

Poverty in Pakistan 1984-1985

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1. INTRODUCTION¹

Poverty analysis on Pakistan is an area of research which has generated papers from various authors such as Naseem (1973, 1977); Alauddin (1975); Mujahid (1978); Wasay (1977) and de Kruijk and van Leeuwen (1985). However, due to the different units of measurement and counting units, the results of these studies are not comparable.

Moreover, the poverty profiles developed in the past were restricted to the geographical areas only because the authors had to work with the published household data. This paper will extend the analysis to most of the discriminating socio-economic attributes of households which are available by using primary survey data on households and heads of households.

In short, this paper will serve a dual purpose. Firstly, it will illustrate by way of comparison to what extent various methodologies, using different counting units and units of measurement affect the degree of poverty. Secondly, it will determine poverty profiles by socio-economic attributes of the households and the heads of the households in Pakistan.

2. THE DATA BASE

The Household Income and Expenditure Survey (HIES) provides the only data base in Pakistan which contains a comprehensive range of household sector variables. HIES surveys are conducted at regular intervals and provide statistically representative data for the rural and urban segments at provincial level. In the HIES, the household is the statistical unit for collecting details about household composition, patterns and levels of consumption expenditure and sources and levels of household income.

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In this study we will use the household expenditure data as a proxy for household income. The reason is, that the expenditure data are more reliable than the income data.

3. THE STRUCTURE OF THE PAPER

The paper is organized in four sections. First, we deal with the concept and definition of poverty. Then, in Section 5 the measures of poverty are discussed and in Section 6 the poverty profiles. Conclusions are drawn in the last Section.

4. THE CONCEPT AND DEFINITION OF POVERTY

When the poverty line is defined as a limit under which persons, families and groups of persons are excluded from the minimum standard of living, it is important to define the minimum standard of living expressed by this poverty line.

In this study, calorie intake has been used as the discriminating indicator to measure poverty. It has been selected because its use has become an accepted methodology in Pakistan; threshold calories intakes for Pakistan have been determined; and the data are available.

The methodology used in this study is to work out the calorie intake of households (standardized to household equivalents) on the basis of the actual consumption of food. Households below the threshold have been selected for further analysis. The more commonly used methodology to determine the threshold in money terms on the basis of the cost of a predetermined minimal bundle of goods and an applied Engel coefficient to include non-food expenditure was rejected for two reasons. Firstly, the application of a minimal bundle of goods assumes a uniform consumption behaviour across households. Secondly, as the Engel coefficient depends on total household income, the choice of the "right" coefficient is subjective, but affects the poverty threshold.

The selection of the households for the determination of the poverty line based on total household food and non-food expenditure is not correct. Measuring the calorie intake on the basis of total expenditure per household is also inaccurate. It ignores the reality that households differ in size and composition. An often used remedy to adjust for household size is to deflate household expenditure by household size, so that the total expenditure is expressed in per capita terms. However, this approach is equally unacceptable because an earner generally needs a higher calorie intake than an adult dependent, while an adult dependent needs more than a child. In this respect it is mentioned that adults are defined here to include all persons of ten years of age and above, and children as those below the age of ten.

To overcome the deficiencies outlined above, the household equivalent scale has been used in this study to correct for size and composition. The household

equivalent scale is used for the transformation of the values of household variables to a reference household (i.e., a single earner household). This transformation is done on the basis of the following conversion:

$$HE = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4$$

a_1 = Parameters;

X_1 = Number of earners in the household;

X_2 = Number of other adults in the household;

X_3 = Number of children which are younger than 10 years;

X_4 = Economies of scale; and

HE = Household equivalent.

The values of the parameters are obtained from the paper of Wasay (1977) from which it can be derived that, after normalization against an adult earner, $a_1 = 1$, $a_2 = 0.8$ and $a_3 = 0.7$. The parameter applied for children (0.7) used by Wasay (1977) seems to be rather high, taking into consideration that the average age of the children-group is less than five years. However, for reasons of consistency and lack of a better estimate, the value has been used here as well. In some studies an economies of scale factor is introduced, but we discard this factor.

