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Trend Analysis of Relative Poverty in Pakistan (1984-85 – 1987-88)

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I. INTRODUCTION

In this paper, we compare poverty statistics for Pakistan based on data from the Household Income and Expenditure Surveys of 1984-85 and 1987-88, using a relative concept of poverty. After a brief look at the quality of the surveys in use in Section II we recapitulate the relative poverty concept in Section III. In Section IV we compare the size and composition of the poor population in 1984-85 and 1987-88 by using relative poverty lines. In Section V we extend the analysis by differentiating results across rural and urban areas and by taking into account that the cost of living in rural areas may be lower than in urban areas. Section VI presents a number of sensitivity analyses, and Section VII concludes.

II. QUALITY AND COMPARABILITY OF THE SURVEYS

In this Section we make a number of preliminary observations on the comparability and the quality of the HIESs of 1984-85 and 1987-88. Both surveys use a sample frame based on the Census of 1981. Moreover, weights are calculated to ensure the representativity of the surveys with respect to the size of the population living in different areas. The sample size of both surveys (more than 16,000 observations) would appear to be sufficient. It would be interesting to know to what extent the surveys are representative with respect to variables other than the population size of different areas.

Comparison with National Accounts

The first question is whether the surveys are representative with respect to income and expenditures. Following a previous paper [Zaidi and de Vos (1993)],

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we use expenditures as a measure of resources, mainly because the quality of the income data in the HIESs is supposed to be lower than that of the expenditure data. To have more certainty about the quality of the expenditure data they could be compared to other sources such as the National Accounts.

One first indication about the comparability of the data is obtained from a comparison of the average monthly expenditures per capita with figures derived from the National Accounts [World Bank (1993)]. It can be seen in Table 1 that the HIES figures are lower than the National Accounts figures. To some extent this could be expected, since the definitions of both sources will not be the same. What is more notable, however, is that a comparison of the HIES figures suggest a growth of about 11 percent in real terms between both periods, while the National Accounts imply a growth rate of 5 percent of private consumption per capita.

Table 1

Per Capita Expenditures Derived from HIES and Private Consumption as given in National Accounts (Rs/Month)

		(1) 1984-85	(2) 1987-88	(2)/(1)	Real Growth
HIES	(a)	295	364	1.23	1.11
NA	(b)	317	370	1.17	1.05
(a)/(b)		0.91	0.98		

This phenomenon is also clear from the result that the average expenditures appear to be clearly underestimated in the 1984-85 survey. This causes some concern about the comparability of the two surveys. In particular, any comparison of the two surveys using a constant poverty line becomes questionable. For the purpose of the analysis using relative poverty lines, we only need to assume that the distributions are comparable, even if the averages are not.

Income v. Expenditures

As mentioned above, in this paper we mainly use expenditures as a measure of resources, basically because income is deemed to be less reliable. In this Section we present some results pertaining to this issue. First, we find that average expenditures and average income show rather diverging growth rates between 1984-85 and 1987-88. Income per capita increased by 12 percent, nominally (from 303 to

338 Rs/month), whereas expenditures increased by 23 percent. As a result, on average, income which was slightly higher than expenditures in 1984-85, ended up below expenditures in 1987-88. Appendix Table 1 presents a crosstabulation of deciles of equivalent income and equivalent expenditures, using the OECD equivalence scale. It also presents the percentages of households with positive savings and the average (equivalent) savings subdivided according to income decile.

From the crosstabulation it can be seen that most households are classified in the same decile according to income and expenditures: in fact in 1984-85, almost 72 percent of the households were in the same decile, and for an additional 25 percent the classifications differed by one decile only. However, even if income and expenditures could be measured accurately, one would not expect an exact match of both classifications, especially since when the life-cycle hypothesis is assumed to be valid and households spend less or more than their income depending upon their stage in the life-cycle. One indication that the comparability of the 1984-85 and the 1987-88 surveys may be restricted is that the percentage of households in the same decile according to both classifications has dropped notably, to 61 percent. Another remarkable phenomenon is that we no longer find any households in the upper right-hand corner of the crosstabulation, i.e. households whose income is much higher than their expenditures. On the other hand, the percentage of households with incomes much lower than expenditures appears to have increased somewhat. This seems to indicate that the underreporting of income is more pronounced in the 1987-88 survey, particularly in the highest income groups.

