

A Measurement of Inequality in Urban Personal Income Distribution in Pakistan

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A Measurement of Inequality in Urban Personal Income Distribution in Pakistan

by

KHADIJA HAQ *

I

Scope of Analysis

The scope of this study was originally meant to be much wider, covering the whole field of concentration of income and wealth in Pakistan. Some indices of concentration can readily be computed from published data: for example, tax data can provide a partial index for urban income concentration; data on ownership of agricultural land are also available to indicate concentration of agricultural wealth; published banking statistics would show how the distribution of bank advances creates and perpetuates concentration of wealth. But data regarding ownership of industrial assets, stocks and shares and real estate are seriously lacking, making it very difficult at this stage to undertake a comprehensive study of this problem. As a first approximation, therefore, it is intended to present here a limited study of inequality in personal income distribution in the high-income brackets in the urban areas of Pakistan. This study will be supplemented at a later stage by an analysis of the other available indices of concentration of income and wealth¹.

The extent of income inequality prevailing in Pakistan has already become a fairly controversial subject. No attempts have yet been made, however, to quantify this problem. The subject has many dimensions and this study makes only a modest beginning in quantifying some aspects of the urban personal income distribution in Pakistan. The object here is to present, on the basis of income tax data, the income distribution pattern in terms of the relative shares of different

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¹ From published balance sheets of the companies which are listed on the Karachi stock exchange it is possible to make a sample survey of industrial concentration in the country, and the author is currently busy in completing such a study.

income groups as well as in terms of Pareto coefficients and concentration ratio during the period 1948-49 to 1957-58 for which published tax data are available².

Main Findings

Keeping in mind the limitations of the basic data, the tentative conclusions which emerge from the analysis are summarised below:

- i) The degree of inequality in personal income distribution in Pakistan is quite high, compared not only with developed countries like the United Kingdom and the United States of America, but also with some of the developing countries with similar socio-economic set-up.
- ii) The distribution of incomes is more skewed in West than in East Pakistan, especially in favour of the top one per cent of the income tax population.
- iii) Although the pattern of income distribution is still very skewed in favour of the rich, it is better in 1960-61 than it was in 1948-49 and there is an overall trend towards a reduction of disparities within the high income bracket. This trend is observable not only in indices based on All Pakistan data but also in indices based on regional data.

Limitations of Data

The data on which the above conclusions are based are subject to various limitations and qualifications. In order to avoid giving any undue importance to these findings, it is well to recognise their limitations at the start.

No nationwide survey of income distribution has yet been undertaken in Pakistan. The annual *All Pakistan Income Tax Returns* published by the Central Board of Revenue are available from 1947-48 to 1957-58. There is a lag of about five years between the year of assessment and the year of publication. But other limitations of tax data are of a more serious nature.

First, only non-agricultural income is subject to income tax, so that almost the entire rural sector falls outside the purview of this study.

Secondly, because of the first and also because of the high exemption limit of income tax (which is about twenty times higher than the per capita income of the country at present), a very low percentage of the population is covered by the tax system — as low as less than one-tenth of one per cent of the population³.

² No income tax returns have yet been published for the period after 1957-58. The author was successful, however, in obtaining the unpublished returns for 1960-61 and the analysis in this paper draws on this unpublished data to indicate the recent trend.

³ "In the U.K. the number of people paying income tax is equal to just over 30 % of the population, in the U.S.A. 25 %, in Jamaica 2.1 % . . . in Ceylon 0.6 %" [7].

Thirdly, tax base keeps on changing as exemption limit changes from one year to the next, thus affecting the comparability of estimates over time. A way-out is tried in this study by fixing a uniform tax base at Rs. 3,500 for all the years under consideration although the exemption limits in those years were different from this base⁴. The method used here is this: for the years when the exemption limit was lower than Rs. 3,500 all the income earners below the income category Rs. 3,500 were excluded and when the exemption limit was higher than Rs. 3,500, we still get quite a large number of observations below the limit for two reasons⁵: i) the exemption limit does not apply to foreigners; ii) sometimes assessment is made two to three years after the income is earned and this is usually true of business income. Here, assessment is made according to the exemption limit of the year of earning. Since the exemption limit was above Rs. 3,500 for only three years covered by the study (*viz.*, 1955-56 to 1957-58), the limitation is not a serious one.

Fourthly, as the coverage of data is affected by the efficiency with which taxable income is assessed and taxes collected, the more inefficient the tax machinery the less coverage the data are likely to have. One way to measure the efficiency of the tax-collection machinery is to see whether the number of tax payers, the amount of taxable income and tax yield are increasing with the rise in national income. Over the period 1949-50 to 1959-60, national income has risen by about 59 per cent, the number of tax payers by 77 per cent, the amount of taxable income by 76 per cent and the amount of tax yield by 75 per cent (*source*: Tables A-5 and A-6). So on the face of it, it appears that the tax machinery has not been too lax in carrying out its duties. But this comparison is erroneous, however, because the tax-paying sectors in the economy (*e.g.*, manufacturing, trade, services, *etc.*) have been growing at a rate much faster than the rest of the economy. A rough calculation shows that these sectors increased by 92 per cent over this period in current prices. Even with the qualification that the tax base has been raised over the period, this supports the hypothesis that the efficiency of the tax-collection machinery might have deteriorated during the period covered by the study especially when it is recalled that the marginal rate of taxation kept increasing on paper.

Fifthly, as we do not have any direct estimates of personal income, we have tried to make some approximate estimates of the same from total income,

⁴ For instance, the exemption limit was Rs. 2,500 for 1948-49, Rs. 3,000 for 1951-52 and Rs. 4,200 for 1955-56.

⁵ Thus, in 1957-58, out of a total number of 94,188 tax payers, the income of as many as 15 per cent (or 14,314 tax payers) was shown in the income-tax returns in the Rs. 3,500 to Rs. 5,000 category.

excluding company income. These estimates might give an exaggerated figure because of the inclusion of unregistered firms and other association of persons⁶.

It should also be noted that throughout this study: *i*) "income" refers only to the reported money income before deduction of individual income taxes so that non-money income benefits get automatically excluded. Money income is defined as the sum of civilian money wages and salaries, entrepreneurial income from non-farm business or profession, interest, dividends, rents, royalties and other miscellaneous items; *ii*) "year" refers to the year of assessment; and *iii*) the unit is the individual tax payer.

Assessments are made according to total income earned which is called gross taxable income and income classes are formed on the basis of this gross taxable income. Then some deductions and concessions are made from this gross taxable income to arrive at the net taxable income which is subject to taxation. Now, the income figure which appears in the tax returns in Pakistan is the net taxable income whereas the income categories are based on the gross taxable income so that this figure is always less than the income figure arrived at by multiplying the mid-value of income class with the number of assessee in that class. If there is reason to believe that a higher level of tax concession and deductions is given to the lower income group, any inequality index based on gross taxable income will show a smaller degree of inequality than the one based on net taxable income. Again, since East Pakistan enjoys more tax concessions than West Pakistan, the concentration ratio based on gross taxable income is much lower than that based on net taxable income in East Pakistan compared to West Pakistan⁷.

The background tables on income distribution are given in the Appendix. These include tables on an all Pakistan basis as well as separately for East and West Pakistan.

As the population of this study refers to only those tax payers in Pakistan who earn Rs. 3,500 and over, the study concerns itself with the measurement of the inequality gap between the bottom and the top of the tax population. The unavoidable exclusion of the general mass of population does make the problem look less problematical and the gap narrower. But the limitations of such a study should be kept constantly in mind if its findings are to be put in their proper perspective.

⁶ A rough estimate of the magnitude of this sector is in order here. In 1957-58, 9 per cent of income tax population and 11.5 per cent of taxable-income belonged to this category of unregistered firms and other associations of persons.

⁷ This point is elaborated in Section IV. *See also*, Table A-4.

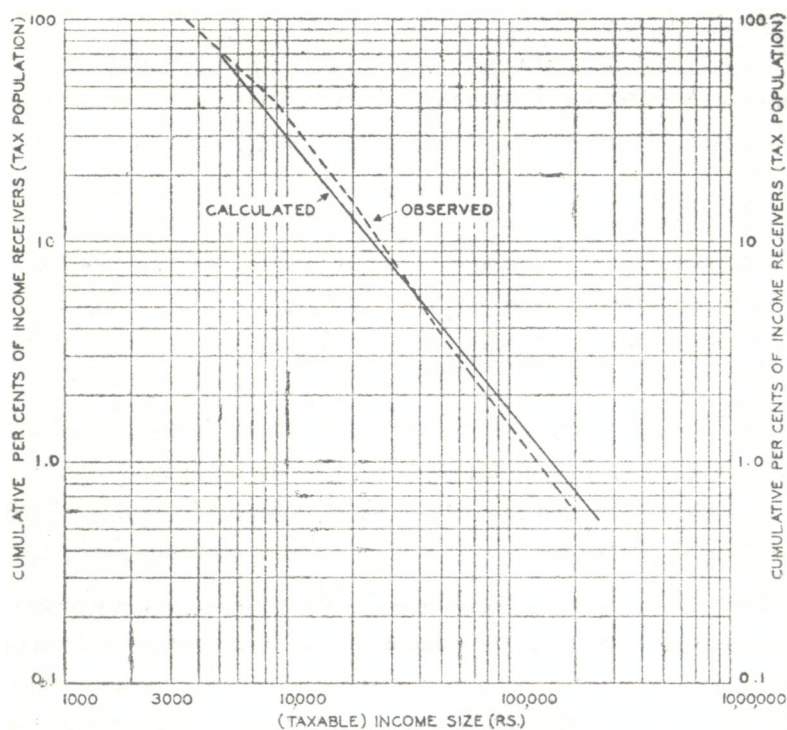
Description of the Measures Used

Although the inadequacy and inaccuracy of data has been the main drawback in analysing any income distribution, the profusion of theoretical tools available to an analyst to study various parts of an income distribution is certainly a redeeming feature. The choice of a particular set of tools used in this study in preference to others has been made, firstly, because of the character of the available data on income, and, secondly, because it was thought that the resultant measures would be more easily understood by a greater number of readers.

