption limits" were raised on a number of occasions in the period 1965-66 to 1975-76. As a result, the ratio of assessed income to national income and personal income decreased during this period. Hence the buoyancy of assessed income with respect to national income and personal income was less than unity in the period 1965-66 to 1975-76.

TABLE III.4

Estimates of Buoyancy on the Basis of AIITS Data

Form of the regression equation	Form 1954-55 to 1964-65				From 1965-66 to 1975-76			
	a	*b*	R^2	*t*	*a*	*b*	R^2	*t*
log X= a+b log Y	—4·3436	1·1723	0·94	12·05	1·6909	0·5682	0·86	6·45
log X= a+b log Y_1	—5·1656	1·2697	0·94	11·74	1·6640	0·5765	0·86	6·56
log T= a+b log X	0·9942	0·5626	0·91	9·46	—4·5462	1·3467	0·97	14·29

X =Actual assessed income,
Y =National income,
Y_1=Total personal income,
T =Actual tax liability.

In the period 1954-55 to 1964-65, the buoyancy of the tax yield with respect to assessed income is higher than the elasticity estimated for the 1972-73 tax structure and lower than the elasticity estimated for the 1974-75 tax structure. The buoyancy in the period 1965-66 to 1975-76 is higher than the elasticities according to both the tax structures.

IV

DISTRIBUTION OF INCOME AND INCIDENCE OF INCOME TAX*

1. Distribution of Income

A progressive income tax structure leaves the distribution of income after tax less unequal than the distribution of income before tax. The difference in inequalities in income before tax and in income after tax is generally called the redistributive impact of the income tax structure. Such a redistributive impact depends on the effective tax rate and the progressivity of the income tax structure[17]. Inequality in income after tax depends on inequality in income before tax, besides the effective tax rate and the progressivity of the income tax structure (Kakwani, 1977). Also one of the alternative approaches to the measurement of progression requires the measurement of inequality in income before tax. Therefore, in a study of the effect of the income tax structure on the distribution of income it is necessary to know the nature of the distribution of income before tax. In this section, the distribution of income among the assessees in a few selected years is analysed. The distribution among the assessees of income from all sources taken together can be considered a resultant of the distributions of incomes from the different sources among them. Hence the distribution of income from each source is also analysed in this section[18].

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[17]It can easily be shown that, under a progressive income tax system, with given levels of income, if tax liability is doubled for all the individuals the share of individuals with lower levels of income in income after tax would increase.

[18]Detailed data on the distribution of income according to sources are available in *AIITS* since 1959-60.

The distribution of income in a few selected years is compared in order to study the changes in the concentration of income and in the progression of income tax over time. Concentration ratios are estimated from the data on assessed income for a few selected years. The concentration ratios or the Lorenz ratios do not clearly reveal the true nature of the difference between the compared distributions. It is necessary to supplement the Lorenz ratios with estimates of the distribution of income among the fractiles or the deciles of assessees. Lorenz ratios and fractile-wise distribution of assessed income are estimated for the years 1953-54, 1954-55, 1960-61, 1961-62, 1965-66, 1969-70, 1974-75, 1975-76 and 1976-77. Due to the change in the method of derivation of assessed income from gross income, the data on assessed income upto 1965-66 are not strictly comparable to the data for the subsequent years. Upto 1965-66, assessed income formed more than 99 per cent of gross income but later on the percentage decreased over time. So the gross income, and not the assessed income of later years, is comparable to the assessed income of the earlier years. The estimates of Lorenz ratios for assessed incomes are supplemented by a similar estimates of distribution of gross income for the years 1965-66, 1969-70, 1974-75, 1975-76 and 1976-77.

Individuals constitute 85 to 95 per cent of non-corporate assessees and account for nearly the same percentage of income under personal income taxation. Moreover, in terms of both the proportion of assessees and their share in total income the importance of "individuals" increased over time. However, income per assessee is the lowest for individuals and the proportion of assessees and share of income in the lower assessed income brackets is considerably higher in the case of individuals than in the case of other categories of assessees.

The Lorenz ratios and the distribution of income among the fractiles of assessees for the three categories—individuals, Hindu undivided families and, unregistered firms and other associations of persons—are estimated separately. Although individuals constituted at least 87 per cent of the total number of assessees in all the years from 1953-54 to 1975-76, it is necessary to analyse the distributions of Hindu undivided families and of unregistered firms and other associations of persons separately

for the following reasons. Each Hindu undivided family consists of at least two adult members who have the right to partition their property and pay taxes as individuals. Due to this reason, the exemption limit and the personal exemption for the Hindu undivided family were higher than those of individuals upto the assessment year 1974-75. In the Finance Act of 1974, the differences in exemptions were removed but a separate tax rate schedule was introduced for Hindu undivided families. The same set of "exemption limits" and marginal rates of tax as applicable to individuals are also applicable to unregistered firms and other associations of persons. But "salary", which is the major source of income for individuals, is absent in the list of sources of income of unregistered firms and other associations of persons. The distributions are likely to be different as a result.

As individuals constitute at least 87 per cent of assessees and account for more than 83 per cent of income in any year, the distribution of income among the assessees in this category only is analysed in this chapter.

The estimates of distribution of income among fractiles of assessees and Lorenz ratios for individual assessees are presented in Tables IV.1 and IV.2. But for minor increases in a few years, the Lorenz ratios estimated from the assessed income of individuals decreased over time. There is negligible difference between the Lorenz ratios of gross income and assessed income in the years 1965-66, 1969-70, 1974-75, 1975-76 and 1976-77, which means that the exemptions and deductions granted according to the Income Tax Act did not affect the relative positions of the assessees.

The distributions of gross income and assessed income among the deciles of "individuals" show that excepting for 1961-62, there was a tendency towards greater equality over the years. Except for a minor departure in 1961-62, the total share of the lowest three deciles increased and that of the top decile decreased over time.

For each type of assessee, the composition of gross income according to sources, in the five selected years 1965-66, 1969-70, 1974-75, 1975-76 and 1976-77 has been analysed. The relative importance of the different sources varies among the assessees

TABLE IV.1

Distribution of Assessed Income and Net Income of Individuals from 1953-54 to 1961-62

(Per cent of total)

Percentage of assessees	1953-54		1954-55		1960-71		1961-62	
	Assessed income	Net income	Assessed income	Net income	Assessed income	Net income	Assessed income	Net income
First 10 per cent	2·56	3·40	2·84	3·11	3·89	4·43	3·54	4·00
Second 10 per cent	3·49	4·28	3·54	4·26	4·38	5·02	4·27	4·98
Third 10 per cent	4·06	5·32	4·45	4·92	4·38	5·02	4·37	4·98
Fourth 10 per cent	4·92	5·96	5·00	5·93	4·69	5·15	4·68	5·08
Fifth 10 per cent	4·92	5·96	5·00	5·93	6·55	7·39	6·51	7·41
Sixth 10 per cent	5·35	6·56	5·53	6 42	6·55	7·40	6·50	7·44
Seventh 10 per cent	7·93	9·38	8·07	9·33	8·07	8·81	7·97	8·66
Eighth 10 per cent	9·39	10·88	9·44	10·44	10·26	11·20	10·22	11·19
Ninth 10 per cent	14·55	16·06	14·48	16·28	14·76	13·68	14·84	13·70
Top 10 per cent	42·83	32·19	41·64	32·88	36·46	31·90	37·10	32·60
Top 5 per cent	31·46	21·03	30·68	21·30	25·76	18·79	26·21	19·25
Top 1 per cent	15·38	7·89	15·37	7·64	10·74	5·75	10·93	5·96
Lorenz Ratio	0·494	0·402	0·479	0·390	0·422	0·355	0·430	0·375

Source : *All India Income Tax Statistics*

TABLE IV.2

Distribution of Gross Income, Assessed Income and Net Income of Individuals from 1965-66 to 1975-76

(Per cent of total)

Percentage of assessees		1965-66			1969-70			1974-75			1975-76		
		Gross income	Assessed income	Net income	Gross income	Assessed income	Net income	Gross income	Assessed income	Net income	Gross income	Assessed income	Net income
First	10 per cent	4·52	4·52	4·67	3·90	3·94	4·41	5·01	4·92	5·60	4·78	4·59	5·26
Second	10 per cent	4·78	4·78	5·24	4·53	4·56	5·28	5·29	5·27	6·15	5·15	5·17	5·97
Third	10 per cent	4·78	4·78	5·59	5·49	5·52	6·32	5·29	5·27	6·15	5·15	5·17	5·97
Fourth	10 per cent	5·28	5·28	5·93	5·49	5·52	6·32	5·29	5·27	6·15	6·41	6·34	6·89
Fifth	10 per cent	7·01	7·02	7·81	5·49	5·52	6·32	6·77	6·76	7·76	7·10	6·98	8·05
Sixth	10 per cent	7·01	7·02	7·81	7·13	7·16	7·66	7·42	7·40	8·70	7·62	7·50	8·05
Seventh	10 per cent	8·01	8·03	8·47	8·24	8·28	8·93	9·88	9·78	10·48	9·99	9·88	11·02
Eighth	10 per cent	10·17	10·18	10·96	10·65	10·71	11·53	10·77	10·64	12·30	10·10	10·00	11·39
Ninth	10 per cent	14·14	14·12	14·90	14·62	14·52	15·26	13·85	13·80	14·03	14·36	14·42	14·17
Top	10 per cent	34·32	34·27	28·62	34·45	34·27	27·97	30·43	30·89	23·68	29·33	29·94	23·22
Top	5 per cent	24·11	24·09	18·48	23·63	23·60	17·38	20·69	21·06	14·32	19·71	20·17	13·89
Top	1 per cent	10·74	10·77	6·26	11·47	9·84	5·76	8·62	8·90	4·12	7·78	8·00	3·96
Lorenz Ratio		0·383	0·382	0·325	0·397	0·391	0·324	0·341	0·345	0·270	0·331	0·338	0·265

Source : *All India Income Tax Statistics*

at different levels of income in a year and also it varies between years for assessees at any particular level of income. A knowledge of changes in the source-wise composition of income can be used to judge the effects on progression of statutory provisions relating to income from a particular source.

Gross income in every assessed income range is the sum total of incomes from the different sources in that range. So the nature of distribution of gross income depends upon the nature of distributions of incomes from the various sources.[19] The impact of the degree of inequality in the distribution of one type of income on the overall inequality depends upon the relative share of that type of income in total income. Salary, business and professions and "other sources" constitute the three important sources of income in terms of their respective shares in total gross income during this period. The share of these three sources together was more than 90 per cent of total gross income under the personal income tax in 1959-60, and since then their share steadily increased and in 1975-76 it exceeded 95 per cent of total gross income. Among these three sources the share of salary and that of income from other sources increased and the share of income from business and professions decreased between 1959-60 and 1976-77.

Among the different sources of gross income of individuals, the share of salary has been the highest since 1961-62. It constituted the major part of gross income of the lower 70 per cent of individual assessees in 1965-66 and of the lower 80 per cent in 1974-75. The proportion of salary income in the total gross income of the lower 70 per cent of individuals increased between 1965-66 and 1975-76. The data bring out another obvious fact, that is, salary becomes less important as one moves up the income scale.

As pointed out above, next in importance to salary are the two sources, "business and professions" and "other sources". The degree of inequality in the distribution of salary income decreased but that of income from business and professions and from "other sources" slightly increased between 1965-66

[19]See Annexure 1.

and 1969-70. (However, the inequality in the distribution of income from "other sources" and that of income from business and professions decreased between 1969-70 and 1975-76). The estimate of Lorenz ratio of total gross income decreased during this period mainly because of the significant fall in the degree of inequality in the distribution of salary income and the increase in its share in the total by 11 percentage points.

In every year the shares of property income, interest, dividends and capital gains were higher in the higher income levels. However, income from these sources constituted a very small proportion of gross income. For the top 1 per cent of assessees the share of property income and dividends in gross income decreased over the years, and against that the share of capital gains increased. Among these sources, the distribution of capital gains was the most unequal. The top 5 per cent of individuals received more than 80 per cent of capital gains income of all individual assessees taken together in 1965-66. The share of the top 5 per cent of assessees in total capital gains was more than 66 per cent in 1969-70 and more than 73 per cent in 1974-75. In terms of degree of inequality, dividend income comes after capital gains. The share of the top 5 per cent of assessees in the total dividend income of individuals was 60 per cent in 1965-66 and about 55 per cent in 1969-70 and 1974-75.

2. Redistributive Impact of Income Tax Structure

The redistributive impact of a tax structure can be measured as the difference between inequalities in the distribution of income before and after tax as measured in a particular manner. A progressive income tax makes the distribution of income net of tax less unequal than the distribution of income before tax. The way of measuring the change in the distribution of income due to tax—and hence the degree of progressivity of the tax structure —is to compare the Lorenz ratio of the distributions before and after tax. The estimates of Lorenz ratio of the distribution of income before tax (L) and that of the distribution of income after tax (L*) in respect of individual assessees are presented in Table IV.3.

It may be observed from column (1) in Table IV.3 that the Lorenz ratio of income before tax has decreased during the

TABLE IV.3

Lorenz Ratios and Estimates of Effective Progression for Individuals

Year	Lorenz ratios of assessed income L	Lorenz ratios of net income L*	Change in Lorenz ratio D=L—L*	Effective tax rate t	Progression P=C—L $=\frac{1-t}{t}.D$
	(1)	(2)	(3)	(4)	(5)
1953-54	0·4936	0·4018	0·0918	0·16	0·4819
1954-55	0·4788	0·3902	0·0886	0·18	0·4034
1960-61	0·4222	0·3546	0·0677	0·13	0·4529
1961-62	0·4301	0·3749	0·0551	0·13	0·3689
1965-66	0·3816	0·3255	0·0561	0·11	0·4541
1969-70	0·3914	0·3245	0·0669	0·14	0·4111
1972-73	0·3666	0·2869	0·0797	0·15	0·4516
1974-75	0·3455	0·2699	0·0756	0·15	0·4285
1975-76	0·3382	0·2675	0·0707	0·14	0·4247

period 1953-54 to 1975-76. This means that for a given tax structure the Lorenz ratio of income after tax should have decreased during this period. The Lorenz ratio of income after tax has in fact decreased over the period under consideration. Such a decrease is attributable to (*i*) decrease in the Lorenz ratio of income before tax, (*ii*) increase in the effective tax rate, and (*iii*) increase in the progressivity of the income tax structure over the period under consideration. The effect of the first factor on the Lorenz ratio of income after tax can be segregated from the effects of other factors. The redistributive impact (L-L*) which is a function of only two factors, namely, the effective tax rate and the progressivity of the tax structure is presented in column (3) in Table IV.3. This redistributive impact of the income tax structure does not show any systematic behaviour over time. The magnitude of redistribution has varied between 12 per cent and 22 per cent of the Lorenz ratio of income before tax. It has decreased during the period 1953-54 to 1961-62 and has increased

during the period 1965-66 to 1975-76. The redistributive impact of the tax structure has been higher in the years 1972-73, 1974-75 and 1975-76 than in any of the other years under consideration. To what extent this variation in income redistribution is attributable to changes in the effective tax rate and/or the progressivity of tax structure will be discussed in the next section along with the discussion on the incidence (progressivity) of the income tax structure.

It is not unknown that the Lorenz ratio is a summary measure and does not represent all the salient features of a distributon as fully as it may be desired. The same Lorenz ratio may be obtained from an infinite number of intersecting Lorenz curves, each of them representing a different pattern of distribution of income among the income ranges. A progressive income tax with a moderately high rate of tax for the top 10 per cent of assessees may reduce the Lorenz ratio by the same extent as another with higher rates of tax for the top 1 per cent of assessees and slightly lower rates of tax for the next 9 per cent of assessees in the top decile. So in any analysis based on Lorenz ratios, it is necessary to supplement the estimates of Lorenz ratios with schedules of distribution among deciles or fractiles of income tax assessees.

The estimates of shares in income before tax and in income after tax of different deciles of individuals are given in Tables IV.1 and IV.2.

The Lorenz ratio of income after tax in the year 1954-55 is slightly lower than that in 1953-54 even though the share of the top decile of assessees in net income (income after tax) is more in the former year. The lower value of Lorenz ratio in the year 1954-55 is due to the higher share of the lowest decile in the net income in that year than in the year 1953-54. This indicates that the income tax system was more favourable to the lower income assessees in the year 1954-55 although the redistributive impact of the tax structure is almost the same in both the years 1953-54 and 1954-55. Similarly, the lower Lorenz ratio of net income in the year 1961-62 than in the year 1953-54 can be explained in terms of the higher share of the two lowest income deciles even

though the share of the top decile is also higher in total net income in the former year. Lesser redistribution of income in the year 1961-62 than in the year 1953-54 is the result of a lower effective rate of tax on the income of the richest 10 per cent of individuals in the year 1961-62 than in the year 1953-54 which is evident from the tact that the income tax structure leaves the share of the top decile in net income as 32·19 and 32·60 per cent, while it formed 42·83 and 37·10 per cent of the assessed income in the years 1953-54 and 1961-62, respectively. This implies that the income tax system has been less harsh to the richer assessees in the year 1961-62 than in the year 1953-54. In other words, the benefits of changes in the tax system during this period largely accrued to the top 10 per cent of the assessees.

The top decile has a share of 34·27 per cent in assessed income in both the years 1965-66 and 1969-70, while its share in net income differed significantly being 28·62 and 27·97 per cent in the two years, respectively. This implies that the changes in the tax structure during the period 1965-66 to 1969-70 were unfavourable to the richest 10 per cent of the individual assessees. Looking into the shares of the lowest income decile in Table IV.2 it can be pointed out that the beneficiaries of changes in the tax structure during the period 1965-66 to 1969-70 were the individual assessees in the lowest income decile, unlike the beneficiaries of the changes during the period 1953-54 to 1961-62. It can be concluded that the changes in the income tax structure during the period 1953-54 to 1969-70 mainly affected the individual assessees in the lowest and the top deciles, while not affecting the middle deciles of assessees significantly. Further, it can be said that the changes during the period 1965-66 to 1969-70 rectified the diminished redistributive impact of the income tax structure during the period 1953-54 to 1961-62.