For the calculation of the calorie intake per household, a detailed conversion table [Government of Pakistan (1985)] has been used to convert the quantities of the actual food consumed into calories. Where necessary, these quantities have been imputed on the basis of urban and rural provincial prices. Those prices have been obtained from the HIES data base. The household calorie intake thus obtained is then converted into calorie intake per household equivalent according to the above described formula.

For the assessment of the poverty line, the calorie intake forms the basis: Per adult earner, a minimum daily intake of 2000 kilo calorie (kcal) is recommended by FAO/WHO (1973) and a standard of 2550 kcal is used in Pakistan. In this study, the poverty line in rupee terms is based on the expenditure patterns of all household equivalents with calorie intakes between these two standards, that is, 2000 to 2550 kcal per day per adult earner. This poverty line will be referred to as the "high" poverty line. To test the sensitivity of the results for the level of the poverty line, all calculations have also been carried out for a poverty line based on a calorie intake of 1500 to 2000 kcal per adult earner per day, which will be referred to as the "low" poverty line. Moreover, two rupee values have been determined for poverty lines, namely the food only, "austere" type, and the overall expenditure, "broad" type. In the presentation of the results of the analysis, only the poverty lines on the basis of the "broad" type have been used. For comparison, the poverty

lines has also been calculated in terms of monthly consumption expenditure per capita. In this method, no correction for household composition has been made.

The approach taken does not restrict the assessment of poverty to the low income households. Those households which fall below the stipulated minimum calorie intake level due to their socio-economic and cultural context are covered in this study. As such, it differs from the analysis of other authors, which arbitrarily exclude middle and high income households.

In addition to the correction for household size and composition, the food expenditure in rupee terms should also be corrected for purchasing power differences between the geographical areas. The "purchasing power parity" (ppp) has been calculated in the following steps. First, each of the provincial food expenditure patterns has been expressed in terms of the prices of rural Punjab, being the area with the largest proportion of the population. Price indexes were then determined by dividing the actual expenditure by the expenditure in prices of rural Punjab. Subsequently, the inverse of the individual food price indexes have been applied to derive purchasing power parity between the rural and urban areas, and provinces. As a result, "ppp" poverty lines can be generated for Pakistan, for urban and rural areas, and provinces separately. The introduction of ppp's in the regional tabulations did result only in marginal changes. Results of the calculations using the two units of measurement which include food price parity (ppp-adjusted household equivalents and individuals, respectively) have therefore not been presented in this article.

5. THE MEASURES OF POVERTY

For the assessment of poverty, various measures will be used to develop the poverty profiles. It should be noted that the poverty line will be expressed in either per adult earner equivalent or per capita. In addition, three different statistical counting units will be applied to measure the extent of poverty: households (H), individuals (I) and adult earner equivalent (A). This latter distinction is rather crucial to the measurement of the extent of poverty and, therefore, remarkable that most poverty studies do not make this distinction. The measures of poverty will be discussed briefly below.

The poverty incidence (H) expresses the proportion of the population whose consumption is below the poverty line:

$$H = m / N;$$

m = Number of individuals, households and adult equivalents below poverty line; and

N = Total number of individuals, households and adult equivalents in the population.

The poverty intensity poor (I) indicates the average consumption gap between the actual expenditure of the poor and the poverty line:

$$I = \frac{\sum_{i=1}^m (Y_p - Y_i)}{mY_p};$$

m = Number of individuals, households and adult equivalents below poverty line;

Y_i = Consumption expenditure of individual i ; and

Y_p = Poverty line.

The poverty intensity population (P) indicates the relative (over all population) average consumption gap between the actual expenditure of the poor and the poverty line:

$$P = I \times H.$$

The Sen index (P_s) measures the intensity of poverty:

$$P_s = H [I + (1 - I)G]$$

G = Gini poor.

