APPENDICES

APPENDIX 1

Background Material for a Fiscal Approach to Estimating Black Income in India

This appendix, comprising 10 sections, provides details of estimation procedures adopted for gauging the scale of black income in India, for the two years 1975-76 and 1980-81. It thus substantiates the analysis contained in Chapter 5. The section scheme is as follows:

Section 1 briefly describes the basic NCAER data used in our exercise.

Section 2 presents the procedures to derive the urban and rural frequency distributions by income ranges for earners.

Section 3 details population adjustments made to the NCAER estimates of urban and rural earners and their gross income.

Section 4 presents the statistical procedure adopted to fit the two-parameter lognormal function to frequency data of earners.

Section 5 records the results of lognormal fits and the modifications in the estimated lognormal parameters which are required to derive the scaled-up distributions of gross personal income for urban and rural India, separately.

Section 6 gives the procedure for converting the NCAER based component level income distributions for households into equivalent distributions for earners.

Section 7 presents details of the method for deriving the income distributions for selected components of income,

which are consistent with the total of scaled-up gross personal income.

Section 8 describes the estimation procedures of various tax exclusions, exemptions and deductions that have been attempted in our study.

Section 9 outlines the procedural details of estimating the income below exemption limit and, finally,

Section 10 provides the computational details of blow-up factors required to adjust for undercoverage in the information published by the AIITS on incomes assessed to tax for different categories of non-corporate assessees.

SECTION 1

The Basic NCAER Survey Data

Tables A.1.1 and A.1.2 show the survey-based data on gross household income distribution and the frequency distribution of reporting households by income ranges of households respectively for *urban* India for the year 1975-76. Tables A.1.3 and A.1.4 put together similar distributions for *rural* India for the same year. These data are taken from the computer printout made available to us by the National Council of Applied Economic Research (NCAER). They, however, do not appear in their published report (NCAER, 1980). The salient features of these data are summarised as follows:

a. The income ranges of the distributions refer to the annual income per household.
b. For a given income range, the incomes earned from different sources by the households are given in columns (2) to (11), while their gross income is shown in column (12) of Tables A.1.1. (for urban India) and A.1.3 (for rural India). It should be mentioned that columns (2) to (11) add up to yield column (12).
c. The frequencies of reporting households given under different source components of income, in different columns of Tables A.1.2 (for urban India) and A.1.4 (for rural India) are not column-wise additive because a given household may earn income from more than

one source component and so may appear in more than one column.

d. These tables are classified by households of varying earner-density, i e., by households having 'one earner', 'two earners', 'three earners', 'four earners' and 'more than four earners'.

The subtotals for different income ranges of the two distributions for urban India (Tables A.1.1 and A.1.2) are culled out and presented as a summary version in Tables 5.3.1 and 5.3.2 of the text.

For the estimation of taxable income, our starting point is to estimate how the gross (personal) houshold income is distributed among earners rather than households. In other words, we need a frequency distribution arranged according to income ranges of earners for urban and rural India, separately. It is to this problem that we now pass on in the next section.

SECTION 2

Conversion Procedure for Deriving Frequency Distribution of Earners

In Chapter 5 of the text, we gave the rationale and need for converting the NCAER household frequency distribution into the corresponding earnerwise frequency distributions by earner's income ranges. The conversion procedure was illustrated with the case of 'two-earner' urban households (see Table 5.3.5 in the text) from which a frequency distribution of earners combined for the 'one-earner' and 'two-earner' urban households was obtained. The same procedure needs to be applied repeatedly to the cases of 'three earner', 'four earner' and 'more than four-earner' urban households so as to finally derive an aggregated frequency distribution by (earner's income ranges) that corresponds to all earners in urban India. A similiar procedure may be followed to obtain an aggregated frequency distribution of earners relating to rural India. This section presents these details.

We begin with the first stage of aggregation for urban India (already obtained and shown in Table 5.3.5). It refers to the earnerwise frequency distribution obtained from 'one-earner' and 'two-earner' urban households. The same procedure may now be applied to the 'three-earner' urban households. Table A.1.5 contains the details relating to the aggregation of earners derived from the 'three-earner' urban households. In this table, column (2) presents the NCAER distribution of gross personal income for 'three-earner' urban households and column (3) gives the distribution of earners

in the 'three-earner' urban households. For each (household) income range, the average per-earner income is computed and recorded in column (4). We now assume that the *average* per-earner income is also the *actual* income for all earners in the relevant (household) income range. This assumption allows us to allocate all earners in the 'three-earner' households to appropriate income ranges (for earners) on the basis of the data in columns (3) and (4). Thus, the 0.24 million earners corresponding to the household income range Rs 1201-2400 are all assumed to earn Rs 643 each. Similarly, the 0.48 million earners in the next household income range are assumed to earn Rs 954 each. Hence, the sum of these two elements of column (3) gives the total number of earners (from 'three-earner' urban households) whose per-earner income falls in the range of Rs 0-1200. This total, of 0.72 million, is recorded as the first entry in column (6). Proceeding in this manner, all of column (6) is formed, which gives a derived frequency distribution of earners relating to three-earner urban households. By addition with the frequency distribution obtained earlier for 'one-earner' and 'two-earner' urban households, as in column (5), column (7) contains a derived frequency distribution of earners relating to the urban households of *at most* three-earner density arranged according to the income ranges for *earners*.

Tables A.1.6 and A.1.7 show analogous details pertaining to 'four-earner' and 'more than four-earner' urban households, respectively. The process of "conversion" and aggregation ultimately ends with column (7) of Table A.1.7 which yields a derived frequency distribution of all earners in urban India for 1975-76. Similarly, by a repeated application of the conversion procedure to rural households of varying earner-density, we obtain corresponding derived frequency distributions of earners, classified by income ranges for earners for rural India. Tables A.1.8 through A.1.11 present the details relating to rural India for 1975-76.

Lognormal function has to be 'fitted' to the frequency distributions of urban and rural earners derived above. The details of fitting the lognormal function and the results of this exercise are given in subsequent sections.

SECTION 3

Population Adjustments and Changes in the NCAER Estimates for 1975-76

The population figures used in the NCAER survey for the year 1975-76 are based on an extrapolation of the 1971 population census results. With the availability of more recent information from the 1981 population census, the sampling fractions of the survey estimates need to be adjusted. Therefore, the total number of earners and gross household (personal) income (for urban and rural India, separately) should also be adjusted for our purposes. This section brings together all such adjustments and presents the "revised" NCAER estimates.

First, a Population Adjustment Factor for 1975-76 is defined as a ratio of the Population (New) for 1975-76 to the population (NCAER) for the same year. The numerator of this ratio can be obtained, as shown below, on the basis of the census information, while the denominator is based on the survey information.

1. All-India population totals:
   (a) As on April 1, 1971 = 548.16 million
   (b) As on March 1, 1981
   (from the 1981 census) = 685.18 million
2. All-India population (New)
   as on April 1, 1976
   (interpolated from above data) = 616.68 million

3. All-India population (old) as on April 1, 1976 (from the NCAER survey) = 588.90 million
4. Population Adjustment Factor (PAF) $\frac{616.68}{588.90}$ million
$= 1.047$

Now, applying the PAF to the NCAER estimates of the total (All-India) number of earners as well as gross (personal) household income for 1975-76, we obtain the population-adjusted estimates. The calculations are as follows:

Total number of earners in 1975-76 (NCAER) = 177.26 million

Total number of earners (revised in 1975-76) $= 177.26 \times 1.047$
$= 185.59$ million

Gross household (personal) income in 1975-76 (NCAER) = Rs 45151 crore

Gross household (personal income in 1975-76 (revised) $= 45151 \times 1.047$
= Rs 47281 crore

The revised urban and rural sub-totals are obtained by partitioning the revised all-India totals in the same proportions as reported in the NCAER survey. These details are as follows.

Proportion of urban earners in the all-India total (NCAER) $= \frac{30.35}{177.26}$

Number of earners (Revised) $= \frac{30.35}{177.26} \times 185.59$
$= 31.78$ million

Proportion of rural earners in the all-India total (NCAER) $= \frac{146.91}{177.26}$

Number of rural earners (Revised) $= \frac{146.91}{177.26} \times 185.59$
$= 153.81$ million

Proportion of urban gross personal Income in the all-India total (NCAER) $= \frac{14984}{45151}$

Amount of urban gross personal income (revised) $= \frac{14984}{45151} \times 47281$

$=$ Rs 15691 crore

Proportion of rural gross personal income in the all-India total (NCAER) $= \frac{30167}{45151}$

Amount of rural gross personal income (revised) $= \frac{30167}{45151} \times 47281$

$=$ Rs 31590 crore

SECTION 4

Fitting a Two-Parameter Lognormal Function

Definition: A Lognormal distribution may be defined as follows: (see Croxten *et. al.*, 1975, p. 528)

If x be a positive variate ($0 < x < \infty$) such that $z = \log_e x$ is normally distributed with mean μ and variance $\sigma 2$, then we say that x is lognormally distributed. The probability density function of x is given by

$$\text{p.d.f. } (x) = \frac{1}{\times \sigma \sqrt{2\pi}} \exp\left[\frac{-1}{2\sigma^2}(\log x - \mu)^2\right].dx$$

for $0 < x < \infty$

and p.d.f. $(x) = 0$ for $x < 0$

The above function describes a lognormal curve. The mean α and variance β^2 of the lognormal distribution are given by

$$\alpha = \exp(\mu + \tfrac{1}{2}\sigma^2)$$
$$\beta^2 = \alpha^2 [\exp(\sigma^2) - 1]$$

Notice that by definition and from the above expressions, the two parameters μ and σ characterise the lognormal distribution completely. The logarithmic transformation of x ($z = \log_e x$) allows us to make use of the standard normal distribution properties for practical purposes of fitting the lognormal curve to any frequency data. The principal steps of fitting the lognormal function are as follows:

i. The income ranges of the frequency distribution are first transformed into logarithmic form. If (x_{i-1}, x_i) be the ith income range, it is transformed into (y_{i-1}, y_i) where $y_i = \log_e x_i$.

ii. The sample mean and the sample variance of the distribution are computed by using the following formulae:

The sample mean, $\bar{y} = \frac{1}{N} \sum_{i=1}^{n} \frac{1}{2} (y_i + y_{i-1}) xf_i$

where f_i is the observed earner frequency of the ith income range and N, the total frequency of earners.

The sample variance, $S^2 = \frac{1}{N-1} \sum_{i=1}^{n} f_i$

$.[\frac{1}{2} (y_i + y_{i-1}) - \bar{y}]^2$

iii. Standard normal variates are calculated for the appropriate limit of each income range of the distribution. The lower limits are considered for the income ranges which lie below the sample mean ($\bar{y}$) while upper limits are chosen for the income ranges above the sample mean. The standard normal variate (z_i) in each case is given by the formulae

$$z_i = \frac{y_i - \bar{y}}{s} \quad \text{for } i = 1, 2. \ldots, n$$

iv. The areas under the normal curve are readily available for different values of z_i from the standard normal distribution tables. As the total area under the curve is normalised to unity (total probability being one) the specific areas read off from the statistical table against a given value of z_i give the corresponding proportionate frequency of earners. Using the total frequency of earners, N, we compute the expected frequencies, say, E_i for different income ranges.

v. The test of 'goodness of fit' is then conducted according to the chi-square (χ^2) test-statistic at (n−3) degree of freedom. The χ^2 statistic is given by the formula

$$\chi^2 = \sum_{i=1}^{n} \frac{(E_i - F_i)^2}{E_i}$$

where F_1 is the observed frequency of the i^{th} income range. The expected frequency of the last (nth) income range (E_n) is adjusted such that sum of the expected frequencies is equal to N, i.e.,

$$E_n = N - \sum_{i=1}^{n-1} E_i$$

Notice that in computing the χ^2 - statistic, it is necessary to use the estimated values of $\bar{y}$ and σ as well as N. Thus, the degrees of freedom are reduced from n to n−3 (see Fisher and Yates, 1975).

vi. The hypothesis that the original data come from a population of lognormal distribution can be examined by comparing the computed value of the chi-square test statistic with the table value obtainable from the chi-square distribution tables. The fit is said to be satisfactory if the computed chi-squared value is lower than the corresponding table value for a given level of significance at (n−3) degrees of freedom.

Point Estimation of μ and σ^2

When an earnerwise frequency distribution closely resembles the lognormal pattern as evidenced by the test of hypothesis, the underlying values of the sample mean ($\bar{y}$) and sample variance (s^2) are taken as the point estimates of μ and σ^2 respectively.

Statistical theory suggests that the sample mean and the sample variance thus obtained are the minimum variance unbiased estimators of the lognormal distribution (for more details, see Aitchison and Brown, 1976, p. 39 and Olkin, *et. al.*, 1980, pp. 289-302).

Interpretation of μ and σ^2

μ is termed as the location parameter which has no special interpretation other than that it is the logarithm of the geometric mean income of the lognormal distribution.

$$\text{i.e} \quad \mu = \ln (x_1 . x_2 \ldots x_N)^{1/N} \quad \text{or}$$

$$= \frac{\sum_{i=1}^{N} \log_e X_i}{N}$$

However, σ, the distribution parameter, has a special meaning in the sense that it can be interpreted as an indirect measure of concentration of incomes. In a two-parametric lognormal world, concentration of incomes is gauged by the Lorenz measure (L) or the Gini Coefficient of the mean-dlfference (G).

L and G are given by the following relationships:

$$L = 2N\left(\frac{\sigma}{\sqrt{2}} \mid 0, 1\right) - 1 \; ; \; G = 2L\,\alpha$$

where α is the arithmetic mean income of the lognormal distribution.

$$\text{i.e., } \alpha = \frac{\sum_{i-1}^{N} X_i}{N}$$

Notice that σ is monotonically related to L, which implies that the concentration of incomes will increase as σ increases.

SECTION 5

Result of Lognormal Fits and Modifications

This section presents the results of the lognormal fits and the parametric values relating to the NCAER-based frequency distributions of earners for urban and rural India. Subsequently, we shall present the procedure to modify the lognormal parametric values which will be used to derive the urban and rural income distributions consistent with our scaled-up gross personal income (to match with the NAS total).

Results of Lognormal Fits

Column (7) of Table 5.3.5 of the text and of Tables A.1.5 through A.1.7 of this Appendix gives the frequency data of urban earners by income ranges (for earners) derived from urban households of varying earner-density. Similarly, column (7) of Tables A.1.8 through A.1.11 contains the frequency data of rural earners derived from rural households of varying earner-density. We fitted lognormal function to each of the earnerwise frequency distributions and examined the 'goodness of fit' using the chi-square (χ^2) statistic. The fits have been found to be good in all the five urban cases. (See Table A.1.12 for results). However, for rural India, it showed a satisfactory fit only in the case of frequency distribution of earners derived from 'one-earner' rural households, while for the remaining cases, the value of chi-square statistic, being very high, is not found to be statistically significant at an acceptable level of confidence.

We are interested in the estimates of related parametric values of μ and σ, provided the underlying lognormal fits are satisfactory. For urban India, the selected values of μ and σ are 1.266 and 0.859 respectively, which refer to the frequency data of earners derived from urban househols of 'all earner-density'. For rural India, however, we decided to choose the values of μ and σ to be 0.936 and 0.768 respectively. These refer to the earnerwise frequency distribution derived from rural households of one-earner density.

It may be worthwhile to note that the pair of these parametric values reflects the distribution characteristics of the urban and rural earners that are based on the NCAER survey information. As noted earlier, the parameter σ represents the concentration of incomes, while μ stands for the location or the logarithm of the geometric mean of the income distribution, associated with the earners data.

Since the survey data of earners and the gross income have been adjusted upwards for population changes in 1975-76 and also because the gross income has been scaled up further to match with the NAS controlling total, the parametric values of μ and σ need to be modified appropriately. We now turn to this problem.

Modification in the Lognormal Parameters for Scaled-up Gross Income Distributions

We start with the details of scaling up of population-adjusted NCAER estimates of gross income (the adjusted figures of urban, rural and all-India totals are given in Section 3 of this Appendix). We note that the NCAER (population adjusted) estimate of the gross personal income for 1975-76 was Rs 47281 crore while the NAS total for the same year was Rs 64502 crore, which give rise to a difference of Rs 17221 crore. This difference is attributed to underreporting by the urban and rural households. Under three alternative assumptions of underreporting, we allocated this 'missing income' (the difference of Rs 17221 crore) between the urban and rural sectors. These allocations correspond to three scenarios of our scaling-up procedure which are given below:

The first scenario refers to the allocation of the 'missing income' to urban India in the ratio of 1/3 (or U:R = 1:2), the second scenario to the ratio of 1/2.5 (U:R = 1:1.5) and the third to the ratio of $\frac{1}{2}$ (U:R = 1:1). Accordingly, we computed the scaled-up gross personal income for urban India and rural India under the three scenarios. The results are recorded in Table A.1.13, in which the figures of the population-adjusted urban and rural earners are also shown. They are used to compute the respective mean incomes (gross income per earner) as shown in the same table. Now, we proceed to obtain the modified values of μ and σ that are consistent with the scaled-up urban and rural gross incomes under different scenarios.

At the outset, we assume that the part of missing income to be allocated within urban (or rural) India, among the urban (or rural) earners, is such that the concentration of urban (or rural) incomes remains invariant with respect to different scenarios. This means, we keep the value of σ parameter constant for different scenarios of the corresponding urban (or rural) distributions. The value of μ is, however, modified and made constant with the scaled-up gross personal income. This can be accomplished by using the following lognormal relationship between μ, σ and α.

$$\mu = \ln \alpha - \tfrac{1}{2}\sigma^2$$

Given a value of α which changes from scenario to scenario and a value of σ which is a constant for different scenarios of urban (or rural) distribution, we can easily compute the corresponding value of μ for each scenario. Table A.1.13 provides the modified parametric values of μ together with the retained values of σ and N, under different scenarios of the urban and rural cases for 1975-76.

For the year 1980-81, however, no survey-based estimates of gross income or the number of earners exist similar to the NCAER estimates for 1975-76. Thus, we are required to obtain our information from other sources. Our main purpose is to construct the related parametric values of μ, σ and N for 1980-81 so as to use them for deriving the corresponding gross income distributions. For doing this, we proceed as follows.

First, we compute the number of urban and rural earners in 1980-81 on the basis of the 1981 census results. We assume that the ratio of earners to population is the same (for urban and rural India, separately) as it was in 1975-76.

The details of this computation are given below.

Proportion of urban earners in Urban population in 1975-76	$= \frac{31.785}{128.68}$ (based on NCAER figures adjusted for population)
Urban population as on April 1, 1981	= 159.73 million
Estitimated number of urban earners in 1980-81	$= \frac{31.785}{128.68} \times 159.73$
	= 39.45 million
Proportion of rural earners in rural population in 1975-76	$= \frac{153.84}{488.00}$ (based on NCAER figures adjusted for population).
Rural population as on April 1, 1981	= 526.45 million
Estimated number of rural earners in 1980-81	$= \frac{153.84}{488.00} \times 526.46$
	= 165.65 million

As for gross personal income for 1980-81, we begin with the all-India figure taken directly from the official NAS (Rs 1,11,529 crore, see Table 5.2.1). However, we need to find a plausible method for partitioning this total income into urban and rural sub-totals. This is done as follows.

The method of partitioning assumes that the urban-to-rural ration of per-earner gross income remains the same as in 1975-76. This ratio varies across our three basic scenarios. Thus, it would provide us three alternative ways of partitioning the total gross personal income for 1980-81 into urban and rural sub-totals, which correspond to our three scenarios of 1975-76.

Under the above assumption, the method of partitioning involves two equations in two unknowns (the urban and rural sub-totals of gross personal income for 1980-81) which are set up as follows.

Let UY = gross personal income for urban India in 1980-81,
RY = gross personal income for rural India in 1980-81,
UN = number of urban earners in 1980-81 and
RN = number of rural earners in 1980-81.

Then our first equation is

$$\frac{UY/UN}{RY/RN} = \frac{\text{Per earner urban gross income}}{\text{Per earner rural gross income}} = \begin{matrix} 2.41 \text{ for the first scenario}^1 \\ 2.60 \text{ for the second scenario} \\ 2.93 \text{ for the third scenario} \end{matrix} \quad \ldots\ldots (2)$$

The second equation is the same for all three scenarios. It is given by UY + RY = Rs 1,11,529 crore. Further, UN = 39.449 million and RN = 165.655 million for the year 1980-81. Using this information we evaluated UY and RY under different scenarios. The results are shown in Table A. 1.14.

For deriving the gross income distributions for 1980-81, we assume that for each scenario the concentration of incomes remains unchanged between 1975-76 and 1980-81. It means that the values of σ parameter (for urban and rural India, separately) estimated for 1975-76 also apply to corresponding distributions of 1980-81. The location parameter, μ may, however, be changed because the mean earner incomes (α) would be different in 1980-81. The computational details are shown in Table A.1.14. Thus, we now have the parametric values of μ and σ for 1975-76 and 1980-81.

Employing these parametric values, we estimated the frequency distribution of earners by narrow income ranges, adopting the procedure mentioned in steps (i) and (iii) of the method given in Section 4 of this Appendix.[2] Then, for each narrow income range, gross income was derived by multiplying the estimated frequency of earners with the corresponding mid-point of the narrow income range. The resultant amounts of gross incomes were aggregated over the narrow income ranges, finally to arrive at a gross income distribution according to a pre-specified set of 14 broad income ranges.[3] This was done for our three scenarios, for urban

and rural India, separately for the two years 1975-76 and 1980-81. The results for 1975-76 are shown in Tables 5.4.3 through 5.4.5 of the text and those for 1980-81 are given in Table A.1.15 of this Appendix.

Notes

1. According to our assumption, these values are derived from the related information for 1975-76.
2. The NCAER frequency data of earners and their income distributions are available by 14 broad income ranges (not necessarily of equal width), *viz.*; Rs 0-1200, 1201-2400, 2401-3600, 3601-4800, 4801-6000, 6001-7500, 7501-10000, etc. It is possible to derive a frequency distribution of earners for a different set of income ranges by employing the lognormal parametric values of μ and σ estimated on the basis of original data. The new set of selected income ranges can be such that their width is as narrow as possible so that the mid-point of a given narrow income range could be better approximation to represent an average (per earner) income of those earners belonging to that particular narrow income range. For our purposes, the 14 broad income ranges are subdivided into a total number of 326 narrow income ranges of varying widths. For instance, the first few broad income ranges upto Rs 7500 are subdivided into 150 narrow intervals each of width 50, the next income range, Rs 7501-10,000 is subdivided into 25 narrow intervals each of width 100, and so on.
3. As the last income range is an open-ended interval, (Rs 60,000 and above), the distribution has been truncated at a sufficiently higher level of gross income per earner (at Rs 1,41,000). For practical purposes, it is assumed that the probability density of the lognormal distribution beyond this point is neglible. Since we have information on the total (gross) income for all income ranges together, we computed the statistical discrepancy in the estimates obtained from the truncated distribution and included the difference in the last income range.

SECTION 6

Estimation Procedure for Component Level Income Distribution Classified by Income Ranges for Earners

From the NCAER household income distributions (Tables A.1.2 and A.1.4), the incomes from different source components are available according to household income ranges. For two reasons, these are not comparable and consistent with our gross income distributions, estimated in the previous section. First, the income ranges of the estimated gross income distribution refer to *earners' income*, whereas, those of NCAER distributions refer to household income. Second, our estimated gross incomes have been scaled up to match with the NAS controlling totals. In this section, we rearrange the (NCAER) component level incomes according to income ranges for *earners* while, in the next section, we will scale them up to be consistent with our gross income distribution.