Changes in the income tax structure during the period 1969-70 to 1975-76 have further been favourable to the poorest 20 per cent of the individuals and unfavourable to the richest 20 per cent of the individuals. The other individuals who benefited marginally from changes in the tax structure during this period are those who fall in the fifth, seventh and the eighth deciles. Subsequently, the income tax structure has shown a significant increase

in its redistributive impact during this period as is evident from Table IV.3

3. Progressivity of Income Tax Structure

Various measure of progression (or ways of measuring the degree of progression) have been suggested in the literature. Among the important contributions on measures of progression are those of Pigou (1947), Slitor (1948), Musgrave and Tun Thin (1948), Dalton (1954), Jakobsson (1976) and Kakwani (1977). Which is the best or the proper measure of progression is still a matter of controversy (Bracewell-Milnes, 1974).

Since the primary purpose of introducing progressivity into the income tax structure is to reduce inequalities in income distribution, the progressivity of a structure could be judged in terms of the reduction in inequalities brought about by that structure. One way of judging the extent of reduction in inequaties is to compare Lorenz ratios of the distribution of income before and after tax. Thus, the difference in the progressivity of any two structures could be judged by comparing the changes in the Lorenz ratios brought about by the two structures. However, such a comparison does not give a definite indication, because a different answer is obtained when the absolute change is compared from that obtained when the proportionate change is compared. Thus the fall in the Lorenz ratio in one case from 0·5 to 0·4 and in another case from 0·6 to 0·5 will suggest that the two structures have the same degree of progression if the absolute changes, namely, 0·1 in both cases, is taken into account; but if the proportionate change is considered, the impact of the first structure (20 per cent change) would be shown to be greater than that of the second structure (16·7 per cent change).

Moreover, it is necessary to take into account also the distribution of tax liability among the assessees. Under a proportional tax system, the marginal and average rates of tax equal at all levels of income. Under a progressive tax system, the marginal rate of tax is higher than the average rate of tax at all levels of income above the exemption limit. Hence the ratio of the marginal rate to the average rate of tax will be greater than unity

at any level of income above the exemption limit, and the higher this ratio, the higher could be said to be the degree of progression.

The schedule of the ratios of the marginal rate to the average rate of tax at different levels of income is called "liability progression".

A summary measure of progression (P) suggested by Kakwani (1977) is the difference between the Lorenz ratio of distribution of tax liability (C) and that of distribution of income before tax (L). This measure has been chosen because with this definition of progression it is convenient to segregate the effects of changes in progression and in the effective tax rate on the redistributive impact of the income tax structure which has been and will continue to be one of the important aspects of a progressive income tax system. The redistributive impact of a tax system can be varied by changing the effective rate of tax while progression (as defined above) is held constant. This can simply be achieved by varying all the tax rates proportionately.

The earlier measure of progression put forward, namely, the difference between the Lorenz ratio of the distribution of income before tax and that of distribution of income after tax reflects the total redistributive impact of the tax which is the result of the combined effect of the progressivity of the tax structure and the levels of effective tax rates. Kakwani's measure of progression is superior to the extent that it enables one to separate out the elements of progressivity.

The estimates of the degree of progression and of effective tax rates in respect of individual assessees for a few years are presented in Table IV.3.

It seems that the progressivity of the income tax structure did not have a consistent pattern during the period under consideration. This is not at all surprising as there were frequent changes in the income tax system from time to time for one reason or another. Certain provisions introduced in a particular year might have nullified the progressivity achieved through the provisions introduced in the earlier year(s). Moreover, *ceteris*

paribus effective progression could have declined with the decrease in the Lorenz ratio of income before tax.

While both the effective tax rate and the progressivity of the income tax system did not show any systematic increase or decrease during the period under consideration, the extent of redistribution due to the progressive tax system is found to follow a trend. The redistributive impact declined during the period 1953-54 to 1961-62 and increased during the period 1965-66 to 1974-75. It seems that the erratic movements in effective tax rates and progressivity cancelled out each other leading to a trend in the income redistributive impact during these periods.

By looking at columns (3), (5) and (6) in Table IV.3, the redistributive impact of the income tax system can easily be explained in terms of variations in the effective tax rate and in the degree of progression. An increase (decrease) in the effective tax rate or the degree of progression would increase (decrease) the redistributive impact of a tax system as indicated above. Inspite of an increase in the effective tax rate the redistributive impact of the income tax system declined in the year 1954-55 due to a significant decrease in progression. Since then the redistributive impact further declined in the year 1960-61 even though the earlier degree of progressivity had been restored to a large extent. This further decline in the redistributive impact is attributable to the significant fall in the effective tax rate which could be due to the reduction in tax rates for the individuals in the lower income deciles or the marked reduction in the Lorenz ratio of the distribution of income before tax. It should be noted that the effective tax rate for the years 1960-61 and 1961-62 is the same while the redistributive impact is lower in the latter year which can be attributed to the decreased progressivity in the year 1961-62. Similarly, the redistributive impact in the year 1974-75 is lower than that in the year 1972-73 due to the lower progressivity in the former year. Further, a declining trend in the redistributive impact during the period 1972-73 to 1975-76 due to the declining trend in progression is also observed.

For the reasons given in an earlier section, the summary measure of progression used above should be supplemented by

information on the shares of the different deciles of individuals in total personal income tax liability and in total assessed income. Shares in income tax liability in the years 1965-66, 1969-70, 1974-75 and 1976-77 are presented in Table A.44. The percentage share of total tax paid by the top decile of individuals decreased from 77·76 in 1965-66 to 66·06 in 1976-77. While this marked decline in the share of the top decile has the effect of decreasing the Lorenz ratio of tax liability and hence the progressivity of the tax, the decreased share of the lowest decile has exactly the opposite effect. This decrease in the share in tax liability could result from either the decrease in the share in total income before tax or the decrease in the effective tax rate for these individuals. Further, it may be noted that the effective tax rates for the lower deciles (except the lowest decile) increased more than proportionately in the year 1969-70, and the effective tax rate for the top 5 per cent of the individuals decreased leading to a decrease in progressivity in the year 1969-70. During the period 1969-70 to 1975-76, although the share of the top decile in total tax liability decreased due to a fall in their share in total income, the effective rate of tax for this decile increased significantly leading to an increase in the degree of progression.

V

INFLATION AND THE INCOME-TAX STRUCTURE

1. The Scope

Inflation affects the income tax liability in a number of ways. Due to the inflationary rise in prices and wages the nominal incomes of a large number of persons and institutions rise and with a given tax structure becomes liable to tax at higher marginal rates. In a study of inflation and income tax, one would be interested to find out the effect of inflation on the effective rates of tax at comparable real income levels. This could be done by applying the same tax structure to the comparable (or equivalent) nominal income levels in different years. This type of exercise also reveals how far the discretionary changes in the tax structure could neutralise the effect of inflation on tax liability.

The distribution of income remaining unchanged, if the rate of growth of total personal income as well as the incomes of assessees in real terms is y and the rate of inflation is p, the income of assessees paying tax in the base year will rise at the rate $y+p$. With a general rise of money income at the rate $y+p$, the exemption limit remaining unchanged in nominal terms, income just below the exemption limit will cross the latter and become taxable. If the exemption limit is E, income in the range $E/(1+y+p)$ to E in the initial year will cross the exemption limit in the course of a year. So under these circumstances the total assessed income will rise at a rate higher than $y+p$. However, if with rising income the share of income earners below the exemption limit increases, the rate of growth of assessed income will be lower. A rate of growth of assessed income less than $y+p$, exemption limit remaining unchanged, indicates

a significant rise in the share of incomes below the exemption limit[20].

The rates of tax applicable to the assessees with real incomes higher than the exemption limit in the base year are affected by inflation. If there is no change in the tax structure, the tax liability of an assessee paying tax in the initial year increases under inflation mainly due to two reasons. First, the tax liability estimated at the rate applicable to the real income level has to be inflated by the price index. Secondly, as the nominal income after inflation moves to the higher marginal tax bracket, the effective rate of tax becomes higher (Aaron, 1976). There will be additional tax liability equal to the product of the difference of these two effective tax rates and the nominal income. At higher levels of nominal income, there can be further rise in the tax liability due to a third reason. The upper limits of the allowances and deductions are pecified in nominal terms. If the tax structure remains unchanged the provisions for deductions and rebates will also remain the same. For those assessees who are taking almost the full benefit of these rebates and deductions, the taxable income will be rising faster due to inflation. As a result, their taxable income will fall in the higher tax brackets. Thus the assessees will be pushed up to higher marginal tax rate brackets due to inflation.

There is a finite upper limit to the marginal rates of tax. The progressivity in the effective tax rates gradually decreases in the higher brackets, and particularly in the uppermost bracket. Assuming that no new assessees enter into the tax net, progressivity, defined as the difference between the Lorenz ratio of tax liability and the Lorenz ratio of assessed income will tend to fall as a result of inflation. This will happen because the Lorenz ratio of tax liability will decrease with any increase in the relative tax burden on the lower deciles of assessees. But, actually, due to inflation the incomes of a large number of persons will cross the exemption limit and become taxable. Assuming that the number of assessees gradually decrease as we move up the income scale,

[20]If total personal income (in real terms) is rising at the rate of y, this would imply that the total income of assessees as a whole is rising at a rate lower than y.

these new assessees will constitute a substantial proportion of the total number of assessees but will be liable to pay a very small proportion of total tax liability. This will tend to raise the Lorenz ratio of tax liability. If the Lorenz ratio of assessed income is not affected by the entry of these new assessees, the progressivity, as defined in this study, will have a tendency to rise. The overall effect on progressivity depends upon the relative shares of the assessees in the lower and the higher taxable income brackets in total assessed income.

The nominal incomes of the assessees increase also due to capital gains (Aaron 1976, Brinner 1976). In the absence of inflation capital gains would arise to a lesser extent. In order to study the effect of inflation on progressivity, the distribution of capital gains and their relative importance in the total assessed income should also be taken into account.

The effect of inflation on the size of assessed income, the distribution of the tax burden and the progressivity of the income tax can be studied, if the personal income tax structure remains unchanged over time. But in actual practice discretionary changes of varying orders of importance are introduced almost every year. As a result, tax structures of different years become different. Among the various reasons for changing the tax structure, one may be to neutralise the effect of inflation on the distribution of the tax burden.

One of the objectives of the present analysis is to find out the effect of statutory changes in the tax structure on the tax burden at comparable real income levels. For this purpose, the financial year 1960-61 is taken as the base year and the exemptions and rates of tax at equivalent real income levels in 1960-61, 1968-69 and 1973-74 are compared. Moreover, the effective rates of tax at 1960-61 tax structure, applicable to the equivalent income levels in 1960-61, 1968-69 and 1973-74 at 1960-61 prices are also estimated.

The second objective of this study is to estimate the effects of inflation on the distribution of the tax burden and on progressivity under a given tax structure. These estimates are derived on the assumption that the tax structure of the assessment year 1969-70 and alternatively that of 1974-75, existed in all the

years starting from the base year. The exercise is carried out on the basis of the data in *AIITS* of 1969-70 and 1974-75.

2. Statutory Changes

The tax structures of the financial years 1960-61, 1968-69 and 1973-74 are compared on the basis of certain assumptions about the assessees. The rates of tax are compared at a few selected levels of income at 1960-61 prices. The all India consumer price index numbers of urban non-mannual employees are used for converting incomes at current prices to incomes at constant prices. This price index was 161 in 1968-69 and 221 in 1973-74, taking 100 as the price index in the base year 1960-61.

This index number is the lowest of the three consumer indices for 1973-74 given in the *Economic Survey*, 1976-77 (Government of India, 1977). The consumer index for food was 279 and the general consumer index was 250 in 1973-74. Such indices for 1968-69, with 1960-61 as base, are not available. The price indices to be applied to the incomes of assessees in different ranges of income should strictly speaking be different. For example, food usually constitutes a larger proportion of the consumption basket of persons at lower levels of income. If food prices rise faster, the consumer price index applicable to the incomes of the assessees below the income level of Rs. 10,000 will have to be different from and higher than that applied to the incomes of the assessees with incomes above Rs. 1 lakh. So the deflators to be applied to the incomes of assessees in widely different ranges of income should strictly speaking be different. But, as the index numbers for specific income ranges are not available, the same deflator is used here in order to convert the nominal incomes of 1968-69 and 1973-74 in all the different income ranges into real incomes at 1960-61 prices. This limitation may be kept in mind.

The quantitative analysis of this section is based on the following assumptions :

(*i*) The assessees are individuals with a dependent spouse and two children;

(*ii*) Contractual savings constitute 10 per cent of total income;

(*iii*) Individuals with an income of Rs. 6,000 at 1960-61 prices could afford only bicycles as means of conveyance and those with an income of Rs. 10,000 at 1960-61 prices have motor cycles or mopeds or scooters as means of conveyance and those with an income of Rs. 20,000 and more have motor cars as their means of conveyance; and

(*iv*) With respect to house rent allowance two alternative assumptions are made. These are, either (*a*) individuals get house rent allowance at the maximum rate eligible for exemption according to section 10 (13 A) of the Income-tax Act or, (*b*) individuals do not get house rent allowance at all.

The exemption of house rent allowance according to Section 10 (13A) was introduced with effect from October 6, 1964. In the Finance Act of 1968 the distinction between the rates of tax applicable to earned income and unearned income was abolished. (In previous years a surcharge used to be imposed on unearned incomes above a certain level). Along with the removal of this distinction, deductions at specified rates were introduced for expenses incurred on conveyance for commuting to the place of work. In the following exercise about the rates of tax at comparable real income levels, only income tax rebates on contractual saving are taken into account for 1960-61. Deductions on contractual saving, deductions for conveyance expenditure and house rent allowance are taken into consideration in the calculation of the rates of tax in 1968-69 and 1973-74. The details about the relevant provisions on exemptions, rebates and deductions are given in Annexure 5.

The exemption limit for an individual with a dependent spouse and two children was Rs. 3,600 in 1960-61. With the consumer price index of 161 for 1968-69 with 1960-61 as the base, the equivalent of Rs. 3,600 in 1960-61 would be Rs. 5,796 in 1968-69. The personal exemption for an individual having a family size specified above was Rs. 4,800 in 1968-69. However, if the deduction for conveyance expense is included with the assumption that an individual at this level of income can only afford a bicycle as a means of conveyance, the total personal exemption in 1968-69 becomes Rs. 4,860. The maximum level of personal exemption applicable to assessees getting house rent

allowance at least at the rate of 20 per cent of total income would be Rs. 6,075 in 1968-69.

The special allowance for married persons according to the number of dependents was discontinued in 1970-71. The same exemption limit of Rs. 5,000 was applied to all assessees other than Hindu undivided families. With the consumer price index of 221 in 1973-74, with 1960-61 as base, the equivalent of Rs, 3,600 in 1960-61 was Rs. 7,956 in 1973-74. The sum of exemption limit and deduction for conveyance expense in 1973-74 was Rs. 6,222. The total of exemption limit, deduction for conveyance expense and house rent allowance for assessees getting house rent allowance at least at the rate of 20 per cent of total income was Rs. 7,000 in 1973-74. Thus, while from 1960-61 upto 1968-69 the exemption level was maintained at more or less the same real income level, it had been allowed to fall appreciably (by 12 per cent) in 1973-74.

The effective rates of tax under the 1960-61 tax structure applicable to certain selected levels of real income in 1960-61, 1968-69 and 1973-74 at 1960-61 prices are presented in Table V.1. These estimates give an account of the effect of inflation on income tax under the 1960-61 tax structure. The results conform to our expectation. The tax burden at every income level was increased due to inflation; but due to a finite upper limit to the marginal rate of tax, the percentage increase in the effective rates of tax at very high income levels is small in comparison to the percentage change in the effective rates of tax at the lower income levels.

Table V. 1

Effective Rates of Tax at Comparable Real Income Levels under 1960-61 Tax Structure

Income level at 1960-61 prices (Rs.)	1961-62	1969-70	1974-75
6,000	1·42	1·61	2·86
10,000	3·82	3·97	6·50
20,000	9·11	12·96	20·44
40,000	24·32	30·06	39·29
70,000	38·19	46·70	54·98
1,00,000	47·35	55·84	61·63
2,50,000	64·75	68·64	70·93

The rates of tax applicable to the assessees at those selected real income levels under the 1968-69 and 1973-74 tax structures are presented in Table V.2. The rates given under Type II were applicable to assessees who saved 10 per cent of their income as contractual saving and claimed deductions for conveyance expenses. The tax rates under Type I were applicable to those assessees who over and above the deductions taken into consideration in Type II, received house rent allowance at a rate of at least 20 per cent of income and were eligible for a deduction on this account.

TABLE V.2

Effective Rates of Tax at Comparable Real Income Levels under Different Tax Structures

Real Income at 1960-61 prices (Rs.)	1961-62	Effective rates of tax (Per cent)			
		1969-70		1974-75	
		Type I	Type II	Type I	Type II
6,000	1·42	2·51	4·71	3·05	6·03
10,000	3·82	4·76	8·06	7·37	11·63
20,000	9·11	11·43	15·84	21·91	26·60
40,000	24·32	31·32	35·01	45·64	48·98
70,000	38·19	46·57	49·00	69·99	65·13
1,00,000	47·35	54·77	56·50	70·71	72·08
2,50,000	64·75	68·45	69·19	85·22	85·86

It is noticed that the combined effect of inflation and increases in the marginal rates of tax resulted in substantial increases in the effective rates of tax (tax burden) at comparable real income levels between 1961-62 and 1974-75. The effective rates of tax at different income levels increased over time due to two reasons : (*i*) The marginal rates of tax in the latter year were higher than those in the earlier years in every income bracket and (*ii*) with inflation the nominal income levels moved to higher tax brackets. The marginal rates of tax on earned income in 1960-61 and on income (both earned and unearned) in 1968-69 and 1973-74 are given in *Annexure 5*.