Contrary to the previous indexes, it takes into account the distribution of the expenditure among the poor using the Gini coefficient. The index reduces to the poverty intensity population index in case of complete equality ($G = 0$). In case of complete inequality ($G = 1$), the index equals the poverty incidence index.

The redistribution index (R) indicates whether the poor population can be compensated through a shift in consumption from the rich population to the poor. With the index smaller than 1, the rich population is able to provide the compensation:

$$R = \frac{\sum_{i=1}^m (Y_p - Y_i)}{\sum_{i=j}^{N-m} (Y_i - Y_p)}$$

6. THE POVERTY PROFILES

The poverty profiles developed in this section will be based on the poverty measures presented above. The description of the profiles will be related to the attributes of the household and the head of the household. However, firstly the poverty lines are assessed and compared using different methodologies.

Poverty Line Assessment with Different Methodology and the Effect on Poverty Measures

An introductory comparison of the calorie intake measured in per capita and per adult earner equivalent shows how sensitive the assessment of poverty is to the unit of measurement. A simple distribution table of calorie intake presented in Table 1 for total Pakistan indicates large differences in percentages. With the unit of measurement being individuals, 59 percent of the households and to 66 percent of individuals are deficient in the daily calorie intake of 2550 kcal per individual. When correcting for household composition and hence measuring in adult earner equivalent, only 35 percent of the households and 40 percent of the adult equivalents falls under the poverty line. Already we have reflected on the theoretical need to use the equivalence scale as a unit of measurement. As expected, the results indicate a considerable decline in the poverty incidence when the household composition is taken into account.

The definition of the "high" and "low", "broad" and "austere" type poverty lines used in this study is given in Section 4. For comparison with other studies, the poverty lines have also been calculated on per capita basis. In Table 2, the "broad" type poverty lines in terms of monthly expenditure are shown in columns 3 and 7. After adjustment for price differentials of food items, the normalized poverty lines appear in columns 4 and 8. The poverty line expressed in monthly household expenditure is obtained by multiplying with the average number of adult earner equivalent or individuals per household, which is given in column 5.

Table 1

Percentage Distribution of Calorie Intake for Pakistan 1984-85

Calorie Intake	Per Capita		Per Adult Equivalent		Average Calorie Intake per Adult Equivalent
	HH	Ind	HH	Ind	
< 1500	8.5	10.2	2.7	2.9	1052
1500 - 2000	22.2	25.8	10.0	11.8	1799
2000 - 2550	28.2	30.0	22.4	25.1	2291
2550 - 3000	16.2	15.5	21.0	21.9	2769
> 3000	24.8	18.5	43.9	38.3	4063
Total	100.0	100.0	100.0	100.0	3088

Source: [Government of Pakistan (1984, 1985)].

Table 2

Poverty Line Assessments, 1984-85

(Rupees per Month)

Region	Per Adult Equivalent				Per Household			
	Food	Total	Normal- ized Total	Number of Adult Equiv per HH	Food	Total	Normal- ized Total	
1								
Pakistan								
Urban	141.1*	312.6	299.0	6.011	848.2	1879.0	1797.3	
Rural	116.4*	260.4	248.7	6.486	755.0	1689.0	1613.1	
Total	110.6	214.4	213.5	5.525	611.1	1184.6	1179.6	
	89.5	179.8	178.9	5.716	511.6	1027.7	1022.6	
	121.3	248.8	243.4	5.686	689.7	1414.7	1384.0	
	101.0	214.3	208.8	6.021	608.1	1290.3	1257.2	

Continued—

Table 2 - (Continued)

Region	Per Individual						Per Household	
	1	2	3	4	5	6	7	8
Pakistan								
Urban		144.1	323.0	309.2	6.858	988.2	2215.1	2120.5
Rural		108.9	240.5	229.9	7.676	835.9	1846.1	1764.7
Total		108.9	212.8	211.7	6.512	709.2	1385.8	1378.6
		85.6	167.7	167.0	6.976	597.1	1169.9	1165.0
		118.8	243.8	239.1	6.606	784.8	1610.5	1579.5
		94.0	193.9	189.6	7.213	678.0	1398.6	1367.6

Source: [Government of Pakistan (1984, 1985)].