The conversion procedure is basically similar to the one used in Section 2 of this Appendix. Where earlier, earners were reshuffled across income ranges, this time it is the income of these earners, disaggregated by source components, which is to be regrouped by income ranges for *earners*. The procedure can be illustrated with the case of two-earner urban households. Note that the one-earner households present no problem in such a conversion, if we treat the NCAER income ranges as those of earners rather than of households (see Table A.1.16). The information pertaining to

different source components of income, gross personal income and the number of earners of the 'two-earner' urban household distribution are available from the NCAER data and shown in columns (2) to (10), (11) and (12) of Table A.1.17 respectively. For each (household) income range the average per-earner (gross) income is computed and recorded in column (13) of the same table. We now assume that the *average* income per-earner is also the *actual* income for all earners in the relevant (household) income range. Thus, the 0.800 million earners corresponding to the household income range Rs 0-1200 are all assumed to earn Rs 452 each. Similarly, the 1.5488 million earners in the next household income range are assumed to earn Rs 880 each. (See rows 1 and 2 of Table A.1.17.) Therefore, according to our assumption, these two rows can be merged together. That is, incomes from the corresponding source components in these two rows are added up and placed against the (earners) income range Rs 0-1200, which is further added to the respective source components of income of 'one-earner' households (first row of Table A.1.16). Thus, on the basis of the data in columns (12) and (13) of Table A.1.17, we can now obtain distributions of gross income, disaggregated at a component level by income ranges for earners. By addition with the corresponding rows of Table A.1.16, we obtain, in Table A.1.18, the derived income distributions at a component level for 'one-earner' and 'two-earner' urban households, arranged according to income ranges for *earners*. The same procedure is repeated for all other multi-earner households to yield equivalent income distributions at a component level for *all* urban earners. A similar procedure is used to generate component level income distributions for rural earners by income ranges for *earners*. The final results are shown in text Tables 5.5.2 and 5.5.3 for urban India and rural India, respectively.

SECTION 7

Estimation of Scaled-up Component Level Income Distribution

We note that there exists a need for estimating the income distributions at a component level such that they will be consistent with our scaled-up gross income distributions. These constitute basic building blocks for the estimation of tax exclusion, exemptions and deductions. In the previous section, we classified the component level income distributions according to the income ranges for *earners* using the NCAER survey information. In this section, we describe the procedure to make them consistent with our scaled-up gross income distribution.

For our convenience, we reduced the nine survey components of income into four selected components, namely, 'Agricultural income', 'Business income', 'Salary income' and the 'Other income'. The correspondence between our components and the survey components is as follows:

Sl. No.	*Our components*	*Survey components*
1.	Agricultural income	a) Agricultural income b) Agricultural wages c) Livestock income
2.	Business income	a) Business income
3.	Salary income	a) Salary income b) Non-agricultural wages

4.	Other income	a) Transfer income b) Housing income c) Dividends, interest, etc.

The same classification (as above) is applied to urban India and rural India except for the rural 'non-agricultural wage' component which is included in 'Other income'. Accordingly, the data set given in Tables 5.5.2 and 5.5.3 is regrouped and presented in Tables A.1.19 and A.1.20. We now attempt to estimate the urban and rural distributions of the first three components of income explicitly.[1]

Before deriving the component level distributions, it is pertinent to note that the total amount of component income (not the distribution) can be derived directly from the scaled-up gross personal income (NAS total) for urban and rural cases, separately, under our three scenarios. To do this, we assume that the scaling up of gross personal income (from the NCAER base to the NAS) is neutral with regard to different source components. Under this assumption, we first derive the component's total share in the unscaled (NCAER) gross personal income using the information given in Tables A.1.19 and A.1.20 and apply the same share to the scaled-up (NAS) gross personal income. The resulting amount is referred to as the scaled-up total component income. Since we have three scenarios of scaled-up gross income for both urban and rural cases, we obtain correspondingly, scaled-up urban and rural component incomes under three scenarios. Table A.1.21 presents the details of these calculations for 1975-76 and 1980-81.

We note that the neutrality assumption, used above at a component level, can also be applied for different income ranges within each component income. We computed the component shares in gross income (row total in Table A.1.19 or A.1.20) for different income ranges of each of the three selected components for urban and rural cases, separately. The shares thus computed for the 14 broad income ranges form a weighting scheme in each case. These are recorded in Table A.1.22.

By applying the relevant weighting scheme to the scaled-up

gross income distribution, we may derive the corresponding scaled-up component distribution by the same 14 broad income ranges. But, we adopted this procedure only for 'Agricultural Income' and 'Business Income' components.[2]

Scaled-up Distributions for 'Agricultural Income' and 'Business Income'

For the 'Agricultural Income' and 'Business Income' components, we applied the relevant weighting schemes to the scaled-up *gross income* distribution by the 14 broad income ranges and derived the corresponding scaled-up component level income distributions. It should be mentioned that for a given component, the weighting schemes are different for urban and rural India, but, the weighting scheme is the same for all three scenarios of urban (or rural) India. Thus, for instance, for 'Agricultural Income', the weighting scheme relevant for rural India, as shown in column (2) of Table A.1.22, has been applied to the scaled-up gross rural income distribution under our three scenarios for 1975-76. Likewise, for the urban cases, the weighting scheme given in column (5) has been used to multiply the gross urban income distribution for 1975-76 under our three scenarios and the corresponding scaled-up urban 'Agricultural Income' distributions for 1975-76 have been derived. A similar procedure has been adopted for 'Business Income' distributions for 1975-76.

Along the same lines, we derived the corresponding 1980-81 distributions, by assuming that the *shares* of different components of income in total gross income (for different income ranges) are the same for 1980-81 as they were in 1975-76.

We note that the weighted component incomes thus obtained for 'Agricultural' or 'Business' components for 1975-76 and 1980-81 (by the 14 broad income ranges), *need not* sum up to the corresponding total component income that was derived earlier from the scaled-up gross income. We regard the latter totals as the controlling figures. since they are consistent with the NAS totals. Thus, the difference bet-

ween the weighted sum and the component total (as given in Table A.1.21) is adjusted among the 14 broad income ranges on a *pro-rata* basis. We did this adjustment in all the above cases of component level income distribution. The results obtained after the adjustment are presented in Tables A.1.23 A.1.24.

'Salary Income' Distribution

As noted earlier, the total amount of 'Salary Income' can be derived directly from the scaled-up gross personal income and the total share of salary component in gross income (unscaled) for the urban and rural sectors, separately. However, there exists a need for estimating this distribution by a different and *desired set of income ranges* (for earners) due to the following reasons:

(a) The underlying formula of standard deductions applicable for salary earners involves the use of *narrow* ranges of salary income, if not the *actual* salary income of each earner.
(b) The estimation of related tax exclusions, namely, the house rent allowances, also require the salary income ranges to be suitably arranged. These income ranges do not coincide with the earlier 14 broad ranges. We will discuss these pertinent problems in more detail in the next section. But now, having recognised the problem, we will estimate the salary income distribution in such a manner that it may become useful for deriving the tax deductions allowed for salary earners.

We adopted two different methods of estimation, one for the urban salary distribution and the other for the rural salary distribution. These methods have been found to be appropriate to deal with the nature of the problem faced in these two cases. We present below these two methods.

Salary Income Distribution for Urban India

This method involves mainly three steps:

(a) First, a weighted frequency distribution of salary earners is obtained by the 14 broad income ranges by applying the salary weights, derived earlier, to the estimated frequencies of earners relating to the scaled-up gross income.[3] The results of this step are shown in Table A.1.25. These weighted frequencies are referred to as salary earners. In doing so, it is implicitly assumed that salary earners and non-salary earners are mutually exclusive (the total of salary and non-salary earners equals the gross income earners). It is tantamount to saying that salary earners have no other source of income which is probably not true. However, this approximation is necessary for our purpose. The sum of weighted frequencies of salary earners over the 14 broad income ranges yields an estimate of total number of salary earners in urban India. See Table A.1.25 for results.

(b) In the second step, the lognormal function is fitted to the weighted frequency distribution of salary earners and the 'goodness of fit' is examined. We did this and the fit was found to be statistically significant. The estimated lognormal values of μ and σ for the urban salary earner distibution are shown in Table A.1.26.

(c) In the third step, the value of μ is modified in the same manner as adopted for scaled-up gross income distributions. (see Section 5 of this Appendix.) For this purpose, we have made use of the estimated value of σ and the known value of (lognormal) mean salary income (α). We note that the value of α can be derived from the total number of salary earners (N) and the total amout of 'Salary Income' (shown in Table A.1.21) that is consistent with our scaled-up gross personal income. Since we have three scenarios of gross income, we also have three scenarios for the total 'Salary Income', which implies three alternative values for α. For each value of α and the estimated value of σ, we obtain a new value for μ under each scenario from the following lognormal relationship.

$$\mu = \ln \alpha - \tfrac{1}{2}\sigma^2$$

For every scenario, the σ value is assumed to be constant, which implies that the concentration of 'Salary Income' remains the same across the three scenarios. Table A.1.27 presents the modified parametric values for each scenario. Using them we have determined the corresponding distributions of 'Salary Income' arranged according to the desired set of income ranges.[4] Table A.1.28 shows the results of estimated urban salary distributions under different scenarios for 1975-76 and 1980-81.

Salary Income Distribution for Rural India

The aforementioned method (used for urban India) could, in principle, also be employed for rural India. In fact, we tried to do so. We attempted to fit a lognormal function to the (weighted) rural frequency distribution of 'Salary Income' along the same lines as for urban India, but found the underlying lognormal fits to be statistically insignificant. Thus, the problem of estimating a distribution for rural 'Salary Income' still remains unsolved. Briefly, the problem is as follows.

On the one hand, we have rural salary weights, computed as in the case of urban India. These are available according to a set of 14 broad income ranges (as shown in Table A.1.22). On the other hand, for our purposes, we are required to generate a rural 'Salary Income' distribution, using these weights, but arranged according to a different set of income ranges which are shown in column (1) of Table A.1.26. On a close comparison of these two sets of income ranges, we find that while a rural salary weight is available for the income range Rs 4801-6000, we would need salary weights for a couple of subdivided income ranges, *viz* Rs 4801-5000 and Rs 5001-6000, which fortunately, do not overlap.[5] However, we do not have any survey information on the salary incomes for these two subdivided income ranges. The problem, thus, calls for an *ad hoc* solution.

Notwithstanding its limitations, we assumed that the rural salary weight available for the broader income range (Rs 4801-6000) is also the *actual* weight common for the subdi-

vided (non-overlapping) income ranges. We recognise that such an assuption may *not* be consistent with the true distribution of the rural 'Salary Income' for those subdivided income ranges. But we are obliged to make the assumption to circumvent the problem of mismatching income ranges.

For estimating the rural 'Salary Income' distributions, we proceeded as follows. First, we tabulated the rural salary weights, under the above assumption, according to the desired set of income ranges. Then, we obtained the scaled-up rural *gross* income distributed according to the same income ranges under our three scenarios by employing the related lognormal parametric values of μ and σ that were already determined in Section 5 (as shown in Table A.1.13). Finally, multiplying the rural salary weights with the scaled-up gross income, we generated the scaled-up 'Salary Income' for each desired income range of the distribution under different scenarios. The results are recorded in Table A.1.26, along with similar results for urban India for the years 1975-76 and 1980-81.

Notes

1. However, the last component is not estimated here separately. It will be considered implicitly when we quantify the significance of Chapter VI A deductions in the next section.
2. In the case of 'Sslary-Income,' however, the scaled-up income distributions are required by a different set of income ranges. The method of estimation will, therefore, differ from what is being followed for the other two selected components.
3. Section 5 of this Appendix and Table A.1.13 provide information on the lognormal parametric values ($\mu = 1.540$ and $\sigma = 0.859$) relating to the scaled-up urban gross income under the first scenario (U:R = 1:2). Using these values, we have derived the earner-wise frequency distribution of gross income by the same 14 broad income ranges.
4. Given the parametric values of μ and σ, the procedure to estimate the underlying distribution of income is given in detail, in Section 5 of this Appendix.
5. The mismatch problem of income ranges would have been severe, if it involved (i) an overlapping of the income ranges and (ii) a greater number of subdivided income ranges.

SECTION 8

Estimation of Tax Deductions

In this section we present the details of procedures adopted for estimating the major tax exclusions, deductions and exemptions that are considered in our study. The following is the list of tax exclusions, deductions and exemptions that are explicitly considered for our purpose:

(a) 'Agricultural Income' (including all income from agriculture, livestock and agricultural wages). Its estimation has already been explained in the previous section.
(b) Tax deductions for depreciation from business income.
(c) Tax deductions pertaining to 'Salary Income' (including non-agricultural wages). These are:
    (i) standard deduction,
    (ii) deductions by way of house rent allowance (HRA), and
    (iii) exclusion of employers' contributions to provident fund.
(d) Chapter VIA deductions that relate to all income, irrespective of source.

The estimation procedures used for the abovementioned categories are as follows.

Agricultural Income

All income from agriculture and allied activities is treated as exempt from tax and is therefore deductible from gross

income. In the previous section, we gave the details of estimated 'Agricultural Income' distributions under three scenarios, separately for urban and rural cases (see Table A.1.23). For further use, the results are reproduced in column (3) of text Tables 5.5.4 through 5.5.9 for 1975-76 and Appendix Tables A.1.36 through A.1.41 for 1980-81.

Depreciatian

It is assumed that 10 per cent of business income is accounted towards depreciation. We applied the same rate *across-the-board* for different income ranges of business income distribution under our three scenarios (see Table A.1.24) and derived the corresponding quanta of deductions towards depreciation, classified by the same income ranges. The results are recorded in column (4) of Tables 5.5.4 through 5.5.9 for 1975-76 and A.1.36 through A.1.41 for 1980-81.

Standard Deductions

The Finance Act of 1974, Government of India, provides us the formula for computing standard deductions. The formula remained the same for the assessment years 1976-77 and 1981-82 (which correspond, respectively, to the financial years 1975-76 and 1980-81, the income earned during which years is under our consideration). According to the formula, the rate of deduction was 20 per cent of salary income upto Rs 10,000 per annum plus 10 per cent of excess over Rs 10,000 subject to a maximum limit of Rs 3500. Obviously, to apply this formula we need the frequency distribution of 'Salary Income' by income ranges for salary earners. Moreover, we need such a distribution by narrow income ranges, as otherwise, the quantification of standard deductions for broad income ranges might entail large errors. For a narrow income range, however, the mid-point can be designated as the 'representative salary income' of all those earners who belong to that particular income range; the ranges being small, the mid point approximation would be close to the actual 'Salary Income' per earner. Thus, our objective is to derive the fre-

quency distribution of salary earners by narrow income ranges and then apply the standard deduction formula for different small income ranges. This can be accomplished by the use of lognormal parametric values (μ and σ) pertaining to the 'Salary Income' distribution.

It may be recalled that in the previous section, we estimated these (μ and σ) values for urban India, under our three scenarios for the two years 1975-76 and 1980-81 (as shown in Table A.1.27). Using these values, we derived the corresponding frequency distributions of salary earners by narrow income ranges. Applying the standard deduction formula to the midpoints of different narrow income ranges, we have computed the quantum of standard deduction per earner for these income ranges. In the next step, we multiply the per-earner amount of standard deduction with the estimated number of salary earners for the corresponding narrow income ranges and arrive at the corresponding total amount of standard deduction. The resulting amounts are then aggregated over the narrow income ranges to yield a distribution of standard deduction by our 14 broad income ranges. The final results (for urban India) are shown in column (5) of Table 5.5.6 for 1975-76 and A.1.36 through A.1.38 for 1980-81.

Standard Deductions for Rural India

As noted earlier, the application of the standard deduction formula requires the salary earners' frequency distribution to be arranged, preferably, by narrow income ranges. In the case of rural India, it was found that such a distribution cannot be derived directly since the lognormal function could not be fitted to the underlying rural (weighted) frequency distributions. Therefore, we adopted an *ad hoc* method as follows.

In the first step, a frequency distribution of earners is obtained corresponding to rural gross income ranges, that is, Rs 1-100, Rs 101-200, and so on.[1] Care is taken so that these ranges do not overlap with our 14 broad income ranges for which the rural salary weights are available.

In the second step, we assume tnat the rural salary weight

available for a broad income range is also the *actual* weight common for all its subdivided (non-overlapping) income ranges. For example, from Table A.1.22, we have a rural salary of 1.13 per cent for the income range Rs 1-1200. Under our assumtion, the same weight is applied for all its constituent sets of narrow ranges, like Rs 1-100, Rs 101-200,..... Rs 1100-1200. Similarly, the salary weight (5.70 per cent) available for the next (broad) income range Rs 1201-2400, is used for all its subdivided narrow ranges, i.e., Rs 1201-1300, Rs 1301-1400,.....Rs 2301-2400. Likewise, the salary weights available for the rest of the 14 broad income ranges are applied to their respective sets of subdivided (small) ranges.[2] Thus, for each narrow income range, the frequency of salary earners was obtained by applying the corresponding rural salary weight to the frequency of gross income earners under our three scenarios for 1975-76 and 1980-81.

In the third step, the formula for standard deduction is applied to the midpoint of each narrow income range and the amount of standard deductions *per earner* is obtained. For this purpose, we designated the midpoint of each (narrow) income range as the 'Salary Income' of a representative earner for that income range.

In the final step, the total amount of standard deductions is derived from multiplying the frequency of salary earners (obtained in the second step) by the amount of per-earner standard deduction for different narrow income ranges. These are then aggregated to generate a rural distribution of standard deduction by our 14 broad income ranges for rural India. This is done for our three scenarios for each of the years, 1975-76 and 1980-81. The results are shown in column (5) of Tables (relating to rural India) 5.5.7 through 5.5.9 for 1975-76 and A.1.39 through A.1.41 for 1980-81.

As an alternative to the above method, we could also estimate the quanta of standard duduction for the 14 broad income ranges *without* subdividing them into narrow ranges. In this case, however, a larger error would be involved when we apply the formula of standard deductions to the midpoint of a *broad* income range. For purposes of comparison, we did, in fact, derive the results following this alternative method

for the first scenario (U : R = 1 : 2) for rural India for 1975-76. The results are shown in Table A.1.29. We observe that this latter method gives a marginally higher estimate of standard deductions (Rs 1000.33 crore) as compared to the first approach (about Rs 976.58 crore) where narrow income ranges were used. The difference is relatively small, Rs 23.75 crore, or about 2 per cent of the total estimated standard deduction for rural India. Note that much of this difference occurs only in the initial income ranges upto Rs 10,000, which are not likely to fall in the tax net. We have chosen the estimates obtained from the first approach for all our three scenarios of rural India for 1975-76 and 1980-81.

Tax Deductions Towards House Rent Allowance (HRA)

For estimating the HRA deductions, the procedure is straightforward. For this purpose, we make use of Bagchi's estimated rates (Bagchi, 1975, p. 293) of HRA deductions (as a percentage of 'Salary Income') and the 'Salary Income' distribution estimated in the previous section. Note that the 'Salary Incomes' for urban and rural India are already arranged according to a set of income ranges, for which the information on HRA rates is available from Bagchi's study. Bagchi's rates are shown in column (2) of Table A.1.30. These relate to house rent plus conveyance allowances. He computed the average rates as a percentage of gross income (assumed to be total salary income). Since 1975, the tax deductions towards conveyance allowances have, however, been included in the standard deductions. Thus, to exclude their effect (which is partially reflected in Bagchi's rates) we have considered 'two-thirds' of Bagchi's rates as HRA rates of deductions. These are applied to 'Salary Incomes' (both for urban and rural cases) under our three scenarios given in Table A.1.28. The results of this exercise are presented in Table A.1.31 for the years 1975-76 and 1980-81. We should mention that the same HRA rate structure is used for deriving the estimates for both the years.

Tax Exclusion of Employers' Contribution to Provident Fund (PF)

The information regarding the total contribution (employee and employer) to Provident Fund is available from the Central Provident Fund Commissioner, New Delhi (for non-government servants) and the Union Budget of the Government of India (for government servants). The total (Urban plus Rural) Provident Fund contributions were Rs 964.22 crore for the financial year 1975-76 (Rs 225.66 crore for non-government servants and Rs Rs 735.56 crore for government servants). For the financial year, 1980-81, the total P.F. figure was Rs 1076.79 crore (Rs 300 crore for non-goverment servants and RS 776.79 crore for government servants). Assuming that all employees and employers contribute equally to the Fund, the latter's share worked out to be Rs 482.11 crore for 1975-76 and Rs 538.39 crore for 1980-81.

These are further divided between urban and rural sectors in the same ratio as the split of 'Salary Income' between urban and rural India under our three scenarios for the two years. The details are shown in Table A.1.32.

In order to derive the corresponding distributions by income ranges. we applied the same average rates of employers' P.F. contribution (as shown in Table A.1.32) to the 'Salary Incomes' for different income ranges *across-the board* for a given scenario and year. The results are shown in Table A.1.33 for all three scenarios of urban and rural India, separately, for 1975-76 and 1980-81.

Estimation of Chapter VIA Deductions

Chapter VIA deductions include those relating to employees' contribution to P.F., life insurance premia paid, savings in other specified forms that come under Section 80C, and those such as interest on bank deposits and certain specified securities that come under Section 80L of the Income Tax Act. According to the tax norms, these deductions are applicable to all incomes, irrespective of sources, but 'net' of all other tax exclusions and deductions thus far estimated (that is, after subtracting from gross income, the five types of tax exclusions and deductions mentioned earlier). The first step in estimating the quantitative significance of these deductions

is to derive an average rate structure of Chapter VIA deductions as a percentage of 'net income' by different income ranges. This is done as follows.

The annual AIITS publications provide data on Chapter VIA deductions (plus 'losses set off') by status of assessees and also by income ranges. These published data pertain to the assessments *completed* during a financial year, not to assessments of incomes earned during a particular year, which is what we really need for our purpose. In other words, the assessments of incomes earned during 1975-76 get reflected in the AIITS data relating to the financial year 1976-77 and beyond. It is known that a majority (perhaps 70-80 per cent) of them are covered in the first two years, that is, 1976-77 and 1977-78 (see NIPFP, 1983a). Therefore, we averaged the data for these two years for our purpose. However, for the assessments of incomes earned during 1980-81, we were confined to the AIITS data pertaining to their financial year 1981-82, the latest year for which data are available.

For computing the average rates of Chapter VIA deductions for 1975-76, first, we summed up the amounts of Chapter VIA deductions for all the non-corporate assessees comprising (i) individuals, (ii) Hindu Undivided Families (HUFs), (iii) association of persons and (iv) unregistered firms, from the AIITS publications for the two financial years, 1976-77 and 1977-78. These are arranged according to different income ranges and are recorded in Table A.1.34. The same table also reports the corresponding figures of gross income (AIITS) by the same income ranges. Using this information we computed the rates of Chapter VIA deductions as a percentage of gross income (our 'net income'). These are presented in column (12) of Table A.1.34 and applied to our 'net income'. The same average rates are used for both urban and rural cases under our three scenarios to obtain the quantum of Chapter VIA deductions in each case. [see columns (7), (10) and (11) of text Tables 5.5.4 through 5.5.9 for the results relating to 1975-76].

Using the AIITS data for the financial year 1981-82, we did a similar exercise for obtaining the total amount of Chapter VIA deductions under different scenarios for urban

and rural India for the year 1980-81. The computed rates are presented in Table A.1.35 while the results of quantum of Chapter VIA deductions are shown in columns (7), (10) and (11) of Tables A.1.36 through A.1.41.

Notes

1. It is possible to derive such frequency distributions by a set of predefined income ranges, using the pair of lognormal parameters. These were estimated for rural gross income under our three scenarios for 1975-76 and 1980-81. (see Section 5 and Tables A.1.13 and A.1.14 for parametric estimates).
2. We note that this assumption is restrictive in the sense that the implied distribution *within* the subdivided income ranges may differ from the true distribution of rural 'Salary Income'. However, as income ranges are narrow, their midpoints could be good approximations to the uuderlying 'Salary Income' per earner.

SECTION 9

Estimation of Income below Exemption Limit

The exemption limit is typically applicable to per-earner gross income *minus* the amount of all tax exclusions, exemptions and deductions. Thus, notionally, it closely coincides with our 'net income'. Consider, for example, the first scenario for urban India in 1975-76. The text Table 5.5.4 shows the derivation of the quanta of 'net income' from gross income for different income ranges. But this information cannot directly give us the total amount of income below exemption limit, as the income ranges relate to gross personal income. Thus, the crux of the problem lies in determining an appropriate 'cut-off point' in terms of gross income per earner that corresponds to the exemption limit specified with respect to 'net income' per earner. Given a cut-off point, we can easily obtain the income below exemption limit by cumulating the 'net income' upto the cut-off point from columns (12) and (13) of Table 5.5.4.