Numerous measures are used all over the world for the description of income distribution, yet few are so widely known and commonly used as the Pareto index. This index is derived from Pareto's law which in its simple form states that the distribution of income in the upper income ranges can be described by the equation $N = \frac{A}{x} \propto$ when N is the number of persons receiving an income ' x ' or more, and A and \propto are two constants. The above formula could also be represented in the logarithmic form: $\log N = \log A - \propto \log x$, and in this form the least-square values of A and \propto are computed. When the number of income receivers are calculated and plotted on a double log paper, it gives a straight line with a negative slope. Pareto's \propto , the slope of the straight line, is treated as the index of inequality. The higher the value of \propto , *i.e.*, the steeper the slope of the Pareto line, the less the dispersion in the size of income within that range and hence the less the inequality, and vice versa. This would hold for the entire range of income if the range were adequately described by the Pareto formula, but in fact no known distribution of income fits this formula except the very high income tails. For example, in India the Pareto range was found out for incomes above Rs. 8,400 for the year 1954-55, and within this range the data gave a very good fit to the formula with the value of $\propto = 1.72$ [1].

The type of income distribution that is observable in Pakistan is Paretian in the sense that when it is plotted on a double logarithmic paper the result is a straight line with negative slope. The linearity becomes more obvious when the calculated results are plotted, and the difference between the observed and the calculated lines is not of such a magnitude as to give any cause for worry.

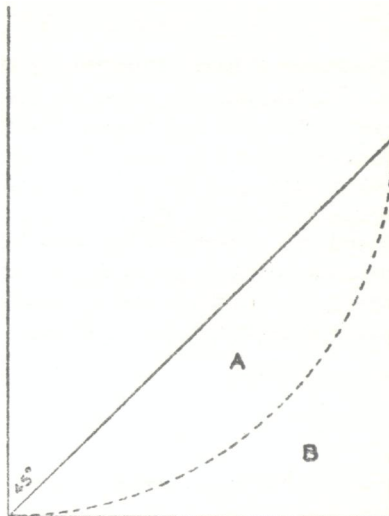
A graph of observed and calculated Pareto lines for the year 1949-50 is presented in Graph 1. Pareto coefficient has been calculated for annual incomes of Rs. 3,500 and over.



GRAPH 1 PARETO LINE FOR PAKISTAN FOR THE YEAR 1949-50

Although the Pareto line and the Pareto coefficient give a good indication of the character of income distribution in the upper ranges in a country, the Lorenz curve is the technique most commonly used to indicate the differences in the degree of inequality of different income distributions. It is a simple graphic device. The cumulated percents of aggregate income are plotted against cumulated percents of income receivers. If income were evenly distributed this would give a diagonal straight line rising from the lower left-hand corner to the upper right-hand corner of the diagram. The convexity of the plotted curve will be greater, the greater the degree of inequality. However, the conclusions regarding the

degree of inequality become ambiguous when the two curves of varying distributions intersect. So Gini invented the concentration ratio which is the ratio of the area of concentration to the area of maximum possible concentration. If we designate the area inside the Lorenz curve as A and outside the curve as B, then the concentration ratio would be $\frac{A}{A+B}$. The value of concentration ratio varies between 0 and 1, 0 meaning perfect equality and 1 perfect inequality.



This concentration ratio or Gini coefficient, as it is called, can be approximated either *i)* from the Lorenz curve itself [6, p. 22], *ii)* from mean difference [2], or *iii)* from Pareto's \propto [3].

In this study, the concentration ratio has been calculated from mean difference, as this measure is the mean difference between N incomes divided by twice the arithmetic average of the N terms. Mean difference is computed as an arithmetic average of differences, taken without regard to sign, between all possible pairs of income⁸.

A word of caution is in order here regarding the comparability of these two measures of inequality, *viz.*, Pareto and Gini coefficients. As different measures give importance to different parts of a distribution, it is not unlikely that sometimes their movements may not be comparable (*see*, Table 3, years 1955-56 and 1956-57), or sometimes they may even move in a reverse direction (*see*, Table 3, year 1949-50). So long as both the measures imply the same overall trend, the non-comparability of year-to-year movement should not be taken seriously.

⁸ Sample calculation:

Mid-values	Frequencies
y1	x1
y2	x2
y3	x3
y4	x4

$$\text{Mean difference} = \frac{(y_2 - y_1) x_1 x_2 + (y_3 - y_1) x_1 x_3 + (y_4 - y_1) x_1 x_4 + (y_3 - y_2) x_2 x_3 + (y_4 - y_2) x_2 x_4 + (y_4 - y_3) x_3 x_4}{n!}$$

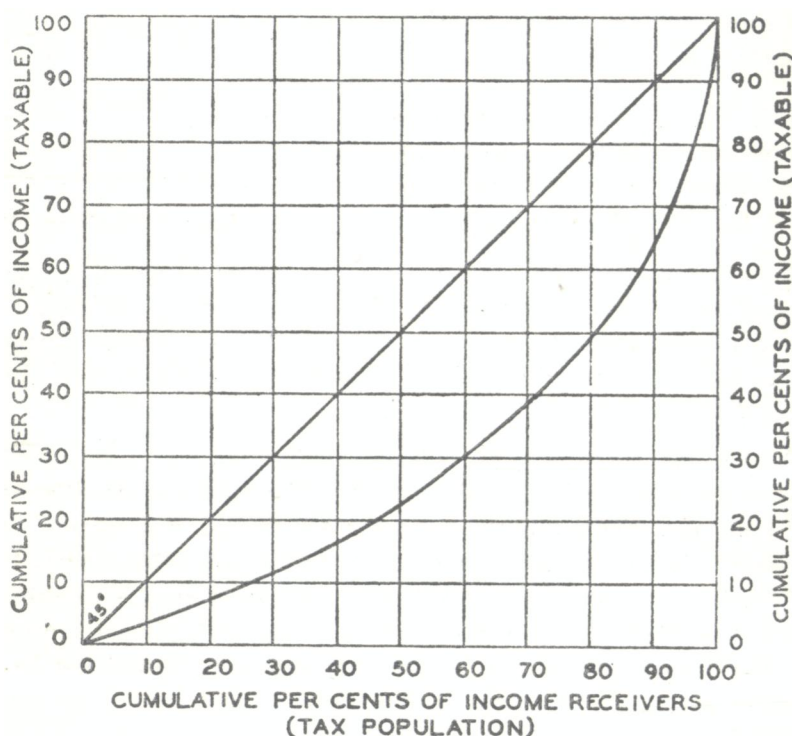
$$\text{concentration ratio} = \frac{\text{mean difference}}{2 \text{ arithmetic mean income}}$$

A simpler way of calculating this Gini coefficient from relative mean difference has been worked out by Prof. Alfred H. Conrad in [2a]. Here the computation is carried out from two cumulative frequency distributions (the plotted points on the curve) with the formula: $R = (p_i - 1, q_i - 1) / 100,00$, where p_i 's are the cumulative percentages of the number of income receivers and q_i 's are the cumulative percentages of income received.

II

Pattern of Income Distribution in 1960-61

The indices computed for the latest year for which data are available (*i.e.*, 1960-61) show a high degree of inequality amongst the tax-paying population in Pakistan. Top 1 per cent of such population got 11.3 per cent of income, top decile accounted for 35.4 per cent of incomes and 50.1 per cent of income accrued to the top quintile. On the other hand, the bottom 50 per cent of the tax-paying population had only 23.5 per cent of income. On the basis of cumulative percents of taxable income and income-tax population, a Lorenz curve was drawn which is shown in Graph 2. The concentration ratio for the year equals 0.45 and Pareto coefficient is 1.51.



GRAPH: 2 LORENZ CURVE FOR THE DISTRIBUTION OF INCOME IN PAKISTAN, 1960-61

The real significance of this pattern of distribution does not become clear unless we put it in the perspective of the income distribution of other countries, compare the distribution pattern of the two regions of Pakistan, and find out whether there is any trend in this pattern and, if so, in what direction.

It is now to these questions that we address ourselves.