Notes: 1. The two values in each cell reflect the estimates based on the "high" poverty line (top) and "low" poverty line (bottom), respectively.

2. Similar poverty lines by provinces are available in the comprehensive report, [see I. C. Havinga, *et al.* (1989)].

The "broad" type "high" poverty lines for adult earner equivalent and per capita, indicate a monthly expenditure of 249 rupees and 244 rupees respectively. This is equivalent to 1415 and 1610 rupees per household. For the "austere" type poverty lines household expenditure would be 690 rupees and 784 rupees, respectively. The latter poverty lines determine the absolute minimum to enable an average household to meet the basic calorie intake.

Conventionally, the poverty line should include the non-food expenditure. This will also be done in the proceeding analysis. Although the poverty lines might seem on the high side, it should be borne in mind that the poverty lines are based on all households whose average daily calorie intake per individual or adult earner equivalent lies below 2550 kcal and 2000 kcal daily intake respectively.

Even some so-called middle income households are included in the poor category. This is due to some extent to the fact that income classes are based on total household disposable income. Therefore large households with multiple low income earners have been classified in the middle income group. Furthermore, high house rents, private health and education charges in urban areas along with socio-economic and cultural pressures result in much higher non-food expenditures, in absolute terms as well as in share of total expenditure, for some middle income groups in urban area.

The concentration and the extent of poverty in the urban and rural areas is assessed in Table 3 along the various poverty measures. At the same time, the table indicates the sensitivity of the magnitudes of the poverty measures for the two units of measurement, that is, per adult equivalent and per capita.

Column 3 indicates to what extent the urban and rural areas suffer from a particular incidence of poverty while column 4 shows the deviation of the area's poverty from the all Pakistan average. Comparing the "high" poverty lines, measured in adult equivalents, 39 percent of the households, 45 percent of the individuals and 44 percent of the adult earner equivalents can be considered poor. The extent of poverty is larger in the urban than in the rural areas where respectively, 42 percent and 30 percent of the households, 49 percent and 36 percent of the individuals and 48 percent and 36 percent of the adult earner equivalents fall below the poverty line.

Similar patterns are observed for the estimation of the poverty measures based on the "low" poverty lines. Since this observation holds also for the other poverty measures, the description of the results will be limited to the "high" poverty line estimation.

The "Gini poor" indicates the expenditure inequality between the poor household members. Comparison between the units of measurement shows that the magnitude of the inequality increases when measured in per capita as compared to adult equivalents. This feature is explained by the fact that poor households have a

Table 3
Poverty Measures and the Effect of Methodologies, 1984-85

Region	Count Unit	Poverty Incidence (Absolute)	Poverty Incidence (Relative)	Gini Poor	Intensity Poor	Intensity Population	Sen Index	Redist Index
1	2	3	4	5	6	7	8	9
Based on Adult Equivalents								
Urban	H	0.420*	1.088	0.130	0.269	0.113	0.153	0.142
	I	0.283*	1.076	0.113	0.228	0.064	0.089	0.031
	A	0.491	1.098	0.135	0.280	0.138	0.186	0.323
Rural	H	0.340	1.083	0.118	0.239	0.081	0.112	0.068
	I	0.485	1.095	0.135	0.279	0.135	0.182	0.302
	A	0.334	1.077	0.117	0.238	0.079	0.109	0.064
Total	H	0.302	0.782	0.105	0.207	0.063	0.088	0.050
	I	0.163	0.620	0.095	0.185	0.030	0.043	0.007
	A	0.362	0.810	0.108	0.215	0.078	0.109	0.101
Total	H	0.203	0.646	0.097	0.189	0.038	0.054	0.015
	I	0.358	0.808	0.108	0.214	0.077	0.107	0.097
	A	0.201	0.648	0.096	0.189	0.038	0.054	0.014
Total	H	0.386	1.000	0.116	0.237	0.091	0.126	0.110
	I	0.263	1.000	0.104	0.205	0.054	0.076	0.027
	A	0.447	1.000	0.120	0.247	0.110	0.151	0.219
Total	H	0.314	1.000	0.107	0.212	0.067	0.093	0.053
	I	0.443	1.000	0.120	0.246	0.109	0.149	0.208
	A	0.310	1.000	0.107	0.211	0.066	0.092	0.051