The principal steps in determining an appropriate cut-off point are as follows:

a. We choose *a priori* two (or three) adjacent income ranges (among the 14 broad income ranges shown in Table 5.5.4) that are above the exemption limit (Rs 8000 for financial year 1975-76 and Rs 12000 for financial year 1980-81). For example, in the case of urban India, for 1975-76, the income ranges initially selected were Rs 7501-10,000 and Rs 10,001-15,000. Then we merge together these two ranges, and

compute the ratio of 'gross income' to 'net income' for the combined income range (i.e., Rs 7501-15000).

b. We multiply this ratio by the given exemption limit and the product is referred to as the 'preliminary cut-off point'.

c. We check whether the 'preliminary cut-off point' falls in the span of the (selected) combined income range. If so, we accept this as the final cut-off point. If it falls outside the combined income range thus far selected, we *extend* our combined income range upto that particular income class (inclusive) to which the 'preliminary cut-off point' belongs. Then, we recompute the ratio for the revised (broader) combined income range, multiply the ratio by our exemption limit, and check again if the product falls in the revised combined income range. If not, the iterative procedure is repeated until this occurs.

d. Given a final 'cut-off point', we have the information about the exemption limit in terms of gross income per earner. If the 'cut-off point' happens to coincide with the upper (or lower) limit of any of the selected income ranges, the income below exemption limit is nothing but the cumulated net income, in column (13) upto the coinciding income range. But if it doesn't coincide, but falls *within* an income range (say, the 'cut-off income range'), we have to compute the net income cumulated up to the 'cut-off point'. For doing this, we compare the upper limit of the 'cut-off income range' with our 'cut-off point' and adjust the corresponding 'net income', in column (12) proportionately.[1]

The adjusted 'net income' is now added to the total net income, in column (13), which is cumulated upto the immediately preceding income range. The result of this labour gives us the amount of income below the exemption limit.

We conducted this exercise and computed the total amount of income below the exemption limit for our three scenarios of urban and rural India, separately for the two years 1975-76 and 1980-81. The results of the selected income, ranges,the ratio of gross income to net income, the 'preliminary' and 'final cut-off points', and the income below the

exemption limit are shown in Tables A.1.42 and A.1.43 respectively for 1975-76 and 1980-81.

Notes

1. The adjustment is done as follows:

$$\text{Net income (adjusted)} = \frac{\text{Value of the 'cut-off point'}}{\text{Upper limit of the 'cut-off income range'}} \times \text{Net income with respect to the 'cut-off income range'}$$

SECTION 10

Computation of Blow-up Factors

We now develop an appropriate indicator to adjust for the undercoverage inherent in the AIITS published data on "assessed income". The indicator is given by the ratio of the number of *assessees* that existed on the rolls of the Income-tax department at the end of a given assessment year as mentioned in the annual reports of the Comptroller and Auditor General (C&A.G) to the total number of *assessments* as reported in the AIITS publication on an assessment year basis. This ratio is computed separately for different statuses of non-corporate assessees (such as individuals, HUF, association of persons and unregistered firms) and is used to blow up the corresponding AIITS published information on 'assessed income'.

For the two types, *viz.*, individuals and unregistered firms, however, the numerator of this ratio needs to be adjusted before it is used for blowing-up purposes. This need arises due to the fact that assessment (AIITS) in respect of these two types exclude those that did not result in either (tax) demand or refund. Such assessments are typically referred to as 'N.A. and filed' cases. It has been found that they were running at about 10 per cent of *all* assessments in the late 70s. In other words, the C&AG number of assessees includes N.A. & filed cases, while the AIITS number of assessments excludes such cases. To make them (the numerator and denominator of our ratio) comparable, we have adjusted the C&AG number of assessees downwards by

reducing the same by 12 per cent in respect of individuals and unregistered firms.

Table A.1.44 puts together the data on the number of assessees taken from 'C&AG's annual reports, the number of assessments from AIITS publication, by status of assessees. Unfortunately no data are available separately for unregistered firms from the C&AG reports. Thus, we considered data on all firms (registered plus unregistered) and used these to compute the blow-up factor for unregistered firms. This table provides the calculations involved in computing blow-up factors for the assessment year 1976-77.

For the incomes earned during 1980–81 (or assessed during 1981-82), the AIITS data on the number of assessments are available only on a financial-year basis. These are used together with the C&AG number of assessees on record at the end of the financial year 1981-82 to compute the blow-up factors. In respect of individuals and firms, the C&AG number of assessees has been adjusted downwards by 10 per cent to account for the 'N.A. and filed' cases. The results of the computed blow-up factors are recorded in Table A.1.45.

TABLE A.1.1

Household Distribution of Income (NCAER) by Households of Varying Earner-Density and by Source Components of Income : Urban India for 1975-76

(Rs million)

Income Range and earner-density of households (Rs)	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income	Non-Agricultural wage income	Housing income	Dividend interest income	Current transfer income	Gross income (sum of cols. 2 to 10
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 0-1200										
One-earnar	24.40	nil	44.17	42.45	25.70	41.12	17.87	nil	16.02	211.72
Two-earner	2.00	nil	nil	nil	nil	31.92	2.28	nil	nil	36.20
TOTAL	26.40	nil	44.17	42.45	25.70	73.04	20.15	nil	16.02	247.92
Income Range Rs 1201-2400										
One-earner	55.96	9.09	313.10	253.20	110.52	2121.23	96.91	nil	13.81	2973.82
Two-earner	24.95	−8.00	109.14	nil	222.92	966.77	28.96	nil	18.00	1362.74
Three-earner	nil	nil	nil	nil	28.00	119.20	7.04	nil	nil	154.24
Four-earner	35.40	nil	nil	nil	nil	36.00	—0.40	nil	nil	71.00
TOTAL	116.31	1.09	422.24	253.20	361.44	3243.19	132.51	nil	31.81	4561.80

Table A.1.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 2401-3600										
One-earner	316.50	220.13	1938.93	2297.53	88.15	3284.60	340.04	3.44	516.03	9005.36
Two-earner	32.75	0.74	374.40	8.05	nil	1382.37	72.31	nil	3.20	1872.34
Three-earner	38.00	—3.60	nil	85.40	nil	347.68	— 9.32	nil	nil	458.16
TOTAL	387.25	215.79	2313.33	2390.98	88 15	5014.65	403.03	3.44	519.23	11335.86
Iccome Range Rs. 3601-4800										
One-earner	212.04	7.28	1499.39	5433.56	48.00	1405.86	591.99	2.04	154.21	9354.37
Two-earner	220.83	93.76	1025.80	859.26	8.00	2042.92	138.88	0.40	132.00	4529.85
Three-earner	68.08	—2.80	80.00	nil	nil	150 00	7.20	nil	nil	302.48
TOTAL	508.95	98.24	2605.19	6292.82	56.00	3598.78	738.07	2.44	286.21	14186.70
Income Range Rs. 4801-6000										
One-earner	587.62	114.75	2749.25	7379.81	nil	641.39	375.56	36.83	623.32	12508.52
Two-earner	nil	61.40	543.98	762.20	nil	826.16	135.74	8.40	2.70	2340 58
Three-earner	nil	nil	176.92	142.40	nil	149.65	1.80	nil	nil	471.07
Four-earner	nil	nil	15.95	18.19	207.99	23.40	1.39	nil	2.16	269.08
TOTAL	587.62	176.15	3486.10	8302.60	207.99	164.90	514.49	45.23	628.18	15589.25

Table A.1.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 6001-7500										
One-earner	363.71	263.94	1643.33	6887.50	nil	228.00	326.72	29.42	732.60	10475.22
Two-earner	45.68	41.48	1021.16	743.92	nil	505.04	107.05	2.08	1.80	2468.20
Three-earner	124.40	—5.84	210.56	186.57	nil	417.94	12.31	nil	nil	945.95
Four-earner	nil	nil	nil	7.02	nil	258.01	6.00	nil	52.39	323.42
More than four-earner	nil	nil	200.00	76.00	nil	nil	nil	nil	4.00	280.00
TOTAL	533.79	299.58	3075.05	7901.01	nil	1408.99	452.08	31.50	790.79	14492.79
Income Range Rs. 7501-10000										
One-earner	486.26	191.41	2776.24	8755.54	nil	nil	422.42	20.60	603.19	13264.67
Two-earner	89.86	98.80	1648.55	2405.95	nil	418.45	207.46	7.80	20.16	4897.03
Three-earner	16.22	9.43	739.28	237.06	nil	233.00	126.85	1.52	123.96	1487.32
Four-earner	16.58	15.34	223.00	96.37	nil	71.60	22.50	1.07	160.00	556.45
More than four-earner	10.43	2.11	22.32	15.82	nil	nil	1.21	nil	nil	51.90
TOTAL	619.35	317.09	5409.39	11510.74	nil	673.06	780.44	39.99	907.31	20257.38
Income Range Rs. 10001-15000										
One-earner	313.04	43.38	3660.66	5864.61	nil	13.15	1264.03	63.23	223.13	11445.22
Two-earner	360.09	30.16	1516.67	5177.97	nil	69.12	371.02	30.61	180.63	7736.27

Table A.1.1. (Contd,)

1	2	3	4	5	6	7	8	9	10	11
Three-earner	68.41	13.65	414.43	1104.30	8.64	75.96	81.75	1.67	26.70	1795.51
Four-earner	30.79	8.53	136.30	125.59	nil	25.33	21.31	nil	17.93	365.78
More than four-earner	49.44	132.78	227.99	46.01	10.80	nil	132.12	nil	nil	599.14
TOTAL	821.77	228.50	5956.05	12318.48	19.41	183.56	1870.23	95.51	448.39	21941.92
Income Range Rs. 15001-20000										
One-earner	334.82	78.71	2860.93	4669.16	nil	nil	461.03	86.69	466.12	8957.47
Two-earner	26.19	18.51	664.53	3099.36	nil	nil	137.23	18.12	72.00	4036.94
Three-earner	78.08	11.67	408.30	1104.16	nil	nil	149.75	13.50	47.78	1813.23
Four-earner	nil	nil	97.38	276.10	nil	16.42	10.96	0.22	nil	401.08
More than four-earner	41.32	5.08	nil	21.82	nil	nil	5.85	nil	nil	74.07
TOTAL	480.41	113.97	4031.14	9170.60	nil	16.42	764.82	118.53	585.90	15281.79
Income Range Rs. 20001-25000										
One-earner	128.56	12.69	1032.70	2444.10	nil	nil	216.02	35.03	63.99	3933.10
Two-earner	212.53	—2.88	633.44	2599.18	nil	nil	147.87	8.08	34.51	3632.74
Three-earner	32.86	26.20	620.06	818.23	nil	2.27	123 30	6.37	7.12	1636.41
Four-earner	3.11	1.39	181.22	288.80	nil	nil	42.11	2.98	3.06	522.67
More than four-earner	nil	0.26	87.56	29.57	nil	nil	5.67	nil	2.16	125.22
TOTAL	377.06	37.66	2554.99	6179.87	nil	2.27	534.97	52.46	110.85	9850.14

Table A.1.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 25001-30000										
One-earner	79.44	—1.29	840.50	1742.29	nil	nil	194.18	9.63	71.82	2936,57
Two-earner	19.08	8.69	714.38	819.66	nil	nil	92.75	28.37	29.76	1712.68
Three-earner	1.80	nil	315.50	490.10	nil	nll	93.93	4.64	16.38	922.35
Four-earner	nil	2.01	136.94	160.00	nil	nil	25.08	1.50	nil	325.52
More than four-earner	17.33	78.85	920.00	25.90	nil	nil	81.24	nil	nil	1123.32
TOTAL	117.65	88.26	2927.32	3237.94	nil	nil	487.18	44.14	117.96	7020.44
Income Range Rs. 30001-40000										
One-earner	187.32	57.79	582.57	1441.49	nil	1.26	207.27	7.49	nil	2485.20
Two-earner	15.42	6 37	453.47	1717.82	nil	nil	122.61	36.30	40.62	2392.61
Three-earner	14.72	8.65	153.56	543.15	nil	nil	24.65	0.41	30.89	776.01
Four-earner	78.21	0.46	282.38	316.90	nil	5.27	75.67	2.44	10.04	771.36
More than four earner	nil	nil	125.46	97.78	nil	nil	0.52	nil	nil	223.76
TOTAL	295.67	73.27	1597.44	4117.12	nil	6.53	430.72	46.64	81.55	6648.94
Income Range Rs. 40000-60000										
One-earner	34.83	—0.68	364.42	330.51	nil	nil	47.55	5.87	nil	782.49
Two-earner	71.36	2.59	595.92	509.31	nil	nil	172.69	34.56	2.16	1388.59

Table A.1.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Three-earner	179.41	16.60	422.19	345.33	nil	nil	92.25	1.87	5.40	1063.04
Four-earner	8.38	3.74	105.80	208.94	nil	nil	9.41	0.30	nil	336.58
More than four-earner	17.10	2.97	74.88	42.52	nil	nil	27.51	0.97	nil	165.95
TOTAL	311.08	25.22	1563.20	1436.60	nil	nil	349.41	43.57	7.56	3736.65
Income Range Over Rs. 60000										
One earner	66.71	6.35	412.48	251.20	nil	nil	41.00	1.67	nil	779.41
Two-earner	13.61	—3.22	834.94	193.12	nil	nil	40.44	0.19	nil	1079.08
Three-earner	74.28	0.10	356.12	14.12	nil	nil	66.58	0.05	nil	511.25
Four-earner	25.10	0.02	425.53	51.04	nil	nil	51.60	0.04	nil	553.33
More than four-earner	59.34	12.64	1481.86	124.21	nil	nil	84.68	0.74	nil	1763.47
TOTAL	239.04	15.89	3510.93	633.70	nil	nil	284.29	2.70	nil	4686.54
All Income Ranges										
One-earner	3191.22	1003.57	20718.67	47792.94	272.36	7736.60	4602.60	310.94	3484.24	89113.14
Two-earner	1142.35	346.91	10136.39	18895.78	230.92	6242.75	1777.29	174.91	537.54	39484.85
Three-earner	696.25	74.06	3896.90	5070.81	36.64	1496.01	778.08	30.03	258.24	12337.02

Table A.1.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Four-earner	197.57	31.49	1604.49	1548.95	207.99	386.03	265.63	8.55	245.58	4496.28
More than four-earner	194.96	234.69	3140.08	479.63	10.80	nil	338.80	1.71	6.16	4406.83
TOTAL	5422.36	1690.72	39496.54	73788.10	758.72	15861.39	7762.39	526.14	4531.76	149838.12

Source: Computer printouts relating to the survey on "Household Income and Its Disposition", NCAER, New Delhi (1980).

TABLE A.1.2

Frequency Distribution by Households (NCAER) of Varying Earner-Density and by Source Components of Income: Urban India for 1975-76

(Numbers in '00)

Income ranges and earner density of households	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income	Non-Agricultural wage income	Housing income	Dividend interest	Current transfer	Gross income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs.0 —1200										
One-earner	800.	0	800	36.	400.	800.	1272.	0.	836.	2436.
Two-earner	400.	0	0	0.	0.	400.	400.	0.	0.	400.
TOTAL	1200.	0	800	36.	400.	1200.	1672.	0.	836.	2836.
Income Range Rs. 1201—2400										
One-earner	544.	2072	2072	1272.	800.	11308.	5888.	0.	472.	15524.
Two-earner	872.	836	872	0.	1600.	6036.	3308.	0.	800.	7744.
Three-earner	0.	0	0	0.	400.	800.	800.	0.	0.	800.
Four-earner	40.	0	0	0.	0.	400.	400.	0.	0.	400.
TOTAL	1816.	2908	2944	1272.	2800.	18544.	10396.	0.	1272.	24468.
Income Range Rs. 2401—3600										
One-earner	3317.	3744	7236	8418.	436.	12845.	15398.	2800.	3200.	30207.
Two-earner	436.	36	2000	36.	0.	6036.	3308.	0.	400.	6508.
Three-earner	400.	400	0	400.	0.	1600.	1200.	0.	0.	1600.
TOTAL	4153.	4180	9236	8854.	436.	20481.	19906.	2800.	3600.	38315

Table A.1.2 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 3601—4800										
One-earner	2800.	2800	4063	13816.	400.	4436.	11816.	1200.	1236.	22715.
Two-earner	2436.	2836	3308	2908.	400.	6908.	6144.	400.	836.	10980.
Three-earner	400.	400	400	0.	0.	400.	800.	0.	0.	800.
TOTAL	5636.	6036	7771	16724.	800.	11744.	18760.	1600.	2072.	34495.
Income Range Rs. 4801—6000										
One-earner	2108.	2872	5717	14324.	0.	1200.	8225.	2436.	3272.	23349.
Two-earner	0.	800	1609	2036.	0.	2000.	3645.	400.	9.	4445.
Three-earner	0.	0	436	400.	0.	872.	36.	0.	0.	908.
Four-earner	0.	0	72	36.	400.	108.	436.	0.	36.	508.
TOTAL	2108.	3672	7834	16796.	400.	4180.	12342.	2836.	3317.	29210.
Income Range Rs. 6001—7500										
One-earner	2418.	1798	2832	11592.	0.	400.	6603.	2144.	3335.	15597.
Two-earner	108.	472	2162	1452.	0.	836.	2733.	436.	9.	3686.
Three-earner	400.	400	472	472.	0.	872.	508.	0.	0.	1344.
Four-earner	0.	0	0	36.	0.	436.	400.	0.	436.	436.
More than four-earner	0.	0	400	400.	0.	0.	0.	0.	400.	400.
TOTAL	2926.	2670	5866	13952.	0.	2544.	10244.	2580.	4180.	21463.

Table A.1.2 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 7501—10000										
One-earner	1740.	2032	3678	11412.	0.	0.	6587.	2617.	3605.	15751.
Two-earner	288.	1160	2990	3728.	0.	1780.	3058.	616.	108.	5666.
Three-earner	36.	117	1133	580.	0.	400.	1241.	436.	472.	1677.
Four-earner	72.	36	508	108.	0.	36.	580.	36.	400.	652.
More than four-earner	18.	18	36	45.	0.	0.	54.	0.	0.	54.
TOTAL	2154.	3363	8345	15873.	0.	2216.	11520.	3705.	4585.	23800.
Income Range Rs. 10001—15000										
One-earner	720.	985	3679	5534.	0.	36.	6153.	1431.	859.	9483.
Two-earner	895.	985	1714	5402.	0.	144.	3747.	1089.	612.	6464.
Three-earner	234.	189	567	1134.	0.	252.	918.	144.	72,	1476.
Four-earner	36.	72	117	153.	0.	72.	261.	0.	36.	297.
More than four-earner	436.	436	472	72.	0.	0.	544.	0.	0.	544.
TOTAL	2321.	2667	6549	12295.	0.	504.	11623.	2664.	1579.	18264.
Income Range Rs. 15001 — 20000										
One-earner	499.	598	2244	2911.	0.	0.	2420.	1655.	751.	5236.
Two-earner	90.	99	576	2007.	0.	0.	1215.	585.	243.	2340.
Three-earner	81.	81	441	792.	0.	0.	621.	216.	261.	1017.
Four-earner	0.	0	90	189.	0.	36.	126.	36.	0.	234.
More than four-earner	45.	45	0	36.	0.	0.	45.	0.	0.	45.
	715.	823	3351	5935.	0.	36.	4427.	2492.	1255.	8872.

Table A.1.2 (Contd,)

1	2	3	4	5	6	7	8	9	10	11
Ineome Range Rs. 20001—25000										
One-earner	153.	117	522	1197.	0.	0.	954.	270.	54.	1764.
Two-earner	180.	135	441	1219.	0.	0.	738.	216.	63.	1597.
Three-earner	63.	153	441	513.	0.	9.	567.	117.	54.	747.
Four-earner	18.	45	135	162.	0.	0.	180.	63.	18.	225.
More than four-earner	0.	9	54	27.	0.	0.	54.	0.	9.	54.
TOTAL	414.	459	1593	3118.	0.	9.	2493.	666.	198.	4387.
Income Range Rs. 25001—30000										
Onc-earner	135.	63	378	684.	0.	0.	657.	126.	90.	1080.
Two-earner	27.	72	360	378.	0.	0.	513.	99.	72.	630.
Three-earner	36.	0	153	252.	0.	0.	306.	45.	45.	342.
Four-earner	0.	27	81	72.	0.	0.	72.	27.	0.	117.
More than four earner	9.	409	400	18.	0.	0.	418.	0.	0.	418.
TOTAL	207.	571	1372	1404.	0.	0.	1966.	297.	207.	2587.
Income Range Rs. 30001—40000										
One-earner	162.	144	198	441.	0.	9.	468.	126.	0.	720.
Two-earner	9.	63	171	585.	0.	0.	558.	117.	108.	702.
Three-earner	18.	9	81	189.	0.	0.	144.	18.	63.	225.
Four-earner	45.	18	90	144.	0.	9.	180.	45.	54.	225.
More than four-earner	0.	0	36	27.	0.	0.	18.	0.	0.	63.
TOTAL	234.	234	576	1386.	0.	18.	1368.	306.	225.	1935.

Table A.1.2 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Income Range Rs. 40001—60000										
One-earner	9.	9	90	72.	0.	0.	90.	36.	0.	162.
Two-earner	36.	45	144	144.	0.	0.	261.	54.	9.	288.
Three-earner	72.	72	126	99.	0.	0.	198.	54.	9.	216.
Four-earner	9.	27	45	54.	0.	0.	63.	18.	0.	72.
More than four-earner	9.	9	27	18.	0.	0.	27.	9.	0.	36.
TOTAL	135.	162	432	387.	0.	0.	639.	171.	18.	774.
Income Range Over Rs. 60000										
One-earner	27.	18	45	36.	0.	0.	63.	9.	0.	90.
Two-earner	9.	36	108	54.	0.	0.	108.	9.	0.	117.
Three-earner	27.	18	63	18.	0.	0.	63.	18.	0.	63.
Four-earner	9.	9	45	9.	0.	0.	54.	9.	0.	54.
More than four-earner	18.	63	144	72.	0.	0.	135.	27.	0.	144.
TOTAL	90.	144	405	189.	0.	0.	423.	72.	0.	468.
All Income Ranges										
One-earner	15432.	17252	33554	71745.	2036.	31034.	66594.	14850.	17710.	144114.
Two-earner	5786.	7575	16455	19949.	2000.	24140.	29736.	4021.	3269.	51567.

Table A.1.2 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Three-earner	1767.	1839	4313	4849.	436.	5205.	7402.	1048.	976.	11215.
Four-earner	589.	234	1183	963.	400.	1097.	2752.	234.	980.	3220.
More than four-earner	535.	989	1569	715.	36.	0.	1295.	36.	409.	1753.
TOTAL	24109.	27889	57074	98221.	4908.	61476.	107779.	20189.	23344.	211874.

Source: Computer printouts relating to the survey on 'Household Income and Its Disposition', NCAER, New Delhi (1980).