3. Effect on Progressivity—Method of Analysis

In this section, we shall analyse, on the basis of *AIITS* assessment data, the effect of inflation on the progressivity of the tax

structure. Here the tax structures of the financial years 1968-69 and 1973-74 are respectively applied to the nominal incomes of these years which are equivalent in real terms at 1960-61 prices. A comparison of the actual tax liability with the estimated tax liability gives an idea of the effect of inflation on progressivity.

The all-India consumer price index for non-manual urban employees is again used for converting the assessed income data in 1969-70 and 1974-75 at current prices to assessed income at constant prices. (The assessed incomes in 1969-70 and 1974-75 were earned in the financial years 1968-69 and 1973-74, respectively). The limits of the assessed income ranges in *AIITS* of 1969-70 and 1974-75 are deflated by the respective index numbers.

The exemption limit for the Hindu undivided family was Rs. 7,000 and that for other types of assessees was Rs. 4,000 in 1969-70. In real terms an income of Rs. 4,000 in 1960-61 is equivalent to Rs. 6,440 in 1969-70 and an income of Rs. 7,000 in 1960-61 is equivalent to Rs. 11,270 in 1969-70. If it is assumed that generally the effect of the rise in the consumer price index due to inflation on real income was neutralised by the rise in the nominal incomes of the assessees, the nominal incomes of Rs. 11,270 and Rs. 6,440 of the two groups of assessees, respectively, in the assessment year 1969-70 should have been exempted from income tax.

In the assessment year 1974-75 the exemption limit for Hindu undivided families was Rs. 7,000 and the exemption limit for the other categories of assessees was Rs. 5,000. An income of Rs. 5,000 in 1960-61 is equivalent to Rs. 11,050 in 1973-74 and an income of Rs. 7,000 in 1960-61 is equivalent to Rs. 15,470 in the assessment year 1974-75. According to the same logic as mentioned above, the assessed incomes of the Hindu undivided families in the range of Rs. 7,000 to Rs. 15,470 and those of the other assessees in the range of Rs. 5,000 to Rs. 11,050 in 1974-75 would have fallen below the exemption limits if adjustments had been made for inflation (i.e., if they had been converted to 1960-61 prices).

The limits of an assessed income range in *AIITS* after deflation by the price index do not correspond to the limits of any

income ranges given there. On deflation a few of the income ranges fall completely within a bracket, and a number of the income ranges overlap on two consecutive brackets in *AIITS*. To the first type of deflated income ranges the effective rates of tax for the bracket in which the former is completely contained are assumed to be applicable. The effective rate of tax depends upon the nominal levels of exemption, deductions and the statutory rates of tax. The application of the effective rates of tax to the deflated income ranges implies that the nominal levels of exemptions and deductions are adjusted for inflation. These effective rates of tax are estimated for the respective income ranges from the data on assessed income and tax demand of each type of assessees in the *AIITS* of 1969-70 and 1974-75. For example, the range of Rs. 50,001 to Rs. 60,000 in 1969-70 on deflation by the index number 161 becomes Rs. 31,057 to Rs. 37,267. The latter range falls completely within the range of Rs. 30,001 to Rs. 40,000 in *AIITS*, so the effective rate of tax in this range is assumed to be applicable to the deflated range of income (Table A.25).

In the case of the income ranges which on deflation overlap on two consecutive income ranges in the *AIITS* a weighted average of the effective rates of tax applicable to these two ranges is taken. For example, the income range Rs. 40,001 to Rs. 50,000 in 1974-75 after deflation by an index number 221 becomes Rs. 18,101 to Rs. 22,624. A part of this range falls in the range of Rs. 15,001 to Rs. 20,000 and another part falls in the range of Rs. 20,001 to Rs. 25,000. The weighted average of the corresponding effective rates of tax of 12·03 per cent and 16·74 per cent, is taken as the estimated effective rate of tax applicable to the real income range equivalent to the range of nominal income of Rs. 40,001 to Rs. 50,000 in 1974-75. In order to determine the appropriate weights in the above case, the 1973-74 equivalent of Rs. 20,000 in 1960-61 is calculated, which is Rs. 44,200 with the price index of 221. From a Pareto distribution fitted to the data on number of assessees and assessed income for a particular category of assessees in 1974-75, the assessed income in the range of Rs. 40,000 to Rs. 44,200 is estimated. The ratio of this to the assessed income in the range of Rs. 40,001 to Rs. 50,000 is taken as the weight of the effective rate of tax in the range of Rs. 15,001 to Rs. 20,000. The difference of the above ratio and 1 is taken as

the weight of the effective rate of tax in the range of Rs. 20,001 to Rs. 25,000. In terms of these weights, 15·09 per cent is estimated as an average of 12·03 per cent and 16·74 per cent. These estimated effective rates of tax are shown in columns 4, 6 and 8 of Tables A.25 and A.26. These rates would hold for the real incomes in the corresponding income ranges shown in column 1 of these tables, adjusted for inflation.

Due to inflation the nominal incomes of the assessees increase and as such, these are subjected to higher marginal rates of tax. The effective rates of tax become higher as a result. Actual effective rates of tax are shown in Tables A.25 and A.26.

In the next stage the assessed incomes above the nominal income equivalents of the exemption limits at 1960-61 prices are taken. Capital gains are generally a product of inflation. In order to derive assessed income in the absence of inflation, the capital gains are subtracted from the total assessed income in every bracket. Lorenz ratios of assessed income net of capital gains above the adjusted exemption limits are estimated for every category of assessees in 1969-70 and 1974-75. The adjusted exemption limits are the nominal income equivalents of the exemption limits of Rs. 4,000 and Rs. 7,000 in 1969-70 and of the exemption limits of Rs. 5,000 and Rs. 7,000 in 1974-75 at 1960-61 prices. The tax liabilities in the different income brackets above the adjusted exemption limits are estimated at the rates of tax given in columns 4 and 6 of Tables A.25 and A.26. These figures, when deflated by the index number give the tax liabilities in 1960-61 prices. The difference between the Lorenz ratio of these tax liabilities and the Lorenz ratio of assessed income is taken as the estimate of progression after adjustments have been made for inflation.

4. Effect on Progressivity—The Findings

The analysis of the income tax data of 1969-70 and 1974-75 reveals that inflation increased the incidence of income tax mainly at the lower income levels.[21] In the absence of inflation

[21]Following a different method of analysis, Sunley and Pechman arrived at similar conclusions on the effect of inflation on the incidence of income tax at different levels of income. (Sunley, E.H. and Pechman, J.A. 1976).

TABLE V.3

Effect of Inflation on the Incidence of Income Tax

	1969-70			1974-75		
	Individuals	Hindu undivided families	Unregistered firms and associations of persons	Individuals	Hindu undivided families	Unregistered firms and associations of persons
1. Number of assessees (Thousand)						
(*a*) In the absence of inflation	996	43	20	600	23	11
(*b*) Actual	1713	88	28	2049	72	23
2. Assessed income (Rs. crore)						
(*a*) In the absence of inflation	1516	33	63	1252	71	48
(*b*) Actual	1915	141	69	2353	122	60
3. Effective rate of tax (Per cent)						
(*a*) In the absence of inflation	12	17	29	12	18	40
(*b*) Actual	13	18	30	14	22	41
4. Income per assessee (Rs.)						
(a) In the absence of inflation	15215	24417	31730	20861	31099	44571
(*b*) Actual	11812	16704	25421	12395	11767	28427

(*Contd.*)

TABLE V.3 (*Contd.*)

	1969-70			1974-75		
	Individuals	Hindu undivided families	Unregistered firms and associations of persons	Individuals	Hindu undivided families	Unregistered firms and associations of persons
5. Lorenz ratio of assessed income						
(*a*) In the absence of inflation	0·3614	0·3399	0·6335	0·3412	0·2881	0·5967
(*b*) Actual	0·3914	0·4154	0·6570	0·3455	0·4007	0·6302
6. Lorenz ratio of tax liability						
(*a*) In the absence of inflation	0·7838	0·7326	0·8819	0·7452	0·6664	0·8958
(*b*) Actual	0·8025	0·8426	0·8776	0·7740	0·7573	0·8989
7. Estimate of progression, P=C—L						
(*a*) In the absence of inflation	0·4224	0·3927	0·2484	0·4040	0·3783	0·2901
(*b*) Actual	0·4111	0·4272	0·2206	0·4285	0·3566	0·2697

less than 43 per cent of the total number of assessees in 1969-70 and less than 30 per cent of the total number of assessees in 1974-75 would have paid income tax. The remaining, more than 57 per cent of the assessees in 1969-70 and more than 70 per cent of the assessees in 1974-75, are in the lower income brackets and were brought under the income tax due to inflation.

The difference between the actual effective rate of tax and the estimated effective rate of tax that would have prevailed in the absence of inflation for comparable real income brackets increases with an increase in income at lower income levels and decreases with an increase in income at the higher levels (Tables A. 25 and A. 26). In the highest income bracket, that is, at the level of income above Rs. 5 lakh at current prices, there is very little difference between the actual effective rate of tax and the effective rate of tax which would hold in the absence of inflation. This implies that due to inflation not only more persons and institutions with lower real incomes than the exempt real income in the base year are brought under the tax, but also the assessees in the lower and middle income brackets are subjected to proportionately higher increases in the effective rates of tax than those in the upper income brackets.

There is a generally held view that due to the existence of a non-confiscatory upper limit to the marginal rates of tax the progressivity in income taxation decreases under inflation (Musgrave, R.A. 1973, Goode, R. 1976). This hypothesis will hold if the exemption limit was maintained in real terms and the limits of the upper income brackets remained unchanged in nominal terms. But, if the exemption limits are also kept constant in nominal terms the above hypothesis will not be essentially valid. Under this condition the incomes of a large number of persons and institutions will cross the exemption limit and enter the lower tax brackets. This will tend to increase the progressivity for reasons discussed earlier in this chapter.

Following the procedure in the earlier chapters, progressivity is measured by the difference between Lorenz ratios of tax liability and assessed income. In terms of this measure, it seems that for the assessees other than Hindu undivided families, the progressivity slightly decreased in 1969-70, whereas it

increased for the individuals and decreased for the other two categories in 1974-75, as a result of inflation. Progressivity is measured over the entire range of taxable income brackets. Due to inflation, the tax burden on the assessees in the lower income ranges increases, but simultaneously the incomes of a large number of persons and institutions cross the exemption limit and fall in the tax brackets immediately above the exemption limit. So the range of the effective rates of tax remains almost the same. Given the tax structure, the ultimate effect on the estimate of progressivity depends upon the nature of the distribution of assessed income.

It has been pointed out that under a given tax structure incomes of a number of persons originally below the exemption limit would cross that limit and become taxable as a result of inflation. Total assessed income would increase at a rate faster than the sum of the rate of growth of real personal income and the rate of increase of the price level if the real incomes of the existing assessees are rising at least as fast as real personal income. This would mean that the elasticity of the tax base with respect to national income rises under inflation. Moreover, our exercise with the assessment data shows that the actual rates of tax of the different categories of assessees under the 1974-75 tax structure were higher than what the rates would have been in the absence of inflation. This means that the average rates would have risen less in the absence of inflation. Generally, in the estimation of elasticity the effect of inflation is not separately shown. The above analysis shows that the estimate of elasticity for the period 1965-66 to 1975-76 under the 1974-75 tax structure would have been lower in the absence of inflation.

The assessed income increased at an annual rate of 10·86 per cent between 1961-62 and 1969-70. On neutralising the effect of inflation this rate of increase comes down to 4·72 per cent. The rate of increase of assessed income in nominal terms between 1969-70 and 1974-75 was 3·58 per cent. One of the reasons for this low rate of growth was that after 1966-67, as an increasing number of rebates were substituted by deductions, the ratio of assessed income to gross income gradually decreased over time. The gross income of the assessees increased at a rate of 4·05 per cent. The price level increased at an annual

rate of 6·35 per cent between 1969-70 and 1974-75. This shows that in real terms the gross income decreased at the rate of 2·48 per cent and the assessed income decreased at the rate of 2·95 per cent per annum during this period.

The rate of growth of assessed income at 1960-61 prices from 1961-62 to 1973-74, is insignificant. The annual rate of growth of net national product in real terms was 3·23 per cent between 1960-61 and 1973-74. Against that, the annual rate of growth of assessed income during that period, estimated on the assumption that the consumer price index was 221 in 1973-74 with 1960-61 as the base was 0·58 per cent. Moreover, this growth in assessed income is particularly due to the increase in the number of assessees. It follows that the real income of the "old" assessees increased at a rate lower than the average rate of growth of total assessed income i.e. 0·58 per cent. Also it would be reasonable to postulate that the assessed income of those in the upper income brackets would not have risen at much higher rates. Considering that the proportion of business income in total income is high in the upper income brackets and given the well established trend for income from business to increase much faster than other incomes during the periods of inflation, the *AIITS* data on the growth of assessed income would *prima facie* seem to indicate large scale evasion and avoidance.

During inflation, unless there is a built-in-mechanism for immediate upward revision of the wage rate, the share of wage in national income will decrease. Generally, the wage contract is revised after a time lag and the share of non-salary earners is expected to increase and that of the salary earners is expected to decrease as a result. However, income tax statistics of the period 1969-70 to 1974-75 do not conform to this hypothesis (Tables A.8 to A.14). This could be due to the higher rate of growth of salary earners than the rate of growth of non-salary earners and/or large-scale evasion and avoidance of tax on the non-salary incomes.

An analysis of the effect of inflation on the incidence of income tax leads us to conclude that inflation gave an upward bias to the estimate of elasticity. The elasticity of the personal income tax would be stable and at the same time higher if the scope of tax evasion and tax avoidance is greatly reduced.

VI

CONCLUSIONS

1. Role of the Personal Income Tax

The relative importance of the personal income tax as a source of revenue has gradually diminished over the years. To a large extent, this has happened because of the extension and multiplication of indirect taxes. Although the average annual rate of increase of personal income tax revenue is as high as 14·1 per cent over the period 1960-61 to 1975-76, its share in the total tax revenue of the Union Government has decreased from 18·4 per cent in 1960-61 to 16·0 per cent in 1975-76.

Among the direct taxes, the personal income tax was the most important source of revenue till 1975-76. At present it is only next to the corporation income tax in this respect.

The growth of personal income tax revenue, given the tax structure, depends directly upon the growth of taxable income and the change in its distribution. The size of the total gross income of income tax assessees increased from Rs. 1024 crore in 1961-62 to Rs. 3439 crore in 1976-77, indicating an average annual rate of increase of 8·4 per cent. The total number of assessees under the personal income tax increased from 10·4 lakh in 1961-62 to 21·5 lakh in 1976-77. In 1971, the total number of assessees constituted slightly more than 1 per cent of the total working population and less than 4 per cent of the working population in the non-agricultural sector. The buoyancy of taxes on income other than corporation tax was 1·20 over the assessment years 1961-62 to 1975-76. However, the estimate of elasticity for this period is less than 1.

In the following sections the major conclusions of this study and the policy implications to be derived from them are briefly presented. It is necessary to reiterate that much of the analysis is based on income tax assessment data published by the Directorate of Inspection (Research, Statistics and Publications), Income Tax Department and that these are subject to several important limitations.

2. The Assessees and the Sources of Income

Personal income tax assessees are divided into three categories—individuals, Hindu undivided families and, unregistered firms and other associations of persons. Among these three categories, individuals account for more than 90 per cent of the total assessments under the personal income tax. The share of individuals in total assessed income increased from 84 per cent in 1953-54 to 92 per cent in 1975-76[22]. The share of Hindu undivided families decreased from 11 per cent to 6 per cent and that of unregistered firms and other associations of persons decreased from 5 per cent to 2 per cent during the same period.

As of 1976-77, individual assessees who accounted for 92 per cent of the assessed income, paid 87 per cent of the personal income tax assessed. The personal income tax is, therefore, largely a tax on individual assessees.

The data on gross income are shown according to seven sources in *AIITS*. These sources are (*i*) salary, (*ii*) interest from securities, (*iii*) property, (*iv*) business and professions (*v*) dividend, (*vi*) capital gains and (*vii*) "other sources". Among these sources of income, salary, business and professions and "other sources"—such as fees of directors of companies and rent from properties other than house property—accounted for more than 90 per cent of the total gross income of the assessees under the personal income tax. Dividend and property income accounted for a very small proportion of total gross income in any year and their relative importance decreased over time.

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[22]In the discussion and analysis of assessment data, the years mentioned refer to assessment years.

Salary income as a percentage of total gross income varied between 32 and 37 during the period 1960-61 to 1971-72. This proportion suddenly rose to about 42 per cent in 1972-73 and to more than 44 per cent in 1974-75. The main reason for such a significant rise in the share of salary income in total gross income is the phenomenal increase in the number of assessees with salary incomes between 1971-72 and 1974-75. These assessees constituted 45 per cent of all assessees under the personal income tax in 1971-72, but increased to 54 per cent of all assessees in 1974-75. These were years of high inflation and many salary earners previously on the border line of exemption must have been brought into the tax net, because no upward revisions in the income tax exemption level were effected in spite of the rapid rise in prices. The share of salary income dropped to 37·5 per cent in 1975-76, because the standard deduction for salary earners was introduced with effect from April 1, 1975 and as a result the number of assessees with salary incomes decreased by about 1·86 lakhs between the assessment years 1974-75 and 1975-76. But the share of salary incomes again rose to 41·2 per cent in 1976-77.