Continued—

Table 3 — (Continued)

Based on per Capita

Urban	H	0.585	1.102	0.160	0.338	0.198	0.260	0.702
	I	0.377	1.102	0.129	0.260	0.098	0.134	0.084
	A	0.666	0.103	0.166	0.354	0.235	0.307	1.838
	H	0.448	1.106	0.134	0.271	0.122	0.165	0.201
	I	0.658	1.102	0.165	0.352	0.231	0.302	1.680
	A	0.440	1.103	0.133	0.270	0.119	0.162	0.184
Rural	H	0.473	0.891	0.126	0.259	0.122	0.166	0.297
	I	0.266	0.778	0.104	0.208	0.055	0.077	0.031
	A	0.551	0.912	0.130	0.269	0.148	0.200	0.666
	H	0.323	0.798	0.107	0.215	0.069	0.097	0.067
	I	0.545	0.913	0.129	0.267	0.146	0.197	0.623
	A	0.318	0.797	0.107	0.214	0.068	0.095	0.062
Total	H	0.531	1.000	0.139	0.290	0.154	0.206	0.458
	I	0.342	1.000	0.115	0.235	0.080	0.110	0.067
	A	0.604	1.000	0.143	0.303	0.183	0.243	1.015
	H	0.405	1.000	0.118	0.243	0.098	0.135	0.143
	I	0.597	1.000	0.142	0.301	0.180	0.239	0.945
	A	0.399	1.000	0.118	0.242	0.096	0.132	0.133

Source: [Government of Pakistan (1984, 1985)].

Note: 1. The two values in each cell reflect the estimates based on the "high" poverty line (top) and "low" poverty line (bottom), respectively.

the urban and rural profile. The salient features of the profiles are the following.

The size distribution indicates that in urban areas household sizes above 7 persons (67 percent) are by 10 percentage points (57 percent) a more observed phenomena. As the urban and rural earner distributions are similar, the urban areas have higher dependency ratios.

Turning to the attributes of the heads of the households, the age and sex distributions do not reveal significant discriminating features. The comparison of distributions by educational attainment, however, does indicate marked differences. The number of heads with educational background above primary (87 percent) is 24 percentage points higher in urban areas. Similarly, those with an employee working status (38 percent) are 21 percentage points higher in urban areas. This is balanced by the decline in those with a self-employment status.

Employment of the heads of households in urban areas is 31 percent points higher in the sales and transport occupations, but 48 percent points lower in the agricultural occupations than in rural areas. This characterization is reflected in the employment in the manufacturing, wholesale and services activities, which is 38 percentage points higher than in urban areas.

By Provinces

The extent of poverty is larger by 13 percentage points in the urban areas (49 percent) versus the rural areas. In relative terms, the incidence of poverty in rural Baluchistan is 34 percent higher than the average of the rural areas, while in the rural areas of the other provinces the extent of poverty is more or less equal to the overall average of rural areas. The detail by provinces in the urban areas is that poverty in Sindh is more severe by 15 percent points, while in urban Punjab the same is 11 percent points lower than the average incidence for urban areas. With respect to the other measures of poverty, no striking differences between provinces can be observed.

By Size and Number of Earners

While the number of earners does not seem to influence the extent of poverty, the size of the household seems to affect the same. This increase in poverty with the increasing size of the households is observed both in the urban and rural areas. This confirms our expectations, since it is known that lower income (traditional) households tend to be larger.