TABLE A.1.3

Household Distribution of Income (NCAER) by Households of Varying Earner-Density and by Source Components of Income: Rural India for 1975-76

(Rs million)

Income Ranges and Earner-Density of Households	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income	Non-Agricultural wage income	Housing income	Dividend and interest income	Transfer income	Gross income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 0 – 1200										
One-earner	1046.49	12.36	222.89	nil	1324.50	1125.54	200.58	0.50	163.48	4096.37
Two-earner	406.22	27.11	70.99	nil	842.15	80.50	59.22	nil	23.40	1509.59
Three-earner	68.51	-4.07	nil	nil	197.50	nil	6.30	nil	10.80	279.04
Four-earner	0.72	nil	nil	nil	38.48	nil	2.02	nil	nil	41.22
TOTAL	1521.94	35.43	293.88	nil	2402.63	1206.04	268.12	0.50	197.68	5926.22
Income Range Rs. 1201—2400										
One-earner	6552.41	953.02	1373.40	320.30	6047.65	2308.16	965.92	43.88	716.20	19280.93
Two-earner	4575.08	317.60	452.35	124.96	8310.82	2546.22	526.65	0.29	173.59	17027.56
Three-earner	982.14	83.09	307.69	62.64	2159.75	314.50	113.00	0.09	14.25	4037.15
Four-earner	215.86	—17.06	4.43	69.12	634.06	159.66	16.38	nil	nil	1082.45

Table A.1.3 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
	More than four-earner	56.57	—7.22	nil	nil	88.75	nil	4.57	nil	nil	142.67
	No-earner	33.04	nil	nil	nll	nil	32.40	—0.14	nil	nil	65.30
	TOTAL	12415.10	1329.43	2137.87	577.02	17241.03	5360.94	1626.38	44.26	904.05	41636.07
Income Range Rs. 2401—3600											
	One-earner	10998.27	1609.97	1881.16	901.21	2149.16	3073.27	869.06	2.42	1057.79	22542.33
	Two-earner	9176.84	856.28	1585.82	794.08	4286.28	3296.43	585.70	1.02	440.90	210.23.35
	Three-earner	1924.76	58.51	90.73	53.61	2958.86	1926.40	140.50	0.11	64.81	7218.69
	Four-earner	1140.05	41.58	40.32	22.32	1395.65	401.22	77.04	nil	14.18	3132.36
	More than four-earner	463.39	84.86	162.50	nil	393.91	159.22	37.87	nil	39.24	1341.00
	TOTAL	23703.32	2651.20	3760.53	1771.22	11183.87	8856.55	1710.57	3.55	1616.92	55257.73
Income Range Rs.3601—4800											
	One-earner	7936.72	1815.30	2202.56	2491.45	630.42	1950.95	773.25	1.58	1157.41	18959.64
	Two-earner	8510.13	1780.49	1498.61	1509.07	2043.89	1568.36	554.76	0.36	470.70	17936.38
	Three-earner	3302.92	175.71	272.69	84.08	1412.18	1173.69	103.62	nil	34.92	6559.71
	Four-earner	960.26	185.65	nil	77.76	947.70	49.43	25.99	nil	nil	2246.80
	More than four-earner	359.45	19.41	nil	nil	211.25	181.36	4.10	nil	nil	783.58
	TOTAL	21069.50	3976.55	3973.86	4162.36	5245.45	4931.78	1451.63	1.94	1663.04	46486.11
Income Range Rs. 4801—6000											
	One-earner	6921.01	908.29	1643.32	2830.95	138.60	394.58	627.39	3.56	427.44	13895.15
	Two-earner	5499.37	948.04	795.31	1589.80	667.87	1008.43	471.07	2.70	447.29	11429.88

Table A.1.3 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Three-earner	2795.42	567.13	115.20	478.73	597.96	707.27	171.77	0.83	117.37	5551.68
Four-earner	1877.26	921.60	104.40	118.80	539.53	381.35	154.08	nil	40.32	4137.34
More than four-earner	1387.69	372.89	25.20	129.60	278.28	591.26	68.85	nil	115.20	2968.97
TOTAL	18480.76	3717.95	2683.43	5147.88	2222.24	3082.89	1493.16	7.09	1147.62	37983.02
Income Range Rs. 6001—7500										
One-earner	4442.99	1116.30	408.40	1418.34	5.18	nil	476.80	0.22	251.60	8119.82
Two-earner	4378.31	700.81	538.33	1461.98	174.60	617.19	330.56	1.97	90.74	8294.49
Three-earner	3132.98	422.11	76.32	672.87	163.40	421.02	161.80	nil	18.00	5068.50
Four earner	1921.57	210.38	30.60	66.96	275.54	205.20	80.08	nil	43.20	2883.53
More than four-earner	731.57	264.42	nil	nil	472.68	8.68	38.54	nil	14.40	1530.30
TOTAL	14607.42	2714.02	1053.64	3620.15	1091.41	1252.09	1087.78	2.19	417.94	25846.64
Income Range Rs. 7501—10000										
One-earner	4158.91	370.89	980.15	1689.84	nil	1.94	439.01	75.19	293.66	8009.60
Two-earner	4832.48	485.34	636.25	1572.62	12.97	26.37	324.78	5.84	167.92	8064.58
Three-earner	2732.14	563.11	145.46	565.80	69.35	59.71	203.56	0.07	21.60	4360.81
Four-earner	2065.14	323.94	385.20	280.84	2.88	56.16	79.96	nil	nil	3194.12
More than four-earner	1167.41	332.04	225.42	182.66	496.83	30.68	94.59	0.01	10.80	2540.045
TOTAL	14956.08	2075.33	2372.49	4291.77	582.03	174.86	1141.90	81.11	493.98	26169.56

TABLE A.1.3 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 10001—15000										
One-earner	4312.42	248.01	749.08	581.78	nil	nil	355.31	26.55	193.70	6466.95
Two-earner	4624.39	670.06	451.50	2896.42	nil	nil	374.57	1.58	33.96	9052.49
Three-earner	3631.33	807.59	795.19	1190.32	nil	87.26	272.74	1.55	71.42	6857.40
Four-earner	1055.43	162.19	73.89	511.86	nil	19.24	27.06	nil	nil	1849.67
More than four-earner	1969.08	405.20	126.81	737.22	68.52	220.84	88.59	1.11	8.77	3626.14
TOTAL	15592.65	2293.16	2196.47	5917.61	68.52	327.34	1118.27	30.78	307.85	27852.65
Income Range Rs. 15001—20000										
One-earner	2688.06	—13.88	253.72	205.28	nii	nil	116.74	5.13	43.24	3298.29
Two-earner	3504.65	172.88	549.89	756.68	nil	nil	133.94	nil	28.14	5146.18
Three-earner	988.46	98.92	118.02	198.94	nil	8.07	35.87	nil	nil	1448.24
Four-earner	576.51	118.26	54.00	188.89	7.20	nil	66.82	nil	39.83	1051.51
More than four-earner	1807.87	241.84	169.02	295.32	nil	nil	65.87	2.66	45.29	2627.87
TOTAL	9565.55	617.99	1144.65	1645.11	7.20	8.07	419.23	7.79	156.50	13572.09
Income Range Rs. 20001—25000										
One-earner	1619.28	69.89	662.40	nil	nil	nil	70.26	51.88	23.76	2497.47
Two-earner	1331.70	16.50	71.28	158.59	nil	nil	38.88	nil	93.95	1710.91
Three-earner	1651.86	- 4.18	204.11	171.60	nil	28.77	49.32	nil	nil	2101.49

TABLE A.1.3 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Four-earner	860.22	119.72	21.60	220.70	nil	nil	24.95	0.43	5.18	1252.80
More than four-earner	542.90	65.81	6.48	112.90	nil	10.80	19.82	nil	7.20	765.91
TOTAL	6005.96	267.74	965.87	663.79	nil	39.57	203.23	52.31	130.10	8328.58
Income Range Rs. 25001—30000										
One-earner	202.46	2.36	79.20	58.10	nil	nil	33.35	127.44	nil	502.91
Two-earner	2280.48	—27.08	424.38	73.05	nil	nil	42.16	nil	103.94	2896.93
Three-earer	1221.01	9.99	78.05	204.74	nil	nil	44.01	nil	nil	1557.80
More than four-earner	286.80	16.18	nil	79.01	nil	nil	8.54	nil	nil	390.54
TOTAL	3990.75	1.45	581.63	414.91	nil	nil	128.06	127.44	103.94	5348.18
Income Range Rs. 30001—40000										
One-earner	74.89	12.27	nil	nil	nil	nil	21.01	nil	nil	108.17
Two-earner	101.77	5.06	7.20	95.69	nil	nil	9.71	0.04	13.80	230.27
Three-earner	1649.02	13.18	128.88	137.49	nil	nil	29.91	0.46	nil	1958.94
For-earner	16.92	9.72	97.20	nil	nil	nil	2.52	nil	nil	126.36
More than four-earner	258.77	24.29	nil	62.17	nil	nil	5.61	nil	nil	350.84
TOTAL	2101.37	64.52	233.28	295.35	nil	nil	68.76	0.50	10.80	2774.58
Income Range Rs. 40001—60000										
One-earner	190.10	—3·29	nil	nil	nil	nil	2.79	nil	9.00	198.60
Two-earner	64.01	6.33	443.51	nil	nil	nil	37.98	nil	nil	551.83

Table A.1.3 (Contd.)

1	3	3	4	5	6	7	8	9	10	11
four-earner	62.91	14.81	370.08	248.45	nil	nil	30.74	nil	390.20	1117.20
More than four-earner	237.85	60.05	nil	nil	nil	nil	7.18	nil	216.00	521.08
TOTAL	554.87	77.90	813.59	248.45	nil	nil	78.69	nil	615.20	2388.7
Income Range Over Rs. 60000										
One-earner	nil	nil	1705.68	nil	nil	nil	109.08	nil	nil	1814.76
Four-earner	223.16	—4.68	64.80	nil	nil	nil	4.32	nil	nil	287.60
TOTAL	223.16	—4.68	1770.48	nil	nil	nil	113.40	nil	nil	2102.36
All Income Ranges										
One-earner	51144.02	7101.61	12161.94	10497.26	10295.51	8854.43	5060.55	338.36	4337.29	109790.99
Two-earner	49285.42	5959.42	7525.43	11032.95	16338.59	9143.51	3489.99	13.80	2085.34	104874.44
Three-earner	24080.56	2791.06	2332.34	3820.81	7559.01	4726.68	1332.70	3.11	353.19	46999.46
Four-earner	10976.00	2086.12	1246.52	1805.71	3841.05	1272.26	591.96	0.43	532.91	22352.96
More than four-earner	9269.37	1879.78	715.43	1598.89	2010.23	1210.84	444.13	3.78	456.90	17589.35
No-earner	33.04	nil	nil	nil	nil	32.40	—0.14	nil	nil	65.30
TOTAL	144788.41	19817.99	23981.67	28755.62	40044.38	25240.12	10919.19	359.47	7765.63	301672.50

Source: Computer printouts relating to the NCAER survey on "Household Income and.Its Disposition", NCAER, New Delhi (1980).

TABLE A.1.4

Frequency Distribution by Households (NCAER) of Varying Earner-Density and by Source Components of Income: Rural India for 1975-76

(Numbers : in hundred)

Income Ranges and Earner-Density of households	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income	Non-Agricultural wage income	Housing income	Dividend and interest income	Current transfer	Gross income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 0 – 1200										
One-earner	18215.	10224.	3240.	0.	18360.	14760.	34776.	720.	3672.	45576.
Two-earner	7920.	6840.	1080.	0.	11880.	1440.	10080.	0.	1080.	15480.
Three-earner	1800.	1080.	0.	0.	2520.	0.	2160.	0.	360.	2880.
Four-earner	360.	0.	0.	0.	360.	0.	360.	0.	0.	360.
Total	28296.	18144.	4320.	0.	33120.	16200.	47376.	720.	5112.	64295.
Income Range Rs. 1201 — 2400										
One-earner	58356.	51912.	9396.	2160.	47808.	16344.	91692.	4320.	9144.	109404.
Two-earner	51264.	44424.	6480.	1440.	65520.	18792.	73800.	360.	3240.	94032.
Three-earner	11808.	10008.	2880.	720.	16416.	2880.	13608.	72.	432.	20520.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Four-earner	2520.	2520.	360.	720.	5040.	720.	3960.	0.	0.	5760.
More than 4-earner	360.	360.	0.	0.	720.	0.	720.	0.	0.	720.
No-earner	360.	0.	0.	0.	0.	360.	360.	0.	0.	360.
Total	124668.	109224.	19116.	5040.	135504.	39096.	184140.	4752.	12816.	230736.
Income Range Rs. 2401 — 3600										
One-earner	56124.	55440.	9072.	3672.	14976.	14040.	67860.	1800.	9216.	77292.
Two-earner	52740.	50652.	8568.	3960.	29700.	17640.	61092.	432.	5400.	71604.
Three-earner	12744.	11232.	792.	1080.	13896.	8784.	19368.	72.	1080.	24408.
Four-earner	8136.	8064.	432.	360.	6840.	2232.	7776.	0.	72.	10296.
More than 4-carner	2880.	3384.	792.	0.	1800.	864.	3384.	0.	720.	4104.
Total	132624.	128772.	19656.	9072.	67212.	43560.	159480.	2304.	16488.	187704.
Income Range Rs. 3601 — 4800										
One-earner	33336.	31320.	7272.	7776.	5112.	6840.	43560.	1152.	6408.	46512.
Two-earner	34776.	33264.	7704.	5544.	12816.	6696.	38952.	360.	3024.	43416.
Three-earner	12816.	11016.	1080.	432.	5904.	4454.	13968.	0.	864.	15768.
Four-earner	3672.	3672.	0.	360.	2880.	792.	4752.	0.	0.	5472.
More than 4-earner	1872.	1872.	0.	0.	1152.	792.	0.	0.	0.	1872.
Total	86472.	81144.	16056.	14112.	27864.	19512.	102024.	1512.	10296.	113040.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 4801—600										
One-earner	20700.	19835.	4968.	6840.	1152.	1512.	23292.	504.	2664.	26460.
Two-earner	16992.	18108.	2412.	4896.	4032.	4176.	20412.	216.	2376.	21132.
Three-earner	8856.	8352.	360.	1944.	2520.	2592.	9216.	432.	1152.	10368.
Four-earner	7272.	7272.	1080.	720.	3672.	1872.	7632.	0.	504.	7632.
More than 4-earner	5184.	4464.	432.	260.	1440.	1800.	4104.	0.	720.	5544.
Total	59004.	58032.	9252.	14760.	12816.	11952.	64656.	1152.	7416.	71136.
Income Range Rs. 6001—7500										
One-earner	10332.	11088.	936.	2952.	72.	0.	10980.	360.	504.	12132.
Two-earner	10080.	11160.	1368.	3384.	1296.	1440.	11664.	432.	864.	12456.
Three-earner	7128.	6732.	288.	1404.	1008.	1224.	7128.	0.	72.	7560.
Four-earner	4248.	4248.	720.	144.	1440.	1152.	4248.	0.	360.	4248.
More than 4-earner	2304.	2304.	0.	0.	1440.	72.	1944.	0.	72.	2304.
Total	34092.	35532.	3312.	7884.	5256.	3888.	35964.	792.	1872.	38700.
Income Range Rs. 7501—10000										
One-earner	6876.	6660.	1440.	2520.	0.	72.	8460.	648.	1152.	9108.
Two-earner	8532.	8460.	1728.	3060.	72.	216.	9288.	396.	936.	9432.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Three-earner	4860.	4572.	504.	1224.	792.	288.	4932.	72.	72.	5076.
Four-earner	3672.	3672.	576.	504.	72.	216.	3024.	0.	0.	3672.
More than 4-earner	2772.	2916.	720.	540.	1368.	72.	2484.	72.	108.	2916.
Total	26712.	26280.	4968.	7848.	2304.	864.	28188.	1188.	2268.	30204.
Income Range Rs. 10001—15000										
One-earner	4860.	5076.	864.	792.	0.	0.	5292.	360.	504.	5436.
Two-earner	6084.	6300.	1116.	3240.	0.	0.	6876.	288.	252.	7452.
Three-earner	5580.	5472.	1404.	2052.	0.	252.	5544.	144.	252.	5760'
Four-earner	1404.	1440.	216.	1008.	0.	72.	1404.	0.	0.	1476.
More than 4-earner	2700,	2772.	360.	1656.	288.	576.	2700.	504.	144.	2844.
Total	20628.	21060.	3960.	8748.	288.	900.	21816.	1296.	1152.	22968.
Income Range Rs. 15001—20000										
One-earner	1764.	1800.	288.	216.	0.	0.	1836.	108.	36.	1944.
Two-earner	2916.	2916.	540.	828.	0.	0.	2916.	0.	144.	3024.
Three-earner	864.	864.	108.	252.	0.	72.	756.	0.	0.	864.
Four-earner	612.	612.	36.	288.	72.	0.	612.	0.	108.	612.
More than 4-earuer	1584.	1584.	504.	504.	0.	0.	1296.	36.	72.	1584.
Total	7740.	7776.	1512.	2088.	72.	72.	7416.	144.	360.	8028.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Income Range Rs. 20001 - 25000										
One-earner	1152.	828.	360.	0.	0.	0.	1080.	108.	36.	1152.
Two-earner	792.	792.	72.	180.	0.	0.	792.	0.	180.	792.
Three-earner	936.	900.	144.	396.	0.	72.	936.	0.	0.	936.
Four-earner	540.	540.	72.	324.	0.	0.	504.	36.	72.	540.
More than 4-earner	360.	360.	36.	108.	0.	36.	360.	0.	72.	360.
Total	3780.	3420.	684.	1008.	0.	108.	3672.	144.	360.	3780.
Income Range Rs. 25001—30000										
One-earner	180.	108.	72.	72.	0.	0.	180.	72.	0.	180.
Two-earner	1008.	1008.	252.	72.	0.	0.	1044.	0.	72.	1044.
Three--earner	540.	576.	144.	180.	0.	0.	576.	0.	0.	576.
More than 4-earner	144.	144.	0.	108.	0.	0.	144.	0.	0.	144.
Total	1872.	1836.	468.	432.	0.	0.	1944.	72.	72.	1944.
Income Range Rs. 30001—40000										
One-earner	36.	36.	0.	0.	0.	0.	36.	0.	0.	36.
Two-earner	36.	72.	36.	36.	0.	0.	72.	36.	36.	72.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Three-earner	540.	540.	72.	144.	0.	0.	576.	36.	0.	576.
Four-earner	36.	36.	36.	0.	0.	0.	36.	0.	0.	36.
More than 4-earner	108.	108.	0.	36.	0.	0.	108.	0.	0.	108.
Total	756.	792.	144.	216.	0.	0.	828.	72.	36.	828.
Income Range Rs. 40001—60000										
One-earner	36.	36.	0.	0.	0.	0.	36.	0.	36.	36.
Two-earner	36.	36.	108.	0.	0.	0.	108.	0.	0.	108.
Four-earner	36.	36.	252.	216.	0.	0.	252.	0.	216.	252.
More than 4-earner	108.	108.	0.	0.	0.	0.	108.	0.	72.	108.
Total	216.	216.	360.	216.	0.	0.	504.	0.	324.	504.
Income Range Over 60000										
One-earner	0.	0.	216.	0.	0.	0.	216.	0.	0.	216.
Four-earner	36.	36.	36.	0.	0.	0.	36.	0.	0.	36.
Total	36.	36.	252.	0.	0.	0.	252.	0.	0.	252.

TABLE A.1.4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
All Income Ranges										
One-earner	211968.	194364.	38124.	27000.	87480.	53568.	289296.	10152.	33372.	355484.
Two-earner	193176.	184032.	31464.	26640.	125316.	50400.	237096.	2520.	17604.	280044.
Three-earner	68472.	61344.	7776.	9828.	43056.	20628.	78768.	828.	4284.	95292.
Four-earner	32544.	32148.	3816.	4644.	20376.	7056.	34596.	36.	1332.	40392.
More than 4-earner	20376.	20376.	2880.	3312.	8208.	4140.	18144.	612.	1980.	22608.
No-earner	360.	0.	0.	0.	0.	360.	360.	0.	0.	360.
Total	526896.	492264.	84060.	71424.	284436.	136152.	658260.	14148.	58572.	774180.

Source: Computer printouts relating to the survey on "Household Income and Its Disposition", NCAER, New Delhi (1980).

TABLE A.1.5

Frequency Distribution by Income Ranges for Earners Derived for 'Three-Earner' Urban Households, 1975-76

Income-ranges (Rs)	Three—earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1 + 2 + 3 + 4-earner households	Three-earner households	One + Two + Three—earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	Nil	Nil	Nil	1.8720	0.7200	2.5920
1201—2400	154.24	0.2400	643	5.0500	0.9156	5 9656
2401—3600	458.16	0.4800	954	4.6470	0.5031	5.1501
3601—4800	302.48	0.2400	1260	3.4050	0.4428	3.8478
4801—6000	471.07	0.2724	1729	3.6280	0.3051	3.9331
6001—7500	945.95	0.4032	2346	1.5600	0.2241	1.7841
7501—10000	1487.32	0.5031	2956	2.0430	0.1026	2.1456
10001—15000	1795.51	0.4428	4055	1.3940	0.0675	1.4615
15001—20000	1813.23	0.3051	5943	0.6640	0.0648	0.7288
20001—25000	1636.41	0.2241	7302	0.2340	Nil	0.2340
25001—30000	922.35	0.1026	8990	0.1080	0.0189	0.1269
30001—40000	776.01	0.0675	11497	0.0720	Nil	0.0720
40001—60000	1063.04	0.0648	16405	0.0400	Nil	0.0400
60001 & above	511.25	0.0189	27050	0.0090	Nil	0.0090
TOTAL	12337.01	3.3645	—	24.7260	3.3645	28.0905

Source: As explained in Appendix 1.

TABLE A.1.6

Frequency Distribution by Income Ranges for Earners Derived for 'Four-Earner' Urban Households, 1975-76

Income-ranges (Rs)	Four—earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1 + 2 + 3-earner households	4-earner households	1 + 2 + 3 + 4-earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	Nil	Nil	Nil	2.5920	0.1000	2.7520
1201 - 2400	71.00	0.1600	444	5.9655	0.6384	6.6040
2401—3600	Nil	Nil	Nil	5.1501	0.1188	5.2689
3601 - 4800	Nil	Nil	Nil	3.8478	0.0936	3.9414
4801--6000	269.08	0.2032	1324	3.9331	0.0900	4.0231
6001—7500	323.42	0.1744	1854	1.7841	0.0468	1.8309
7501—10000	556.46	0.2608	2134	2.1456	0.0900	2.2356
10000—15000	365.78	0.1188	3079	1.4615	0.0288	1.4903
15001—20000	401.08	0.0936	4285	0.7288	Nil	0.7288
20001—25000	522 67	0.0900	5807	0.2340	Nil	0.2340
25001—30000	325.52	0.0468	6956	0.1269	0.0216	0.1485
30001—40000	771.36	0.0900	8571	0.0720	Nil	0.0720
40001—60000	336.58	0.0288	11687	0.0400	Nil	0.0400
60001&above	553.33	0.0216	25617	0.0090	Nil	0.0090
TOTAL	4496.28	1.2880	—	28.0905	1.2880	29.3785

Source: As explained in Appendix 1.

TABLE A.1.7

Frequency Distribution by Income Ranges for Earners Derived for 'More than Four-Earner' Urban Households 1975-76

Income-ranges (Rs)	More than Four-Earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1 + 2 + 3 + 4-earner households	More than 4-earner households	All earners house-holds
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0–1200	Nil	Nil	Nil	2.7520	Nil	2.7520
1201–2400	Nil	Nil	Nil	6.6040	0.5521	7.1561
2401–3600	Nil	Nil	Nil	5.2689	0.0249	5.2938
3601–4800	Nil	Nli	Nil	3.9414	0.0299	3.9713
4801–6000	Nil	Nil	Nil	4.0231	0.2312	4.2543
6001–7500	280.00	0.2213	1265	1.8309	0.0348	1.8657
7501–10000	51.90	0.0299	1738	2.2356	0.0199	2.2555
10001–15000	599.14	0.3009	1991	1.4903	Nil	1.4903
15001–20000	74.07	0.0249	2976	0.7288	Nil	0.7288
20001–25000	125.22	0.0299	4192	0.2340	0.0796	0.3136
25001–30000	1123.32	0.2312	4858	0.1485	Nil	0.1485
30000–40000	223.76	0.0348	6421	0.0720	Nil	0.0270
40001–60000	165.95	0.0199	8335	0.0400	Nil	0.0400
60000 & above	1763.47	0.0796	22140	0.0090	Nil	0.0090
TOTAL	4406.83	0.9724	—	29.3785	0.9724	30.3509

Source: As explained in Appendix 1.