For all sources except dividends and capital gains, income per assessee increased over time since 1960-61. Income per assessee under dividends and capital gains, but for minor variations, gradually decreased over the period 1959-60 to 1975-76. The period 1960-61 to 1964-65 was a period of fairly high rate of growth of national income with stable prices. *AIITS* shows that, during this period, the rate of growth of salaries was higher than the rate of growth of non-salary incomes. Salary constitutes the major part of gross income of the lower 70 to 80 per cent of assessees. An increase in the share of salaries in total gross income indicates that salary incomes increased at a faster rate than the gross income of all assessees during the period.

The period 1964-65 to 1968-69 was marked by a low rate of growth of national income and a fairly high rate of increase in the price level. Income per assessee under the three important sources of income—salary, business and professions and "other sources"—increased in this period. The fall in the rate of increase of salary incomes and the rise in the rate of increase of non-salary incomes during 1964-65 to 1968-69 resulted in a fall in the

share of salary from 36 per cent to 33 per cent and a rise in the share of income from "other sources" from 31 per cent to 33·6 per cent of total gross income. The share of income from business and professions remained almost constant in this period.

The rate of growth of national income revived moderately during the period 1968-69 to 1975-76, but it was combined with a high rate of inflation. The share of salary incomes in the total gross income rose significantly during these years. The share of business and professions in total gross income increased very little, but that of the "other sources" of income decreased significantly during this period.

3. The Distribution of Income and Incidence of Tax

The distribution of gross income among the individual assessees tended towards greater equality in the period studied. The estimate of Lorenz ratio of the distribution of gross income among the individuals decreased from 0·397 in 1969-70 to 0·331 in 1975-76. This fall in the Lorenz ratio can be explained by the change in the composition of income of the assessees in the different levels of income. On the one hand, the share of salary incomes in the total gross income of individuals increased from less than 37 per cent in 1969-70 to more than 40 per cent in 1975-76. Salaries constituted more than half of the gross income of the lower 70 to 80 per cent of individual assessees. The ratio of salary income to total gross income of the individuals in the lower income brackets increased in this period. On the other hand, the share of business and professions and "other sources" in total gross income, which accounted for more than 60 per cent of gross income of the top 10 per cent of individuals in any assessment year, decreased from 60·2 per cent in 1959-60 to 58·1 per cent in 1975-76. The share of these two sources further decreased to 54·6 per cent in 1976-77. Here it is necessary to point out that changes in the distribution of gross income of the assessees do not provide any idea about changes in the distribution of income in the country as such because with inflation new assessees come under taxation and with an upward revision of the exemption limit a certain number of people go out of the tax paying group.

Among the different sources of income, capital gains were most unequally distributed. In terms of inequity in distribution, dividends come next to capital gains. Since these two sources together constitute less than 2 per cent of total gross income, inequity in their distribution did not produce any considerable effect on the distribution of total gross income. However in order to improve the distribution of income net of tax, as far aspo ssible, deductions and allowances should not be granted in respect of capital gains and dividends.

The progressivity of the tax on individuals does not show any clear trend of increase or decrease. The effective rate of tax on individuals remained more or less unchanged between 1953-54 and 1974-75. From this, one can infer that the changes in the distribution of income after tax reflected the changes in the distribution of income before tax rather than the changes in the progression of the tax structure during this period.

Due to progression in the rates of tax the concentration of net income was less than the concentration of gross income. The Lorenz ratio of the distribution of gross income was 0·383 and that of net income was 0·325 in 1965-66. The difference, *viz.*, 0·058 gives an idea of the impact of the tax. The difference between the Lorenz ratio of gross income and that of net income increased from 0·058 in 1965-66 to 0·071 in 1974-75. (The Lorenz ratio of the distribution of gross income was 0·341 and that of net income was 0·270 in 1974-75.) This difference slightly fell and was 0·066 in 1975-76. (The Lorenz ratio of thedi stribution of gross income was 0·331 and that of net income was 0·265 in 1975-76.) This indicates that the efficiency of the personal income tax in reducing the concentration of income among the assessees only marginally increased in course of time.

As the assessed income is gross income less deductions, the difference in the nature of distributions of gross income and assessed income depends upon the distribution of deductions. One would perhaps expect that the various deductions should benefit the assessees at the lower levels of income more than those at the upper levels. But, since the deductions are granted in order to encourage the activities of savings and investment in selected

areas and the ability to save and invest is not (proportionately) equal for assessees at every level of income, there is a common fear that the deductions would favour the assessees at the higher income levels. In such a case, the distribution of gross income would be more unequal than the distribution of assessed income. The empirical exercises carried out by us show that all along the deductions were largely neutral with respect to the distribution of income. The Lorenz ratios estimated from gross income and assessed income differ very little and the differences do not show any tendency in any direction over time (Table III. 2). A comparison of the fractile-wise distribution of deductions with that of gross income for 1974-75 and 1976-77 shows that the former was less unequal in nature (Table A. 27).

Our finding does not, of course, invalidate the argument that if incentive provisions under the income tax, for stimulating savings and investment, take the form of straight deductions with a fairly high ceiling, the tax benefits are likely to be regressively distributed, because the relief will be given at the marginal rate. This argument is based on the assumption that the upper income groups would fully avail themselves of the deductions. It appears from our finding that they have not done so.

4. Elasticity

The elasticity of income tax revenue with respect to national income is measured as the ratio of the relative change in income tax revenue to the relative change in national income under a given tax structure. If the ratio of income tax revenue to national income rises over the years the elasticity will be greater than 1 and if that ratio decreases over the years the elasticity will be less than 1. The elasticity will be just equal to 1 if the ratio of income tax revenue to national income remains constant over time.

The elasticity of the personal income tax with respect to national income depends upon the progressivity in the tax structure and the changes in the distribution of income over time. A number of analytically significant conclusions about the nature of relationship between elasticity and its determinants have

been derived in this work. The most important of them are as follows :

(*i*) Under progressive taxation the elasticity of the tax yield with respect to taxable income will be greater than 1 if the inequality in the distribution of income increases or remains constant. The elasticity may be less than unity if the inequality decreases over time.

(*ii*) Under a proportional tax structure, the elasticity of the tax yield with respect to the tax base is equal to unity. The deviation of elasticity from 1 increases with increasing progressivity in the tax structure. This implies that if the elasticity is less than 1, it cannot be increased by increasing the progressivity in the tax structure.

The estimate of elasticity of the personal income tax with respect to national income in India lies below 1. An elasticity of less than unity of the income tax follows from the decreasing trend in the effective rates of tax on total taxable income. Under a given tax structure the effective rate of tax can decrease over time as a result of increasing equality in the distribution of taxable income. *AIITS* shows that the distribution of taxable income tended towards a greater degree of equality as a result of an increase in the share of salary in total gross income. Non-salary income, particularly profits from business and profession and income from "other sources", constitute the major portion of gross income of the assessees in the upper income brackets. So with a rise in the share of non-salary income inequality in the distribution of income would have increased and the elasticity of the income tax would have exceeded 1. The data further show that the share of salary income increased particularly during the period of high inflation. Such a phenomenon is contrary to the general expectation. If this is taken to indicate an increase in tax avoidance and tax evasion during inflation, the appropriate policy measure for increasing the elasticity would be plugging loopholes in the tax administration rather than a change in the degree of progressivity.

5. Inflation and Income Tax

The price level in India has been rising continuously. Inflation raises the income level in nominal terms. As a result of this, the

assessees are shifted to higher income brackets and are subjected to higher rates of tax. Moreover, due to inflation the incomes of a large number of income earners cross the exemption limit and become taxable. The total number of assessees increases as a result.

The statutory level of exemption limit was revised upwards and the rates of tax were changed by the Finance Acts on a number of occasions since 1961. Besides these, the level of deductible income under different provisions was revised upward and new provisions for deductions were introduced from time to time. But an analysis of these statutory changes shows that these upward revisions of the exemption limit and the deductions did not fully neutralise the effect of inflation on taxable income. A significant proportion of the total number of assessees came under the tax as a result of inflation.

Since there is an upper limit to the marginal rate of tax, incomes in the uppermost slab cannot become subject to further higher rates of tax due to inflation. Only incomes in the lower tax brackets move up to higher brackets and come under higher tax rates. Inflation thus increases the incidence of tax on the existing assessees in the lower income ranges and the income range immediately above the exemption limit is filled up by new assessees. The distribution of tax liability may not be affected as a result. The progressivity in the tax structure depends upon the distribution of tax liability among the whole set of taxable income ranges extending from the lowermost to the uppermost ones. As such the estimate of progressivity is not essentially affected by inflation. This is also brought out by the results of our empirical exercise given in Table V.2.

The proportionately greater increase in the tax burden on assessees in the lower income tax brackets as a result of inflation, can be neutralised by inflation indexing. Indexing of the items considered as cost of earning which are specified in fixed amounts can be justified. But inflation indexing also suffers from a number of limitations. The most serious limitation is that the inflation indexing reduces stabilizing effect of the income tax structure.

Complete inflation indexing requires raising of the exemption limit and the bracket limits by the rate of increase of cost of living index number. But on the other hand, there is the argument that in a country in which one per cent of the total working population pay income tax, the exemption limit should not be raised any further.

6. Some General Issues

An examination of the relative rates of growth of national income, total gross income of income tax assessees, total salary income assessed to tax and total non-salary income assessed to tax reveals a number of interesting facts. In order to study the difference in the rates of growth of the above categories of income, in the context of inflation, we focus our attention on the situations in three specific periods. These are the assessment years 1961-62 to 1965-66, 1965-66 to 1969-70 and 1969-70 to 1975-76.

Among these three periods, the rates of growth of national income and income in the non-agricultural sector were the highest in the financial years from 1960-61 to 1964-65, which correspond to the assessment years from 1961-62 to 1965-66. The rates of growth dipped to a low level in the financial years 1964-65 to 1968-69 (i.e., the assessment years 1965-66 to 1969-70). During the last period the growth rates revived, but were not as high as that in the first period.

In terms of the wholesale price indices of all commodities taken together and non-agricultural commodities separately, it is found that among these three periods the rate of inflation was the lowest in the first and, the highest in the third period.

The rate of growth of personal income at current prices was around 10 per cent over the period 1960-61 to 1968-69 and the rate of growth of gross income assessed to tax was above 9 per cent during the same period. The data on personal income from the non-agricultural sector are not available, but on the basis of the decreasing share of agriculture in net domestic product at factor cost, it can be said that the rate of growth of personal income in the non-agricultural sector was slightly higher than that of total personal income. A lower rate of growth of gross income assessed to tax than that of personal income would imply

that the share of income tax assessees in personal income in the non-agricultural sector was decreasing and the distribution of income between the income tax paying class and the rest of the non-agricultural population was tending towards a greater degree of equality. The rate of growth of personal income exceeded 12 per cent during the period 1968-69 to 1974-75. The rate of increase of the wholesale price index of all commodities as well as that of the non-agricultural commodities was nearly 11 per cent during this period. Against these, the rate of increase of the gross income of income tax assessees was only 5 per cent during the same period.

Out of total gross income, salary income assessed to tax increased at a rate of more than 7 per cent from 1964-65 to 1974-75. The rate of increase of the remaining part of gross income, which may be called non-salary income, was more than 10 per cent from 1964-65 to 1968-69 but it went below 4 per cent in the next period. Unless there is escalation of wages and salaries according to the rise in the cost of living index, non-salary income can be expected to increase at a higher rate than salary income during periods of high inflation. The trend of observations from 1968-69 to 1975-76 contradicts such an expectation. The rate of increase of non-salary income (in nominal terms) became extremely low when the inflationary forces were particularly strong in the economy. The data show that in real terms the non-salary income of the assessees decreased at a rate of 2·4 per cent between 1969-70 and 1974-75.

The rate of growth of non-salary income assessed to tax could have fallen if, through changes in the Income Tax Act, a larger amount of allowances or exemptions were granted on non-salary income during the period 1968-69 to 1975-76. But actually such was not the case. On the contrary, detailed provisions for exemption were introduced in 1968-69 in respect of the cost of conveyance incurred by salary earners for travelling to place of work and this would have certainly tended to reduce gross salary income assessed to tax in subsequent years. But a low rate of increase of non-salary income during this period cannot be explained by legal erosion of the tax base.

An alternative possibility is that the additional income of non-salary earners arose mainly in the form of accrued capital

TABLE VI.1

Annual Compound Rates of Increase

(Per cent)

	1960-61 to 1964-65	1964-65 to 1968-69	1968-69 to 1974-75
1. National income (at 1960-61 prices) (Net domestic product at factor cost)	4·69	1·64	2·87
2. Personal income (at current prices)	10·69	9·75	12·41
3. Non-agricultural income (at current prices)	11·10	9·98	12·83
4. Non-agricultural income (at 1960-61 prices)	6·84	3·33	3·82
5. Wholesale price index—all commodities	5·15	7·85	10·86
6. Wholesale price index—non agricultural commodities	4·49	7·35	10·95
7. Gross income of tax assessees	9·19	9·37	5·10
8. Total salary income assessed to tax	11·56	7·18	7·20
9. Total non-salary income assessed to tax	7·97	10·56	3·97

Sources : Items 1, 4 and 5 are calculated on the basis of *National Income Statistics* 1960-61—1974-75.
Items 2 and 3 are calculated from the data in Tables 5 and 2, Government of India. *Economic Survey*, 1968-69 and 1976-77.
Items 6, 7 and 8 are calculated from *AIITS* data.

gains. As realised capital gains are found to constitute an insignificant part of total gross income in *AIITS*, it is difficult to assume that the increase in accrued capital gains could account for most of the increase in non-salary income due to inflation. Between 1964-65 and 1966-67 an equity share holder was liable to pay income tax on the notional capital gains accrued to him when he was allotted a bonus share. This was discontinued from the next year and it was provided that the liability for tax would arise only when the capital gains were realised. This change in the tax law could not be expected to have made any significant difference in the tax base, because, except for 1967-68, in all the other years from 1953-54 to 1975-76, capital gains constituted

less than one per cent of total gross income (In 1967-68 it was only 1·14 per cent).

The third possibility that could explain a very low rate of growth of non-salary income during a period of extremely high inflation is that the rate of evasion increased and some of the fruits of inflation were taken away in illegal ways during the period 1968-69 to 1975-76.

Income distribution among the assessees showed a tendency towards greater degree of equality from 1968-69 to 1975-76. The exemption limit was revised upward in this period, but this revision was not sufficient to neutralise the effect of inflation. As a result, the number of assessees and assessed income in the lower income brackets increased at a faster rate. The relative share of assessed income in the lower income brackets increased and the estimate of Lorenz ratio of the total income of the assessees tended to fall. The *AIITS* data also show that as the share of salary income in total gross income increased as a result of the higher rate of growth of salary income, the share of salaries in total gross income of the lower 50 per cent of the assessees also increased. So it is not only that during the period of high rate of inflation the share of salary income in total gross income increased, but also that the share of assessees in the lower income ranges increased at a slightly higher rate than the share of the assessees in the upper income ranges. The data would lead us to believe that non-salary earners in the higher income ranges not only failed to take advantage of the high rate of inflation but also suffered from a significant fall in real income. Thus, *AIITS* does not substantiate the hypothesis that non-salary earners gain more than salary earners during inflation. If this hypothesis is generally valid, the obvious conclusion will be that the rate of evasion among the non-salary earners in high income ranges became particularly significant during 1968-69 to 1975-76.

As a result of inflation the incidence of tax in the lower income brackets rises proportionately more than that in the upper income brackets. Moreover, if avoidance and evasion are high in the upper income brackets, actual incidence in the upper income brackets would decrease, instead of increasing, as a result of inflation. This will on the one hand reduce the

effective rate of tax and on the other, reduce the progressivity of the tax structure. The total revenue as well as the income-elasticity of income tax is depressed as a consequence.

The estimate of elasticity of the personal income tax with respect to national income over the period 1961-62 to 1975-76 is less than 1. The slow tendency of the inequality of the distribution of assessed income to decrease over time is consistent with the above estimate. The inequality in the distribution of assessed income decreased due to a rise in the share of salary in total gross income of the assessees. Salary constitutes the major share of gross income of the lower 50 to 60 per cent of assessees. The share of salary in gross income was found to increase particularly in a period of high inflation. The rate of growth of non-salary income of the assessees in real terms was found to be negative over the period 1968-69 to 1975-76. Usually, in the absence of any arrangement for automatic upward revision of wages and salaries, the share of non-salary income rises during inflation. The opposite tendency indicated by the data in *AIITS* can be explained by an increase in the rate of tax evasion and tax avoidance during the inflationary period. Our analysis further shows that the elasticity would have been still lower in the absence of inflation. In a situation of price stability, the elasticity of personal income tax would be higher and also more stable if the rate of tax evasion and tax avoidance is greatly reduced.

7. Improvements in the Presentation of Income Tax Data

The *AIITS* in order to be more useful for purposes of economic analysis should be improved along the following lines :

(*i*) The arrear assessments and the current assessments should be given separately for the all-India statements 3A, 3B, 5, 5A, 5E and 6 in *AIITS*.

(*ii*) As soon as the assessments relating to a year reach 90 per cent or so, the data according to the above all-India statements pertaining to that particular assessment year should be published again. This may come with delay. However, if the data could be made available in this way, they would serve as the basis of

meaningful analysis. Such an improvement has been effected recently since the study was completed.

(*iii*) Gross income data should include as much of total net receipts as possible. Sometimes it is argued that legally the assessees cannot be compelled to report income on items which by law do not form part of gross income and are listed under section 10 of the Income Tax Act. The simple remedy would be to remove some of the items from section 10 and put them in other appropriate places. Thus items under section 10(5) and 10(13A) can be placed under section 16 and items under section 10(15) can be put under section 80L.

(*iv*) The complete data on allowances granted as exemptions and deductions should be presented in *AIITS* according to the gross income ranges. The loss set-off should be specified after the data on gross incomes. The exemptions and deductions granted as cost of earning under sections 10(13A), 16, 19, 24 etc. should come next. The deductions under sections 10(15), 80C and 80(L), which are granted according to the sources of income or the uses of income for promoting particular types of saving, investments and expenditure should be presented after the cost of earnin g.