Monthly Income per Adult Equivalent

It is interesting to note that, given the prevailing poverty line of 313 rupees of monthly expenditure per adult equivalent, still 43 percent of urban adult equiva-

lents with a monthly income between 250 and 500 rupees fall below the poverty line. This represents 20 percentage points of the 49 percent incidence of poverty observed in the urban areas. Less striking is that the urban incidence of poverty is almost 100 percent for the income brackets below 250 rupees. However the opposite phenomena is observed in the rural areas. For instance, only 63 percent poverty incidence is observed for the expenditure bracket between 150 and 250 rupees.

By Sex

Although only 4 percent of households reports a female head, the extent of poverty is 13 percentage points less in urban areas (36.4 percent) and 11 percentage points less in rural areas (25.7 percent) than that of the households with a male head. In relative terms, the incidence of poverty is even more than 25 percent less.

By Age

Similar inverse *U*-shape patterns are observed in the rural and urban areas with regards to the incidence of poverty, both in absolute and relative terms. The lowest extent of poverty is observed in the age group below 30 years of age, after which it steadily increases with a peak for heads of households between 40 and 50 years of age.

By Education

Educational attainment seems to influence the extent of poverty considerably given the fact that the highest absolute and relative incidence of poverty is observed for those heads of the households having only primary education or less after which it steadily declines with higher levels of educational attainment. This trend, however, is more pronounced in urban than in rural areas. Moreover, the severity of poverty is much larger in urban than rural areas. For instance, in urban areas, the absolute incidence of poverty of household members with a head of the household with primary education is 60 percent, versus 38 percent in rural areas. For household members where the head of the household has an educational level above intermediate, the incidence is 24 and 15 percent, respectively.

By Working Status

The comparison of the poverty pattern between urban and rural areas based on the working status attribute of the heads of the households shows interesting differences. In absolute terms, the incidence of poverty of employers is higher in the rural areas but much lower for the self-employed. For those with employee status, the incidence of poverty is about the same. In relative terms, however, those in the rural areas with an employee working status have a relative high

incidence of poverty. It may be observed that those households which heads are unemployed are not adversely affected by additional poverty as compared to other working status. This phenomena is of course a direct consequence of the extended family system.

By Occupation

Members of households of which the occupation of the head is in the professional, administrative and clerical categories are less prone to poverty than in other categories. This phenomena is observed in absolute and relative terms both in urban and rural areas. In contrast, those characterized by occupations in the service, production and transport categories are confronted with higher relative and absolute incidence of poverty, both in rural and urban areas.

By Activity

In line with the incidence of poverty according to the classification by occupation, relatively higher incidences of poverty are observed in mining, manufacturing, construction, sales and transport activities. Those household members characterized by heads employed in the remaining activities like electricity, finance and government services are relatively less affected by poverty. This contrast is, of course, a reflection of the dual nature of the labour market.

Finally some remarks about the comparison between the poverty profiles based on the poverty "high" and "low" lines. As was observed earlier, generally, both poverty lines generate similar patterns in the poverty profiles although the absolute values of the poverty measures have declined except for the household attribute 'region'.

By region, a clear change in the pattern is observed. For total Pakistan, a significant drop in the incidence of poverty for Baluchistan and to a lesser extent for Punjab is shown. Those declines are explained by the drop in incidence of poverty both in the rural and urban areas. In contrast, the incidence of poverty hardly declines in the urban areas of NWFP and rural areas of Sindh. As a result, it may be concluded that the degree of deprivation found in the urban areas of NWFP and the rural areas of Sindh is more severe (and contain a structural element) than that observed in other geographical areas.

7. SUMMARY AND CONCLUSIONS

The analysis of poverty presented in this report uses the original full HIES data base. It is the first time that this type of analysis has been carried out in Pakistan.