III

International Comparison of Pakistan's Income Distribution

International comparisons always seem to raise great skepticism, more so in the field of income distribution since there are great differences in the sources

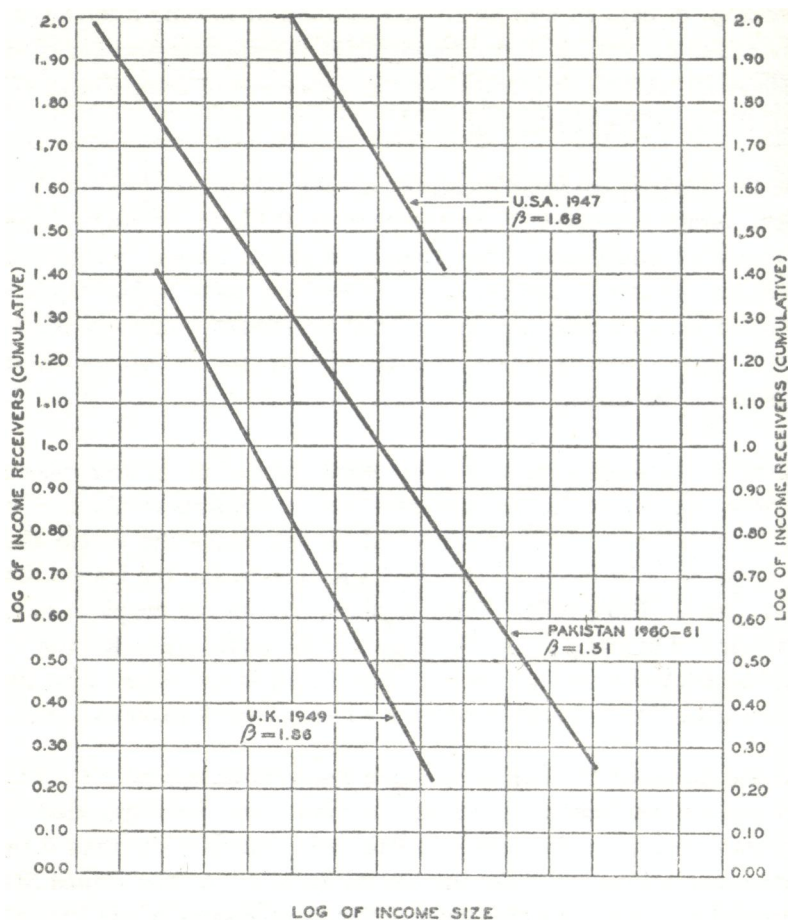
and coverage of data as well as in the definition of income receiving units in various countries. Still, in order to highlight the relative position of income inequalities in Pakistan, it is necessary that some sort of comparisons be made with all the usual reservations in mind.

As this study is concerned with the pattern of income distribution that is prevalent within the upper income groups in Pakistan, attempts have been made to get the distribution pattern within the upper income brackets in other countries too so as to make the comparison more meaningful. Moreover, as the Pakistani data are collected entirely from tax returns, comparisons are made only with those countries which have got similar source of formation for income-size distribution.

Since we are dealing only with the upper part of an income distribution, comparison in terms of Pareto lines and Pareto coefficients would be of greater validity than in terms of concentration ratios, and hence the Pareto lines are drawn in Graph 3 for Pakistan, the United Kingdom, and the United States of America (*source*: Table A-7). The UK line is drawn for people earning over £ 250 a year and covering about 17 per cent of the total United Kingdom population. The USA Pareto line, on the other hand, is concerned with the very top 1 per cent of the population which is earning over \$ 10,000 a year.

As the slopes of the Pareto tails are good indicators of the distribution pattern in the upper income ranges, it is obvious from the graph that the inequality gap among the rich people in Pakistan is much wider than is the case with the developed countries like the United Kingdom or the United States of America. Pakistan's Pareto line is much flatter and the value of the Pareto coefficient is 1.51 (1960-61) compared with 1.68 (1947) for the United States of America, and 1.86 (1949) for the United Kingdom. Whether the same is true for other underdeveloped countries we do not know but it is quite likely that Pakistan's income distribution might be more skewed in favour of the very rich compared to her neighbours as we have already observed that the Pareto coefficient for India was found to be 1.72 for the year 1954-55 [1].

The concentration ratios calculated for various countries are available for comparison purposes, but here the main problem one faces is that whereas the concentration ratio for Pakistan is based on a tiny fraction of the population, ratios of other countries refer to the whole population so that it is not very meaningful to compare just the top part of Lorenz curve of one country with the whole curve of another, unless in the first country the Lorenz curve runs fairly smoothly and the curvature of the top piece of the curve is a good representation



GRAPH 3 PARETO LINES FOR PAKISTAN, U.K. AND U.S.A.

of the whole curve. With these reservations, one may perhaps compare Pakistan's concentration ratio with those of India's and Ceylon's. Here again, Pakistan compares unfavourably with these two countries of similar socio-economic set-up. Pakistan's concentration ratio is 0.45 (1960-61) as against India's 0.40 (1953-54 to 1956-57) [4; 8, pp. 711-720] and Ceylon's 0.42 (1952-53) [5].

It is difficult, however, to put much faith in this type of international comparisons. Comparisons between the two wings of Pakistan would be more meaningful. To these we turn now.

IV

Pattern of Income Distribution in East and West Pakistan

There is a widespread belief that the existing pattern of income distribution is more unequal in West than in East Pakistan. This seems to be confirmed by the

shares of various income groups in the upper income bracket as given in Table I below. It is clear from the table that whereas the top 1 per cent of the tax-paying population was receiving less than 10 per cent of the total taxable income in East Pakistan in 1957-58, the share was as high as 16 per cent in West Pakistan. On the other hand, the bottom 50 per cent received more than 24 per cent of the income in East Pakistan and less than 22 per cent in West Pakistan. The pattern of income distribution, therefore, appears to be more skewed in West Pakistan.

TABLE I
PATTERN OF INCOME DISTRIBUTION IN EAST AND WEST PAKISTAN

Year	Region	Top 1 %	Top 10 %	Top 20 %	Bottom 50 %
1950-51	East Pakistan	10.5	43.1	58.0	19.2
	West Pakistan	16.2	44.3	58.4	18.9
1957-58	East Pakistan	9.6	34.5	47.4	24.5
	West Pakistan	16.1	41.8	55.4	21.8

Source: Appendix tables.

This impression, however, is not confirmed by other indices of inequality, such as the Pareto coefficient or the concentration ratio. For most years, these indices show a similar pattern of distribution in East and West Pakistan. As a matter of fact, in 1957-58 the concentration ratio is higher in East Pakistan (0.55 as against 0.53 in West Pakistan)⁹ and the value of Pareto coefficient is equal to 1.47 compared to 1.49 in West Pakistan. Not much significance can be attached, however, to the results obtained from these indices since they run contrary to the impression one gets from the frequency distribution. Actually, the paradoxical results obtained from these indices merely illustrate their limitation and show that these statistical techniques are not quite appropriate for the kind of income distribution that we are dealing with.

There is another explanation for the paradoxical results obtained by the use of the Pareto coefficient and the concentration ratio. In this study, the income classification is based on gross taxable income but the total income shown in each category is that obtained after allowing for various tax deductions and

⁹ Although it is obvious from the frequency tables (*see*, Appendix tables) that the mean difference in East Pakistan is lower than that of West Pakistan, the average income in East Pakistan is lower too, which pushes up the concentration ratio.

tax allowances and concessions. If one tries to construct a hypothetical distribution of gross taxable income, by taking the middle point of each gross income bracket and multiplying it by the number of assessee¹⁰, the results seem to conform to the pattern indicated in Table I above. As indicated in Appendix Table A-4, the concentration ratio on the basis of gross taxable income was 0.37 in East Pakistan in 1957-58 and 0.40 in West Pakistan, thus confirming the impression that income pattern is more skewed in West Pakistan.

V

Trend of Income Inequalities, 1948-1961

The pessimistically high degree of inequality observed in 1960-61 (Section II) gives way to some guarded optimism when viewed over a period of time in the past. All the time series, be it the shares of different income groups, Pareto coefficient or concentration ratio, show that the magnitude of inequality in personal income among the high income groups in Pakistan has been decreasing over the period from 1948-49 to 1960-61. This is brought out in Table II below.