(*v*) In order to trace the changes in the gross income of an assessee above the gross income level of Rs. 50,000 (say) and also the benefits derived by him from different provisions of deductions and allowances over time, a more detailed account of these assessees should be maintained at the Head Quarters of the Income Tax Department. Such information should be computerised and preserved in tapes or discs.

Annexure 1

DECOMPOSITION OF THE LORENZ RATIO*

The gross income of an assessee is the sum total of his incomes from the different sources. The inequality in the distribution of gross income is the resultant of the inequalities in the distributions of incomes from these sources.

If the data on gross income and its components (*i.e.*, incomes from different sources) are arranged against the distribution of assessees according to assessed income, the proportion of income from a source going to a fractile of assessees can be estimated. As the fractiles of assessees are related to the distributions of incomes from the different sources, these distributions are comparable among themselves as well as with that of the aggregate income.

If the share of income from a source increases over the fractiles of assessees arranged according to assessed income, a simple relationship will hold between the estimate of the Lorenz ratio of gross income and certain estimates of inequalities in the distributions of incomes from the different sources. These estimates of inequalities in the distributions of incomes from the different sources are analogous to the Lorenz ratio, but they are not Lorenz ratios, strictly speaking. These estimates are derived by applying the method of estimation of the Lorenz ratio to the data on the distributions of incomes from the different sources among all the assessees arranged according to their assessed incomes.

Let L be the estimate of the Lorenz ratio of gross income; Ls Lr, Lp, Lb, Ld, Lc and Lo be the estimates of inequality in the distributions of salary income, interest income, property income, income from business and professions, dividend income, capital

*This is derived by Pawan K. Aggarwal

gains, and income from the "other sources", respectively; and let s, r, p, b, d, c and o be the shares of incomes from these different sources in total gross income, respectively. $(s+r+p+b+d+c+o=1)$.

Then, $L=sLs+rLr+pLp+bLb+dLd+cLc+oLo$..... (1)

If the Lorenz ratio is estimated by the quadrature method,

$$L=1-\sum_{i=1}^{k} P_i \ (Q_i+Q_{i-1})$$

where k is the number of income brackets, P_i is the proportion of population in bracket i and Q_i is the cumulative proportion of income up to bracket i, and $Q_o=o$.

The above formula can also be written as,

$$L=1-\frac{1}{NY}\sum_{i=1}^{k} n_i \left[\sum_{j=1}^{i} Y_j+\sum_{j=1}^{i} Y_{j-1}\right]$$

where N is the total population, Y is the total income, n_i is the number of persons in bracket i, Y_j is the income in bracket j and $Y_o = o$.

Note that, $Y=S+R+P+B+D+C+O$ and

$Y_j=S_j+R_j+P_j+B_j+D_j+C_j+O_j$

where S, R, P, B, D, C and O stand for incomes from the salaries, interest, property, business and professions, dividends, capital gains and "other sources", respectively. These notations with subscript j show the incomes of the assessees in the income bracket j.

If the inequalities in source-wise income are defined analogous to Lorenz ratio such as

$$L_s=1-\frac{1}{NS}\sum_{i=1}^{k} n_i \left[\sum_{j=1}^{i} S_j+\sum_{j=1}^{i} S_{j-1}\right] \text{ i.e.,}$$

$$sL_s = s - \frac{1}{NY} \sum_{i=1}^{K} n_i \left[\sum_{j=1}^{i} S_j + \sum_{j=1}^{i} S_{j-1} \right]$$

then, $sL_s + rL_r + pL_p + bL_b + dL_d + cL_c + oL_o$

$$= (s+r+p+b+d+c+o) - \frac{1}{NY}.$$

$$\sum_{i=1}^{K} n_i \left[\sum_{j=1}^{i} (S_j + R_j + P_j + B_j + D_j + C_j + O_j) + \right.$$

$$\left. \sum_{j=1}^{i} (S_{j-1} + R_{j-1} + P_{j-1} + B_{j-1} + D_{j-1} + C_{j-1} + O_{j-1}) \right]$$

$$= 1 - \frac{1}{NY} \sum n_i \left(\sum_{j=1}^{i} Y_j + \sum_{j=1}^{i} Y_{j-1} \right)$$

$$= L$$

Hence the relationship (1)

Annexure 2

SOME PROPOSITIONS ON ELASTICITY

Proposition 1 : If the liability progression remains unchanged, P = (C—L)remains unchanged for every given L (where C is the Lorenz ratio of the distribution of tax liability among the assessees and L is the Lorenz ratio of the distribution of assessed income).

Proof : If every marginal rate of tax m_t of a tax structure is multiplied by some positive value k, the tax liability of all the assessees gets multiplied by the same value k and the liability progression remains unchanged.

For every given L, C also remains unchanged under this condition; hence P remains unchanged.

Proposition 2 : Two tax structures with same P, the only difference between these structures being that the marginal rates of tax in one tax structure are constant multiples of the marginal rates of tax in the other tax structure, give rise to the same value of elasticity of the tax revenue with respect to the tax base.

Proof : If the marginal rates in one tax structure are k times the marginal rates of another tax structure, k being always positive, then for any given L, the P of the two structures will be equal.

Let the total tax liabilities in year 1 and year 2 according to a tax structure be T_1 and T_2, respectively. The total tax liabilities in the respective years after k times change in the marginal rates will be KT_1 and KT_2. Given the rate of change of assessed income between these two years, the elasticity will be the same under these two tax structures.

Proposition 3 : The absolute difference between the elasticity of the tax yield with respect to the taxable income and 1 increases with increasing liability progression.

Sketch of proof : Let e be the elasticity of the tax yield with respect to the tax base, and e_A be the elasticity of the average or the effective rate of tax with respect to the tax base, then, $e = 1+e_A$.

e_A will be positive if the effective rate is rising over time and will be negative if the effective rate is falling over time. Given the tax structure, the effective rate will be rising over time, if the distribution of taxable income tends towards greater inequality; the effective rate will be falling if the inequality in the distribution of taxable income decreases over time.

Under higher progressivity, as the inequality in the distribution of taxable income changes in one direction over time, the rate of change in the effective rate of tax will be higher in absolute terms. So, under higher progressivity, the absolute magnitude of e_A will be higher, and $|e-1|$ will rise.

Annexure 3

ESTIMATION OF ELASTICITY OF INCOME TAX FROM THE BUDGET DATA

The income elasticity of taxes on income other than corporation tax is estimated for the period 1961-62 to 1975-76. The data on revenue from this head from 1961-62 onward are not comparable to those of the previous years. The year 1974-75 is taken as the base year for cleaning the series of revenue from taxes on income other than corporation tax. Under the method of proportional adjustment the elasticity is not affected by the change of the base year (Chelliah, R.J. and Chand, S.K. 1974). The change of the base year would only change the intercept of the loglinear equation fitted to the data on tax revenue and national income.

Here, the data on revenue from taxes on income other than corporation tax are adjusted, according to the proportional adjustment method, in the following manner. The data on additional revenue from the discretionary changes are given in column 2 in Table A.24. These figures are multiplied by the ratios of actual total revenues to the budget estimates of total revenue, in the corresponding years. Thus, we get the estimates of adjusted additional revenue from the discretionary changes. If $T_1, T_2, \ldots,$ T_n are the data on actual revenue in the years 1, 2, ..., n and $d_1, d_2, \ldots\ldots, d_n$ are the estimates of the adjusted additional revenue in the corresponding years, then the adjusted total revenue in the different years (T_1') will be,

$$T'_n = T_n, \quad T'_{n-1} = T_{n-1} \left(1 + \frac{d_n}{T_n - d_n}\right)$$

$$T'_{n-2}=T_{n-2}\left(1+\frac{d_{n-1}}{T_{n-1}-d_{n-1}}\right)\left(1+\frac{d_n}{T_n-d_n}\right)$$

$$\vdots$$

$$T'_1=T_1\left(1+\frac{d_2}{T_2-d_2}\right)\cdots\left(1+\frac{d_n}{T_n-d_n}\right)$$

A loglinear regression equation is fitted to the adjusted series of revenue and the net national product at market prices; the coefficient of net national product gives the estimate of elasticity. An estimate of buoyancy is also made from the unadjusted data on revenue from taxes on income other than corporation tax and net national product at market prices.

Annexure 4

ADJUSTMENTS IN DATA FOR ESTIMATING ELASTICITY

The assessed income is adjusted for the variation in "exemption limit" in the following manner. The "exemption limit" of the assessees other than the Hindu undivided families was lower than Rs. 5,000 in all the years prior to 1971-72 (see Table A.23). In *AIITS* the first assessed income range lies below the "exemption limit" and as such it consists of income of only the non-resident assessees[1]. The total assessed income of the assessees in the ranges above Rs. 5,000 is taken every year prior to 1971-72. To this is added the amount of the assessed income in the range zero to the exemption limit in the respective years which is taken as the income of the non-residents.

The "exemption limit" for the Hindu undivided families was more than Rs. 7000 up to 1957-58 and it was less than Rs. 7,000 from 1958-59 to 1967-68. In the *AIITS* the data are presented according to the assessed income ranges. Among the income ranges one particular range is from Rs. 5,000 to Rs. 10,000. The statutory exemption limit for Hindu undivided families falls between these limits in every year excepting the last year of our study. In order to eliminate the effects of the variations in exemption limit over the years, Pareto distribution function has been fitted separatily, for every year, to the assessment data on the Hindu undivided families with assessed incomes above Rs. 10,000. These Pareto distributions are then extended downwards to the level of Rs. 7,000. In every year, the estimate of

[1]Till 1965-66 the rate of tax for the non-resident assessees was determined according to their total world income. Since 1966-67, this is determined according to the total income of the assessee arising in India.

the assessed income of Hindu undivided families in the range Rs. 7,000 to Rs. 10,000 derived from the Pareto distribution is added to the total assessed income of the Hindu undivided families with incomes above Rs. 10,000. To this has to be added the assessed income of the non-resident Hindu undivided families having income below the "exemption limit". Assessed incomes in the range zero to Rs. 5,000 is taken to belong to the non-residents. Assessed income of the non-residents in the range Rs. 5,000 to the "exemption limit" is estimated in the following manner. Assuming that the assessed income is proportionately distributed in the range Rs. 5,001 to Rs. 10,000, the assessed income in that range is multiplied by the ratio of the width of the range Rs. 5,000 to the exemption limit to the width of the range Rs. 5,001 to Rs. 10,000.

The adjusted assessed income of Hindu undivided families and other types of assessees are added together in order to get a comparable series of assessed income over time. The "exemption limits" assumed in this study were the actual exemption limits from 1971-72 to 1974-75. The data on the assessed income for these years are taken from *AIITS* without any adjustment.

Annexure 5

RULES ABOUT EXEMPTIONS, REBATES AND DEDUCTIONS FOR CERTAIN SPECIFIED ITEMS

(Applicable in 1960-61, 1968-69 and 1973-74 respectively)

Contractual Savings

In 1960-61 income-tax rebates were granted for contractual savings in a year upto a maximum of 25 per cent of total income or Rs. 8,000, whichever is lower.

In 1968-69 deductions were granted for contractual savings on 60 per cent of the first five thousand rupees and 50 per cent of the balance upto a maximum of 30 per cent of total income or Rs. 15,000, whichever is less.

In 1973-74 the maximum limit of deductions for contractual savings was 30 per cent of total income or Rs. 20,000, whichever is less. According to the formula introduced in that year there was 100 per cent deduction on the first Rs. 2,000 of contractual savings; 50 per cent deduction on the next Rs. 3,000 of contractual savings and 40 per cent deduction on contractual savings exceeding Rs. 5,000.

House Rent Allowance

In 1968-69 and 1973-74 house rent allowance upto 20 per cent of total income or Rs. 300 per month, whichever is lower, was exempt from income tax.

Conveyance Expenses

Mode of transport	*Annual income (Rs.)*	*Annual exemption (Rs.)*
1968-69		
Motor car	15,000 and less	1,800
Motor car	Between 15,001 and 25,000	2,400
Motor Car	Above 25,000	3,000
Motor cycle and similar vehicles	Any income	600
Bicycle	Any income	60
1973-74		
Motor car		2,400
Motor cycle, etc.		900
Any other case		600

TABLE 5.1

Statutory Marginal Rates of Tax on Earned Income in 1960-61 and on Income (Earned and Unearned) in 1968-69 and 1973-74

1960-61		1968-69		1973-74	
Range of income (Rs.)	Rate of tax (Per cent)	Range of income (Rs.)	Rate of tax (Per cent)	Range of income (Rs.)	Rate of tax (Per cent)
Below 5,000	3·00	Below 5,000	5·50	Below 5,000	Nil
5,000 — 7,500	6·00	5,001 — 10,000	11·00	5,001 — 10,000	11·00
7,501 — 10,000	9·45	10,001 — 15,000	16·50	10,001 — 15,000	18·70
10,001 — 12,500	11·55	15,001 — 20,000	22·00	15,001 — 20,000	26·15
12,501 — 15,000	14·70	20,001 — 25,000	33·00	20,001 — 25,000	34·50
15,001 — 20,000	18·90	25,001 — 30,000	44·00	25,001 — 30,000	46·00
20,001 — 25,000	37·50	30,001 — 50,000	55·00	30,001 — 40,000	57·50
25,001 — 30,000	42·00	50,001 — 70,000	66·00	40,001 — 60,000	69·00
30,001 — 40,000	47·25	70,001 — 1,00,000	71·50	60,001 — 80,000	80·50
40,001 — 50,000	57·75	1,00,001 — 2,50,000	77·00	80,001 — 1,00,000	86·26
50,001 60,000	63·00	Above 2,50,000	82·50	1,00,001 — 2,00,000	92·00
60,001 — 70,000	68·25			Above 2,00,000	97·75
70,001 — 1,00,000	73·50				
Above 1,00,000	77·17				

Source : Government of India, ***Budgets***.

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STATISTICAL APPENDIX

TABLE A.1

Income Tax Revenue in Comparison to Total Tax Revenue and Total Revenue of the Government of India and Personal Income in India

(Columns 1 to 4 in Rs. crore, at current prices)

Year	Income tax revenue	Total tax revenue	Total revenue	Personal income	(1) as per cent of (2)	(1) as per cent of (3)	(1) as per cent of (4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1953-54	123	418	473	9636	29·38	25·96	1·28
1954-55	122	453	513	8838	26·96	23·85	1·38
1955-56	131	482	561	9369	27·24	23·40	1·40
1956-57	152	574	643	10644	26·43	23·61	1·43
1957-58	164	686	806	10684	23·85	20·31	1·53
1958-59	172	715	832	11926	24·05	20·67	1·44
1959-60	149	798	966	12270	18·66	15·42	1·21
1960-61	167	909	1076	13090	18·41	15·56	1·28
1961-62	165	1054	1234	13774	15·69	13·40	1·20
1962-63	186	1285	1684	14518	14·47	11·04	1·28
1963-64	259	1634	2128	16542	15·83	12·15	1·56
1964-65	267	1821	2361	19654	14·64	11·29	1·36
1965-66	272	2061	2620	20358	13·19	10·37	1·33
1966-67	309	2307	2873	23678	13·38	10·74	1·30
1967-68	323	2348	3010	27989	13·87	10·85	1·16
1968-69	378	2510	3284	28516	15·08	11·52	1·33
1969-70	448	2823	3689	31372	15·88	12·16	1·43
1970-71	473	3207	4097	34153	14·75	11·55	1·38
1971-72	537	3872	4972	36047	13·86	10·79	1·49
1972-73	630	4510	5645	39539	13·97	11·16	1·59
1973-74	745	5069	6247	49194	14·70	11·93	1·51
1974-75	874	6322	7782	57534	13·82	11·23	1·52
1975-76	1214	7608	9674	60891	15·96	12·55	1·99

Sources :

1. Government of India, *Budgets* for revenues.

(*Contd.*)

Table A.1 (*Contd.*)

2. Data on personal income are derived from national income figures in C.S.O.'s *National Accounts Statistics* and *Estimates of National Income.*

Note : Since the national income series were revised in 1960-61, the figures for the earlier years had to be adjusted to obtain a comparable series for the whole period of study. The following adjustments, were made.

Comparable estimates of net national product of the years 1953-54 to 1959-60 are available at 1960-61 prices in C.S.O., Department of Statistics, Ministry of Planning, Government of India—*National Accounts Statistics*, 1960-61 to 1972-73, Appendix Table A.1. Price index numbers of the years 1952-53 to 1959-60 with 1960-61 as base are derived from the conventional series of net national product at current prices and at 1948-49 prices, published in Government of India, Ministry of Finance, *Economic Survey*, 1970-71, Statistical Appendix, Table 1.1. The comparable series of net national product of 1952-53 to 1959-60 available at 1960-61 prices are multiplied by these price index numbers. The result is taken as the comparable series of net national product at factor cost of these years at current prices.

Net national product at market prices are obtained from the above by adding the indirect taxes less subsidies.

The conventional series of the net national product at market prices and that of private income at current prices are available in C.S.O., Cabinet Secretariat, Government of India, *Estimates of National Income* March 1961, Table 5. The difference between these two figures is taken from the conventional series and substracted from the adjusted figures of the net national product at market prices (current price). Thus the comparable series of private income at current prices is obtained.

The comparable series of personal income from 1953-54 to 1959-60 is obtained by subtracting the data of corporation tax and the savings of the private corporate sector at current prices from the adjusted figures of private income at market prices. The data on the savings of the private corporate sector at current prices are taken from R.N. Lal—*Capital Formation and its Financing in India*, Allied Publishers, Chapter 10, Table 10.4.

The data on personal income at current prices of 1960-61 to 1974-75 are taken from C.S.O., Department of Statistics, Ministry of Planning, Government of India, *National Accounts Statistics* 1960-61 to 1974-75, Table 2.