A second important contribution of this study is the development of poverty

indicators using different methodologies, units of measurement and counting units. It was found that substantial differences exist in the magnitude of poverty and inequality when measured in various ways. This implies that extra care should be taken in international comparisons and inter-temporal analysis to use compatible methodologies and specifications.

A further contribution of this analysis lies in the determination of poverty lines for the four provinces of Pakistan, in addition to the overall average.

The methodology used differs in some aspects from that found elsewhere in the literature, in particular with respect to the determination of the Engel coefficient, which is not needed in this study.

It was found that the poverty line for 1984-85 for overall Pakistan per household in terms of household equivalents (average household size) was 690 rupees per month for food expenditures (i.e. the absolute minimum, "austere" type of poverty line) and 1415 rupees per month when including all expenditure. The poverty line varies across provinces and between rural and urban areas.

Another contribution of this report is the presentation of detailed poverty profiles for Pakistan based on attributes of the household and the head of the household. The poverty profiles are drawn up using conventional poverty measures. Future poverty analysis should extend to the identification of specific contributors to poverty in a joint analysis of the various attributes.

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Comments on "Poverty in Pakistan 1984-85"

The subject of income distribution is of great interest to the economists and policy-makers of this country. With the availability of primary data it has now become possible to carry out more meaningful analysis of poverty and income inequality. Poverty profiles can be generated on the basis of different attributes of households like education, age, occupation, geographic location, number of earners in a household, etc. All this has been accomplished in the present paper, hence it represents an improvement over those earlier works based on secondary or grouped data and were limited in scope.

Most of my comments are of a specific nature. Household size and composition have been taken into account in estimating the poverty level. For this, adult earner equivalents of each household have been worked out. The following three groups have been defined to compute adult earner equivalents: adult earners, adults and children. All the individuals of age 10 and above are treated as adults. This classification is quite restrictive. Adult equivalence scales have been worked out for more detailed age groups of females and males separately,¹ whose use can refine the work.

Poverty lines have been estimated by using the caloric requirement approach. Two caloric intake ranges of 1500–2000 and 2000–2550 have been defined. All the households having these levels of calories per adult earner equivalent have been separated. By adding food and non-food expenditure of those households, two poverty lines have been estimated – one corresponding to the lower and the other to the higher range of caloric intake. The problem with this approach is that actually rich households can enter in determining the poverty line. There might be many rich households whose caloric intake per household equivalent may be within the range of 2000–2550 calories. It is possible that they are diet conscious or their consumption patterns are such that they fall into this particular range of caloric intake. Rich households generally consume better quality food products whose prices are relatively higher and consequently their food expenditure would be higher. The inclusion

¹See M. Irfan and Rashid Amjad (1983) Poverty in Rural Pakistan. In A. R. Khan and E. Lee (eds) *Poverty in Rural Asia*. Bangkok: ILO/ARTEP.

of food expenditure of such households to determine poverty lines would appear less problematic when we consider non-food expenditure. Non-food expenditure of rich households would certainly be higher than needed to define a poverty line. In a nutshell, with the approach followed in the paper, the expenditure of rich households can influence the determination of poverty lines, making them biased upward.

I see a problem, at least theoretically, in using a range of different caloric intake levels instead of one specific value in defining a poverty line. Poverty lines have been estimated for provinces and their rural and urban areas. If households in one region are highly concentrated towards the upper range of caloric intake and the converse is true for another region, the estimated poverty lines in such cases would not be comparable. It is possible that this problem may not have arisen in the paper.

In one of the exercises poverty lines computed for different regions have been normalized for price differentials by applying the price level prevailing in the rural Punjab to all other regions of the country. Another normalization is possible which removes differentials in consumption patterns. In this case, the same consumption pattern for all regions of the country would have been used with regional price differentials. I consider this normalization more interesting and useful because the same consumption basket is being allowed to everyone in the country and considering those people who cannot afford to have that basket.

In the second part of the paper, inequality has been estimated in consumption expenditure only. It would have been interesting to see inequality estimates on the basis of income also, because inequality on the basis of expenditure is depressed.

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