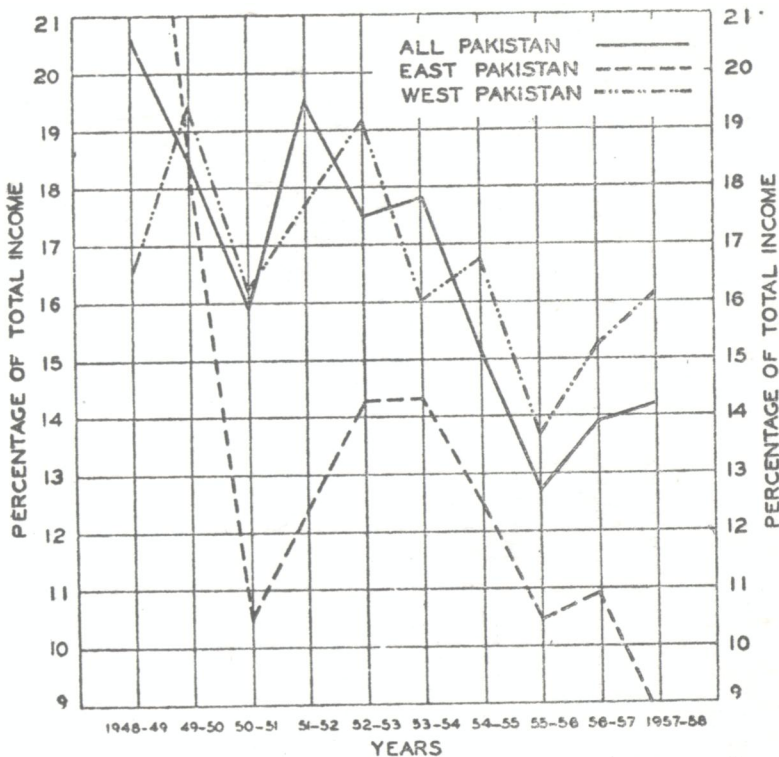
TABLE II
TREND IN THE SHARES OF VARIOUS INCOME GROUPS

Year	Top 1%			Top 10%			Top 20%			Bottom 50%		
	All Pak	E.P.	W.P.	All Pak	E.P.	W.P.	All Pak	E.P.	W.P.	All Pak	E.P.	W.P.
1948-49	20.6	30.7	16.5	48.4	54.7	45.8	61.3	66.4	59.3	17.3	14.8	18.2
1949-50	18.5	18.9	19.4	48.7	47.1	49.1	61.8	60.5	62.1	17.4	18.2	17.1
1950-51	15.9	10.5	16.2	43.0	43.1	44.3	58.4	58.0	58.4	18.9	19.2	18.9
1951-52*	19.5	—	—	48.9	—	—	63.0	—	—	14.3	—	—
1952-53	17.5	14.3	19.1	45.9	42.1	46.2	58.6	56.1	59.6	19.7	20.7	19.2
1953-54	17.8	14.3	16.0	44.7	40.9	44.3	57.6	55.6	57.9	20.1	20.2	20.1
1954-55	15.1	12.5	16.7	43.0	37.7	43.8	55.7	52.3	56.8	21.2	21.9	20.8
1955-56	12.7	10.5	13.7	40.2	36.5	38.6	52.1	50.7	52.6	23.5	24.0	23.5
1956-57	13.9	10.9	15.2	37.5	36.9	39.2	51.6	51.0	51.7	24.4	24.4	24.5
1957-58	14.2	9.6	16.1	40.1	34.5	41.8	53.4	47.4	55.4	23.0	24.5	21.8
1960-61*	11.3	—	—	35.4	—	—	50.1	—	—	23.5	—	—

* For 1951-52 and 1960-61 regional breakdown of income tax data are not available.

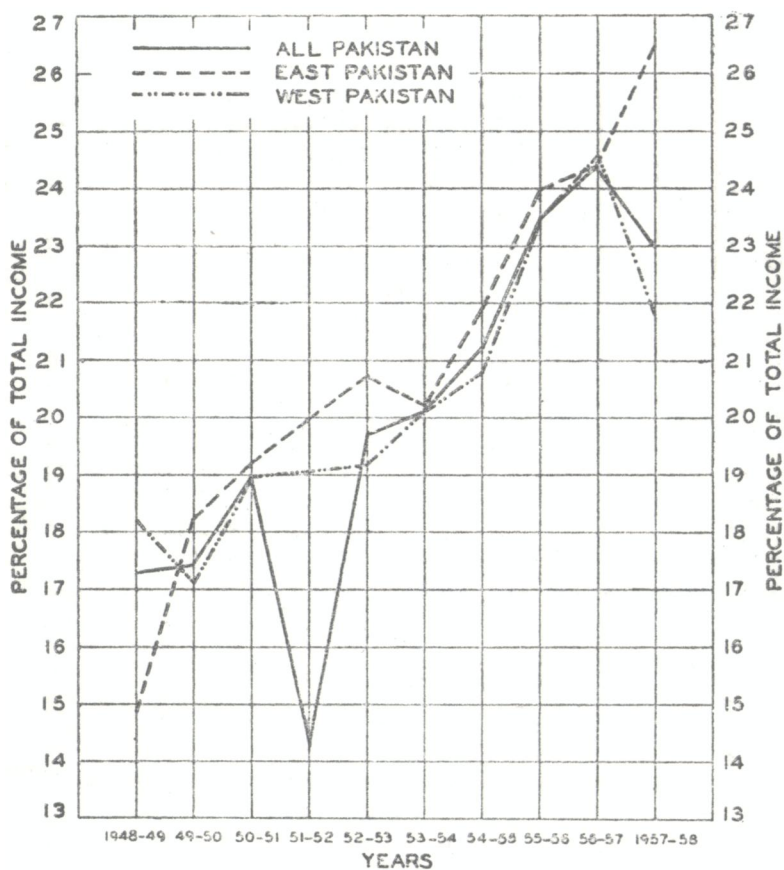
¹⁰ The implicit assumption in this procedure is that income distribution within each income group is uniform.

As is clear from the above table, the relative shares of the top 1 per cent, top 10 per cent and top 20 per cent of the tax population have gone down over the period of 10 years whereas that of the bottom 50 per cent has gone up. The decline is much sharper in the case of East than in that of West Pakistan. These

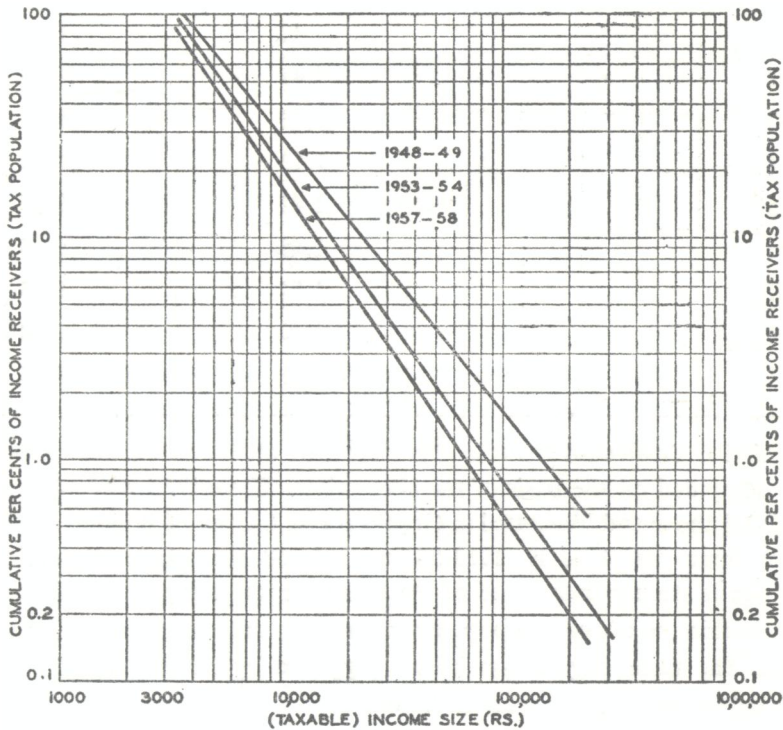


GRAPH: 4 MOVEMENT OF THE INCOME SHARE OF THE TOP 1% OF THE TAX POPULATION

trends are also presented in Graphs 4 and 5. Graph 4 brings out the trend in the share of income received by the top 1 per cent of the tax-paying population while Graph 5 presents the trend of the share received by the bottom 50 per cent. Apart from some rise and fall in the annual series, the overall trend of Graph 4 is downwards and that of Graph 5 is upwards.



GRAPH : 5 MOVEMENT OF THE INCOME SHARE OF THE BOTTOM 50% OF THE TAX POPULATION



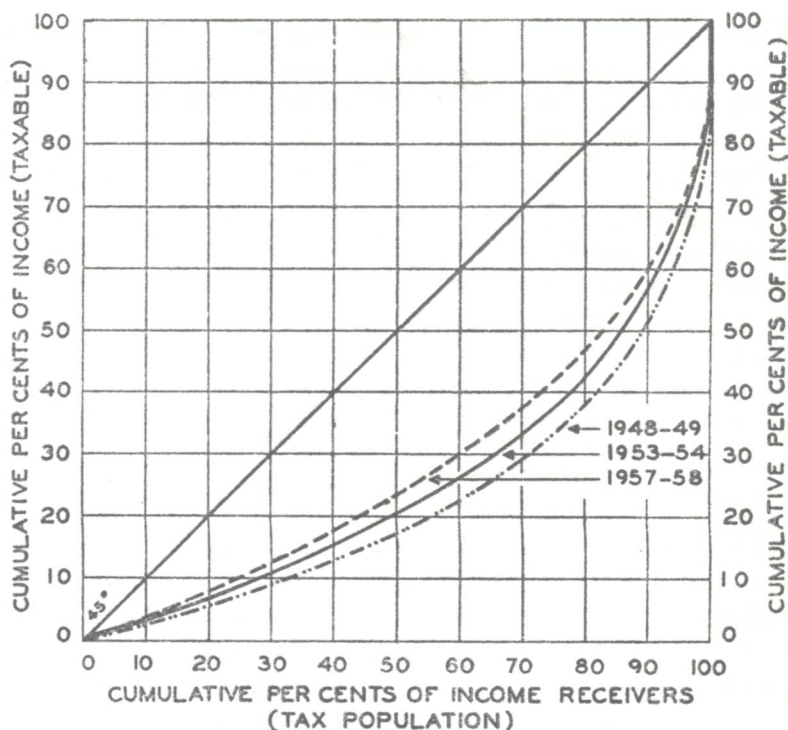
GRAPH 6 PARETO LINES FOR PAKISTAN

TABLE III
TREND IN THE INEQUALITY INDICES

Year	Pareto coefficient	Concentration ratio
1948-49	1.21	0.61
1949-50	1.23	0.65
1950-51	1.42	0.62
1951-52	1.42	0.61
1952-53	1.42	0.61
1953-54	1.42	0.55
1954-55	1.42	0.55
1955-56	1.48	0.53
1956-57	1.54	0.53
1957-58	1.49	0.54
1960-61	1.51	0.45

A similar downward trend is also shown by all the inequality indices that can be computed on the basis of the above data. These indices are reproduced in Table III above and illustrated in Graphs 6 and 7. Graph 6 presents the Pareto lines for three year 1948-49, 1953-54 and 1957-58. The slope of the 1957-58 Pareto line is steeper than those of the earlier years, implying that income inequality within the tax-paying population has been decreasing over the period in Pakistan. The same implication is also suggested by the less convexity of the Lorenz curves of the later years in Graph 7.