TABLE A.1.8

Frequency Distribution by Income Ranges for Earners Derived for 'Two-Earner' Rural Households, 1975-76

Income-ranges (Rs)	Two-earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1-earner households	2-earner households	1 + 2-earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	1509.59	3.0960	488	4.5576	21.9024	26.4600
1201—2400	17027.56	18.8064	905	10.9404	23.0040	33.9444
2401 –3600	21023 35	14.3208	1468	7.7292	6.7176	14.4468
3601 – 4800	17936.38	8.6832	2066	4.6512	1.8864	6.5376
4801—6000	11429 88	4.2264	2704	2.6460	Nil	2.6460
6001—7500	8294.49	2.4912	3329	1.2132	1.4904	2.7036
7501—10000	8064.58	1.8864	4275	0.9108	0.6048	1.5156
10001—15000	9052.49	1.4904	6074	0.5436	0.3672	0.9108
15001—20000	5146.18	0.6048	8509	0.1944	0.0144	0.2088
20001—25000	1710.91	0.1584	10801	0.1152	Nil	0.1152
25001—30000	2896.93	0.2088	13874	0.0180	0.0216	0.0396
30001—40000	230.27	0.0144	15991	0.0036	Nil	0.0036
40001—60000	551.83	0.0216	25548	0.0036	Nil	0.0036
60001 & above	Nil	Nil	Nil	0.0216	Nil	0.0216
TOTAL	104874.44	56.0088	—	33.5484	56.0088	89.5572

Source: As explained in Appendix 1.

TABLE A,1.9

Frequency Distribution by Income Ranges for Earners Derived for 'Three-Earner' Rural Households, 1975-76

Income-ranges (Rs)	Three-earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1 + 2-earner households	3-earner households	1 + 2 + 3-earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0-1200	279.04	0.8640	323	26.4600	14.3424	40.8024
1201-2400	4037.16	6.1560	656	33.9444	10.1088	44.0532
2401-3600	7218.69	7.3224	986	14.4468	1.5228	15.9696
3601-4800	6559.71	4.7304	1387	6.5376	1.7280	8.2656
4801-6000	5551.68	3.1104	1785	2.6460	0.2592	2.9052
6001-7500	5068.50	2.2680	2235	2.7036	0.2808	2.9844
7501-10000	4360.81	1.5228	2864	1.5156	0.1728	1.6884
10001-15000	6857.40	1.7280	3968	0.9108	0.1728	1.0836
15001-20000	1448.24	0.2592	5587	0.2028	Nil	0.2088
20001-25000	2101.49	0.2808	7484	0.1152	Nil	0.1152
25001-30000	1557.80	0.1728	9015	0.0396	Nil	0.0396
30001-40000	1958.94	0.1728	11336	0.0036	Nil	0.0036
40001-60000	Nil	Nil	Nil	0.0036	Nil	0.0036
60001 & above	Nil	Nil	Nil	0.0216	Nil	0.0216
TOTAL	46999.46	28.5876	—	89.5572	28.5876	118.1448

Source: As explained in Appendix 1.

TABLE A.1.10

Frequency Distribution by Income Ranges for Earners Derived for 'Four-Earner' Rural Households, 1975-76

Income-ranges (Rs)	Four-earner households			Derived frequency distribution of earners from		
	Gross Income (Rs million)	Number of Earners (million)	Per-earner Income (Rs)	1 + 2 + 3-earner households	4-earner households	1 + 2 + 3 + 4 earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	41.22	0.1440	286	40.8024	8.7552	49.5576
1201—2400	1082.45	2.3040	470	44.0532	6.2208	50.2740
2401—3600	3132.36	4.1184	761	15.9696	0 5904	16.5600
3601—4800	2246.80	2.1888	1026	8.2656	0.2448	8.5104
4801 – 6000	4137.34	3.0528	1355	2.9052	0.2160	3.1212
6001 7500	2833.53	1.6992	1668	2.9844	Nil	2.9844
7501 – 10000	3194.12	1.4668	2175	1.6884	0.0144	1.7028
10001—15000	1849.67	0.5904	3133	1.0836	0.1008	1.1844
15001—20000	1051.51	0.2448	4295	0.2088	0.0144	0.2232
20001—25000	1252.80	0.2160	5800	0.1152	Nil	0.1152
25001—30000	Nil	Nil	Nil	0.0396	Nil	0.0396
30001—40000	126.36	0.0144	8775	0.0036	Nil	0.0036
40001—60000	1117.20	0.1008	11083	0.0036	Nil	0.0036
60001 & above	287.60	0.0144	19972	0.0216	Nil	0.0216
TOTAL	22352.96	16.1568	—	118.1448	16.1568	134.3016

Source: As explained in Appendix 1.

TABLE A.1.11

Frequency Distribution by Income Ranges for Earners Derived for 'More than Four-Earner' Rural Households, 1975-76

Income-ranges (Rs)	More than four-earner households			Derived frequency distribution of earners from		
	Gross income (Rs million)	Number of earners (million)	Per-earner income (Rs)	1 + 2 + 3 + 4-earner households	More than four-earner households	All-earner households
				(million)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	Nil	Nil	Nil	49.5576	8.1520	57.7096
1201—2400	142.67	0.4036	707	50.2740	3.2285	53.5025
2401—3600	1341.00	2.3003	583	16.5600	0.8878	17.4478
3601—4800	783.58	1.0493	747	8.5104	0.2018	8.7122
4801—6000	2968.97	3.1074	955	3.1212	0.1412	3.2624
6001—7500	1530.30	1.2914	1185	2.9844	Nil	2.9844
7501—10000	2540.45	1.6344	1554	1.7028	0.0605	1.7633
10001—15000	3626.14	1.5941	2275	1.1844	Nil	1.1844
15001—20000	2627.87	0.8878	2960	0.2232	Nil	0.2232
20001—25000	765.91	0.2018	3796	0.1152	Nil	0.1152
25001—30000	390.54	0.0807	4839	0.0396	Nil	0.0396
30001—40000	350.84	0.0605	5796	0.0036	Nil	0.0036
40001—60000	521.08	0.0605	8608	0.0036	Nil	0.0036
60001 & above	Nil	Nil	Nil	0.0216	Nil	0.0216
TOTAL	17589.35	12.6718	—	134.3016	12.6718	146.9734

Source: As explained in Appendix 1.

TABLE A.1.12

Results of 'Goodness of Fit' and Parametric Estimates of Lognormal Distributions Fitted to Earners-Data: Urban and Rural India for 1975-76

(Numbers : in millions)

	Urban India					Rural India				
	Earners Derived from					Earners Derived from				
Income ranges	One-earner households	One+two-earner households	One+Two+Three-earner households	One+Two+Three+Four-earner households	All-earner households	One-earner households	One+Two-earner households	One-Two+Three-earner households	One+Two+Three+Four-earner households	All-earner households
1	2	3	4	5	6	7	8	9	10	11
1—1200	0.2436	1.8720	2.5920	2.7520	2.7520	4.5576	26.4500	40.8024	49.5576	57.7095
1201—2400	1.5524	5.0500	5.9656	6.6040	7.1561	10.9404	33.9444	44.0532	50.2740	53.5025
2401—3600	3.0207	4.6470	5.1501	5.2689	5.2938	7.7292	14.4468	15.9696	16.5600	17.4478
3601—4800	2.2715	3.4050	3.8478	3.9414	3.9713	4.6512	6.5376	8.2656	8.5104	8.7122
4801—6000	2.3349	3.6280	3.9331	4.0231	4.2543	2.6460	2.6450	2.9052	3.1212	3.2624
6001—7500	1.5597	1.5600	1.7841	1.8309	1.8657	1.2132	2.7036	2.9844	2.9844	2.9844
7501—10000	1.5751	2.0430	2.1456	2.2356	2.2555	0.9108	1.5156	1.6884	1.7028	1.7633
10001—15000	0.9483	1.3940	1.4615	1.4903	1.4903	0.5436	0 9108	1.0836	1.1844	1.1844
15001—20000	0.5236	0.6040	0.7288	0.7288	0.7288	0.1944	0.2088	0.2088	0.2232	0.2232

Table A.1.12 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
20001—25000	0.1764	0.2340	0.2340	0.2340	0.3136	0.1152	0.1152	0.1152	0.1152	0.1152
25001—30000	0.1080	0.1080	0.1269	0.1485	0.1485	0.0180	0.0396	0.0396	0.0396	0.0396
30001—40000	0.0720	0.0720	0.0720	0.0720	0.0720	0.0036	0.0036	0.0036	0.0036	0.0036
40001 – 60000	0.0162	0.0400	0.0400	0.0400	0.0400	0.0036	0.0036	0.0036	0.0036	0.0036
60001&Above	0.0090	0.0090	0.0090	0.0090	0.0090	0.0216	0.0216	0.0216	0.0216	0.0216
TOTAL N =	14.4114	24.7260	28.0905	29.3785	30.3509	33.5484	89.5572	118.1448	134.3015	146.9734
(Chi-Square)	3.809*	2.553*	3.414*	3.440*	4.229*	8.204**	11.858	12.136	16.599	12.266
Sample Mean	1.610	1.339	1.285	1.268	1.266	0·936	0.556	0.460	0.412	0.375
Sample Deviation	0.684	0.836	0.859	0.861	0.859	0.768	0.817	0.816	0.810	0.809

Notes: *Statistically significant at 95 per cent level of confidence.

**Statistically significant at 90 per cent level of confidence.

Source: As explained in Appendix 1.

TABLE A.1.13

Results of Modified Parametric Values for Scaled-Up Gross Personal Income Distributions: Urban and Rural India—1975-76

Sl. No.	Item	Urban India	Rural India
1.	Gross personal income (Unscaled, population-adjusted NCAER estimates) Rs crore	15691.0	31590.0
2.	Missing income[1] in Rs crore		
	a. U:R =1:2	5740.3	11480.7
	b. U:R =1:1.5	6888.4	10332.6
	c. U:R =1:1	8610.5	8610.5
3.	Scaled-up gross personal income in Rs crore (Y)		
	a. U:R =1:2	21431.3	43070.7
	b. U:R =1:1.5	22579.4	41922.6
	c. U:R =1:1	24301.5	40200.5
4.	Total number of earners (N) in million (Adjusted for population changes)	31.785	153.840
5.	Mean income ($\alpha = \frac{Y}{N}$) (in Rs thousand)		
	a. U:R =1:2	6.743	2.800
	b. U:R =1:1.5	7.104	2.725
	c. U:R =1:1	7.646	2.613
6.	Estimated σ value (Assumed to be constant for all scenarios)	0.859	0.768
7.	Modified μ value[2]		
	a. U:R =1:2	1.540	0.735
	b. U:R =1:1.5	1.592	0.709
	c. U:R =1:1	1.665	0.666

Notes: 1. Missing income for all-India was Rs 17221 crore in 1975-76. For the first scenario (U:R =1:2) the scaled-up urban total has been derived by adding one-third of 17221 to the unscaled urban (NCAER) estimate. A similar procedure was followed for the other two scenarios.

Table A.1.13 (Contd.)

[2] For example μ value for urban India is obtained as shown below:

When U:R =1:2, $\alpha = 6.743$

and $\sigma = 0.859$, then

as $\mu = \ln \alpha - \frac{1}{2}\sigma^2$

$= \ln 6.743 - \frac{1}{2}(0.859)^2 = 1.540.$

Similarly, modified value of μ is derived for the other two scenarios.

Source: As explained in Appendix 1.

TABLE A.1.14

Results of Derived Parametric Values for Gross Personal Income Distribution for 1980-81

Sl. No.	Item	Urban India	Rural India
1.	Gross personal income (Y) under different scenarios[1] (Rs crore)		
	a. U:R =1;2	40668	70861
	b. U:R =1:1.5	42648	68881
	c. U:R =1:1	45837	65692
2.	Total number of earners (N) (million)	39.449	165.655
3.	Mean income (α = Y/N) under different scenarios (Rs thousand)		
	a. U:R =1:2	10.309	4.278
	b. U:R =1:1.5	10.811	4.158
	c. U:R =1:1	11.619	3.966
4.	σ value	0.859	0.768
5.	μ value under different scenarios[2]		
	a. U:R =1:2	1.964	1.158
	b. U:R =1:1.5	2.012	1.130
	c. U:R =1:1	2.084	1.083

Notes: 1. For the first scenario (U:R =1:2), the urban income (UY) and the rural income (RY) are derived from the following two equations:

$$UY+RY = 111529 \quad \ldots\ldots\ldots(1)$$

$$\frac{UY/UN}{RY/RN} = 2.41 \quad \ldots\ldots\ldots(2)$$

Given UN = 39.449 and RN = 165.655 Equation (2) after adjustment becomes UY/RY—57391.62 = 0 .....(3)

Solving equations (1) and (3), we get UY = 40668 and RY = 70861 Similarly, the values of UY and RY are derived for the other two scenarios.

Table A.1.14 (Contd.)

2. For the first scenario (U:R = 1:2) of urban India, the μ - value is derived by using the corresponding value of α (=10.309) and of σ (=0.859) in the following relationship

$$\mu = \ln \alpha - \tfrac{1}{2}\ \sigma^2$$
$$= \ln 10.309 - \tfrac{1}{2}\ (0.859)^2 = 1.964$$

Similarly, μ -values for the other two scenarios are derived

Source: As explained in Appendix 1.

TABLE A.1.15

Gross Personal Income Distributions under Different Scenarios: Urban and Rural India for 1980-81

(Rs crore)

Income ranges for earners (Rs)	Rural India			Urban India			All India		
	Case 1[1]	Case 2	Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1—1200	1436.08	1553.34	1696.35	65.34	59.05	47.26	1501.42	1612.39	1743.61
1201—2400	7406.13	7512.58	7662.48	571.51	551.31	467.73	7977.64	8063.89	8130.21
2401—3600	9665.07	10069.11	9624.28	1299.03	1221.22	1154.70	10964.10	11290.33	10778.98
3601—4800	9264.52	9277.87	8912.53	1739.53	1639.71	1530.93	11004.05	10917.58	10443.46
4801—6000	8137.22	7932.45	7312.63	2003.51	1961.61	1970.47	10140.73	9894.06	9283.10
6001—7500	8271.21	7454.83	7242.63	2737.63	2712.86	2685.90	11008.84	10167.79	9928.53
7501—10000	9016.99	8365.05	8125.82	4238.79	4551.64	4320.20	13255.78	12916.69	12446.02
10001—15000	9199.54	8478.12	7592.98	7515.18	7617.07	8216.19	16714.72	16095.19	15719.17
15001 - 20000	3747.14	3555.62	2998.02	5249.49	5712.47	5823.34	8996.63	9269.09	8821.36
20001—25000	1733.09	1571.63	1295.24	3766.39	4040.74	4491.30	5499.48	5612.37	5786.54
25001—30000	867.57	776.40	653.45	2656.60	2874.34	3274.19	3524.17	3650.74	3927.65

Table A.1.15 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
30001—40000	699.99	619.08	512.24	3408.89	3654.25	4362.10	4108.88	4273.33	4874.34
40001—60000	332.79	289.82	233.71	2941.94	3342.80	3972.53	3274.73	3632.62	4206.24
Above 60000	1083.65	1424.09	1829.63	2474.15	2708.93	3610.16	3557.80	4133.02	5439.79
All income ranges	70861.00	68881.00	65692.00	40668.00	42648.00	45837.00	111529.00	111529.00	111529.00

Note: 1. Case 1 refers to the scenario when the 'missing income' is allocated to urban and rural sectors in the ratio 1:2, case 2 to the ratio 1:1.5 and case 3 to the ratio 1:1.

Source: As explained in Appendix 1.

TABLE A.1.16

Income Distribution (NCAER) of 'One-Earner' Urban Households by Source Components of Income for 1975-76

Income ranges for earners (Rs)	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income
(1)	(2)	(3)	(4)	(5)	(6)
0–1200	24.40	nil	44.17	42.45	25.70
1201–2400	55.96	9.09	313.10	253.20	110.52
2401–3600	316.50	220.13	1938.93	2297.53	88.15
3601–4800	212.04	7.28	1499.39	5433.56	48.00
4801–6000	587.62	114.75	2749.25	7379.81	nil
6001–7500	363.71	263.94	1643.33	6887.50	nil
7501–10000	486.26	191.41	2776.24	8755.55	nil
10001–15000	313.04	43.38	3660.66	5864.61	nil
15001–20000	334.82	78.71	2860.93	4669.16	nil
20001—25000	128.56	12.69	1032.70	2444.10	nil
25001—30000	79.44	−1.29	840.50	1742.29	nil
30001–40000	187.32	57.79	582.57	1441.49	nil
40001–60000	34.83	−0.68	364.42	330.51	nil
Above 60000	66.71	6.35	412.48	251.20	nil
All income ranges	3191.22	1003.57	20718.67	47792.94	272.36

Source: As explained in Appendix 1. Columns 1 to 11 are based on Table A 1.1 and Column 12 is based on Table A.1.2.

Table A.1.16 (Contd.)

(Rs million)

Non-Agricultural wage income	Housing income	Dividend and interest income	Transfer income	Gross income	Number of earners (million)
(7)	(8)	(9)	(10)	(11)	(12)
41.12	17.87	nil	16.02	211.72	0.2436
2121.23	96.91	nil	13.81	2973.82	1.5524
3284.60	340.04	3.44	516.03	9005.36	3.0207
1405.86	591.99	2.04	154.21	9354.37	2.2715
641.39	375.56	36.83	623.32	12508.52	2.3349
228.00	326.72	29.42	732.60	10475.22	1.5597
nil	422.42	29.60	603.19	13264.67	1.5751
13.15	1264.03	63.23	223.13	11445.22	0.9483
nil	461.03	86.69	466.12	8957.47	0.5236
nil	216.02	35.03	63.99	3933.10	0.1764
nil	194.18	9.63	71.82	2936.57	0.1080
1.26	207.27	7.49	nil	2485.20	0.0720
nil	47.55	5.87	nil	782.49	0.0162
nil	41.00	1.67	nil	779.41	0.0090
7736.60	4602.50	310.94	3484.24	89113.14	14.4114

TABLE A.1.17

Income Distribution (NCAER) of 'Two-Earner' Urban Households by Source Components of Income for 1975-76

Household income ranges (Rs)	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income
(1)	(2)	(3)	(4)	(5)	(6)
0 – 1200	2.00	nil	nil	nil	nil
1201—2400	24.95	—8.00	109.14	nil	222.92
2401—3600	32.75	—0.74	374.40	8.05	nil
3601—4800	228.83	93.76	1025.80	859.26	8.00
4801—6000	nil	61.40	543.98	762.20	nil
6001—7500	45.68	41.48	1021.16	743.92	nil
7501— 10000	89.86	98.80	1648.55	2405.95	nil
10001—15000	360.09	30.16	1516.67	5177.96	nil
15001—20000	26.19	18.51	664.53	3099.35	nil
20001—25000	212.53	—2.88	633.44	2599.12	nil
25001—30000	19.08	8.64	714.38	819.66	nil
30001 40000	15.42	6.37	453.47	1717.82	nil
40001—60000	71.36	2.59	595.92	509.31	nil
Above 60000	13.61	—3.22	834.94	193-12	nil
All income ranges	1142.35	346.91	10136.39	18895.78	230.92

Source: Columns 1 to 11 are based on Table A.1.1 and Column 12 is based on Table 5.3.5 of the text.

Table A.1.17 (Contd.)

(Rs million)

Non-Agri-cultural wage income	Housing income	Dividend and interest income	Transfer income	Gross income	Number of earners (million)	Per earner income (Rs) (Col.11 ÷ 12)
(7)	(8)	(9)	(10)	(11)	(12)	(13)
31.92	2.28	nil	nil	36.20	0.0800	452
966.77	28.96	nil	18.00	1362.74	1.5488	880
1382.37	72.31	nil	3.20	1872.34	1.3016	1438
2042.92	138.88	0.40	132.00	4529.85	2.1960	2063
826.16	135.74	8.40	2.70	2340.58	0.8890	2633
505.04	107.05	2.08	1.80	2468.20	0.7372	3348
418.46	207.46	7.80	20.16	4897.03	1.1332	4321
69.12	371.02	30.61	180.63	7736.27	1.2928	5984
nil	137.23	18.12	72.00	4035.94	0.4680	8624
nil	147.87	8.08	34.51	3632.74	0.3194	11374
nil	92.75	28.37	29.76	1712.68	0.1260	13593
nil	122.61	36.30	40.62	2392.61	0.1404	17041
nil	172.69	34.56	2.16	1388.59	0.0576	24107
nil	40.44	0.19	nil	1079.08	0.0234	46114
6242.75	1777.29	174.91	537.54	39484.85	10.3134	—

TABLE A.1.18

Income Distribution by Income Ranges for Earners Derived for 'Two-Earner' Urban Households by Source Components of Income for 1975-76

Income ranges for earners (Rs)	Agricultural income	Livestock income	Business income	Salary income	Agricultural wage income
(1)	(2)	(3)	(4)	(5)	(6)
0—1200	51.35	—8.00	153.31	42.45	48.62
1201—2400	317.54	102.11	1713.30	1120·51	118.52
2401—3600	362.18	323.01	3504.07	3803.65	88.15
3601—4800	301.90	106.08	3147.94	7839.51	48.00
4801—6000	347.71	144.86	4265.92	12557.77	nil
6001—7500	363.71	263.94	1643.33	6887.50	nil
7501—10000	512.45	209.92	3440.77	11854.91	nil
10001—15000	544.65	49.13	5008.48	9283.39	nil
15001—20000	348.50	84.67	3299.52	6312.71	nil
20001—25000	199.92	15.28	1628.60	2953.36	nil
25001—30000	79.44	—1.29	840.50	1742.29	nil
30001—40000	187.05	57.71	581.73	1439.40	nil
40001—60000	48.44	—3.90	1199.13	523.63	nil
Above 60000	66.71	6.35	412.48	251.20	nil
All income ranges	4333 57	1350.48	30855.06	66688.72	503.28

Source: As explained in Appendix 1, derived from Tables A.1.16 and A.1.17.

Table A.1.18 (Contd.)

(Rs million)

Non-Agri-cultural wage income	Housing income	Dividend and interest income	Transfer income	Gross income	Number of earners (million)
(7)	(8)	(9)	(10)	(11)	(12)
1039.81	49.11	nil	34.02	1610.66	1.8720
5546.52	308.10	0.40	149.01	9376.01	5.0500
4615.80	582.83	13.92	520.53	13814.14	4.6470
1824.32	799.45	9.84	174.37	14251.40	3.4050
710.51	746.58	67.44	803.95	20244.79	3.6280
228.00	326.72	29.42	732.60	10475.22	1.5600
nil	559.65	47.72	675.19	17300.61	2.0430
13.15	1504.65	99.68	287.40	16790.64	1.3940
nil	581.24	122.54	504.31	11350.08	0.6640
nil	388.71	69.59	66.15	5321.69	0.2340
nil	194.18	9.63	71.82	2936.57	0.1080
1.26	206.97	7.48	nil	2485.20	0.0720
nil	87.99	6.06	nil	1861.57	0.0400
nil	41.00	1.67	nil	779.41	0.0090
13979.35	6379.89	485.85	4021.78	128597.99	24 7260

TABLE A.1.19

Income Distribution for Selected Components of Income by Income Ranges for Earners : Urban India for 1975-1976

(Income : Rs million)

Income ranges for earners	Gross income	Selected Source Components			Component shares in gross income		
		Agricultural income	Business income	Salary income	Agricultural income	Business income	Salary income
(Rs)					(per cent)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0—1200	2294.06	338.29	167.58	1696.79	14.75	7.30	73.96
1201 - 2400	13175.51	1167.51	2870 04	8276.30	8.86	21.78	62.82
2401—3600	15741.31	885.25	4379.53	9068.88	5.62	27.82	57.57
3601—4800	16573.21	549.08	3747.32	11166 20	3.31	22.61	67.37
4801—6000	23704.01	1278.27	5787.96	14703.04	5.39	24.42	62.03
6001—7500	12660.91	689.56	2525.46	8193.33	5.45	19.95	64.71
7501—10000	19160.27	822.91	4113.53	12709.69	4.29	21.47	66.33
10001—15000	17903.23	634.29	5261.96	10040.88	3.54	29.39	56.08
15001—20000	12413.12	675.83	3721.69	6707.99	5.44	29.98	54.04
20001—25000	7085.16	287.67	3110.32	3077.56	4.06	43.90	43.44
25001—30000	4001.15	178.03	1621.84	1807.43	4.45	40.53	45.17

Table A.1.19 (Contd.)