TABLE A.2

Income, Tax Demand and Number of Assessees

Year	Total gross income (Rs. lakh)	Total assessed income (Rs. lakh)	(2) as per cent of (1)	Total tax demand (Rs. lakh)	(4) as per cent of (1)	(4) as per cent of (2)	Total number of assessees (In thousand)	Gross income per assessee (Rs.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1953-54	NA	56130	—	9490	—	16·76	496	—
1954-55	NA	56212	—	9013	—	16·13	486	—
1955-56	NA	59978	—	10846	—	16·66	517	—
1956-57	NA	64788	—	10551	—	16·74	563	—
1957-58	NA	71663	—	10940	—	15·27	653	—
1958-59	NA	81785	—	11399	—	14·29	825	—
1959-60	86810	86600	99·76	11666	13·44	14·17	867	10012·69
1960-61	90099	89847	99·73	11633	12·91	12·95	926	9729·37
1961-62	102432	102067	99·64	13655	13·33	13·38	1043	9820·90
1962-63	105672	105350	99·70	13967	13·22	13·26	1062	9950·28
1963-64	108624	108370	99·77	13627	12·55	12·57	1134	9578·84
1964-65	123159	122922	99·81	15237	12·37	12·40	1336	9218·49

(Contd.)

TABLE A.2 (*Contd.*)

Income Tax Demand and Number of Assessees

Year	Total gross income (Rs. lakh)	Total assessed income (Rs. lakh)	(2) as per cent of (1)	Total tax demand (Rs. lakh)	(4) as per cent of (1)	(4) as per cent of (2)	Total number of assessees (In thousand)	Gross income per assessee (Rs.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1965-66	154449	145018	93·89	17442	11·29	12·03	1595	9683·32
1966-67	166822	160557	96·25	22604	13·55	14·09	1583	10538·34
1967-68	166680	161008	96·60	24125	14·47	14·98	1506	11067·73
1968-69	212267	202930	95·60	29455	13·88	14·52	1791	11851·87
1969-70	221909	212394	95·71	31405	14·15	14·79	1829	12132·80
1970-71	NA	NA	—	—	—	—	—	—
1971-72	266561	256714	96·31	43265	16·23	16·85	1997	13348·07
1972-73	234122	222082	94·80	35754	15·27	16·10	1978	11836·30
1973-74	NA	NA	—	—	—	—	—	—
1974-75	270693	253446	93·63	40501	14·96	15·98	2145	12619·72
1975-76	297979	274272	92·04	42626	14·31	15·54	2167	13750·76
1976-77	343905	311330	90·53	50916	14·81	16·35	2151	15988·15

Source : Directorate of Inspection (Research, Statistics and Publications), Income Tax Department, Government of India, *All India Income Tax Statistics* (for different years).

Note : NA=Not available

TABLE A.3

Number of Assessments Completed out of the Arrear and Current Assessments by the Income Tax Department in Different years

Financial year	Number of assessments for disposal	Number of assessments completed			Number of assessments pending at the end of the year
		Out of current	Out of arrears	Total	
1959-60	16,72,001	7,29,550	4,33,674	11,63,224	5,08,777
1960-61	18,26,012	7,32,248	4,74,647	12,06,895	6,19,117
1961-62	20,21,330	8,06,265	5,02,658	13,08,923	7,12,407
1962-63	22,18,376	7,96,815	5,12,902	13,09,717	9,08,659
1963-64	27,09,107	9,22,670	5,60,031	14,82,701	12,26,406
1964-65	36,26,144	11,54,834	6,86,795	18,41,629	17,84,515
1965-66	45,58,556	14,59,776	9,29,251	23,89,027	21,69,529
1966-67	47,65,607	13,32,672	10,85,422	24,18,094	23,47,513
1967-68	48,86,204	13,31,493	12,25,061	25,56,554	23,29,650
1968-69	49,99,237	16,73,474	17,41,106	34,14,580	15,84,657
1969-70	48,79,697	21,34,814	14,23,076	35,57,890	12,21,807
1970-71	47,30,992	22,48,534	12,43,629	34,92,163	12,38,829
1971-72	49,67,924	23,56,949	14,87,270	38,44,219	11,23,705
1972-73	49,90,722	25,07,241	10,90,816	35,98,057	13,92,665
1973-74	51,55,600	22,27,807	12,08,196	34,36,003	17,19,597
1974-75	55,18,327	24,23,575	14,17,271	38,40,846	16,77,481

Sources : 1. Central Government : *Audit Report (Civil) on Revenue Receipts* (for different years).
2. Central Government : *Report of the Comptroller and Auditor General of India (Civil), Revenue Receipts* (for different years).

TABLE A.4

Year-wise Break-up of Arrears of Assessment Pending on the 31st March of the Years Mentioned at the Top of the Columns

Arrears relating to the year	Arrears pending in the year											
	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1959-60	2789											
1960-61	37341	28900										
1961-62	87134	73488	29445									
1962-63	268084	152440	112335	32346								
1963-64	831058	386556	218503	160755	37928							
1964-65		1143131	601100	314037	217397							
1965-66			1208146	638623	302572	181019	21667					
1966-67				1201752	564555	177343	126106	22725				
1967-68					1207198	358599	134461	95681				
1968-69						867696	291309	127934	27745	20070		
1969-70							748264	265296	20988	16543	23398	
1970-71								727193	282131	32674	15439	29039
1971-72									792841	335410	38537	16843
1972-73										987968	388489	30608
1973-74											1253734	367964
1974-75												1233027
Total	1226406	1784515	2169529	2347513	2329650	1584657	1321807	1238829	1123705	1392665	1719597	1677481

Source : Same as for Table A.3

Note : Top most figure in any column relates to the corresponding year and previous years.

TABLE A.5

Number of Assessments Completed out of the Arrear Assessments Estimated on the Basis of Table A.4

Arrears cleared relate to the year	Years in which the assessments are completed										
	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
1960-61	11230										
1961-62	13646	72943									
1962-63	115644	40105	109434								
1963-64	444502	168053	57748	155173							
1964-65		542031	287063	96640							
1965-66			569523	336051	376878	159352					
1966-67				637197	387212	51237	125048				
1967-68					848599	224138	38780				
1968-69						576387	163375	218595	7675		
1969-70							482968	244308	4445	13215	
1970-71								445062	249457	17235	9798
1971-72									457431	296873	21694
1972-73										599479	357881
1973-74											885770
1974-75											
Total	585022	823132	1023768	1225061	1612689	1011114	810171	907965	719008	926808	1275143

Source : Same as for Table A.3

Note : Figures at the top of every column indicate arrears cleared relating to the corresponding year and previous years.

TABLE A.6

The Break-up of Total Assessments Completed in a Year According to the Year of Assessment

(Per cent)

Year of completion of assessment	Reference Year														
	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
1964-65		0·610	0·741	6·279	24·136	68·233										
1965-66			3·053	1·679	7·034	22·688	65·545									
1966-67				4·526	2·388	11·871	23·553	57·662								
1967-68					6·070	3·780	13·145	24·924	52·082							
1968-69							11·037	11·340	24·852	52·771						
1969-70							4·479	1·440	6·300	16·200	71·581					
1970-71								3·581	1·110	4·678	13·830	76·800				
1971-72										5·686	6·355	11·577	76·381			
1972-73										0·213	0·124	6·933	12·713	80·017		
1973-74											0·385	0·502	8·640	17·477	73·027	
1974-75												0·255	0·565	9·318	23·062	66·800

Note : 1. First figure in every row relates to the reference year mentioned at the top of the column and previous years.
2. This table is prepared on the basis of Tables A.3 and A.5.
3. The total of figures of percentages in a row may differ from 100 because of rounding.

TABLE A.7

Relative Positions of Assessees under Different Categories (1953-54 to 1975-76)

Year	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
1. Share in total assessed income (Per cent)										
(*a*) Individuals	84	83	83	85	84	85	86	87	87	88
(*b*) Hindu undivided families	11	11	10	10	11	11	10	10	9	9
(*c*) Unregistered firms and other associations of persons	5	5	6	5	5	5	4	4	4	3
2. Weight in total number of assessees (Per cent)										
(*a*) Individuals	89	85	88	89	87	87	89	89	90	91
(*b*) Hindu undivided families	7	11	8	7	9	9	8	8	7	7
(*c*) Unregistered firms and other associations of persons	4	4	4	4	4	4	3	3	3	2
3. Average income per assessee (Rs.)										
(*a*) Individuals	10706	11004	11007	11045	10611	9670	9663	9390	9408	9597
(*b*) Hindu undivided families	16524	11117	15708	16042	14125	12792	12875	12600	13221	12956
(*c*) Unregistered firms and other associations of persons	14624	14174	16008	13936	12190	11420	11844	11544	13282	13325
4. Effective rate of tax (Per cent)										
(*a*) Individuals	16	18	18	16	15	14	13	13	13	13
(*b*) Hindu undivided families	20	16	18	17	16	14	14	14	16	15
(*c*) Unregistered firms and other associations of persons	26	23	24	24	20	20	22	20	22	21

(Contd.)

TABLE A.7 (*Contd.*)

Relative Positions of Assessees under Different Categories (1953-54 to 1975-76)

Year	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1971-72	1972-73	1974-75	1975-76	1976-77
1. Share in total assessed income (Per cent)												
(*a*) Individuals	88	89	89	90	91	91	91	91	93	94	92	92
(*b*) Hindu undivided families	8	8	8	7	7	6	7	6	5	5	6	5
(*c*) Unregistered firms and other associations of persons	3	4	4	4	4	2	3	4	2	2	2	2
2. Weight in total number of assessees (Per cent)												
(*a*) Individuals	92	92	92	93	93	93	94	94	95	95	95	95
(*b*) Hindu undivided families	6	6	6	5	5	5	5	5	4	4	4	4
(*c*) Unregistered firms and other associations of persons	2	2	2	2	2	2	1	1	1	1	1	1
3. Average gross income per assessee (Rs.)												
(*a*) Individuals	9253	8877	8776	10249	10784	11557	11812	12897	11588	12395	12292	15647
(*b*) Hindu undivided families	12532	12446	11913	14373	15553	15958	16704	18404	16423	17767	17195	19195
(*c*) Unregistered firms and other associations of persons	13490	14219	14656	18870	22284	23368	25421	37672	27494	28427	25871	30584
4. Effective rate of tax (Per cent)												
(*a*) Individuals	12	12	11	13	13	13	13	15	15	14	14	15
(*b*) Hindu undivided families	14	15	14	16	18	17	18	21	20	22	24	24
(*c*) Unregistered firms and associations of persons	22	23	28	29	29	28	30	38	38	41	44	41

Source : Same as for Table A.2

TABLE A.8

Distribution of Gross Income of All Assessees according to Sources (1959-60 to 1976-77)

(Per cent)

Source / Year	Salary		Interest		Property		Business and Professions	
	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax
1959-60	22·86	27·11	1·05	0·70	3·27	3·46	56·78	54·09
1960-61	32·22	33·51	0·49	0·41	3·79	3·73	43·41	49·19
1961-62	33·04	34·70	0·38	0·29	3·76	3·70	42·32	43·77
1962-63	33·21	34·93	0·44	0·36	3·64	3·57	36·92	38·28
1963-64	34·59	36·54	0·37	0·32	3·52	3·46	35·31	36·39
1964-65	36·84	43·16	0·41	0·31	3·18	2·73	35·71	33·10
1965-66	36·08	37·86	0·37	0·32	2·92	2·87	26·06	26·18
1966-67	35·58	37·89	1·11	1·08	2·63	2·61	28·37	28·63
1967-68	35·43	38·12	1·16	1·09	2·67	2·64	26·72	26·75
1968-69	32·87	35·20	0·92	0·90	2·92	2·86	26·63	26·68
1969-70	33·28	35·46	0·69	0·66	3·00	2·96	26·62	26·70
1971-72	32·08	34·43	0·61	0·59	2·89	2·80	32·59	32·53
1972-73	41·84	43·17	0·52	0·51	2·36	2·31	30·07	30·24
1974-75	44·45	47·18	0·34	0·33	1·98	1·91	28·12	27·35
1975-76	37·46	40·10	0·47	0·46	2·16	2·09	31·23	30·76
1976-77	41·17	43·60	0·52	0·52	2·08	2·03	30·64	30·03

(*Contd.*)

TABLE A.8 (*Contd.*)

Distribution of Gross Income of All Assessees according to Sources (1959-60 to 1976-77)

(Per cent)

Year \ Source	Dividends		Capital gains		Other sources	
	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax
1959-60	5·08	3·54	0·18	0·19	10·78	10·90
1960-61	4·46	3·40	0·28	0·25	15·36	13·50
1961-62	4·45	3·33	0·42	0·39	15·63	13·82
1962-63	4·43	3·32	0·48	0·44	20·87	29·09
1963-64	3·72	2·85	0·42	0·38	22·06	20·04
1964-65	3·05	2·40	0·47	0·38	20·34	17·91
1965-66	2·66	2·14	0·42	0·36	31·48	30·27
1966-67	2·45	1·93	0·68	0·60	29·18	27·26
1967-68	2·52	2·04	1·14	1·02	30·36	28·34
1968-69	2·09	1·74	0·91	0·82	33·66	31·79
1969-70	1·97	1·63	0·82	0·75	33·62	31·83
1971-72	1·63	1·31	0·86	0·70	29·34	27·64
1972-73	1·26	1·02	0·59	0·41	23·36	22·33
1974-75	1·12	0·89	0·83	0·49	23·16	21·84
1975-76	1·02	0·80	0·84	0·54	26·82	25·25
1976-77	0·81	0·66	0·81	0·52	23·97	22·60

Source : Same as for Table A.2

TABLE A.9

Distribution of Gross Income of Individual Assessees according to Sources (1959-60 to 1976-77)

(Per cent)

Year \ Source	Salary		Interest		Property income		Business and Professions	
	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax
1959-60	36·64	38·09	0·49	0·43	3·69	3·59	38·92	40·49
1960-61	37·21	38·52	0·42	0·36	3·34	3·26	38·67	40·47
1961-62	38·06	39·63	0·39	0·34	3·34	3·26	37·73	39·15
1962-63	37·90	39·62	0·36	0·30	3·32	3·14	32·86	34·21
1963-64	39·09	41·03	0·32	0·28	3·11	3·04	31·50	32·66
1964-65	41·42	43·16	0·34	0·30	2·79	2·73	31·92	33·10
1965-66	40·67	42·67	0·31	0·29	2·59	2·55	23·21	23·86
1966-67	39·66	41·79	1·11	1·10	2·34	2·30	25·03	25·60
1967-68	39·44	41·96	1·16	1·11	2·37	2·32	23·64	23·92
1968-69	36·45	38·61	0·90	0·90	2·58	2·53	23·68	24·15
1969-70	36·86	38·80	0·66	0·64	2·68	2·63	24·11	24·44
1971-72	35·54	37·51	0·59	0·58	2·63	2·52	29·80	30·36
1973-74	45·07	46·06	0·49	0·49	2·12	2·05	27·89	28·41
1974-75	47·81	50·10	0·30	0·28	1·75	1·68	26·02	25·61
1975-76	40·69	42·92	0·47	0·46	1·93	1·86	29·23	29·04
1976-77	44·47	46·51	0·52	0·52	0·81	0·82	28·56	28·26

(*Contd.*)

TABLE A.9 (*Contd.*)

Distribution of Gross Income of Individual Assessees according to Sources (1959-60 to 1976-77)

(Per cent)

Year \ Source	Dividends		Capital gains		Other sources	
	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax	Gross income before tax	Gross income after tax
1959-60	4·91	3·71	0·26	0·24	15·08	13·46
1960-61	4·52	3·48	0·30	0·28	15·54	13·62
1961-62	4·48	3·41	0·41	0·38	15·59	13·83
1962-63	4·41	3·32	0·47	0·42	20·79	18·98
1963-64	3·72	2·85	0·40	0·36	21·85	19·78
1964-65	3·01	2·40	0·43	0·38	20·09	17·91
1965-66	2·61	1·20	0·40	0·39	30·20	39·09
1966-67	2·39	1·88	0·64	0·56	28·80	26·77
1967-68	2·48	2·01	1·11	0·98	29·79	27·70
1968-69	2·01	1·66	0·85	0·78	33·43	31·37
1969-70	1·89	1·56	0·76	0·69	33·04	31·23
1971-72	1·55	1·24	0·77	0·62	29·12	27·18
1973-74	1·14	0·94	0·53	0·37	22·75	21·67
1974-75	1·01	0·81	0·66	0·41	22·44	21·10
1975-76	0·93	0·73	0·72	0·47	26·04	24·53
1976-77	0·74	0·60	0·68	0·44	23·17	21·86

Source : Same as for Table A.2

TABLE A. 10

Sourcewise Composition of Gross Income for Different Fractiles of Individuals in 1965-66

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	46·54	0·22	2·22	36·46	0·98	0·03	13·54	100
Second	10 per cent	52·27	0·16	1·64	32·21	0·62	0·01	13·08	100
Third	10 per cent	52·27	0·16	1·64	32·21	0·62	0·01	13·08	100
Fourth	10 per cent	52·26	0·18	1·82	29·10	0·71	0·0	15·86	100
Fifth	10 per cent	52·39	0·24	2·24	21·81	0·93	0·03	22·36	100
Sixth	10 per cent	52·39	0·24	2·24	21·81	0·93	0·03	22·36	100
Seventh	10 per cent	49·46	0·24	2·40	21·33	1·12	0·05	25·49	100
Eighth	10 per cent	45·20	0·25	2·63	20·67	1·44	0·08	29·95	000
Ninth	10 per cent	41·14	0·26	2·76	20·30	1·90	0·19	33·45	100
Top	10 per cent	26·52	0·47	3·12	21·01	5·33	1·04	42·41	100
Top	5 per cent	23·90	0·53	3·15	21·20	6·47	1·36	43·27	100
Top	1 per cent	18·98	0·64	3·03	21·78	9·42	2·32	43·48	100