The foregoing analysis is based on the distribution of net taxable income. If here again we try to construct a hypothetical distribution of gross taxable income for Pakistan as a whole and compute the shares of various income groups of the tax population, the distribution pattern becomes more even and the concentration ratio is only 0.39 for 1957-58 on the basis of gross taxable income as against 0.54 for net taxable income ((*see*, Table A-4(e)). If we take the distribution pattern of post-tax income it shows a still more equal distribution with a concentration ratio of 0.35 for the year 1957-58 ((Table A-4(f)). On the basis of this indirect check, this much may be said that, within the groups of people paying income tax, the tax system is working as an equaliser.



GRAPH : 7 LORENZ CURVES FOR PAKISTAN

It must be clearly recognised, however, that the conclusion about the decreasing trend of income concentration in Pakistan is subject to grave limitations. Firstly, for all practical purposes, 1948-49 and 1949-50 should be regarded as extraordinary years and the observations for these two years should be ruled out for purposes of analysing the trend. These were the initial years after the Partition when the tax machinery had still not been organised in any extensive or efficient manner so that the tax collections were mainly derived from the few who could easily be brought within the taxation framework. Moreover, there was a good deal of migration of Hindu population from Pakistan, particularly from East Pakistan, which visibly affected the trend since the Hindu families happened to be in the high income brackets. Thus, the decline in the share of the top 1 per cent in East Pakistan, from 30.7 per cent in 1948-49 to 10.5 per cent in 1950-51, cannot be given much significance. Nor is it possible to give much credence to a Pareto coefficient which is as low as 1.21 in 1948-49 because it is affected by the same set of factors which make the distribution of top 1 per cent in East Pakistan extraordinarily high in 1948-49. It would be more appropriate to study the trend from 1950-51 to 1960-61 when the Pareto

coefficient rises from 1.42 to 1.51 and the pattern of income distribution looks to be more reasonable compared with the international standards. If we take the trend over 1950-51 to 1960-61, the decline in income concentration is, of course, much more modest than what appears to be the case in comparison with 1948-49.

Secondly, this study does not seek to measure inequality between the richer and the poorer sections of the population. It covers only 0.1 per cent of the total population and about 1 per cent of the urban population in Pakistan. At most what it shows is that the relative position of new entrants and lower income groups in the *tax-paying* population is improving. This is an interesting result as long as it does not obscure the real position about inequalities in the economy. In fact, as analysed below, various indirect checks reveal that the inequality of income between the tax-paying population and the rest of the economy may have been increasing over the period chosen for this study.

Thirdly, a rough idea about the concentration of income in the whole economy can be formed by computing elasticities of: *i*) taxable income to national income; and *ii*) tax yield to taxable income. As computed in Table A-6, the elasticity of taxable income to national income is 1.64 (*i.e.*, greater than unity) which means that the income of the tax-paying population has been growing at a faster rate than the rest of the population. On the other hand, the elasticity of tax yield to taxable income is only 0.43¹¹ (*i.e.*, less than unity) which shows that the growth in the tax liability was much less than proportionate to the growth in the income of the tax-paying population. In other words, the tax-paying population has been receiving an increasing share of the national income while paying a decreasing percentage of it in taxes. This check at least implies that the inequality of income between the upper income brackets and the rest of the economy has been increasing over time.

Fourthly, it should be recalled that the period from 1953 to 1957 was marked by rapid industrialisation, led by cotton textiles. This was a period of cumulative capital formation and it is anybody's guess as to what amount of income escaped taxation and how much of the actual income earned was assessed to taxation. In fact, the post-Martial law experience of 1958 (when over Rs. 130 crores of previously escaped income was declared for taxation) shows that a lot of income was escaping taxation. Thus, even within the group of people paying income tax, the observation about reduction in income inequality may just as well be a reflection of increasing tax evasion by high income groups rather than show a real trend.

¹¹ This is a crude elasticity which includes the effects of changes in tax rates and tax base. For studying inequality, this is the relevant one as it gives a complete picture after all the changes have taken place.

It is not possible to overcome these limitations of the study with the kind of data that are available. It is necessary, however, to keep these limitations in mind so as to resist the temptation of making a generalisation that income inequality in Pakistan is being reduced gradually. Any such conclusion can emerge only from further work on various other indices of inequality, like concentration of industrial and agricultural wealth and concentration of bank advances, and a more comprehensive study of the income distribution in rural and urban areas. In the meanwhile, this study offers some observations of limited application to high income groups in the urban areas.

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Appendix A : Basic Reference Tables

TABLE A-1

PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN ALL PAKISTAN

Income class (rupees per year)	1948—49			1949—50		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	6602	26.8	22463	10455	25.5	34927.7
5,000—7,499	5907	24.0	28271	10396	25.4	51375.2
7,500—9,999	3200	13.0	22103	5162	12.6	33200.7
10,000—12,499	2394	9.7	21178	3967	9.7	34657.1
12,500—14,999	1325	5.4	14420	1957	4.8	20688.2
15,000—19,999	1728	7.0	22826	2746	6.7	36437.6
20,000—24,999	930	3.8	16491	1764	4.3	30396.1
25,000—29,999	662	2.7	14190	1148	2.8	24545.2
30,000—39,999	649	2.6	17608	1182	2.9	32034.0
40,000—49,999	345	1.4	12538	629	1.5	23383.3
50,000—74,999	367	1.5	18882	642	1.6	32130.2
75,000—99,999	188	0.8	12188	269	0.7	19505.0
100,000—199,999	203	0.9	20375	389	0.9	40536.8
200,000 and over	101	0.4	45821	204	0.6	71946.3
Total	24601	100.0	289355	40910	100.0	485763.4

Source : All Pakistan Income Tax Reports and Returns (Statement No. 5), published by the Central Board of Revenue.

TABLE A-1 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN ALL PAKISTAN

Income class (rupees per year)	1950—51			1951—52		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	12030	25.2	39180.6	13288	28.4	20653
5,000—7,499	12868	27.0	60616.9	12501	26.7	59927
7,500—9,999	5815	12.2	38446.5	4431	9.5	30115
10,000—12,499	4578	9.6	39232.7	4879	10.4	42337
12,500—14,999	2314	4.9	24198.9	2280	4.9	24464
15,000—19,999	3240	6.8	42088.1	3168	6.8	41268
20,000—24,999	2005	4.2	33999.4	1359	2.9	23479
25,000—29,999	1327	2.8	28668.6	1676	3.6	37345
30,000—39,999	1357	2.8	37696.5	1292	2.8	38044
40,000—49,999	665	1.4	24262.8	628	1.3	24243
50,000—74,999	753	1.6	36198.8	606	1.3	30782
75,000—99,999	291	0.6	20573.8	240	0.5	18218
100,000—199,999	288	0.6	31766.8	271	0.6	29885
200,000 and over	133	0.3	44522.6	160	0.3	60403
Total	47664	100.0	501453.0	46779	100.0	481163
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5), published by the Central Board of Revenue.

TABLE A-1 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN ALL PAKISTAN

Income class (rupees per year)	1952—53			1953—54		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	16870	29.3	56975.7	16483	29.1	57323.5
5,000—7,499	14894	25.9	72841.4	14588	25.7	71819.0
7,500—9,999	7059	12.3	46312.7	7062	12.5	48599.6
10,000—12,499	5571	9.7	48739.8	5256	9.3	46241.8
12,500—14,999	2449	4.2	26603.3	3068	5.4	33108.4
15,000—19,999	3635	6.3	48016.7	3430	6.0	46772.1
20,000—24,999	2027	3.5	34899.8	1876	3.3	33761.4
25,000—29,999	1742	3.0	38662.3	1741	3.1	39379.8
30,000—39,999	1353	2.3	38889.0	1350	2.4	38816.5
40,000—49,999	661	1.1	25050.3	654	1.2	25416.2
50,000—74,999	615	1.1	36795.7	539	0.9	28593.0
75,000—99,999	267	0.5	19652.0	233	0.4	17172.5
100,000—199,999	275	0.5	31652.0	250	0.4	33106.4
200,000 and over	159	0.3	63386.5	149	0.3	56656.3
Total	57577	100.0	588477.2	56679	100.0	576766.5
			100.0			100.0

Source : All Pakistan Income Tax Reports and Returns (Statement No. 5), published by the Central Board of Revenue.