1	2	3	4	5	6		7
30001—40000	2485.20	244.76	585.33	1440.66	9.85	23.55	57.97
40001—60000	1861.57	47.54	1191.50	518.72	2.55	64.65	27.86
Above 60000	779.41	73.06	412.48	251.20	9.37	52.92	32.23
All income ranges	149838.12	7871.80	39496.54	89649.49	5.25	26.36	59.83

Source : As explained in Appendix 1.

TABLE A.1.20

Income Distribution for Selected Components of Income by Income Ranges for Earners: Rural India for 1975-76

(Income : Rs million)

Income ranges for earners (Rs)	Gross income	Selected source components			Component shares in gross income		
		Agricultural income	Business income	Salary income	Agricultural income	Business income (per cent)	Salary income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0—1200	47437.76	36005.16	1376.53	540.00	75.90	2.90	1.14
1201—2400	91752.13	65310.45	5791.82	5234.06	71.18	6.31	5.70
2401—3600	51105.05	33707.91	3596.81	5322.58	65.96	7.04	10.41
3601—4800	35699.04	21453.25	3692.91	5553.61	60.09	10.34	15.56
4801—6000	17337.57	10611.11	1780.96	3388.37	61.20	10.27	19.54
6001—7500	19273.80	12415.83	1054.37	4459.42	64.42	5.47	23.14
7501—10000	15361.02	9751.10	1703.44	2648.61	63.48	11.09	17.24
10001—15000	14150.93	9806.87	1725.14	1192.84	69.30	12.19	8.43
15001—20000	3816.16	2997.00	325.48	300.78	78.53	8.53	7.88
20001—25000	2497.47	1689.17	662.40	nil	67.63	26.52	nil
25001—30000	1054.74	275.16	552.72	58.10	26.09	49.56	5.51
30001—40000	108.17	17.55	nil	nil	16.22	nil	nil

Table A.1.20 (Contd.)

1	2	3	4	5	6	7	8
40001—60000	198.60	186.82	nil	nil	94.07	nil	nil
Above 60000	1814.76	nil	1705.68	nil	nil	93.99	nil
All income ranges	301607.20*	204227.38	23938.26	28698.37	67.71	7.94	9.51

Note : *Excludes 'No-earner' income of Rs. 65.30 million.

Source : As explained in Appendix 1.

TABLE A.1.21

Composition of Gross Income under Different Scenarios by Selected Source Components of Incomes: Urban and Rural India for 1975–76 and 1980-81

(Rs billion)

Selected source component of income		Component shares in gross income	1975-76					
			Gross Income			Amount of Income by Source Component		
			Case 1	Case 2	Case 3	Case 1 (Col. 1×2)	Case 2 (Col. 1×3)	Case 3 (Col. 1×4)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Salary Income (includes salary income and non-agricultural wages)								
	Urban:	0 598309	214.33	225.81	243.03	128.23	135.10	145.41
	Rural:	0.095151	430.70	419.22	402.00	40.96	39.93	38.23
Business Income								
	Urban:	0.263595	214,33	225.81	243.04	56.50	59.52	64.06
	Rural:	0.079369	430.70	419.22	402.00	34.20	33.34	31·92
Agricultural Income (includes agricultural income, agricultural wages and livestock income)								
	Urban:	0.052535	214.33	225.81	243.04	11.86	11.86	12.76
	Rural :	0.677130	430.70	419.22	402.00	291.64	283.87	272.21

Table A.1.21 (Contd.)

(Rs billion)

Selected source component income	1980-81					
	Gross Income			Amount of Income Source Component		
	Case 1	Case 2	Case 3	Case 1 (col. 1×8)	Case 2 (Col. 1×8)	Case 3 (Col. 1×10)
	(8)	(9)	(10)	(11)	(12)	(13)
Salary Income (includes salary income and non-agricultural wages)						
Urban:	406.68	426.48	458.37	243.32	255.61	274.25
Rural:	708.61	688.81	656.92	67.38	65.51	62.47
Business Income						
Urban:	406.68	426.48	458 37	107.20	112.42	120.82
Rural:	708.61	688.81	656.92	56.26	54.59	52.16
Agricultural Income (includes agricultural income, agricultural wages and livestock income)						
Urban:	406.68	426.48	458.37	21.36	22.39	24.07
Rural:	708.61	688.81	656.92	479.82	466.41	444.82

Source : As explained in Appendix 1,

TABLE A.1.22

Weighting Schemes for Selected Components of Income: Urban and Rural India for 1975-76

(per cent)

Income ranges for earners (Rs)	Rural India			Urban India		
	Agricultural Income	Business income	Salary income	Agricultural income	Business income	Salary income
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—1200	75.90	2 90	1.14	14.75	7.30	73.96
1201—2400	71.18	6.31	5.70	8.86	21.78	62.82
2401—3600	65.96	7.04	10.41	5.62	27.82	57.57
3601—4800	60.09	10.34	15.56	3.31	22.61	67.37
4801—6000	61.20	10.27	19.54	5.39	24.42	62.03
6001—7500	64.42	5.47	23.14	5.45	19.95	64.71
7501—10000	63.48	11.09	17.24	4.29	21.47	66.33
10001—15000	69.30	12.19	8.43	3.54	29 39	56 08
15001—20000	78.53	8.53	7.88	5.44	29.98	54.04
20001—25000	67.63	26.52	nil	4.06	43.90	43.44
25001—30000	26.09	49.56	5.51	4.45	40.53	45.17
30001—40000	16.22	nil	nil	8.85	23.55	57.97

Table A.1.22 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
40001—60000	94.07	nil	nil	2.55	64.05	27.86
Above 60000	nil	93.99	nil	9.37	52.92	32.23
All income ranges	67.71	7.94	9.51	5.25	26.36	59.83

Source : Based on Tables A.1.19 and A.1.20.

TABLE A.1.23

Estimated Distribution of 'Agricultural Income' : Urban and Rural India for 1975-76 and 1980-81

(Rs crore)

Income ranges for earners (Rs)	Rural India 1975-76			Urban India 1975-76	
	Case 1	Case 2	Case 3	Case 1	Case 2
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	2353.21	2375.64	2565.41	28.49	25.53
1201—2400	6369.40	6577.40	6432 24	82.52	76.71
2401—3600	5855.52	5683.54	5622.18	87.61	85.11
3601—4800	3877.61	3651.51	3603.24	56.74	55.73
4801—6000	2785.54	2730.24	2360.14	96.92	93.94
6001—7500	2465.91	2317.36	2178.27	114.07	112.21
7501—10000	2315.32	2200.50	1968.52	128.10	133.41
10001—15000	2041.43	1864.25	1665.56	140.61	149.94
15001—20000	747.99	686.43	573.15	122.01	126.45
20001—25000	247.36	216.36	183.89	56.56	65.72
25001—30000	39.45	35.63	29.91	40.09	47.66
30001—40000	17.89	15.07	12.66	97.74	112.16
40001—60000	37.36	32.72	25.45	17.53	20.55
Above 60000	0.00	0.00	0.00	56.69	80.88
All income ranges	29163.99	28386.64	27220.63	1125.68	1185.98

Note : Totals may not tally due to rounding.

Source : As explained in Appendix 1.

(Rs crore)

	Rural India			Urban India		
		1980-81			1980-81	
Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(7)	(8)	(9)	(10)	(11)	(12)	(13)
21.00	1149.95	1249.24	1373.06	11.93	10.78	8.48
71.07	5561.84	5666.27	5816.59	52.28	50.38	42.05
80.90	6725.64	7037.21	6769.69	75.37	70.78	65.84
57.72	5873.81	5907.81	5711.77	59.27	55.81	51.26
98.77	5254.23	5144.24	4772.86	110.63	108.22	106.94
115.94	5621.31	5088.48	4975.50	153.72	152.19	148.23
137.11	6038.86	5626.56	5500.89	187.93	201.61	188.25
161.03	6726.23	6225.68	5611.65	272.55	275.98	289.65
152.07	3104.70	2959.64	2510.89	274.68	298.62	299.47
75.93	1236.67	1126.33	934.24	157.59	168.91	184.69
54.03	238.78	214.62	181.79	121.74	131.60	147.47
140.10	119.82	106.43	88.63	346.58	371.17	435.87
25.52	330.27	288.88	234.45	72.22	81.98	95.85
85.25	0.00	0.00	0.00	239.42	261.89	343.34
1276.42	47982.11	46641.39	44482.02	2135.92	2239.92	2407.40

TABLE A.1.24

Estimated Distributions of 'Business Income': Urban and Rural India for 1975-76 and 1980-81

(Rs. crore)

Income ranges for earners (Rs)	Rural India 1975-76			Urban India 1975-76	
	Case 1	Case 2	Case 3	Case 1	Case 2
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	59.6	68.8	73.9	10.3	9.0
1201—2400	372.6	442 0	430.0	177.9	161.8
2401—3500	412.1	459.5	452.2	380.3	361.4
3601—4800	440.3	476.3	467.6	340.9	327.5
4801—6000	308.4	347.2	298.6	383.1	363.2
6001—7500	38.1	149.1	139.4	366.7	352.9
7501—10000	266.8	291.3	259.2	561.5	572.0
10001—15000	236.5	248.5	220.3	1031.5	1076.0
15001—20000	53.6	56.5	46.9	632.8	641.6
20001—25000	64.0	64.3	54.4	537.1	610.5
25001—30000	49.4	51.3	42.8	321.0	373.3
30001—40000	0.0	0.0	0.0	203.7	228.7
40001—60000	0.0	0.0	0.0	409.2	469.1
Above 60000	1016.6	672.5	704.7	280.7	391.7
All income ranges	3418.4	3327.3	3190.6	5636.8	5938.7

Note : Totals may not tally due to rounding.

Source : As explained in Appendix 1.

Table A.1.24 (Contd.)

(Rs. crore)

	Rural India			Urban India		
	1980-81			1980-81		
Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(7)	(8)	(9)	(10)	(11)	(12)	(13)
7.3	30.1	31.6	33.1	3.9	0.9	2.7
147.2	337.7	331.7	325.4	100.1	26.2	78.8
337.3	491.4	495.8	455.8	290.5	74.2	248.4
333.1	692.4	671.4	620.3	316.2	81.0	267.6
375.0	603.9	570.0	505.4	388.4	103.3	367.4
358.1	326.9	285.3	266.6	439.0	110.2	414.3
577.2	722.3	648.9	606.3	731.5	213.5	717.2
1134.5	810.2	723.1	622.8	1775.6	489.0	1846.9
756.0	230.9	212.2	172.0	1265.2	374.1	1350.1
692.7	332.1	291.6	231.1	1329.1	387.5	1524.6
415.5	310.6	269.2	217.9	865.6	2545.1	1026.3
280.4	0.0	0.0	0.0	641.4	1868.6	789.6
571.8	0.0	0.0	0.0	1496.6	4621.4	1944.1
405.4	735.8	936.4	1157.1	1052.5	313.2	1477.4
6391.6	5624.2	5467.0	5213.9	10695.6	11215.3	12055.5

TABLE A.1.25

Weighted Frequency Distribution of Salary Earners: Urban India for 1975-76 and 1980-81

(Earners in lakh)

Income ranges for earners	Frequency of earners for gross income	Weights for salary income	Frequency distribution of salary earners	Frequency of earners for gross income	Weights for salary earners	Frequency distribution of salary earners
(Rs)		1975—76	(Col.2×3)		1980—81	(Col.5×6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1—1200	17.847168	73.96	13.20	7.189729	73.96	5.32
1201—2400	49.901906	62.82	31.35	31.661232	62.82	19.89
2401—3600	50.179392	57.57	28.89	43.322699	57 57	24.94
3601—4800	40.065321	67.37	26.99	42,604730	67.37	28.70
4801—6000	32.459109	62.03	20.13	37.168682	62.03	23.06
6001—7500	30.116535	64.71	19.49	40.703297	64.71	26.34
7501—10000	33.193348	66.33	22.02	48.877093	66.33	32.42
10001—15000	31.726458	56.08	17.79	61.587504	56.08	34.54
15001—20000	13.461058	54.04	7.27	30.407154	54.04	16.43
20001—25000	6.031889	43.44	2.62	16.933408	43.44	7.36

Table A.1.25 (Contd.)

1	2	3	4	5	6	7
25001—30000	3.176937	45.17	1.43	9,737942	45.17	4.40
30001—40000	2.794973	57.97	1.62	9.958461	57.97	5.77
40001—60000	1.500487	27.86	0.42	6.172518	27. 6	1.72
Above 60000	5.398029	32.23	1.74	5.675018	32.23	1.83
All income ranges	317.852610	N.A.[1]	194.96	394.48824	N.A.	232.72

Note: [1] N.A. means not applicable.

Source: For Columns 3 and 6, Table A.1.22; other columns are as explained in Appendix 1.

TABLE A.1.26

Results of Lognormal Fits and Estimated Parametric Values for Salary Income Distributions: Urban India 1975-76 and 1980-81

Income ranges (Rs)	Salary earners 1975–76		Salary earners 1980–81	
	Observed (weighted) frequency (in lakh)	Expected frequency (in lakh)	Observed (weighted) frequency (in lakh)	Expected frequency (in lakh)
(1)	(2)	(3)	(4)	(5)
1—1200	13.210	14.045	5.320	5.036
1201—2400	31.350	33.065	19.890	21.251
2401—4800	55.880	54.128	53.640	53.782
4801—7500	39.620	36.113	49.400	47.215
7501—10000	22.020	19.416	32.420	30.089
10001—15000	17.790	19.100	34.540	34.060
15001—20000	7.270	8.392	16.430	17.231
20001—25000	2.620	4.334	7.360	9.070
25001—30000	1.430	2.286	4.400	5.131
30001—40000	1.620	2.105	5.770	5.152
40001—60000	0.420	1.264	1.720	2.119
60001—80000 (Truncated)	1.740	0.712	1.830	2.584
TOTAL	194.960	194.960	232.720	232.720
Value of Chi-Square	: 9.723		—	2.287
Sample mean	: 1.519		—	1.910
Estimates of standard deviation	: 0.914		—	0.856

Source: As explained in Appendix 1.

TABLE A.1.27

Modified Parametric Values Used in Estimating Salary Income Distribution for Urban India : 1975-76 and 1980-81

Parameters of lognormal distribution	Case 1 U:R 1:2	Case 2 U:R 1:1:5	Case 3 U:R 1:1
(1)	(2)	(3)	(4)
Number of salary earners (N) (lakh)			
a. 1975-76	194.960	194.960	194.960
b. 1980-81	232.720	232.720	232.720
Location parameter (μ)			
a. 1975-76	1.466	1.518	1.592
b. 1980-81	1.981	2.030	2.100
Distribution parameter (σ)			
a. 1975-76	0.914	0.914	0.914
b. 1980-81	0.856	0.856	0.856
Total salary income (Y) (Rs crore)			
a. 1975-76	12823.00	13510.00	14541.00
b. 1980-81	24332.00	25561.00	27425.00
Salary income per earner ($\alpha = \frac{Y}{N}$)			
a. 1975-76	6.577	6.930	7.458
b. 1980-81	10.455	10.983	11.784

Source : As explained in Appendix 1.

TABLE A.1.28

Estimated Salary Income Distributions : Urban and Rural India for 1975-76 and 1980-81

(Rs crore)

Income ranges for earners	Rural India 1975-76			Urban India 1975-76		
(Rs)	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1—1200	27.86	28.39	31.22	132.90	114.78	102.14
1201 - 2400	401.31	420.08	418.27	594.30	583.64	536.53
2401—3600	726.90	715.20	720.33	937.89	916.60	842.54
3601—4800	789.15	753.31	756.84	957.65	1014.84	968.72
4801—5000	131.65	126.60	120.33	190.20	154.37	154.64
5001—6000	587.64	568.18	491.18	832.32	762.43	859.77
6001—7500	696.30	663.31	634.81	1123.88	1110.95	1194.85
7501—10000	494.42	476.32	433.85	1622.83	1703.38	1794.90
10001—15000	195.21	180.70	164.38	2193.31	2356.82	2800.67
15001—20000	39.02	54.90	46.67	1329 85	1504.37	1682.52
20001 - 25000	0.00	0.00	0.00	874.53	932.70	1066.89
25001—30000	6.55	6.00	5.12	560.34	632.91	738.01
30001—40000	0.00	0.00	0.00	644.79	747.71	889.49
40001—50000	0.00	0.00	0.00	336.59	374.08	455.81
50001—60000	0.30	0.00	0.00	181.53	215.51	266.57
Above 60000	0.00	0.00	0.00	320.07	385.02	486.94
All income ranges	4096.00	3993.00	3823.00	12823.00	13510.00	14541.00

Note: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

Table A.1.28 (Contd.)

(Rs crore)

Rural India 1980-81			Urban India 1980-81		
Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(8)	(9)	(10)	(11)	(12)	(13)
12.15	13.32	14.60	37.09	31.66	27.16
314.07	322.94	330.44	346.01	303.49	267.16
748.29	790.25	757.76	764.03	705.03	654.91
1071.39	1087.63	1048.15	1015.73	874.72	954.56
241.27	155.20	230.84	208.67	200.64	193.51
940.92	753.40	749.54	1030.88	1002.25	930.66
1422.62	1299.76	1266.80	1504.93	1611.65	1530.94
1155.75	1086.88	1059.18	2711.40	2717.76	2673.56
576.16	538.53	433.85	4368.75	4583.20	4369.92
219.86	211.24	178.63	3287.11	3461.53	3747.89
0.00	0.00	0.00	2296.22	2456.93	2731.31
35.53	32.23	27.21	1618.80	1761.69	1989.85
0.00	0.00	0.00	2083.49	2300.78	2558.06
0.00	0.00	0.00	1140.49	1288.51	1517.95
0.00	0.00	0.00	663.61	758.36	914.30
0.00	0.00	0.00	1255.79	1500.79	1824.05
6738.00	6551.00	6246.00	24332.00	25561.00	27425.00

TABLE A.1.29

Illustration of Procedures to Compute Standard-Deductions for the Scenario U:R=1:2 : Urban and Rural India for 1975-76

Income ranges for earners	Representative 'salary income' per earner	Amount of standard deduction[1] per earner	Estimated frequency of salary earners		Total amount of standard deduction		Revised estimates of standard deduction	
			Urban	*Rural*	*Urban* Col. (3) ×(4)	*Rural* Col. (3) ×(5)	*Urban*	*Rural*
(Rs)	(Rs)	(Rs)	(lakhs)		(Rs crore)		(Rs crore)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
0—1200	600	120	15.60	4.12	18.72	4.94	26.32	6.69
1201—2400	1800	360	33.58	28.19	120.89	101.48	117.71	96.38
2401—3600	3000	600	31.09	29.89	186.54	179.34	185.77	174.57
3601—4800	4200	840	23.19	23.51	194.80	197.48	189.68	189.52
4801—6000	5400	1080	18.85	15.65	203.58	169.02	202.53	167.94
6001—7500	6750	1350	16.58	12.54	223.83	169.29	222.61	167.22
7501—10000	8750	1750	18.59	6.95	325.33	121.63	321.46	118.75
10001—15000	12500	2250	17.89	1.98	402.52	44.55	396.11	43.23
15001—20000	17500	2750	7.68	0.42	211.20	11.55	208.53	11.26
20001—25000	22500	3250	3.90	0.00	126.75	0.00	125.61	0.00

Table A.1.29 (Contd.)

1	2	3	4	5	6	7	8	9
25001—30000	27500	3500	2.03	0.03	71.05	1.05	71.06	1.02
30001—40000	35000	3500	1.84	0.00	64.40	0.00	64.43	0.00
40001—60000	50000	3500	1.08	0.00	37.80	0.00	37.90	0.00
Above 60000	—	3500	3.06	0.00	107.10	0.00	98.70	0.00
All income ranges	—	—	194.96	123.29	2294.51	1000.33	2268.42	976.58

Notes: 1 Computed according to the standard deduction formula for the Assessment Year 1976-77—20 per cent of 'Salary Income' per earner up to Rs 10,000 per annum plus 10% over the excess of Rs 10,000 subject to a maximum limit of Rs 3500.

2 Obtained by employing a similar methodology at a disaggregated level for 'narrow Income ranges for earners' and then by aggregating the resulting estimates over these income ranges.

Source: As explained in Appendix 1.

TABLE A.1.30

Bagchi's Estimated Rates and Average HRA Rates by Salary Income Ranges

Income ranges (Rs)	Bagchi's estimated rates of HRA + conveyance allowances[1] (as a percentage of salary income)	Average HRA rates 2/3 of column (2) (as a percentage of salary income)
(1)	(2)	(3)
0—1200	Nil	Nil
1201—2400	Nil	Nil
2401—3600	Nil	Nil
3601—4800	Nil	Nil
4801—5000	Nil	Nil
5001—6000	9.01	6.01
6001—7500	9.01	6.01
7501—10000	9.01	6.01
10001—15000	7.52	5.01
15001—20000	7.61	5.07
20001—25000	10.01	6.67
25001—30000	10.46	6.97
30001—40000	12.39	8.26
40001—50000	6.46	4.31
50001—60000	3.63	2.42
Above 60000	3.63	2.42

Note : 1. Rates are taken from Bagchi's study. (See Bagchi, 1975, p. 293)

Source: As explained in Appendix 1.

TABLE A.1.31

Estimated Results of HRA—Deductions: Urban and Rural India for 1975-76 and 1980-81

(Rs. crore)

Income ranges for earners (Rs)	Rural India 1975-76			Urban India 1975-76	
	Case 1	Case 2	Case 3	Case 1	Case 2
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	0.00	0.00	0.00	0.00	0.00
1201—2400	0.00	0.00	0.00	0.00	0.00
2401—3600	0.00	0.00	0.00	0.00	0.00
3601—4800	0.00	0.00	0.00	0.00	0.00
4801—6000	34.12	34.15	29.52	50.02	45.82
6001—7500	41.85	39.86	38.15	67.55	66.77
7501—10000	29.71	28.63	26.07	97.53	102.37
10001—15000	9.78	9.05	8.24	109.88	118.08
15001—20000	2.99	2.78	2.37	67.42	76.27
20001—25000	0.00	0.00	0.00	58.33	62.21
25001—30000	0.46	0.42	0.36	39.06	44.11
30001—40000	0.00	0.00	0.00	52.43	61.76
40001—60000	0.00	0.00	0.00	18.90	21.34
Above 60000	0.00	0.00	0.00	7.12	8.64
All income ranges	118.91	114.89	104.71	568.24	607.37

Note: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

Table A.1.31 (Contd.)

(Rs crore)

	Rural India 1980-81			Urban India 1980-81		
Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
51.67	55.55	70.21	51.06	61.95	60.24	55.93
71.81	85.50	78.12	76.13	90.45	96.86	92.01
107.87	69.46	65.32	63.66	152.96	163.34	160.68
125.28	28.88	26.98	24.24	218.87	229.62	240.98
85.30	11.13	10.71	9.06	166.66	175.50	190.02
71.16	0.00	0.00	0.00	153.09	163.88	182.18
51.44	2.48	2.25	1.90	112.83	122.79	138.64
73.47	0.00	0·00	0.00	172.10	190.04	219.56
26.10	0.00	0.00	0.00	65.22	73.58	87.55
11.06	0.00	0.00	0.00	29.16	34.17	42.76
675.16	254.00	253.59	226.05	1233.30	1310.02	1410.31

TABLE A.1.32

Estimates of Salary Income and Employers' Contribution to Provident Fund for Urban, Rural and All-India for 1975-76 and 1980-81

(Rs crore)

Item	Scenarios		
	Case 1	Case 2	Case 3
(1)	(2)	(3)	(4)
All-India salary income			
a. 1975-76	16919.00	17503.00	18364.90
b. 1980-81	31070.00	32112.00	33672.00
Urban salary income			
a. 1975-76	12823.00	13510.00	14541.00
b. 1980-81	24332.00	25561.00	27425.00
Rural salary income			
a. 1975-76	4096.00	3993.00	3823.00
b. 1980-81	6738.00	6551.00	6247.00
All-India Employers' P.F.			
a. 1975-76	482.11	482.11	482.11
b. 1980-81	538.39	538.39	538.39
Urban Employers' P.F.[1]			
a. 1975-76	365.39	372.12	381.74
b. 1980-81	421.63	428.56	438.51
Rural Employers' P.F[1]			
a. 1975-76	116.72	109.99	100.37
b. 1980-81	116.76	109.83	99.88
Average rate of P.F. common for urban and rural cases (as a per cent of salary income)			
a. 1975-76	2.85	2.75	2.62
b. 1980-81	1.73	1.68	1.60

Note: 1. All-India employers' PF amount is divided between urban and rural sectors in the same proportion of their respective salary incomes in All-India total.