Source : Same as for Table A.2

TABLE A.11

Source-wise Composition of Gross Income for Different Fractiles of Individuals in 1969-70

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property income	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	57·68	0·40	1·54	27·45	0·71	0·09	12·13	100
Second	10 per cent	57·25	0·43	1·52	25·87	0·55	0·07	14·75	100
Third	10 per cent	55·71	0·53	1·85	23·57	0·57	0·10	17·66	100
Fourth	10 per cent	55·71	0·53	1·85	23·57	0·57	0·10	17·66	100
Fifth	10 per cent	55·71	0·53	1·85	23·57	0·57	0·10	17·66	100
Sixth	10 per cent	44·74	0·73	2·51	25·23	0·85	0·17	25·76	100
Seventh	10 per cent	42·17	0·77	2·68	24·66	0·97	0·22	28·52	100
Eighth	10 per cent	40·88	0·73	2·76	22·77	1·14	0·35	31·36	100
Ninth	10 per cent	30·39	0·72	3·21	24·64	1·56	0·54	38·93	100
Top	10 per cent	25·87	0·67	2·97	23·58	3·24	1·51	41·98	100
Top	5 per cent	26·31	0·69	2·85	23·22	3·68	1·78	41·40	100
Top	1 per cent	29·62	0·70	2·47	22·90	4·10	2·22	37·86	100

Source : Same as for Table A.2

TABLE A.12

Source-wise Composition of Gross Income for Different Fractiles of Individuals in 1974-75

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	69·60	0·14	0·96	19·51	0·25	0·06	9·48	100
Second	10 per cent	61·53	0·18	1·21	24·63	0·31	0·08	12·07	100
Third	10 per cent	61·53	0·18	1·21	24·63	0·31	0·08	12·07	100
Fourth	10 per cent	61·53	0·18	1·21	24·63	0·31	0·08	12·07	100
Fifth	10 per cent	57·55	0·26	1·44	24·32	0·41	0·12	15·89	100
Sixth	10 per cent	56·31	0·29	1·52	24·23	0·45	0·13	17·08	100
Seventh	10 per cent	57·52	0·26	1·50	21·45	0·51	0·22	18·54	100
Eighth	10 per cent	57·83	0·25	1·50	20·76	0·53	0·23	18·90	100
Ninth	10 per cent	47·35	0·28	1·70	24·97	0·78	0·30	24·62	100
Top	10 per cent	26·36	0·44	2·49	32·47	2·21	1·76	34·28	100
Top	5 per cent	23·49	0·48	2·56	33·10	2·70	2·31	35·34	100
Top	1 per cent	23·01	0·46	2·45	31·78	3·80	3·96	34·54	100

Source : Same as for Table A.2

TABLE A.13

Sourcewise Composition of Gross Income for Different Fractiles of Individuals in 1975-76

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	57·09	0·31	1·26	28·49	0·28	0·01	12 56	100
Second	10 per cent	47·40	0·38	1·52	34·90	0·34	0·10	15·40	100
Third	10 per cent	47·40	0·38	1·52	34·90	0·34	0·10	15·40	100
Fourth	10 per cent	52·76	0·37	1·54	28·47	0·34	0·14	16·38	100
Fifth	10 per cent	54·87	0·38	1·55	25·94	0·34	0·16	16·76	100
Sixth	10 per cent	53·70	0·41	1·58	25·72	0·37	0·18	18·04	100
Seventh	10 per cent	49· 6	0·50	1·71	25·00	0·45	0·24	22·14	100
Eighth	10 per cent	49·58	0·50	1·72	25·08	0·47	0·24	22·41	100
Ninth	10 per cent	39·01	0·50	2·03	27·42	0·75	0·39	30·00	100
Top	10 per cent	21·48	0·53	2·54	32·30	2·06	1·91	39·18	100
Top	5 per cent	17·69	0·53	2·63	33·45	2·58	2·54	40·58	100
Top	1 per cent	15·50	0·62	2·58	32·11	4·08	4·25	40·86	100

Source : Same as for Table A.2

TABLE A.1

Source-wise Composition of Gross Income for Different Fractiles of Individuals in 1976-77

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	65·11	0·23	1·10	24·14	0·18	0·07	9·12	100
Second	10 per cent	57·71	0·35	1·33	29·25	0·21	0·09	11·07	100
Third	10 per cent	49·62	0·45	1·79	31·99	0·29	0·14	15·71	100
Fourth	10 per cent	47·45	0·48	1·92	32·72	0·32	0·15	16·96	100
Fifth	10 per cent	50·23	0·50	1·82	29·21	0·35	0·19	17·72	100
Sixth	10 per cent	53·76	0·52	1·70	24·72	0·39	0·23	18·67	100
Seventh	10 per cent	53·76	0·52	1·70	24·72	0·39	0·23	18·67	100
Eighth	10 per cent	49·19	0·61	1·82	25·57	0·47	0·31	22·04	100
Ninth	10 per cent	40·42	0·65	2·10	28·71	0·62	0·48	27·03	100
Top	10 per cent	31·31	0·52	2·06	30·64	1·52	1·67	32·28	100
Top	5 per cent	31·95	0·49	1·98	29·69	1·81	2·13	31·95	100
Top	1 per cent	35·31	0·41	1·71	27·65	2·44	3·70	28·88	100

Source : Same as for Table A.2

TABLE A.15

Distribution of Income from Different Sources Among the Individuals in 1965-66

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	5·17	3·14	3·88	7·10	1·71	0·30	2·02	100
Second	10 per cent	6·13	2·37	3·03	6·63	1·14	0·11	2·07	100
Third	10 per cent	6·13	2·37	3·03	6·63	1·14	0·11	2·07	100
Fourth	10 per cent	6·78	3·06	3·72	6·62	1·45	0·21	2·77	100
Fifth	10 per cent	9·02	5·46	6·06	6·58	2·49	0·54	5·19	100
Sixth	10 per cent	9·02	5·46	6·06	6·58	2·49	0·54	5·19	100
Seventh	10 per cent	9·74	6·27	7·44	7·36	3·46	0·97	6·76	100
Eighth	10 per cent	11·30	8·15	10·33	9·06	5·62	2·08	10·08	100
Ninth	10 per cent	14·30	11·68	15·07	12·37	10·33	6·62	15·66	100
Top	10 per cent	22·38	52·04	41·36	31·07	70·16	88·50	48·18	100
Top	5 per cent	14·16	41·11	29·34	22·02	59·85	81·08	34·53	100
Top	1 per cent	5·01	22·11	12·58	10·08	38·81	61·51	15·45	100

Source : Same as for Table A.2

TABLE A.16

Distribution of Income from Different Sources Among the Individuals in 1969-70

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	6·11	2·40	2·24	4·44	1·46	0·47	1·43	100
Second	10 per cent	7·03	2·96	2·57	4·86	1·31	0·44	2·02	100
Third	10 per cent	8·30	4·46	3·80	5·37	1·65	0·71	3·06	100
Fourth	10 per cent	8·30	4·46	3·80	5·37	1·65	0·71	3·06	100
Fifth	10 per cent	8·30	4·46	3·80	5·37	1·65	0·71	3·06	100
Sixth	10 per cent	8·66	7·90	6·68	7·46	3·22	1·57	5·56	100
Seventh	10 per cent	9·43	9·68	8·25	8·43	4·22	2·44	7·11	100
Eighth	10 per cent	11·81	11·81	10·98	10·06	6·42	4·93	10·11	100
Ninth	10 per cent	12·06	15·90	17·53	14·94	12·10	10·34	17·23	100
Top	10 per cent	20·00	35·97	40·35	33·69	66·32	77·68	47·34	100
Top	5 per cent	12·75	25·99	27·02	22·67	54·48	66·48	32·94	100
Top	1 per cent	5·56	13·50	11·74	10·74	34·56	47·78	15·92	100

Source : Same as for Table A.2

TABLE A.17

Distribution of Income from Different Sources Among the Individuals in 1974-75

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	7·30	2·37	2·73	3·76	1·24	0·47	2·12	100
Second	10 per cent	6·80	3·12	3·63	5·01	1·63	0·62	2·84	100
Third	10 per cent	6·80	3·12	3·63	5·01	1·63	0·62	2·84	100
Fourth	10 per cent	6·80	3·12	3·63	5·01	1·63	0·62	2·84	100
Fifth	10 per cent	8·15	5·89	5·58	6·33	2·77	1·23	4·80	100
Sixth	10 per cent	8·79	7·09	6·42	6·91	3·27	1·49	5·65	100
Seventh	10 per cent	11·88	8·54	8·47	8·14	5·01	3·26	8·16	100
Eighth	10 per cent	13·02	9·06	9·21	8·59	5·65	3·82	9·07	100
Ninth	10 per cent	13·21	13·17	13·43	13·29	10·69	6·39	15·19	100
Top	10 per cent	16·77	44·52	43·27	37·97	66·47	81·48	46·49	100
Top	5 per cent	10·16	33·63	30·26	26·32	55·40	73·03	32·59	100
Top	1 per cent	4·15	13·25	12·05	10·53	32·44	52·13	13·27	100

Source : Same as for Table A.2

TABLE A.18

Distribution of Income from Different Sources Among the Individuals in 1975-76

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	6·70	3·20	3·11	4·66	1·44	0·59	2·28	100
Second	10 per cent	6·00	4·24	4·08	6·15	1·91	0·76	3·03	100
Third	10 per cent	6·00	4·24	4·08	6·15	1·91	0·77	3·03	100
Fourth	10 per cent	8·32	5·21	5·13	6·25	2·38	1·32	4·03	100
Fifth	10 per cent	9·57	5·74	5·71	6·30	2·63	1·62	4·57	100
Sixth	10 per cent	10·06	6·65	6·28	6·71	3·04	1·93	5·28	100
Seventh	10 per cent	12·27	10·74	8·85	8·55	4·91	3·34	8·49	100
Eighth	10 per cent	12·32	10·84	9·01	8·67	5·09	3·46	8·69	100
Ninth	10 per cent	13·76	15·50	15·11	13·47	11·69	7·99	16·47	100
Top	10 per cent	14·99	33·63	38·66	33·09	65·00	78·21	44·13	100
Top	5 per cent	8·57	22·22	26·84	22·56	54·81	70·10	30·72	100
Top	1 per cent	2·89	10·36	10·42	8·55	34·14	50·32	12·21	100

Source : Same as for Table A.2

TABLE A.19

Distribution of Income from Different Sources Among the Individuals in 1976-77

(Per cent)

Percentage of assessees \ Source		Salary	Interest	Property	Business and Professions	Dividends	Capital gains	Other sources	All sources
First	10 per cent	6·22	2·29	2·50	3·59	1·01	0·47	1·67	100
Second	10 per cent	6·03	3·06	3·32	4·76	1·29	0·59	2·22	100
Third	10 per cent	6·45	4·98	5·57	6·47	2·29	1·19	3·92	100
Fourth	10 per cent	6·60	5·67	6·37	7·08	2·64	1·41	4·53	100
Fifth	10 per cent	8·00	6·77	6·93	7·24	3·35	1·95	5·41	100
Sixth	10 per cent	10·51	8·75	7·93	7·53	4·62	2·93	7·00	100
Seventh	10 per cent	10·51	8·75	7·93	7·52	4·62	2·92	7·00	100
Eighth	10 per cent	11·98	12·61	10·61	9·70	6·85	5·01	10·30	100
Ninth	10 per cent	12·56	17·16	15·59	13·89	11·65	9·66	16·11	100
Top	10 per cent	21·13	29·97	33·25	32·21	61·65	73·87	41·82	100
Top	5 per cent	14·54	19·25	21·51	21·04	49·52	63·47	27·92	100
Top	1 per cent	6·49	6·39	7·51	7·91	27·00	44·55	10·16	100

Source : Same as for Table A.2

TABLE A.20

Average Gross Income and Effective Rate of Tax on Gross Income of Individuals (1959-60 to 1975-76)

Source / Year	Salary		Interest		Property	
	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)
	(1)	(2)	(3)	(4)	(5)	(6)
1959-60	7·65	10·04	1·42	25·12	1·63	15·89
1960-61	7·41	10·21	1·35	24·08	1·49	15·14
1961-62	7·24	9·83	1·45	25·51	1·53	15·51
1962-63	7·45	9·58	1·47	27·48	1·50	15·70
1963-64	7·26	8·51	1·49	22·36	1·44	14·72
1964-65	7·13	8·83	1·73	22·02	1·38	14·39
1965-66	7·02	8·42	1·86	19·86	1·32	14·10
1966-67	7·96	9·30	3·74	14·93	1·63	15·41
1967-68	8·22	9·75	4·62	18·93	1·81	16·75
1968-69	8·73	9·71	4·02	14·21	2·01	16·46
1969-70	9·03	10·11	3·45	16·34	2·22	16·38
1971-72	9·49	11·14	4·69	17·35	2·99	19·50
1972-73	9·92	13·44	4·48	14·93	2·77	18·03
1974-75	10·15	10·73	4·16	19·14	2·76	18·22
1975-76	11·51	9·46	5·40	15·86	2·83	17·36

(*Contd.*)

TABLE A.20 (*Contd.*)

Average Gross Income and Effective Rate of Tax on Gross Income of Individuals (1959-60 to 1975-76)

Source / Year	Business and Professions		Dividends	
	Average gross Income (Rs. thousand)	Effective tax rate (Per cent)	Average gross Income (Rs. thousand)	Effective tax rate (Per cent)
	(7)	(8)	(9)	(10)
1959-60	7·21	9·95	4·25	34·60
1960-61	7·56	9·21	3·94	33·20
1961-62	7·79	10·13	3·86	34·07
1962-63	7·50	9·95	3·82	39·77
1963-64	7·25	9·65	3·56	33·34
1964-65	6·99	9·28	3·02	30·06
1965-66	7·39	10·23	2·15	42·65
1966-67	8·38	11·94	3·50	32·94
1967-68	9·19	14·16	3·87	31·51
1968-69	9·58	13·40	3·45	29·38
1969-70	9·95	13·46	3·70	29·38
1971-72	12·50	14·23	3·98	32·91
1972-73	10·31	13·71	3·56	30·34
1974-75	11·74	16·17	3·60	31·56
1975-76	11·82	14·72	3·67	32·12

(*Contd.*)

TABLE A.20 (*Contd.*)

Average Gross Income and Effective Rate of Tax on Gross Income of Individuals (1959-60 to 1975-76)

Year \ Source	Capital gains		Other sources	
	Average gross income (Rs. thousand)	Effective tax rate (per cent)	Average gross income (Rs. thousand)	Effective tax rate (per cent)
	(11)	(12)	(13)	(14)
1959-60	28·60	22·28	6·55	22·79
1960-61	24·07	21·02	6·70	23·98
1961-62	22·55	19·96	6·68	23·18
1962-63	18·43	22·36	7·40	21·04
1963-64	11·97	22·15	7·41	21·12
1964-65	12·38	21·04	7·03	22·00
1965-66	12·78	26·09	6·82	15·92
1966-67	7·57	24·53	7·89	19·97
1967-68	13·90	24·95	8·19	21·12
1968-69	10·32	21·52	8·43	20·00
1969-70	8·83	22·78	8·23	19·30
1971-72	9·80	32·41	8·88	21·44
1972-73	8·30	41·22	8·32	19·31
1974-75	9·77	46·13	9·10	19·92
1975-76	10·38	43·90	9·86	19·15

Source : Same as for Table A.2

TABLE A.21

Average Gross Income and Effective Rate of Tax on Gross Income of All Assessees (1959-60 to 1975-76)

Source / Year	Salary		Interest		Property		Business and Professions	
	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1959-60	7·65	10·05	3·96	49·35	1·17	19·71	13·86	27·75
1960-61	7·40	10·21	1·60	26·49	1·52	15·18	8·00	10·13
1961-62	7·24	9·84	1·46	34·84	1·56	15·56	8·27	11·21
1962-63	7·45	9·59	1·81	30·51	1·53	15·58	8·04	10·88
1963-64	7·26	8·52	1·73	25·16	1·48	14·76	7·71	10·75
1964-65	7·13	8·84	2·08	25·92	1·43	14·41	7·48	10·81
1965-66	7·02	8·43	2·19	24·40	1·35	14·14	7·97	12·37
1966-67	7·96	9·30	3·77	16·60	1·69	15·63	9·04	14·05
1967-68	8·22	9·76	4·70	20·89	1·89	17·06	9·91	16·00
1968-69	8·73	9·72	4·16	16·97	2·13	17·25	10·33	15·54
1969-70	9·03	10·12	3·62	19·26	2·35	16·57	10·68	15·41
1971-72	9·49	11·15	4·87	19·65	3·17	19·85	13·58	17·36
1972-73	9·92	13·45	5·00	16·95	2·92	18·19	10·94	21·49
1974-75	10·15	10·74	4·51	18·21	2·92	18·66	12·35	18·20
1975-76	11·50	9·46	5·34	16·68	2·97	18·01	12·40	16·69

(Contd.)