TABLE A-1 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN ALL PAKISTAN

Income class (rupees per year)	1954-55			1955-56		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500-4,999	15887	26.3	55859.4	17559	24.8	60586.0
5,000-7,499	16860	28.0	84158.4	21790	30.8	103653.7
7,500-9,999	8031	13.3	55233.4	10044	14.2	66109.1
10,000-12,499	5294	8.8	47960.2	6553	9.3	58313.9
12,500-14,999	3526	5.8	37485.2	3941	5.6	41376.4
15,000-19,999	3758	6.2	49499.6	4061	5.7	55771.4
20,000-24,999	2131	3.5	37991.2	2055	2.9	35077.2
25,000-29,999	1760	2.9	47651.4	1782	2.5	39299.1
30,000-39,999	1285	2.1	38644.8	1193	1.7	33072.0
40,000-49,999	607	1.0	22821.7	609	0.9	22607.7
50,000-74,999	612	1.0	30236.1	619	0.9	33605.7
75,000-99,999	223	0.4	15855.7	137	0.2	8966.1
100,000-199,999	230	0.4	25500.9	300	0.4	42737.9
200,000 and over	147	0.3	53376.2	61	0.1	15175.1
Total	60351	100.0	602274.2	70704	100.0	616351.3

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5), published by the Central Board of Revenue.

TABLE A-1 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN ALL PAKISTAN

Income class (rupees per year)	1956—57			1957—58		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	16489	22.1	68072.3	13718	14.7	37218.2
5,000—7,499	23006	30.9	109140.1	32601	34.8	138556.5
7,500—9,999	11157	15.0	74337.6	16190	17.3	89519.8
10,000—12,499	7502	10.1	64159.3	10843	11.6	81415.0
12,500—14,999	4404	5.9	43910.8	5221	5.6	49663.8
15,000—19,999	4411	5.9	56723.4	5824	6.2	69790.4
20,000—24,999	2201	3.0	37524.2	3104	3.3	49002.1
25,000—29,999	1971	2.6	42596.6	2052	2.2	43323.3
30,000—39,999	1393	1.9	39868.3	1768	1.9	49415.2
40,000—49,999	722	1.0	27256.6	867	0.9	31410.7
50,000—74,999	594	0.8	30282.7	794	0.8	37908.1
75,000—99,999	240	0.3	16407.3	253	0.3	19476.2
100,000—199,999	220	0.3	27059.4	235	0.3	28697.6
200,000 and over	125	0.2	43387.0	122	0.1	47005.8
Total	74435	100.0	680725.6	93592		772402.7
			100.0			100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5), published by the Central Board of Revenue.

TABLE A-1 (concl'd.)

**PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS
IN ALL PAKISTAN**

Income class (rupees per year)	1960—61			
	Income receiver		Income received	
	Number	Percentages	Amount (000)	Percentages
3,500—4,999	2265	2.7	9855.3	1.1
5,000—7,499	28458	33.8	111865.0	12.7
7,500—9,999	17327	20.6	130154.0	14.8
10,000—12,499	11894	14.1	88390.5	10.0
12,500—14,999	6582	7.8	88473.6	10.0
15,000—19,999	7238	8.6	101132.6	11.5
20,000—24,999	3744	4.4	72141.4	8.2
25,000—29,999	2265	2.7	52309.0	5.9
30,000—39,999	2167	2.6	62263.6	7.1
40,000—49,999	1035	1.2	41790.4	4.7
50,000—74,999	751	0.9	40908.9	4.6
75,000—99,999	259	0.3	20179.1	2.3
100,000—199,999	211	0.2	28695.7	3.3
200,000 and over	80	0.1	32957.8	3.7
Total	84276	100.0	881116.9	99.9

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5), still unpublished.

TABLE A-2
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN EAST PAKISTAN

Income class (rupees per year)	1948—49			1949—50		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	1434	24.3	4874	2505	25.0	8305.3
5,000—7,499	1497	25.3	7146	2882	28.7	13594.6
7,500—9,999	687	11.6	4690	1107	11.0	7274.1
10,000—12,499	594	10.1	5061	1050	10.5	9229.7
12,500—14,999	359	6.1	3744	523	5.2	5581.3
15,000—19,999	429	7.3	5659	644	6.4	8729.8
20,000—24,999	171	2.9	2905	262	2.6	4338.5
25,000—29,999	243	4.1	5297	381	3.8	8241.4
30,000—39,999	183	3.1	4889	270	2.7	7546.7
40,000—49,999	99	1.7	3507	102	1.0	3693.9
50,000—74,999	94	1.6	4759	127	1.3	6314.5
75,000—99,999	37	0.6	2543	58	0.6	4146.0
100,000—199,999	46	0.8	4675	72	0.7	8449.7
200,000 and over	33	0.5	22176	54	0.5	14802.0
Total	5906	100.0	81925	10037	100.0	110247.5
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, East Pakistan), published by the Central Board of Revenue.

TABLE A-2 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN EAST PAKISTAN

Income class (rupees per year)	1950—51			1952—53		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	2493	24.6	8028.4	4771	28.7	16489.8
5,000—7,499	2945	29.0	13905.4	4159	25.0	22231.1
7,500—9,999	1036	10.2	6865.0	1718	10.3	11828.1
10,000—12,499	1066	10.5	9294.7	1908	11.5	16587.2
12,500—14,999	573	5.6	6175.6	856	5.2	9190.2
15,000—19,999	586	5.8	7447.3	1059	6.4	14162.4
20,000—24,999	225	2.2	3704.2	432	2.6	7510.9
25,000—29,999	390	3.8	8619.7	646	3.9	13851.5
30,000—39,999	297	2.9	8249.7	450	2.7	12984.6
40,000—49,999	139	1.4	5160.6	171	1.1	6309.5
50,000—74,999	181	1.8	8146.1	225	1.3	11362.1
75,000—99,999	75	0.7	5009.4	90	0.5	6782.0
100,000—199,999	91	1.0	8148.4	89	0.5	9520.7
200,000 and over	42	0.5	6821.8	43	0.3	12493.4
Total	10139	100.0	105576.3	16617	100.0	171303.5
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, East Pakistan), published by the Central Board of Revenue.

TABLE A-2 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN EAST PAKISTAN

Income class (rupees per year)	1953—54			1954—55		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	4524	27.5	15234.2	3679	24.7	12508.2
5,000—7,499	3924	23.9	20073.9	3991	26.8	19639.1
7,500—9,999	1766	10.7	12036.9	1841	12.3	12714.3
10,000—12,499	2025	12.3	17810.1	1724	11.6	15214.8
12,500—14,999	994	6.0	10740.1	919	6.2	9848.6
15,000—19,999	1027	6.2	14070.8	958	6.4	12706.4
20,000—24,999	457	2.8	7988.9	481	3.2	8563.2
25,000—29,999	692	4.2	15141.5	558	3.7	11147.0
30,000—39,999	453	2.8	12735.2	276	1.9	7930.6
40,000—49,999	198	1.2	7763.0	152	1.0	5269.5
50,000—74,999	189	1.2	9032.1	187	1.2	8147.0
75,000—99,999	71	0.4	4876.7	64	0.4	4198.6
100,000—199,999	80	0.5	8829.9	60	0.4	5460.1
200,000 and over	38	0.3	13118.7	30	0.2	8118.6
Total	16438	100.0	169452.0	14920	100.0	141466.0
			100.0			100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, East Pakistan), published by the Central Board of Revenue.

TABLE A-2 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN EAST PAKISTAN

Income class (rupees per year)	1955—56			1956—57		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	4663	26.3	17162.1	5269	26.3	19977.7
5,000—7,499	5111	28.9	26603.4	5595	28.0	27802.7
7,500—9,999	2106	11.9	14909.7	2372	11.9	16477.2
10,000—12,499	1996	11.3	18135.4	2302	11.5	17747.4
12,500—14,999	1054	6.0	11830.9	1366	6.8	15391.8
15,000—19,999	946	5.3	13238.5	1123	5.6	15330.2
20,000—24,999	487	2.7	9236.6	452	2.3	8005.0
25,000—29,999	515	2.9	11106.7	579	2.9	12438.0
30,000—39,999	347	2.0	9759.6	375	1.9	10585.7
40,000—49,999	155	0.9	5913.0	196	1.0	6807.2
50,000—74,999	167	0.9	7932.9	175	0.9	9050.6
75,000—99,999	64	0.4	3389.9	78	0.4	4948.3
100,000—199,999	69	0.4	7404.3	62	0.3	6040.5
200,000 and over	26	0.1	5309.6	36	0.2	7308.1
Total	17706	100.0	161952.6	19980	100.0	177910.4
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, East Pakistan), published by the Central Board of Revenue.

TABLE A-2 (concl.)

PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN EAST PAKISTAN

Income class (rupees per year)	1957—58			
	Income receiver		Income received	
	Number	Percentages	Amount (000)	Percentages
3,500—4,999	3422	12.8	10506.6	5.3
5,000—7,499	9910	37.0	41992.2	21.1
7,500—9,999	4312	16.1	23866.7	12.0
10,000—12,499	3317	12.4	24494.0	12.3
12,500—14,999	2093	7.8	16971.7	8.5
15,000—19,999	1474	5.5	17688.9	8.9
20,000—24,999	687	2.6	10853.2	5.5
25,000—29,999	531	2.0	11265.2	5.7
30,000—39,999	455	1.7	11820.4	6.0
40,000—49,999	234	0.9	7479.8	3.8
50,000—74,999	195	0.7	8840.9	4.4
75,000—99,999	47	0.2	3544.1	1.8
100,000—199,999	54	0.2	5937.2	3.0
200,000 and over	19	0.1	3364.4	1.7
Total	26750	100.0	198625.3	100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, East Pakistan), published by the Central Board of Revenue.