Source: As explained in Appendix 1.

TABLE A.1.33

Estimated Results of Employers' Contributions to Provident Fund by Income Ranges: Urban and Rural India for 1975-76 and 1980-81

Income ranges for earners	Rural India 1975-76			Urban India 1975-76	
(Rs)	Case 1	Case 2	Case 3	Case 1	Case 2
(1)	(2)	(3)	(4)	(5)	(6)
1–1200	0.80	0.78	0.82	3.79	3.17
1201—2400	11.45	11.59	11.00	16.96	16.10
2401—3600	20.74	19.73	18.94	26.77	25.29
3601—4800	22.52	20.78	19.90	27.33	28.00
4801—6000	19.96	19.17	16.08	29.18	25.29
6001—7500	19.87	18.30	16.69	32.07	30.65
7501—10000	14.11	13.14	11.41	46.31	46.99
10001—15000	5.57	4.99	4.32	62.59	65.02
15001—20000	1.68	1.51	1.23	37.95	41.50
20001—25000	0.00	0.00	0.00	24.96	25.73
25001—30000	0.19	0.17	0.13	15.99	17.46
30001 -40000	0.00	0.00	0.00	18.12	20.63
40001—60000	0.00	0.00	0.00	14.79	16.27
Above 60000	0.00	0.00	0.00	8.39	9.85
All income ranges	116.90	110.16	100.53	365.21	371.94

Note : Totals may not tally due to rounding.

Source : As explained in Appendix 1.

Table A.1.33 (Contd.)

(Rs. crore)

	Rural India 1980-81			Urban India 1980-81		
Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
(7)	(8)	(9)	(10)	(11)	(12)	(13)
2.69	0.21	0.22	0.23	0.64	0.53	0.43
14.11	5.45	5.43	5.29	6.01	5.10	4.28
22.16	12.99	13.29	12.14	13.26	11.86	10.46
25.47	18.60	18.29	16.79	17.63	14.71	15.29
26.67	20.52	19.65	17.30	21.51	20.23	18.00
31.42	24.69	21.86	20.29	26.12	27.10	24.52
47.20	20.06	18.28	16.96	47.06	45.70	42.82
65.76	10.01	9.06	7.75	75.83	77.08	77.04
44.24	3.81	3.55	2.86	57.05	58.21	60.03
28.05	0.00	0.00	0.00	39.84	41.32	43.74
19.41	0.62	0.54	0.44	28.10	29.63	31.86
23.39	0.00	0.00	0.00	36.16	38.69	42.57
19.00	0.00	0.00	0.00	31.31	34.30	38.95
12.02	0.00	0.00	0.00	20.91	23.74	28.30
381.58	116.95	110.17	100.05	421.45	428.21	438.33

TABLE A.1.34

Estimated Results of Average Rates for Chapter VIA Deductions for 1975-76 (Assessment Year, 1976-77)

(Rs thousand)

Ranges of income assessed	Total Amount of Chapter VIA Deductions for Financial Years 1976-77 and 1977-78 (Losses set-off + Deduction) by Statuses					Gross Income (AIITS) for Financial Years 1976-77 and 1977-78 by Statuses					Average rates of chapter VIA Deductions for assessment year 1976-77 Col. (6) ÷ (11) (per cent)
	Individuals	HUFs	Association of persons	Unregistered firms	Total	Individuals	HUFs	Association of persons	Unregistered firms	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Below—5000	108225	36	16462	28	124751	374116	441	18527	267	393351	31.71
5001—7500	580236	2903	10515	36	593690	4501240	89602	28406	33335	4652583	12.76
7501—10000	1162160	12075	11913	181	1186329	10854094	320168	45082	73028	11292372	10.51
10001—15000	1815534	25427	21805	75	1862841	16645523	595780	68188	83809	17393300	10.71
15001—20000	986518	20504	14983	39	1022044	9786367	445310	51129	58666	10341972	9.88
20001—25000	471610	16090	6412	92	494204	5805665	361969	40630	44809	6253073	7.90
25001—30000	306588	13501	69287	48	389424	3830117	293477	98825	37264	4259683	9·14
30001—40000	325092	16803	13982	182	356059	4508114	377274	58969	54062	4998419	7.12
40001—60000	333043	16316	14097	115	363571	4526901	348056	74746	72248	5021951	7.24
Above 60000	318999	25007	96486	193	440685	6064092	531471	632145	305439	7533147	5.85

Source : *All-India Income Tax Statistics* (AIITS) for Financial Years 1976-77 and 1977-78, Directorate of Inspection (Research, Statistics and Public Relations), New Delhi.

TABLE A.1.35

Estimated Results of Average Rates for Chapter VI A Deductions for 1980-81 (Assessment Year 1981-82)

(Rs crore)

Ranges of income assessed	Total Amount of Chapter VIA Deductions for Financial Year 1981-82 (Losses Set-off + Deduction) by Statuses					Gross Income (AIITS) for Financial Year 1981-82 by Statuses					Average rates of Chapter VIA Deductions Col. (6) ÷ (11)
	Individuals	HUFs	Association of persons	Unregistered firms	Total	Individuals	HUFs	Association of persons	Unregistered firms	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Below—10000	48465	165	3728	N.A.	52358	265711	2418	6227	1104	275460	0.190075
10001—15000	571328	10596	8614	276	690814	7283975	210049	30496	42581	7567101	0.091292
15001—20000	458256	7959	2102	61	468378	4722088	160223	17446	23117	4922874	0.095143
20001—25000	206415	6369	816	7	213607	2877341	132806	14017	17158	3041322	0.070235
25001—30000	138693	5221	52174	34	196122	1799308	110361	63340	17567	1990576	0.098525
30001—40000	115792	7458	1472	50	124772	1930756	143501	18104	22817	2115178	0.058989
40001—50000	50931	4351	1076	32	56390	1118153	81851	13175	21503	1234682	0.045672
Above 50000	279113	14319	29990	1463	324885	4077592	314871	191940	225186	4809589	0.067549
GRAND TOTAL	1968993	56438	99972	1923	2127326	24074924	1156080	354745	371033	25956782	0.031956

Source: *AIITS*, Financial Year 1981-82. Directorate of Inspection (Research, Statistics and Public Relations), New Delhi.

TABLE A.1.36

Step-wise Derivation of the Distribution of "Net Income" from Gross Income for Urban India 1980-81, Case 1 ("Missing Income" Allocated in Ratio of U:R=1:2)

Income ranges for earners (Rs)	Gross income	Agricultural income	Depre-ciation	Standard deductions	H.R.A. deduc-tions
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	65.34	11.93	0.39	7.29	0.00
1201—2400	571.51	52.28	10.01	68.01	0.00
2401—3600	1299.03	75.37	29.05	150.18	0.00
3601—4800	1739.53	59.27	31:62	199.66	0.00
4801—6000	2003.51	110.63	38.84	243.66	61.96
6001—7500	2737.63	153.72	43.90	295.82	90.45
7501—10000	4238.79	187.93	73.15	533.02	162.96
10001—15000	7515.18	272.55	177.56	779.58	218.87
15001—20000	5249.49	274.68	126.52	510.46	166.66
20001—25000	3766.39	157.59	132.91	326.65	153.09
25001—30000	2656.60	121.74	86.56	203.92	112.83
30001—40000	3408.89	346.58	64.14	209-08	172.10
40001—60000	2941.94	72.22	149.66	130.09	65.22
Above 60000	2474.15	239.42	105.25	129.85	29·16
All income ranges	40668.00	2135.92	1069.56	3787.27	1233.30

Note : Totals may not tally due to rounding.

Source : As explained in Appendix 1.

Table A.1.36 (Contd.)

(Rs. crore)

Employers' contribution to P.F.	Chapter VIA rates	Sum of column 3 through 7	Column 2 minus column 9	Amount of chapter VIA deductions	Net income (columns 10 –11)	Cumulative of column 12
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.64	0.1901	20.25	45.09	8.57	36.52	36.52
6.01	0.1901	136.31	435.21	82.73	352.47	388.99
13.26	0.1901	267.86	1031.17	196.03	835.14	1224.13
17.63	0.1901	308.17	1431.36	272.13	1159.26	2383.39
21.51	0.1901	476.60	1526.91	290.27	1236.65	3620.04
26.12	0.1901	610.01	2127.62	404.46	1723.16	5343.20
47.06	0.1901	1004.13	3234.66	614.91	2619.75	7962.95
75.83	0.0913	1524.40	5990.79	546.96	5443.83	13406.78
57.05	0.0951	1135.37	4114.12	391.25	3722.87	17129.65
39.84	0.0702	810.09	2956.30	207.53	2748.77	19878.42
28.10	0.0985	553.15	2103.45	207.19	1896.26	21774.68
36.16	0.0590	828.06	2580.83	152.27	2428.56	24203.24
31.31	0.0457	448.51	2493.43	113.95	2379.48	26582.72
20.91	0.0675	524.59	1949.56	131.60	1817.97	28400.69
421.45	N.A.	8647.50	32020.50	3619.81	28400.69	28400.69

TABLE A.1.37

Step-Wise Derivation of the Distribution of "Net Income" from Gross Income for Urban India 1980-81. Case 2 ("Missing Income" Allocated in Ratio of U:R =1:1.5)

Income ranges for earners (Rs)	Gross income	Agricultural income	Depreciation	Standard deductions	H.R.A. deductions
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	59.05	10.78	0.09	6.26	0.00
1201—2400	551.31	50.38	2.62	60.00	0.00
2401—3600	1221.22	70.78	7.42	139.39	0.00
3601—4800	1639.71	55.81	8.10	172.94	0.00
4801—6000	1961.61	108.22	10.33	237.83	60.24
6001—7500	2712.86	152.19	11.82	318.65	96.86
7501—10000	4551.64	201.61	21.35	537.38	163.34
10001—15000	7617.07	275.98	48.90	824.24	229.62
15001—20000	5712.47	298.62	37.41	540.93	175.50
20001—24000	4040.74	168.91	38.75	352.05	163.88
25001—30000	2874.34	131.60	254.51	223.38	122.79
30001—40000	3654.25	371.17	186.86	232.69	190.04
40001—60000	3342.80	81.98	462.14	148.14	73.58
Above 60000	2708.93	261.89	31.32	161.00	34.17
All income ranges	42648.00	2239.92	1121.63	3954.88	1310.02

Notes: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

Table A.1.37 (Contd.)

(Rs crore)

Employers contribution to P.F.	Chapter VIA rates	Sum of columns 3 through 7	Column 2 minus column 9	Amount of Chapter VIA deductions	Net income (Column 10−11)	Cumulative of column 12
(7)	(8)	(9)	(10)	(11)	(12)	(14)
0.53	0.1901	17.66	41.39	7.87	33.52	33.52
5.10	0.1901	118.10	433.21	82.35	350.85	384.37
11.86	0.1901	229.45	991.77	188.53	803.03	1187.61
14.71	0.1901	251.55	1388.16	263.89	1124.27	2311.87
20.23	0.1901	436.85	1524.76	289.86	1234.90	3546.78
27.10	0.1901	606.62	2106.24	400.40	1705.84	5252.62
45.70	0.1901	969.38	3582.26	680.99	2901.27	8153.89
77.08	0.0913	1455.83	6161.24	562.52	5598.72	13752.61
58.21	0.0951	1110.68	4601.79	437.63	4164.16	17916.77
41.32	0.0702	764.91	3275.83	229.96	3045.87	20962.64
29.63	0.0985	761.91	2112.43	208.07	1904.35	22866.99
38.69	0.0590	1019.45	2634.80	155.45	2479.34	25346.34
34.30	0.0457	800.14	2542.66	116.20	2426.45	27772.80
23.74	0.0675	512.11	2196.82	148.29	2048.53	29821.33
428.21	N.A.	9054.66	33593.34	3772.01	29821.33	29821.33

TABLE A.1.38

Step-Dise Derivation of the Distribution of "Net Income" from Gross Income for Urban India 1980-81, Case 3 ("Missing Income" Allocated in Ratio of U:R =1:1)

Income ranges for earners (Rs)	Gross income	Agricultu-ral income	Depreciation	Standard deductions	H.R.A. deduction
(1)	(2)	(3)	(4)	(5)	(6)
1--1200	47.26	8.48	0.27	5.35	0.00
1201—2400	467.73	42.05	7.88	52.60	0.00
2401--3600	1154.70	65.84	24.84	128.94	0.00
3601—4800	1530.93	51.26	26.76	187.94	0.00
4801—6000	1970.47	106.94	36.74	221.33	55.93
6001--7500	2685.90	148.23	41.43	301.42	92.01
7501--10000	4320.20	188.26	71.72	526.43	160.68
10001—15000	8126.19	289.65	184.69	860.00	240.98
15001—20000	5823.34	299.47	135.01	582.72	190.02
20001- 25000	4491.30	184.69	152.46	389.16	182.18
25001- 30000	3274.19	147.47	102.63	250.86	138.54
30001—40000	4362.10	435.87	78.96	266.87	219.56
40001—50000	3972.53	95.85	194.41	175.19	87.55
Above 60000	3610.16	343.34	147.74	107.80	42.76
All income ranges	45837.00	2407.41	1205.55	4056.61	1410.31

Note: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

Table A.1.38 (Contd.)

(Rs crore)

Employers' contribut- to P.F.	Chapter VIA rates	Sum of col- umns 3 through 7	Column 2 minus column 9	Amount of chapter VIA de- ductions	Net in- come (column 10—11)	Cumulative of col- umn 12
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.43	0.1901	14.53	32.73	6.22	26.51	26.51
4.28	0.1901	106.81	360.92	68.61	292.31	318.81
10.49	0.1901	230.10	924.60	175.77	748.83	1067.64
15.29	0.1901	281.25	1249.68	237.56	1012.12	2079.76
18.00	0.1901	438.94	1531.53	291.14	1240.39	3320.15
24.52	0.1901	607.61	2078.29	395.08	1683.21	5003.35
42.12	0.1901	989.91	3330.29	633.09	2697.20	7760.56
77.04	0.0913	1652.37	6473.82	591.06	5882.76	13583.32
60.03	0.0951	1267.25	4556.08	433.28	4122.80	17706.12
43.74	0.0702	952.24	3539.06	248.44	3290.62	20996.74
31.86	0.0985	671.46	2602.73	256.37	2346.36	23343.10
42.57	0.0590	1043.84	3318.26	195.78	3122.49	26465.58
38.95	0.0457	591.95	3380.58	154.49	3226.09	29691.67
28.30	0.0675	669.94	2940.22	198.46	2741.75	32433.42
438.33	N.A.	9518.21	36318.79	3885.37	32433.42	32433.42

TABLE A.1.39

Step-wise Derivation of "Net Income" from Gross Income for Rural India 1980-81, Case 1 ("Missing Income" Allocated in Ratio of U:R 1:2)

Income ranges for earners (Rs)	Gross income	Agricultural income	Depreciation	Standard deductions	H.R.A. deductions
(1)	(2)	(3)	(4)	(5)	(6)
1 — 1200	1436.08	1149.95	3.01	3.27	0.00
1201 — 2400	7406.13	5561.84	33.77	84.50	0 00
2401 — 3600	9665.07	6725.64	49.14	201.32	0.00
3601 — 4800	9264.52	5873.81	69.24	288.25	0.00
4801 — 6000	8137.22	5254.23	60.39	318.06	56.56
6001 — 7500	8271.21	5621.31	32.69	382.74	85.50
7501 — 10000	9016.99	6038.86	72.23	310.97	69.46
10001 — 15000	9199.54	6726.23	81.02	142.37	28.88
15001 — 20000	3747.14	3104.70	23 09	46.86	11.13
20001 — 25000	1733.09	1236.67	33.21	0.00	0.00
25001 — 30000	867.57	238.78	31.06	6.17	2.48
30001 — 40000	699.99	119.82	0.00	0.00	0.00
40001 — 60000	332.79	330.27	0.00	0.00	0.00
Above 60000	1083.65	0.00	73.58	0.00	0.00
All income ranges	70961.00	47982.11	562.42	1784.50	254.00

Note: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

(Rs. crore)

Employers' contribution to P. F.	Chapter VIA rates	Sum of column 3 through 7	Column 2 minus column 9	Amount of Chapter VIA deductions	Net income (0olumn 10—11)	Cumulative of column 12
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.21	0.1901	1156.44	279.64	53.16	226.48	226.48
5.45	0.1901	5685.56	1720.57	327.08	1393.49	1619.97
12.99	0.1901	6989.06	2675.99	508.70	2167.28	3787.25
18.60	0.1901	6249.89	3014.63	573.63	2441.55	6228.80
20.52	0.1901	5709.74	2427.48	461.46	1966.02	8194.82
24.69	0.1901	6146.92	2124.29	403.83	1720.46	9915.28
20.06	0.1901	6511.58	2505.41	476.28	2029.13	11944.41
10.01	0.0913	6988.51	2211.03	201.87	2009.17	13953.58
3.81	0.0951	3189.59	557.55	53.02	504.53	14558.11
0.00	0.0702	1269.88	463.21	32.52	430.69	14888.80
0.62	0.0985	279.12	588.45	57.96	530.49	15419.29
0.00	0.0590	119.82	580.17	34.23	545.94	15965 23
0.00	0.0457	330.27	2.52	0.11	2.40	15967.63
0.00	0.0675	73.58	1010.07	68.18	941.89	16909.53
116.95	N.A.	50699.98	20161.02	3251.49	16909.53	16909.53

TABLE A.1.40

State-wise Derivation of the Distribution of "Net Income" from Gross Income for Rural India 1980-81, Case 2 ("Missing Income" Allocated in Ratio of U:R = 1:1.5)

(Rs. crore)

Income ranges for earners	Gross income	Agricultural income	Depreciation	Standard deductions	H.R.A. deductions
(1)	(2)	(3)	(4)	(5)	(6)
1 — 1200	1553.34	1249.24	3.16	3.54	0.00
1201 — 2400	7512.58	5666.27	33.17	85.71	0.00
2401 — 3600	10069.11	7037.91	49.58	209.74	0.00
3601 — 4800	9277.87	5907.81	67.14	288.67	0.00
4801 — 6000	7932.45	5144.24	57.00	310.06	70.21
6001 — 7500	7454.83	5088.48	28.53	344.97	78.12
7501 — 10000	8365.05	5625.56	64.89	288.50	65.32
10001 — 15000	8478.12	6225.68	72.31	131.27	26.98
15001 — 20000	3556.62	2959.64	21.22	44.53	10.71
20001 — 25000	1571.63	1125.33	29.16	0.00	0.00
25001 — 30000	776.40	214.62	26.92	5.51	2.25
30001 — 40000	619.08	106.43	0.00	0.00	0.00
40001 — 60000	289.82	288.88	0.00	0.00	0.00
Above— 60000	1424.09	0.00	93.64	0.00	0.00
All income ranges	68881.00	46641.39	546.70	1712.50	253.59

Note: Totals may not tally due to rounding.

Source: As explained in Appendix 1.

Table A.1.40 (Contd.)

(Rs. crore)

Employers' contribution to P. F.	Chapter-VIA rates	Sum of column 3 through 7	Column 2 minus column 9	Amount of chapter VIA deductions	Net income (column 10—11)	Cumulative of column 12
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.22	0.1901	1256.16	297.18	56.49	240.69	240.69
5.43	0.1901	5790.58	1722.00	327.35	1394.65	1635.34
13.29	0.1901	7309.81	2759.30	524.54	2234.75	3870.09
18.29	0.1901	6281.91	2995.96	569.53	2426.43	6296.52
19.65	0.1901	5601.16	2331.29	443.18	1888.11	8184.63
21.86	0.1901	5561.96	1892.87	359.84	1533.04	9717.67
18.28	0.1901	6063.55	2301.50	437.51	1863.98	11581.65
9.06	0.0913	6465.30	2012.82	183.77	1829.05	13410.70
3.55	0.0951	3039.65	516.97	49.16	467.81	13878.51
0.00	0.0702	1155.49	416.14	29.21	386.93	14265.44
0.54	0.0985	249.84	526.56	51.87	474.69	14740.14
0.00	0.0590	106.43	512.65	30.25	482.41	15222.54
0.00	0.0457	288.88	0.94	0.04	0.90	15223.44
0.00	0.0675	93.64	1330.45	89.81	1240.65	16464.09
110.17	N.A.	49264.35	19616.65	3152.56	16464.09	16464.09

TABLE A.1.41

Step-wise Derivation of the Distribution of "Net Income" for Rural India 1980-81, Case 3 ("Missing Income" Allocated in Ratio of U:R = 1:1)

Income ranges for earners (Rs)	Gross Income	Agri-cultural income	Depreci-ation	Standard deduction	H.R.A deduc-tions
(1)	(2)	(3)	(4)	(5)	(6)
1—1200	1696.35	1373.06	3.31	3.86	0.00
1201—2400	7662.48	5816.59	32.54	87.42	0.00
2401—3600	9624.28	6769.69	45.58	200.47	0.00
3601—4800	8912.53	5711.77	62.03	277.30	0.00
4801—6000	7312.63	4772.86	50.54	285.83	51.06
6001—7500	7242.63	4975.50	26.66	335.15	76.13
7501—10000	8125.82	5500.89	60.63	280.23	63.66
10001—15000	7592.98	5611.65	62.28	117.65	24.24
15001—20000	2998.02	2510.89	17.20	37.49	9.06
20001—25000	1295.24	934.24	23.11	0.00	0.00
25001—30000	653.46	181.79	21.79	4.64	1.90
30001—40000	512.24	88.63	0.00	0.00	0.00
40001—60000	233.71	234.45	0.00	0.00	0.00
Above 60000	1829.63	0.00	115.71	0.00	0.00
All income ranges	65692.00	44482.02	521.39	1630.04	226.05

Note : Totals may not tally due to rounding.

Source: As explained in Appendix 1.

(Rs crore)

Employers' contribution to P.F.	Chapter VI A rates	Sum of column 3 through 7	Column 2 minus column 9	Amount of chapter VIA deductions	Net income (column 10 – 11)	Cumulative of column 12
(7)	(8)	(9)	(10)	(11)	(12)	(13)
0.23	0.1901	1380.45	315.89	60.05	255.34	255.84
5.29	0.1901	5941.84	1720.64	327.09	1393.54	1649.38
12.14	0.1901	7027.88	2595.40	493.58	2102.83	3752.21
16.79	0.1901	6067.89	2844.64	540.77	2303.88	6056.09
17.30	0.1901	5177.59	2135.04	405.87	1729.17	7785.25
20.29	0.1901	5433.73	1808.90	343.87	1465.03	9250.28
16.96	0.1901	5922.37	2203.45	418.88	1784.57	11034.85
7.75	0.0913	5823.58	1769.40	161.55	1607.86	12642.71
2.86	0.0951	2577.50	420.52	39.99	380.53	13023.24
0.00	0.0702	957.35	337.89	23.72	314.17	13337.41
0.44	0.0985	210.57	442.89	43.62	399.27	13736.68
0.00	0.0590	88.63	423.61	24.99	398.62	14135.29
0.00	0.0457	234.45	Neg.	Neg.	Neg.	14134.58
0.00	0.0675	115.71	1713.92	115.69	1598.23	15732.81
100.05	N.A.	46959.55	18732.45	2999.64	15732.81	15732.81

TABLE A.1.42

Estimated Results of Applying the Exemption Limit in Terms of Gross Income under Different Scenarios: Urban and Rural India for 1975-76

Description of scenarios and selected income ranges for earners	Gross income	Net income	Ratio column 2÷3	Preliminary 'cut-off figure' (ratio × exemption limit) column (4) × Rs 8000	Final cut-off figure	Adjusted net income for the 'cut-off income range'	Income below exemption limit for the income range preceding the 'cut-off income range'	Cumlative net income for all income ranges	Taxable (Assessable) income column (9) – (8)
(Rs)	(Rs crore)			(Rs)	(Rs)	(Rs crore)	(Rs crore)		(Rs crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rural India, Case 1									
7501 – 20000	7123.23	1543.82	4.614029	36912.23	—	—	—	—	—
7501 – 40000	7715.34	1796.02	4.295798	—	34366.39	68.81	8276.19	9649.15	1372.96
Rural India, Case 2									
7501 – 20000	6747.47	1530.89	4.407547	35260.38	—	—	—	—	—
7501 – 40000	7274.73	1757.96	4.138166	—	33105.33	56.93	8461.97	9264.42	802.45

TABLE A.1.42 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rural India, Case 3									
7501—20000	5982.06	1360.88	4.395729	35165.83	—	—	—	—	—
7501—40000	6427.82	1552.30	4.140836	—	33126.69	47.84	8022.10	8864.74	842.64
Urban India, Case 1									
7501—15000	6712.18	4692.40	1.430436	—	11443.49	2066.56	8776.11	14148.45	5372.34
Urban India, Case 2									
7501—15000	7097.28	4968.07	1.428579	—	11428.63	2207.13	8889.38	15018.62	6129.24
Urban India, Case 3									
7501—15000	7453.90	5215.26	1.429248	—	11433.98	2367.75	9116.92	16293.13	7176.21

Note: For computing columns (7) through (9), relevant information is used from Tables 5.5.4 through 5.5.9.