TABLE A.21 (*Contd.*)

Average Gross Income and Effective Rate of Tax on Gross Income of All Assessees (1959-60 to 1975-76)

Source / Year	Dividends		Capital gains		Other sources	
	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)	Average gross income (Rs. thousand)	Effective tax rate (Per cent)
	(9)	(10)	(11)	(12)	(13)	(14)
1959-60	6·20	47·08	27·37	21·70	6·78	23·26
1960-61	4·09	34·08	22·71	21·68	6·93	24·10
1961-62	4·03	35·76	22·15	19·90	7·01	24·12
1962-63	4·01	35·64	18·94	22·17	7·68	21·38
1963-64	3·67	33·54	12·44	21·98	7·67	21·34
1964-65	3·19	30·88	13·56	22·27	7·32	23·59
1965-66	3·26	29·87	13·34	25·48	7·11	16·12
1966-67	3·68	33·00	7·84	24·20	8·15	20·44
1967-68	4·03	32·07	14·33	24·68	8·49	21·71
1968-69	3·68	30·08	11·10	23·28	8·66	20·38
1969-70	3·95	29·99	9·46	22·71	8·53	20·15
1971-72	4·28	33·51	10·91	33·12	9·15	22·04
1972-73	3·90	31·70	8·91	41·00	8·53	19·82
1974-75	3·96	33·49	11·94	50·40	9·31	20·71
1975-76	3·97	33·05	11·82	45·98	10·15	20·36

Source : Same as for Table A.2

TABLE A.22

Share in Total Tax, Average Income and Effective Rate of Tax for Fractiles of Individuals

Percentage of assessees \ Year		1965-66			1969-70		
		Share in total Tax (Per cent)	Average gross income (Rs. thousand)	Effective rate of tax (Per cent)	Share in total tax (Per cent)	Average gross income (Rs. thousand)	Effective rate of tax (Per cent)
		(1)	(2)	(3)	(4)	(5)	(6)
First	10 per cent	0·57	3·97	1·51	0·34	4·60	2·15
Second	10 per cent	0·58	4·20	1·45	0·58	5·34	1·90
Third	10 per cent	0·58	4·20	1·45	1·08	4·44	4·19
Fourth	10 per cent	0·83	4·64	1·87	1·08	4·44	4·19
Fifth	10 per cent	1·68	6·16	2·87	1·08	4·44	4·19
Sixth	10 per cent	1·68	6·16	2·87	2·31	8·40	4·76
Seventh	10 per cent	2·55	7·04	3·79	3·25	9·71	5·78
Eighth	10 per cent	4·44	8·94	5·20	5·67	12·55	7·78
Ninth	10 per cent	9·33	12·43	7·87	10·83	17·23	10·83
Top	10 per cent	77·76	30·17	27·02	73·77	46·68	27·24
Top	5 per cent	68·37	42·38	33·82	61·95	67·86	31·46
Top	1 per cent	45·37	94·38	50·39	36·40	195·99	32·01

(Contd.)

TABLE A.22 (*Contd.*)

Share in Total Tax, Average Income and Effective Rate of Tax for Fractiles of Individual Assessees

Percentage of assessees \ Year		1974-75			1976-77		
		Share in total tax (Per cent)	Average gross income (Rs. thousand)	Effective rate of tax (Per cent)	Share in total tax (Per cent)	Average gross income (Rs. thousand)	Effective rate of tax (Per cent)
		(7)	(8)	(9)	(10)	(11)	(12)
First	10 per cent	1·25	6·22	3·69	0·74	6·65	2·42
Second	10 per cent	1·28	6·56	3·59	0·68	7·28	2·04
Third	10 per cent	1·28	6·56	3·59	1·34	9·05	3·22
Fourth	10 per cent	1·28	6·56	3·59	1·58	9·68	3·54
Fifth	10 per cent	2·06	8·40	4·52	2·52	11·08	4·92
Sixth	10 per cent	2·41	9·20	4·81	4·20	13·61	6·69
Seventh	10 per cent	4·62	12·25	6·92	4·20	13·61	6·69
Eighth	10 per cent	5·41	13·34	7·44	6·91	16·96	8·82
Ninth	10 per cent	10·44	17·17	11·16	11·75	21·62	11·78
Top	10 per cent	69·96	37·73	28·54	66·06	46·98	30·46
Top	5 per cent	58·65	51·31	33·38	52·80	63·36	36·10
Top	1 per cent	35·90	106·91	39·70	27·39	127·97	46·36

Source : Same as for Table A.2

TABLE A.23

Data used for Estimation of Elasticity and Buoyancy

Year	National income (Rs. crore)	Personal income (Rs. crore)	Assessed income (actual) (Rs. crore)	Assessed income (adjusted) (Rs. crore)
	(1)	(2)	(3)	(4)
1954-55	10149	9636	562	562
1955-56	9436	8836	600	601
1956-57	9984	9369	648	659
1957-58	11371	10644	717	720
1958-59	11479	10684	818	784
1959-60	12787	11926	866	822
1960-61	13210	12270	898	850
1961-62	14210	13090	1021	965
1962-63	15067	13774	1053	1000
1963-64	16059	14518	1084	1034
1964-65	18543	16543	1229	1154
1965-66	21785	19654	1450	1355
1966-67	22719	20358	1606	1545
1967-68	26030	23678	1610	1577
1968-69	30478	27989	2029	1901
1969-70	31338	28516	2124	1999
1970-71	34665	31372	NA	—
1971-72	37985	34153	2567	2567
1972-73	40404	36047	2221	2221
1973-74	44242	39539	NA	—
1974-75	54555	49194	2534	2534
1975-76	64695	57534	2742	2731

(Contd.)

TABLE A.23 (*Contd.*)

Data used for Estimation of Elasticity and Buoyancy

Year	Tax liability (actual) (Rs. crore)	Tax liability under 1972-73 tax structure (Rs. crore)	Tax liability under 1974-75 tax structure (Rs. crore)	Effective rate of tax (actual) (Per cent)
	(5)	(6)	(7)	(8)
1954-55	90·13	129·28	115·11	16·13
1955-56	108·46	119·25	125·10	16·66
1956-57	105·51	125·22	132·06	16·74
1957-58	109·40	150·01	163·82	15·27
1958-59	113·99	128·80	137·35	14·29
1959-60	116·66	139·85	146·60	14·17
1960-61	116·33	138·69	147·41	12·95
1961-62	136·55	165·83	174·58	13·38
1962-63	139·67	164·77	172·51	13·26
1963-64	136·27	160·68	168·40	12·57
1964-65	152·37	177·77	184·51	12·40
1965-66	174·42	196·63	213·34	12·03
1966-67	226·04	253·66	271·38	14·09
1967-68	241·25	271·73	291·46	14·98
1968-69	294·55	332·15	357·77	14·52
1969-70	314·05	353·26	375·90	14·79
1970-71	NA	—	NA	NA
1971-72	432·65	467·41	499·08	16·85
1972-73	357·54	357·54	364·46	16·10
1973-74	NA	—	NA	NA
1974-75	405·01	383·40	405·01	15·98
1975-76	426·26	438·49	444·80	15·54

(*Contd.*)

TABLE A.23 (*Contd.*)

Year	Effective rate of tax on (4) under 1972-73 tax structure (Per cent)	Effective rate of tax on (4) under 1974-75 tax structure (Per cent)	Actual E_1 (Rs.)	Actual E_2 (Rs.)
	(9)	(10)	(11)	(12)
1954-55	22·88	20·37	4200	8400
1955-56	19·84	20·81	4200	8400
1956-57	19·00	20·03	4200	8400
1957-58	21·66	22·75	4200	8400
1958-59	16·42	17·58	3000	6000
1959-60	17·01	17·83	3000	6000
1960-61	16·31	17·34	3000	6000
1961-62	17·18	18·11	3000	6000
1962-63	16·47	17·25	3000	6000
1963-64	15·53	16·28	3000	6000
1964-65	15·40	15·98	3000	6000
1965-66	14·51	15·74	3000	6000
1966-67	16·41	17·56	3000	6000
1967-68	17·23	18·48	3500	6500
1968-69	17·47	18·82	4000	7000
1969-70	17·67	18·80	4000	7000
1970-71	NA	NA	4000	7000
1971-72	18·20	19·44	5000	7000
1972-73	16·09	16·40	5000	7000
1973-74	NA	NA	5000	7000
1974-75	15·13	15·98	5000	5000
1975-76	16·05	16·28	5000	5000

Sources : Columns (1) and (2)—Government of India, C.S.O., *National Accounts Statistics*, 1960-61 to 1974-75, 1970-71 to 1976-77. Columns (3) and (4) *All India Income Tax Statistics.*

Note : E_1—Exemption limit for assessees other than Hindu undivided families
E_2—Exemption limit for the Hindu undivided families
NA = Not available

TABLE A.24

Revenue from Taxes on Income Other than Corporation Tax and Net National Product at Market Prices (1961-62 to 1975-76)

(Rs. crore)

Year	Revenue from taxes on income other than corporation tax (accounts)	Estimate of additional revenue from discretionary changes (budget estimates)	The adjusted revenue from taxes on income other than corporation tax	Net national product at market prices
	(1)	(2)	(3)	(4)
1961-62	165·39	+ 2·00	255·88	15067
1962-63	185·96	+15·35	263·96	16059
1963-64	258·60	+39·00	311·71	18543
1964-65	266·95	— 2·72	325·05	21785
1965-66	271·80	— 2·50	334·00	22719
1966-67	308·68	+24·15	349·65	26030
1967-68	325·62	0	368·84	30478
1968-69	378·47	+14·00	412·84	31338
1969-70	448·45	+17·30	470·31	34665
1970-71	473·17	+13·75	481·81	37985
1971-72	536·74	+11·00	535·34	40404
1972-73	630·00	+ 3·00	625·37	44242
1973-74	745·00	0	739·52	54555
1974-75	874·00	0	867·57	64695
1975-76	1214·36	— 9·00	1214·36	73032

Sources: Columns (1) and (2) from the *Budgets* of the Government of India. Column (4) Government of India, C.S.O.,—*National Accounts Statistics*, 1960-61 to 1974-75, Table 2. The net national product at market prices for 1975-76 is estimated by adding to the net national product at factor cost given in Government of India, Ministry of Finance, *Economic Survey*, 1976-77, indirect taxes less subsidies at the same rate as 1974-75.

TABLE A.25

Effect of Inflation on the Effective Rates of Tax in 1969-70
(Estimated at 1960-61 prices)

Range of total income assessed	Range of total assessed income at 1960-61 prices	Individuals		Unregistered firms and other associations of persons		Hindu undivided family	
		Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)	Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)	Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)
(Rs.)	(Rs.)	(Per cent)	(Per cent)	(Per cent)	(Per cent)	(Per cent)	(Per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
below 4000	below 2484	2·97	2·97	4·41	4·41	6·72	6·72
4001— 5000	2485— 3106	1·19	—	4·10	—	0·56	—
5001— 7500	3107— 4658	2·86	1·19	6·18	4·10	2·09	—
7501—10000	4659— 6211	5·16	2·47	7·51	5·71	4·89	—
10001—12500	6212— 7764	6·99	3·81	9·00	6·40	6·81	3·00
12501—15000	7765— 9317	8·89	5·16	10·48	7·51	8·53	4·89
15001—17500	9318—10870	9·92	6·48	11·47	8·45	10·06	6·02
17501—20000	10871—12422	12·26	6·99	13·14	9·00	11·64	6·81
20001—25000	12423—15528	14·18	9·42	15·26	10·90	14·32	9·03
25001—30000	15529—18634	17·68	11·44	18·17	12·48	18·39	10·87
30001—40000	18635—24845	23·57	13·92	24·73	14·93	24·40	13·75

(Contd.)

TABLE A.25 (*Contd.*)

Range of total income assessed (Rs.)	Range of total assessed income at 1960-61 prices (Rs.)	Individuals		Unregistered firms and other associations of persons		Hindu undivided family	
		Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)	Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)	Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
40001— 50000	24846— 31056	29·51	20·42	26·80	21·65	30·36	19·81
50001— 60000	31057— 37267	33·57	23·57	31·99	24·73	34·50	24·40
60001— 70000	37268— 43478	37·39	27·63	36·67	26·22	38·28	27·20
70001—100000	43479— 62112	42·12	33·47	42·59	32·41	43·95	31·24
100001—200000	62113—124224	52·66	42·95	48·50	44·95	51·94	44·86
200001—300000	124225—186335	59·71	52·66	51·46	48·50	50·68	51·94
300001—400000	186336—248448	58·37	57·09	53·79	50·80	57·46	50·85
400001—500000	248449—310559	61·32	59·94	55·31	52·53	53·20	51·05
Over 500000	Over 310559	66·95	64·20	46·40	47·56	73·86	69·91

Source : Same as for Table A.2

TABLE A.26

Effect of Inflation on the Effective Rates of Tax in 1974-75
(Estimated at 1960-61 prices)

Range of total income assessed	Range of total income assessed at 1960-61 prices	Individuals		Unregistered firms and other associations of persons		Hindu undivided family	
		Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)	Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)	Actual effective rates of tax	Effective rates of tax applicable to the income ranges in column (2)
(Rs.)	(Rs.)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)	(per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
below 5000	below 2262	4·02	4·02	34·59	34·59	2·63	2·63
5001— 7500	2263— 3394	3·52	—	3·13	—	2·54	—
7501—10000	3395— 4525	4·81	—	5·79	—	5·42	—
10001—15000	4526— 6787	7·47	3·52	9·24	3·13	9·10	—
15001—20000	6788— 9050	12·03	4·50	13·70	5·06	13·80	4·57
20001—25000	9051—11313	16·74	6·67	18·51	8·17	18·21	8·08
25001—30000	11314—13575	20·46	7·47	22·22	9·24	22·72	9·10
30001—40000	13576—18100	26·77	10·85	28·15	12·59	29·51	12·95
40001—50000	18101—22624	34·57	15·09	35·78	17·20	37·42	17·19

(Contd.)

TABLE A.26 (*Contd.*)

Range of total income assessed (Rs.)	Range of total assessed income at 1960-61 prices (Rs.)	Individuals		Unregistered firms and other associations of persons		Hindu undivided family	
		Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)	Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)	Actual effective rates of tax (Per cent)	Effective rates of tax applicable to the income ranges in column (2) (Per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
50001— 60000	22625— 27149	40·56	18·69	39·97	20·66	42·92	21·31
60001— 70000	27150— 31674	45·21	22·98	45·05	25·69	47·38	26·87
70001—100000	31675— 45249	51·28	28·81	51·78	32·56	53·84	33·91
100001—200000	45250— 90498	65·04	43·62	63·44	44·53	66·22	46·17
200001—300000	90499—135747	74·81	58·13	73·55	61·55	73·06	63·07
300001—400000	135748—180995	75·79	65·04	77·77	63·44	79·18	66·22
400001—500000	180996—226244	80·16	67·36	83·42	70·78	81·75	70·95
over 500000	over 226244	87·64	83·52	80·56	79·49	81·03	78·68

Source : Same as for Table A.2

TABLE A.27

Distribution of Deductions among Individuals

(Per cent)

Percentage of assessees \ Year		1974-75		1976-77	
		Share in total deductions	Ratio of deductions to gross income	Share in total deductions	Ratio of deductions to gross income
First	10 per cent	6·25	7·94	6·63	14·77
Second	10 per cent	5·59	6·73	5·64	11·84
Third	10 per cent	5·59	6·73	6·04	9·90
Fourth	10 per cent	5·59	6·73	6·19	9·47
Fifth	10 per cent	7·07	6·65	7·65	10·23
Sixth	10 per cent	7·72	6·63	10·27	11·19
Seventh	10 per cent	11·14	7·18	10·27	11·19
Eighth	10 per cent	12·38	7·32	11·94	10·43
Ninth	10 per cent	14·55	6·69	13·35	9·15
Top	10 per cent	24·15	5·06	22·02	6·95
Top	5 per cent	15·59	4·80	14·03	6·56
Top	1 per cent	5·68	4·20	4·40	5·09

Source : Same as for Table A.2

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The National Institute of Public Finance and Policy, New Delhi is an autonomous, non-profit organisation, whose main functions are to carry out research, do consultancy work for governments, and impart training to the officials of various governments in public finance and related fields of policy. In addition to undertaking original research work, the Institute strives to fulfil the role of a vehicle for transferring the results of applied research to policy making in the country in the realm of public finance.

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Incidence of Indirect Taxation in India (Hindi Version) (1981). NIPFP

Resource Mobilisation in the Private Corporate Sector (Forthcoming). NIPFP

Measurement of Tax Effort of State Governments (Forthcoming). Somaiya Publications

Measurement of Tax Effort of State Governments 1973-76

(National Institute of Public Finance and Policy)

RAJA J. CHELLIAH and NARAIN SINHA

Questions concerning taxable capacity and tax effort have been of long standing interest among economists and policy makers. Recently, attempts have been made to develop measures of relative tax effort by the governments of different countries and by those of different States within the same country. The study attempts to measure the relative tax efforts of the different State Governments in India using the representative tax system approach for determining their relative taxable capacities. It explains the methodology employed in detail and examines the merits of the representative tax effort approach *vis-a-vis* the alternative aggregate regression approach. In applying the method to each major tax, it points out the various compromises that have to be made mainly because of data limitations and their likely effects on the value of the results.

The calculation in the study and the tax effort indices relate to the period 1973-76 covering 15 States. A post-script attempts briefly to examine if the relative positions of the different State governments in terms of tax effort have undergone any significant change since those years.

This work, which presents a cross section of the tax system of each major State in the country and brings out their basic structure along with the analysis of relative tax effort, will be of undoubted value to policy makers as well as to students and scholars in the area of public finance.

Somaiya Publications
(Forthcoming)

Resource Mobilisation in the Private Corporate Sector

(National Institute of Public Finance and Policy)

VINAY D. LALL, SRINIVASA MADHUR and K.K. ATRI

The study presents a detailed assessment of the resource mobilisation effort in the large-scale segment of the Indian private corporate sector, engaged in manufacturing activities. The study covers the period 1962-63 to 1975-76, but the analysis of the major trends has been extended upto 1979-80. The study contains an analysis of trends in the mobilisation of gross resources (inclusive of depreciation), an assessment of the composition of resources mobilised and an econometric exercise on the determinants of gross resources mobilised. While the econometric exercises are related to aggregate data, the analysis of the trends and structural composition of mobilised resources is made both for the corporate sector as a whole and for different categories of companies classified according to the size of their total assets, their age and level of efficiency. An important contribution of the study consists of the empirical evaluation of the impact of government policies (in particular, fiscal and monetary policies) on the ratio of equity to debt finance and the composition of owned funds. Some policy implications are drawn on the basis of the empirical evidence, keeping in perspective the qualitative assessments by the leaders of industry, financial institutions and the government on the problems of resource mobilisation in the private corporate sector.

(Forthcoming)