TABLE A-3
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN WEST PAKISTAN

Income class (rupees per year)	1948-49			1949-50		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500-4,999	5168	27.6	17589	7950	25.8	26622.4
5,000-7,499	4410	23.6	21125	7514	24.3	37780.4
7,500-9,999	2513	13.4	17413	4055	13.1	25926.6
10,000-12,499	1800	9.6	16117	2917	9.4	25427.4
12,500-14,999	966	5.2	10676	1434	4.6	15106.9
15,000-19,999	1299	6.9	17167	2102	6.9	27707.8
20,000-24,999	759	4.1	13586	1502	4.9	26057.6
25,000-29,999	419	2.2	8893	767	2.5	16303.8
30,000-39,999	466	2.5	12719	912	2.9	24487.3
40,000-49,999	246	1.3	9031	527	1.7	19689.4
50,000-74,999	273	1.5	14123	515	1.7	25815.7
75,000-99,999	151	0.8	9645	211	0.7	15359.0
100,000-199,999	157	0.9	15701	317	1.0	32087.1
200,000 and over	68	0.4	23645	150	0.5	57144.3
Total	18695	100.0	207430	30,873	100.0	375515.9
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, West Pakistan and Karachi), published by the Central Board of Revenue.

TABLE A-3 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN WEST PAKISTAN

Income class (rupees per year)	1950-51			1952-53		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500-4,999	9537	25.4	31152.2	12099	29.5	40485.9
5,000-7,499	9923	26.4	46711.5	10735	26.2	50610.3
7,500-9,999	4779	12.7	31581.5	5341	13.0	34484.6
10,000-12,499	3512	9.4	29938.0	3663	8.9	32152.6
12,500-14,999	1741	4.6	18023.3	1593	3.9	17413.1
15,000-19,999	2654	7.1	34640.8	2576	6.3	33854.3
20,000-24,999	1780	4.7	30295.2	1595	3.9	27388.9
25,000-29,999	937	2.5	20048.9	1096	2.7	24810.8
30,000-39,999	1060	2.8	29446.8	903	2.2	25904.4
40,000-49,999	526	1.4	19102.2	490	1.2	18740.8
50,000-74,999	572	1.5	28052.7	390	1.0	25433.6
75,000-99,999	216	0.6	15564.4	177	0.4	12870.0
100,000-199,999	197	0.6	23625.4	186	0.5	22131.3
200,000 and over	91	0.3	37700.8	116	0.3	50893.1
Total	37525	100.0	395883.7	40960	100.0	417173.7
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, West Pakistan and Karachi), published by the Central Board of Revenue.

TABLE A-3 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN WEST PAKISTAN

Income class (rupees per year)	1953—54			1954—55		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	11959	29.6	42089.3	12208	26.9	43351.2
5,000—7,499	10664	26.4	51745.1	12869	28.3	64519.3
7,500—9,999	5296	13.1	36562.7	6190	13.6	42519.1
10,000—12,499	3231	8.0	28431.7	3570	7.9	32745.4
12,500—14,999	2074	5.1	22368.3	2607	5.7	27636.6
15,000—19,999	2403	6.0	32701.3	2800	6.2	36793.2
20,000—24,999	1419	3.5	25772.5	1650	3.6	29428.0
25,000—29,999	1049	2.6	24238.3	1202	2.7	36504.4
30,000—39,999	897	2.2	26081.3	1009	2.2	30714.2
40,000—49,999	456	1.1	17653.2	455	1.0	17552.2
50,000—74,999	350	0.9	19560.9	425	0.9	22089.1
75,000—99,999	162	0.4	12295.8	159	0.3	11657.1
100,000—199,999	330	0.8	24276.5	170	0.4	20040.8
200,000 and over	111	0.3	43537.6	117	0.3	45257.6
Total	40401	100.0	407314.5	45431	100.0	460808.2
						100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, West Pakistan and Karachi), published by the Central Board of Revenue.

TABLE A-3 (contd.)
PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN WEST PAKISTAN

Income class (rupees per year)	1955—56			1956—57		
	Income receiver		Income received Amount (000)	Income receiver		Income received Amount (000)
	Number	Percentages		Number	Percentages	
3,500—4,999	12896	24.3	43423.9	11220	20.6	48094.6
5,000—7,499	16679	31.5	77050.3	17411	32.0	81337.4
7,500—9,999	7938	15.0	51199.4	8785	16.1	57860.4
10,000—12,499	4557	8.6	40178.5	5200	9.5	46411.9
12,500—14,999	2887	5.4	29545.5	3038	5.6	28519.0
15,000—19,999	3115	5.9	42512.9	3288	6.0	41393.2
20,000—24,999	1568	2.9	25840.6	1749	3.2	29519.2
25,000—29,999	1267	2.4	28192.4	1392	2.6	30158.6
30,000—39,999	846	1.6	23312.4	1018	1.9	29282.6
40,000—49,999	454	0.9	16694.7	526	1.0	20449.4
50,000—74,999	452	0.9	25672.8	419	0.8	21232.1
75,000—99,999	73	0.1	5576.2	162	0.3	11459.0
100,000—199,999	231	0.4	35333.6	158	0.3	21018.9
200,000 and over	35	0.1	9865.5	89	0.1	36078.9
Total	52998	100.0	454398.7	54455	100.0	502815.2
100.0						

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, West Pakistan and Karachi), published by the Central Board of Revenue.

TABLE A-3 (concl.)

PERSONAL INCOME DISTRIBUTION AMONG THE HIGH INCOME GROUPS IN WEST PAKISTAN

Income class (rupees per year)	1957-58			
	Income receiver		Income received	
	Number	Percentages	Amount (000)	Percentages
3,500—4,999	10296	15.4	26711.6	4.6
5,000—7,499	22691	33.9	96564.3	16.8
7,500—9,999	11878	17.8	65653.1	11.4
10,000—12,499	7526	11.3	56921.0	9.9
12,500—14,999	3128	4.7	32692.1	5.7
15,000—19,999	4350	6.5	52101.5	9.1
20,000—24,999	2417	3.6	38148.9	6.6
25,000—29,999	1521	2.3	32058.1	5.6
30,000—39,999	1313	2.0	37594.8	6.6
40,000—49,999	633	0.9	23930.9	4.2
50,000—74,999	599	0.9	29067.2	5.1
75,000—99,999	206	0.3	15932.1	2.8
100,000—199,999	181	0.3	22760.4	4.0
200,000 and over	103	0.1	43641.4	7.6
Total	66842	100.0	573777.4	100.0

Source: All Pakistan Income Tax Reports and Returns (Statement No. 5, West Pakistan and Karachi), published by the Central Board of Revenue.

TABLE A-4(a)

**DISTRIBUTION OF GROSS TAXABLE INCOME
IN WEST PAKISTAN: 1957-58**

Mid-value (in rupees)	Income receiver				Total income received			
	Number	%	Cum %	Cum %	Amount (Rs. 000)	%	Cum %	Cum %
4,250	10296	15.4	15.4	100.0	43758.0	5.7	5.7	100.0
6,250	22691	33.9	49.3	84.6	141818.7	18.4	24.1	94.3
8,750	11878	17.8	67.1	50.7	103932.5	13.5	37.6	75.9
11,250	7526	11.3	78.4	32.9	84667.5	11.0	48.6	62.4
13,750	3128	4.7	83.1	21.6	43010.0	5.6	54.2	51.4
17,500	4350	6.5	89.6	16.9	76125.0	9.9	64.1	45.8
22,500	2417	3.6	93.2	10.4	54382.5	7.0	71.1	35.9
27,500	1521	2.3	95.5	6.8	41827.5	5.4	76.5	28.9
35,000	1313	2.0	97.5	4.5	45955.0	5.9	82.4	23.5
45,000	633	0.9	98.4	2.5	28485.0	3.7	86.1	17.6
62,500	599	0.9	99.3	1.6	37437.5	4.8	90.9	13.9
87,500	206	0.3	99.6	0.7	18025.0	2.3	93.2	9.1
150,000	181	0.3	99.9	0.4	27150.0	3.5	96.7	6.8
250,000	103	0.1	100.0	0.1	25750.0	3.3	100.0	3.3
	66842				772324.2			

Source: Table A-3 (1957-58) for income receiver.