Source: As explained in Appendix 1.

TABLE A.1.43

Estimated Results of Applying the Exemption Limit in Terms of Gross Income under Different scenarios : Urban and Rural India for 1980-81

Description of scenarios and selected income ranges for earners under each scenario	Gross income	Net income	Ratio column 2÷3	Preliminary 'cut off figure' (ratio × exemption limit) column (4) x Rs 12000	Final cut-off figure	Adjusted net income for the 'cut off income range'	Income below exemption limit for the income range preceding the 'cut-off income range'	Cumulative net income for all income ranges	Taxable (Assessable) income column (9) - (8)
(Rs)	(Rs crore)			(Rs)	(Rs)	(Rs)	(Rs crore)	(Rs crore)	(Rs crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rural India, Case 1									
7501—20000	21963.67	4542.83	4.834799	58017.59	—	—	—	—	—
7501—60000	25597.11	6049.95	4.230962	—	50771.55	797.02	6754.65	16909.53	144.88
Rural India, Case 2									
7501—20000	20399.79	4160.84	4.902806	58833.67	—	—	—	—	—
7501—60000	23656.72	5505.77	4.296714		51560.57	7734.08	15223.31	16464.09	1240.78

TABLE A.1.43 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rural India, Case 3									
7501—60000	18716.82	3772.96	4.960779	59529.35	—	—	—	—	—
7501—60000	21411.47	4864.31	4.383725	—	52604.70	6224.89	14134.67	15732.81	1598.14
Urban India, Case 1									
7501—15000	11753.97	8063.53	1.457661	17491.94	—	—	—	—	—
7501—20000	17003.46	11786.45	1.442628	—	17311.53	3222.43	16629.21	28400.69	11771.48
Urban India, Case 2									
7501—15000	12168.71	8499.99	1.431615	17179.38	—	—	—	—	—
7501—20000	17881.18	12564.15	1.411963	—	16943.43	3527.76	17280.37	29821.33	12540.96
Urban India, Case 3									
7501—15000	12445.39	8579.96	1.450538	17407.62	—	—	—	—	—
7502—20000	18269.73	12702.76	1.438249	—	17258.99	3557.77	17141.09	32433.42	15292.33

Note : For computing columns [7] through [9] relevant information is used from Tables A.1.36 through A.1.41.

Source : As explained in Appendix 1.

TABLE A.1.44

Estimated Values of "Blow-up" Factors by Status of Assessees for the Assessment Year 1976—77

Status of assessees	Number of assessees		Adjusted C&AG Col.(2)— Col.(3)	Number of assessments (AIITS)	Blow-up factor ratio of Col.(4) ÷ Col.(5)
	C&AG	Cases of N.A. and filed @ 10 per cent of col.(2)			
(1)	(2)	(3)	(4)	(5)	(6)
Individuals	2876971	287697	2589274	1825000	1.4188
HUFs	197734	N.A.	197734	69000	2.8657
Association of persons (AOP)	47061	N.A.	47061	21000	2.2410
Firms (Registered and Unregistered)	596750	59675	537075	280000	1.9181

Note : N.A. refers to 'not applicable'.

Source : Figures in column (2) are taken from 'Annual Report' of the Comptroller and Auditor General of India (C&AG) for 1976-77, those in column (5) are from AIITS annual publication for Assessment years 1976-77 to 1978-79 and those in column (3) are based on Personal Discussions with Director of Statistics, Directorate of Inspection, New Delhi.

TABLE A.1.45

Esatimted Values of "Blow-up" Factors by Status of Assessees for the Assessments Completed in the Year 1981-82

Status of assessees	Number of assessees			Number of assess-ments AIITS	Blow-up factors ratio of Col. (4) ÷ Col.(5)
	C & AG	Cases of N.A. & filed	Adjusted C&AG Col. (2) — Col. (3)		
(1)	(2)	(3)	(4)	(5)	(6)
Individuals	3521156	352116	3169040	1112885	2.8476
HUFs	232521	N.A.	232521	43732	5.3169
Association of persons (AOP)	74532	N.A.	74532	17288	4.3112
Firms (Registered and unregistered)	786321	78632	707689	232211	3.0476

Note: N.A. 'not applicable'.

Source: Same as in Table A.1.43, but relating to the AIITS, financial year, 1981-82.

APPENDIX II

Tax Evasion: Some Implications for National Income Estimates

The purpose of this brief appendix is to outline, in a qualitative way, the vulnerability of India's national income estimates to evasion of taxes and economic regulations. The intent is to convey some flavour of the sources and methods deployed by the CSO for estimating value-added in the *major* sectors of the economy and to comment on how these sources and methods might be sensitive to evasion. Some caveats are in order First, our purpose is not to attempt a comprehensive critique of the existing sources and methods. Second, our descriptions of the sources and methods only touch on salient aspects and cannot substitute for the comprehensive treatment in the CSO's "Pink Book" on Sources and Methods (Government of India, CSO, 1980). Except where otherwise stated, all quotations in this appendix are from that document. Third, we refrain from attempting *quantitative* estimates of the degree to which estimates of value-added for each ssctor may be biased because of evasion considerations. Fourth, we confine ourselves to the estimates of value-added and do not explore the implications of evasion for all aspects of national income accounting.

Table A.2.1 presents the current price estimates of gross domestic product at factor cost by industry of origin for 1970-71 and 1980-81, as percentage of total GDP at factor cost. Our comments are limited to sectors which accounted for more than 3 per cent of total value-added in 1980-81.

TABLE A.2.1

Gross Domestic Product at Factor Cost and Current by Industry of Origin for 1970-71 and 1980-81: Percentage Distribution

Industry	1970-71	1980-81
1. Agriculture and allied activities	45.7	35.5
2. Forestry and logging	1.1	1.0
3. Fishing	0.7	0.8
4. Mining and quarrying	1.0	1.5
5. Manufacturing	14.2	17.2
a. Registered	9.3	11.3
b. Unregistered	4.9	5.9
6. Construction	5.3	4.8
7. Electricity, gas and water supply	1.2	1.7
8. Transport, storage and communication	5.1	5.6
a. Railways	1.6	1.0
b. Transport by other means and storage	2.8	3.9
c. Communication	0.7	0.7
9. Trade, hotels and restaurants	11.0	15.6
10. Banking and insurance	1.8	3.0
11. Real estate, ownership of dwelling and business services	3.9	3.6
12. Public administration and defence	4.4	4.7
13. Other services	4.6	5.0
14. Total: gross domestic product at factor cost	100.0	100.0

Source: Government of India, CSO (1983).

Agriculture and Allied Activities

Agriculture and allied activities accounted for 35.5 per cent of GDP in 1980-81 and was by far the largest sector of the economy. Within agriculture, nearly 90 per cent of gross value-added is attributable to crop agriculture, with livestock accounting for most of the remainder.

For the 35 "principal crops" which dominate crop agriculture the estimates of area and output are mostly based on the results of crop estimation surveys conducted annually by the State government agencies. In view of the nature of the crop estimation surveys and the fact that incomes and outputs from agriculture are largely free of tax, there is no good

reason to believe that tax evasion is a significant factor which biases the results systematically. Crop outputs are valued at average wholesale prices prevailing in the primary markets during peak marketing periods. Again, motives of tax evasion should not distort this information.

Livestock products are divided into eight groups. For each group information on yield rates (in relation to the total number of the relevant type of livestock) is compiled from a large number of diverse sources, principally surveys at the State level. These are combined with information on livestock numbers based on the quinquennial Indian Livestock Censuses to yield annual estimates of livestock output for the eight different categories. These outputs are valued at prices obtained from the same sources as for crop agriculture. Once again tax evasion motives are not likely to be a significant source of bias in the estimates. With somewhat less confidence the same claim can be maintained for the estimates of values of inputs used in crop agriculture and livestock, which are based on a wide variety of sources and norms.

To sum up, we do not believe that the estimates of value-added in agriculture and allied activities are significantly biased by tax evasion and related motives.

Manufacturing

In 1980-81 mannfacturing was the second largest sector in the economy accounting for 17.2 per cent of GDP at factor cost. The sources and methods of estimating value-added are very different for *Registered* and *Unregistered* sectors of manufacturing. We consider each in turn.

Registered Manufacturing

This subsector accounted for 11.3 per cent of GDP in 1980-81. The estimates of value-added for this subsector are based on the Annual Surveys of Industry (ASI) carried out by the National Sample Survey Organisation (NSSO). All factories employing "50 or more workers with power or 100

or more workers without power" are surveyed on a census basis, while the remainder of registered units are sampled. Our discussions with ASI authorities confirmed that the information entered in the ASI questionnaires is normally consistent with the financial accounts of the factories, which are made available to tax authorities. Put onother way, any falsification of accounts for tax purposes will normally be reflected in the estimates of value-added compiled through the ASI. And the presumption would be in favour of *underestimation* of true value-added.[1]

For this reason the vulnerability of the value added estimates to evasion is perhaps more direct and acute in this sector than in any other.

Unregistered Manufacturing

In 1980-81 this subsector accounted for 5.9 per cent of current price GDP. Gross value-added estimates are first prepared for the benchmark year of 1970-71. These are then carried forward to other years on the basis of physical indicators to yield constant price estimates, which are converted to current price estimates using price indices for different subsectors.

The benchmark estimates are prepared separately for the two subsectors of *household manufacturing* and *non-household manufacturing*. For both subsectors the key data inputs are the estimates of value-added per worker and of the number of workers engaged in each of 16 industry groups.

For household manufacturing, the estimates of value-added per worker are based on National Sample Surveys (NSS) of the 23rd (1968-69) and 29th (1974-75) Rounds. For non-household manufacturing the main sources are the results of the 1970-71 Centrally Sponsored Scheme on Survey of Small Scale Industries (CSSI) and the 1972 census of small-scale industries published by the Development Comm-

1. While this is the most likely case, there are instances where production and value data in smaller factories are inflated to secure the benefit of various concessions with respect to tax and inputs, which are specifically targeted towards small-scale units.

issioner, Small Scale Industries (DCSSI). The benchmark estimates of value-added per worker are subject to potential downward bias because of underreporting of financial and physical data in the NSS and CSSI/DCSSI surveys and census for motives of evasion.[2] The CSSI and DCSSI sources also suffer from significant undercoverage (notably with respect to rural units) of the population of small-scale units. Though some of this undercoverage may be traced to the unwillingness of small-scale units to enter the official statistical net because of apprehensions with respect to tax liability, the resulting error in the estimates of value-added per worker are likely to be minor.

The other main ingredient for the benchmark estimates is information on the number of workers in each of the sixteen subsectors, separately for household and non-household manufacturing. The principal sources of information are the 1961 and 1971 population censuses. Here, too, it is possible that tax evasion motives could distort the industry-wise data on distribution of workers (both within manufacturing and in respect to manufacturing in relation to other sectors), particularly for those engaged in household manufacturing. We can offer no view on the gravity of this possible bias.

Finally, the physical indicators used to move the benchmark estimate forward to other years suffer from major weaknesses [see, for example, Narottam Shah (1984)]. In nine out of the sixteen subsectors of manufacturing the indicators used are based on the indices of industrial production for the registered manufacturing sector. Thus, evasion-related errors in the estimates of output for registered manufacturing units have repercussions for the estimates of value-added in unregistered manufacturing.

Clearly, there are several points at which information used in the estimates of value-added can be influenced by evasion considerations. In most cases the probable bias is

2. The presumption is that survey respondents are unlikely to provide accurate information, if this is substantially different from the information supplied to tax authorities.

towards underestimation. However, we have no means to gauge the extent of such underestimatian or of its trend over time.

Construction

In 1980-81 the share of construction in current price GDP was 4.8 per cent. Of all the sectors in the economy the estimation of value-added in construction is perhaps the most complicated and roundabout.[3] The sources of information are diverse and the number of norms and ratios (which are estimated for a given year and then held constant) is large.

The basic steps are as follows. Two kinds of construction are distinguished, "pucca" and "kutcha". For "pucca" construction a commodity flow approach is used to gauge "the value at site in each accounting year, of five basic construction input materials, *viz.*, cement, iron and steel products, timber and roundwood, bricks and tiles and permanent fixtures and fittings" (p. 96). Sample surveys indicate that these five inputs accounted for 66 per cent of the value of construction materials used in "pucca" construction in a benchmark year. This information, together with data on price trends, is used to estimate the total value of construction materials used in "pucca" construction each year. For 1970-71 gross value-added is taken to be 60 per cent of the value of material inputs. For other years adjustments are made for differing trends in the indices for wages of construction workers and prices of construction materials.

The most obvious ways in which evasion could affect the estimates relate to evasion-induced under-estimation of the total available quantities of the five key inputs. This is particularly true for cement, iron and steel products and fixtures and fittings. For the latter two the ASI information is the key source, with the potential problems alluded to, earlier. Underreporting of outputs and values may have been

3. The description provided in the CSO's "Pink Book" is somewhat opaque. A much clearer treatment can be found in the Raj Committee's Report on Saving and Capital Formation (Reserve Bank of India, 1982).

particularly serious for cement and iron and steel products during periods of price control.

The estimates of value-added in "kutcha" construction are based on estimates of *total* value of construction of different types (such as urban residential buildings, rural residential buildings, etc.) from which estimates of corresponding "pucca" construction are first deducted to obtain values of "kutcha" construction of different types. To each of these, certain ratios (based on diverse surveys) are applied to yield estimates of gross value-added by "kutcha" construction.

The estimates of total value of construction of different types are susceptible to underestimation for evasion motives. On the other hand, any downward bias should imply an opposite bias in the estimates of values of different types of "kutcha" construction. So the net bias is indeterminate.

To sum up, while there is some reason to believe that evasion motives lead to underestimation of value-added in "pucca" construction, no such presumption can be confidently entertained for "kutcha" construction. In any case, given the complex and indirect methodology, any errors attributable to evasion motives are likely to be much smaller than those arising from weaknesses in the underlying information base and the unreliability of the numerous norms and ratios used.

Transport, Storage and Communication

This sector generated 5.6 per cent of current price GDP in 1980-81, with railways accounting for 1.0 per cent, communication for 0.7 per cent and "transport by any other means and storage" for 3.9 percent. Value-added estimates for the first two subsectors are prepared on the basis of budget documents, annual reports and appropriation accounts pertaining to the Railways and the Post and Telegraphs Department. There is no question of tax evasion distorting these estimates. Much of the value-added classified under "transport by any other means and storage" is also compiled from the accounts of various public sector undertakings such

as Air India, Indian Airlines, Shipping Corporation of India, State Road Transport Corporations/Companies etc., where evasion considerations are unlikely to significantly influence the basis of the estimates.

The main subsector where the influence of evasion considerations on the value-added estimates may be significant is *private mechanised road transport*, which may have accounted for about 2 per cent of GDP in 1980-81. The method of estimations requires data on value-added per worker and the number of workers. Benchmark estimates of the latter are based on the population censuses; these are then moved forward using year-wise estimates of the population of different kinds of vehicles. For estimates of value-added per worker, the key sources are the annual surveys of private road transport undertakings carried out in Punjab and Kerala. It is here that the possibility of evasion-induced bias (downside) is greatest, though once again we have no means of gauging its degree.

Trade, Hotels and Restaurants

In 1980-81 this was the third largest sector of the economy, accounting for 15.6 per cent of current price GDP. Of the total value-added in this sector the share of trade was over 90 per cent, and it is on this subsector that we shall focus.

In summary, the estimate of value-added in trade in current prices is obtained by the following steps:

(i) For *registered* trade (covered under Sales Tax Acts/ Regulated Market Acts) benchmark estimates of value-added per worker for 1970-71 are prepared on the basis of surveys of distributive trade carried out in 8 States in the period 1964-65 to 1971-72.

(ii) This benchmark estimate is multiplied by an estimate of the number of workers in registered trade based on the 1971 population census and the distributive trade surveys of Haryana and Andhra Pradesh (the only two States which estimated the division of workers between the registered and unregistered sectors).

(iii) For *unregistered* trade the estimate of value-added per worker in 1970-71 is based on the NSS 24th Round (1969-70). This is multiplied by the estimate of number of workers in unregistered trade to obtain value-added.

(iv) For current price estimates of value-added in subsequent years trade is subdivided into *organised* and *unorganised* subsectors. Estimates for the *organised* subsector are based on the annual reports of public sector companies and details of finances of joint stock companies and cooperative societies. For the *unorganised* subsector (approximately 90 per cent of the total) annual constant price estimates are first obtained and then converted to current prices using the wholesale price index of all commodities.

(v) For the *total trade* sector constant price estimates are obtained by moving the benchmark estimate "by a specially prepared index of volume of goods handled" (p.45), based on trends in the marketable surplus of the commodity producing sectors (manufactured goods have a weight of about 65 per cent in this index).

(vi) The estimates of value-added at constant prices in the *organised* trade sector are obtained independently by applying quantum indices of purchases to the 1970-71 estimate. For example, the quantum index for joint stock companies and cooperative societies is obtained by deflating annual data on the current value of sales by the private corporate sector (based on Reserve Bank sample studies of company finances) by a wholesale price index of selected commodities.

Value-added in constant prices in the *unorganised* subsector can now be obtained as a residual.

The estimates are vulnerable to evasion-induced distortions at several points. The most obvious of these relates to the surveys which underpin the estimates of value-added per worker in the benchmark year. Discussions with the organisers of one of the distributive trade surveys supported

the presumption that estimates of turnover and value-added reported by respondents could be substantially below the true levels, with respondents wishing to maintain some consistency with their sales tax returns. Second, the "index of volume of goods handled" used to move the benchmark estimate for total trade forward (step v) is heavily dependent on estimates of production of manufactured goods, which, as we noted earlier, are likely to be biased downwards because of incentives to evade tax. This would certainly depress the base year level of the index; whether it would distort its growth trend is an open question. Furthermore, evasion-induced underreporting of data on value-added and sales in organised trade could introduce errors in steps (iv) and (vi), though the resulting direction of bias in overall estimate of current price value-added in trade would be in opposite directions.

On balance, these considerations point to a possibility of significant underestimation of value-added in trade, with most of it attributable to underreporting in the surveys underpinning the benchmark estimate of value-added per worker.

Real Estate, Ownership of Dwellings and Business Services

The share of this sector in current price GDP in 1980-81 was 3.8 per cent. Nearly 90 per cent of this value-added was attributable to the subsector, ownership of dwellings, to which we confine ourselves here. Value-added is computed separately for urban and rural residential dwellings, with the former accounting for about 55 per cent of the total.

Value-added consists of gross rentals less the cost of repairs and maintenance. Gross rental is estimated as a product of average gross rental (including imputations for owner-occupied housing) per dwelling and the number of census dwellings. For *urban* residential dwellings the key information on rentals consists of "annual assessed rentals of municipal houses subject to house tax . . ." (p.50) obtained from a sample of reporting municipalities. This reliance on information tendered for urban property taxes is a major

source of downward bias in the estimates of value-added, though only a part of this can, strictly, be attributed to evasion considerations. For one thing, property tax assessments are done after long periods during which the gap between market rentals for tax assessment can widen greatly. Second, rent control regulations effectively freeze the base for assessment. As Ghosh and Mohan (1983, p.11) observe "even if the rent transacted is higher than the standard rent as determined by rent control laws, property tax may only be assessed at standard rent". Third, where rent control does not apply, rents *shown* as transacted may be far below rents actually transacted if the landlord engages in evasion to reduce liability for both income tax and house property tax. For these and other reasons, Ghosh *et. al.* (1981, p.7) suggest that "the extent of underestimation of income from urban residential housing may be 50 per cent of the actual, if not more."

The estimates of value-added from *rural* residential dwellings are based on very limited data and involve assumptions which link rural rentals to the estimates for urban rentals. Though little of the data weakness is directly attributable to evasion, there is a presumption of a downward bias in these estimates because of the link to urban rentals.

Public Administration and Defence

In 1980-81 this sector accounted for 4.7 per cent of current price GDP. By definition value-added in this sector comprises only compensation of employees. The information is obtained from the budget documents and accounts of the Centre, States, Union Territories and local authorities. Such budget information is likely to be insensitive to tax evasion.

Other Services

This sector, which accounted for 5 per cent of current price value-added in 1980-81, includes *education* (53.7 per cent), *medical and health services* (15.8 per cent), *legal services*

(2.2 per cent), *recreation and entertainment services* (1.5 per cent) and various personal services (16.3 per cent).[4]

The methods of estimation of value-added vary somewhat across subsectors. For education, which accounts for more than half the sectoral total, gross value-added is composed predominantly of the wages and salaries to teachers and other workers in educational institutions. For "recognised educational institutions" (which account for 98 per cent of the value-added in education) this information) is compiled annually by the Ministry of Education. While there is little reason to believe that this information is distorted by considerations of tax evasion, there is good reason to suspect that many teachers "moonlight" to augment their salaries through private tuition, and *these* incomes are neither reported to the Ministry of Education nor the tax authorities. So, for reasons, which include tax evasion, the estimate of value-added in education may involve a significant underestimate.

For *public sector* medical and health services, budget data are relied upon. As with education, these totals will exclude the incomes earned from "moonlighting", For *private sector* medical services and all other (except sanitary) services the methodology followed is to estimate the annual working force in each subsector (from population censuses and other sources) and multiply this with an estimate of value-added per worker.

The principal sources of estimates for value-added per worker are the NSS surveys for the 18th (1963-64) and 29th (1974-75) Rounds. These two data sources are combined with information on price and wage indices and the estimates of working force in each subsector to yield *annual* estimates of value-added in each subsector.

Obviously, the value-added per warker estimates based on the NSS surveys are subject to downward bias from respondents who wish to maintain some consistency between their survey responses and their tax returns, where the latter

4. The percentages in parentheses refer to respective shares of the subsectors in the 1980-81 sectoral total.

may incorporate substantial underreporting (or may not have been filed on the implicit claim of earning falling below exemption limits).

Thus, on balance, evasion considerations may entail a significant underestimate of the value-added in "Other Services".

An Overall Assessment

We have tried, in this appendix, to indicate the manner in which evasion may influence the estimates of GDP by sector of origin. It is clear that three is a strong *prima facie* case for suspecting significant underestimation of total GDP. Based on our qualitative appraisal we suggest that such underestimation may be most pronounced in the following sectors:

— Manufacturing (Registered and Unregistered)
— Transport by Other Means and Storage
— Trade, Hotels and Restaurants
— Other Services.

It is interesting to observe that between 1970-71 and 1980-81 the share of each of these four sectors in current price GDP increased (Table A.2.1). Their total share grew from 32.6 per cent in 1970-71 to 41.7 per cent in 1980-81. This means that recorded growth has been fastest in those sectors in which the estimates of value-added are deemed most susceptible to underestimation for reasons of evasion. This, in turn, suggests that the degree of underestimation of total GDP, for this reason, may have increased over time.

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