TABLE A-4(b)
DISTRIBUTION OF GROSS TAXABLE INCOME
IN EAST PAKISTAN: 1957-58

Mid-value (in rupees)	Income receiver				Total income received			
	Number	%	Cum %	Cum %	Amount (Rs. 000)	%	Cum %	Cum %
4,250	3422	12.8	12.8	100.0	14543.5	5.0	5.0	100.0
6,250	9910	37.0	49.8	87.2	61937.5	21.5	26.2	95.0
8,750	4312	16.1	65.9	50.2	37730.0	12.9	39.1	73.8
11,250	3317	12.4	78.3	34.1	37316.2	12.8	51.9	60.9
13,750	2093	7.8	86.1	21.7	28778.7	9.9	61.8	48.1
17,500	1474	5.5	91.6	13.9	25795.0	8.8	70.6	38.2
22,500	687	2.6	94.2	8.4	15457.5	5.3	75.9	29.4
27,500	531	2.0	96.2	5.8	14602.5	5.0	80.9	24.1
35,000	455	1.7	97.9	3.8	15925.0	5.5	86.4	19.1
45,000	234	0.9	98.8	2.1	10530.0	3.6	90.0	13.6
62,500	195	0.7	99.5	1.2	12187.5	4.2	94.2	10.0
87,500	47	0.2	99.7	0.5	4112.5	1.4	95.6	5.8
150,000	54	0.2	99.9	0.3	8100.0	2.8	98.4	4.4
250,000	19	0.1	100.0	0.1	4750.0	1.6	100.0	1.6
	26750				291765.9			

Source: Table A-2 (1957-58) for income receiver.

TABLE A-4(c)
SHARES OF DIFFERENT INCOME GROUPS: 1957-58

	Top 1%	Top 10%	Top 20%	Bottom 50%
East Pakistan	8.8	32.0	45.9	26.4
West Pakistan	10.7	35.1	49.5	24.6

TABLE A-4(d)
CONCENTRATION RATIO: 1957-58

East Pakistan	0.37
West Pakistan	0.40

TABLE A-4(e)

**DISTRIBUTION OF GROSS TAXABLE INCOME IN
PAKISTAN: 1957-58**

Mid-value (in rupees)	Income receiver				Total income received			
	Number	%	Cum %	Cum %	Amount (Rs. 000)	%	Cum %	Cum %
4,250	13718	14.7	14.7	100.0	58301.5	5.5	5.5	100.0
6,250	32601	34.8	49.5	85.3	203756.2	19.1	24.6	94.5
8,750	16190	17.3	66.8	50.5	141662.5	13.3	37.9	75.4
11,250	10843	11.6	78.4	33.2	121983.7	11.4	49.3	62.1
13,750	5221	5.6	84.0	21.6	71788.7	6.7	56.0	50.7
17,500	5824	6.2	90.2	16.0	101920.0	9.6	65.6	44.0
22,500	3104	3.3	93.5	9.8	69840.0	6.6	72.2	34.4
27,500	2052	2.2	95.7	6.5	56430.0	5.3	77.5	27.8
35,000	1768	1.9	97.6	4.3	61880.0	5.8	83.3	22.5
45,000	867	0.9	98.5	2.4	39015.0	3.7	87.0	16.7
62,500	794	0.8	99.3	1.5	49625.0	4.7	91.7	13.0
87,500	253	0.3	99.6	0.7	22137.5	2.1	93.8	8.3
150,000	235	0.3	99.9	0.4	35250.0	3.3	97.1	6.2
250,000	122	0.1	100.0	0.1	30500.0	2.9	100.0	2.9
	93592	100.0			1064090.1	100.0		

Shares of Different Income Groups

	<i>Top 1%</i>	<i>Top 10%</i>	<i>Top 20%</i>	<i>Bottom 50%</i>
All Pakistan	10.1	34.7	48.8	25.0
Concentration ratio = .39				

TABLE A-4(f)

DISTRIBUTION OF POST-TAX INCOME IN PAKISTAN: 1957-58

Income class (rupees per year)	Income receiver				Total income after tax			
	Number	%	Cum %	Cum %	Amount (Rs.000)	%	Cum %	Cum %
3,500—4,999	13718	14.7	14.7	100.0	57264.7	5.9	5.9	100.0
5,000—7,499	32601	34.8	49.5	85.3	200116.7	20.5	26.4	94.1
7,500—9,999	16190	17.3	66.8	50.5	137719.5	14.2	40.6	73.6
10,000—12,499	10843	11.6	78.4	33.2	117359.5	12.1	52.7	59.4
12,500—14,999	5221	5.6	84.0	21.6	68100.3	7.0	59.7	47.3
15,000—19,999	5824	6.2	90.2	16.0	95012.1	9.8	69.5	40.3
20,000—24,999	3104	3.3	93.5	9.8	63201.1	6.5	76.0	30.5
25,000—29,999	2052	2.2	95.7	6.5	49149.6	5.1	81.1	24.0
30,000—39,999	1768	1.9	97.6	4.3	51778.7	5.3	86.4	18.9
40,000—49,999	867	0.9	98.5	2.4	31875.7	3.3	89.7	13.6
50,000—74,999	794	0.8	99.3	1.5	39981.3	4.1	93.8	10.3
75,000—99,999	253	0.3	99.6	0.7	17048.5	1.7	95.5	6.2
100,000—199,999	235	0.3	99.9	0.4	27097.2	2.8	98.3	4.5
200,000 and over	122	0.1	100.0	0.1	16225.2	1.7	100.0	1.7
	93592				971930.1	100.0		

Shares of Different Income Groups

	<i>Top 1%</i>	<i>Top 10%</i>	<i>Top 20%</i>	<i>Bottom 50%</i>
All Pakistan	7.7	30.8	45.3	26.8
Concentration ratio = .35				

TABLE A-5

**INCREASE IN THE NUMBER OF TAX PAYERS IN RELATION TO THE
RISE IN NATIONAL INCOME AND INCREASE IN POPULATION**

Year	Number of tax payers			National Income (Rs. million)	Popu- lation (million)	Col. (1) as % of Col. (5)
	All Pakistan (1)	East Pakistan (2)	West Pakistan (3)			
1949-50	47664	10139	37525	17554	74.6	.06
1950-51	46779	—	—	17877	76.4	.06
1951-52	57577	16617	40960	19175	79.9	.07
1952-53	56679	16438	40401	19435	80.8	.07
1953-54	60351	14920	45431	19196	82.3	.07
1954-55	70704	17706	52998	18178	83.8	.08
1955-56	74435	19980	54455	19767	85.2	.09
1956-57	93592	26750	66842	23360	86.8	.11
1959-60	84276	—	—	27924	91.9	.09

- Notes:**
- 1) Tax payers here mean only those who are included in this study. The actual number of tax payers is somewhat higher than this figure because in the actual tax returns there are always some tax payers below the cut-off line we have used here.
 - 2) National income and population data are from the *Statistical Bulletin* published by the C.S.O.
 - 3) No estimate of national income is available for the year 1948-49.
 - 4) A lag of one year has been used for the number of tax payers as tax returns refer to income earners of the previous year.
 - 5) For 1951-52 and 1960-61, regional breakdown of income tax data are not available. As we have used a lag of one year in this table, regional breakdown of tax payers are not available for 1950-51 and 1959-60.

TABLE A-6

Year	National income (Rs. million)	Net taxable income (Rs. 000)	Tax yield (Rs. 000)
1949-50	17554	501453.0	74763.0
1950-51	17877	481163.0	75871.3
1951-52	19175	588477.2	84278.0
1952-53	19435	576766.5	76908.7
1953-54	19196	602274.2	80050.7
1954-55	18178	616351.3	70477.2
1955-56	19767	680725.6	82321.8
1956-57	23360	772402.7	92160.1

$$e_1 = \frac{X_t - X_{t-7}}{X_{t-7}} \cdot \frac{Y_{t-7}}{Y_t - Y_{t-7}} = 1.64$$

$$e_2 = \frac{T_t - T_{t-7}}{T_{t-7}} \cdot \frac{X_{t-7}}{X_t - X_{t-7}} = 0.43$$

Where Y_t is national income of the year 1956-57.
 X_t is net taxable income of the year 1956-57.
and T_t is personal income tax yield of the year 1956-57.

Note : For taxable income and income tax yield a lag of one year has been used as tax is levied on previous year's income.

TABLE A-7(a)
DISTRIBUTION OF INCOME AMONG THE
UPPER INCOME BRACKETS IN THE UNITED KINGDOM: 1949

Income (£ per year) (1)	Income receiver		Total income before tax	
	Number (000) (2)	Percentage (3)	£ million (4)	Percentage (5)
250—499	10,310	76.2	3,546	51.9
500—999	2,443	18.1	1,614	23.6
1,000—1,999	545	4.0	728	10.6
2,000—9,999	219	1.6	760	11.1
10,000 and over	11	0.1	190	2.8
Total ...	13,528	100.0	6,838	100.0

Source: National Income and Expenditure of the U.K., 1946 to 1950. (London: H.M.S.O.).

TABLE A-7(b)
DISTRIBUTION OF INCOME AMONG THE
UPPER INCOME BRACKETS IN THE UNITED STATES: 1947

Income class (\$ per year) (1)	Number of returns		Total income before tax	
	Number (000) (2)	Percentage (3)	\$ million (4)	Percentage (5)
10,000—11,000	148	14.7	1548	7.1
11,000—12,000	114	11.3	1304	6.0
12,000—13,000	94	9.3	1171	5.3
13,000—14,000	74	7.3	1004	4.6
14,000—15,000	64	6.4	930	4.2
15,000—20,000	205	20.4	3520	16.1
20,000 and over	308	30.6	12397	56.7
	1007	100.0	21874	100.0

Source: [6, pp. 522 and 543].