A further indication of problems in the comparability of both data sets is obtained by comparing the percentages of households with positive savings, and, in particular, the average levels of savings, subdivided according to income deciles. First, the percentages of households with positive savings are considerably lower in all deciles in 1987-88 than in 1984-85. Second, the pattern of average savings is more or less as expected in 1984-85: dissavings in the lower income deciles, and increasing savings with increasing income. However, in 1987-88, on average, we have negative savings, and moreover, after decreasing up to the fifth income decile, average dissavings again increase with higher income, and are the highest in the highest income decile. Although this analysis does not allow very firm conclusions, it does not seem very bold to conclude that the differences between the results for both years should urge one to be rather careful in comparing results from both surveys. In particular, the result that average dissaving is highest in the highest income groups in 1987-88, suggests that income is seriously underreported in the highest income groups.

III. THE CONCEPT OF RELATIVE POVERTY

In a previous paper [Zaidi and de Vos (1993)] we argued that, with the exception of situations in which poverty is characterised by a struggle for mere physical survival, every poverty threshold based on a concept of minimal (basic) needs that have to be satisfied, contains elements of relativity, since the minimal needs are assessed on the basis of the habits and customs (e.g. dietary preferences, amenities deemed necessary, social and cultural requirements) of the reference society. In this paper, we have explicitly made this choice for a relative poverty concept, by fixing poverty thresholds at certain percentages of the average levels of resources of the years in question. As mentioned above, this approach is also to be preferred over a constant poverty threshold when the average levels of resources of the two surveys may not be completely comparable.

Although for conceptual reasons we prefer the income approach–when one voluntarily chooses to live below the minimum standard of living one should not be considered as poor–we mainly use total expenditures as a criterion for the poverty assessment. This choice has been made because the income data in the HIES are considered less reliable see Section II and, e.g., Ahmed and Ludlow (1989) and Havinga *et al.* (1990). Nevertheless, in Section VI of this paper we will also present trends in poverty based on income as a measure of resources.

The equivalence scale we use is the equivalence scale originally devised by the OECD (1982). In Section VI we will briefly check the sensitivity of the trends in the poverty statistics for the use of different equivalence scales, such as, e.g., the modified OECD-scale used in Hagenaars, de Vos and Zaidi (1994) and the scale employed by Wasay (1977).

We present poverty statistics based on poverty thresholds fixed at certain percentages (50, 66.7 and 75 percent) of average equivalent expenditures. Admittedly, these percentages are essentially arbitrary as there is no theoretical rationale to choose them. In this paper we will discuss the results of the 66.7 percent cut-off only, and we refer to the main paper [Zaidi and de Vos (1994)] for the results based on the other cut-offs. In Section VI of this paper we will also present the sensitivity of the trends in poverty with respect to the choice of a cut-off percentage to define poverty lines. The definition of total expenditures which we use adds up all expenditures included in the HIES. It also includes imputed rent, income in kind and self-supplied goods.

IV. POVERTY TRENDS IN PAKISTAN (1984-85–1987-88)

Appendix Table 2 gives the average equivalent expenditures and poverty

rates, subdivided according to different socio-economic classifications. The table also presents the composition of the total and the poor population, and indicates whether the changes in question are statistically significant.

Average equivalent expenditures increased from Rs 445 to Rs 551 per month, which in real terms amounts to an increase of 11.5 percent. It can be seen that the poverty rate decreased slightly when we use the 66.7 percent cut-off. It can be noted here that the trends based on the 50 percent and 75 percent cut-offs are somewhat different (see Section VI for more details).

The first classification, based on the *occupation of the head,* shows that in both years, the highest poverty rates and the lowest average equivalent expenditures are found for households headed by labourers in transport and construction. These households and those headed by workers in agriculture are the largest group of poor in this classification: in both years these two groups together represent 60 percent of the poor population. Significant decreases in the poverty rates are only found in the groups of households headed by professional, technical and related workers and for households headed by sales workers. These two groups also show the highest increase in average equivalent expenditures. In the composition of the poor population, we only find a significant decrease in the share of households headed by sales workers.

The next classification, *employment status of the head,* shows that households with heads classified as self-employed have above average poverty rates and the lowest average equivalent expenditures in both years. The poverty rate decreased significantly for households headed by employers, by employees and by unemployed persons, groups who also show above average growth in average equivalent expenditures. The main trend in the composition of the poor population is the increase in the share of households headed by self-employed persons, and the decrease in the share of households headed by employees and unemployed persons.

The breakdown according to *household size* shows that in both years poverty in Pakistan is relatively widespread in large households, a result which is in line with the earlier studies about poverty in Pakistan. The only significant decrease in the poverty rate is found for households with seven or eight members. The composition of the poor population according to this characteristic remained largely the same.

The classification according to the *number of earners* shows no significant changes in the poverty rates or in the composition of the poor population. In both years the poverty rate increases with the number of earners, albeit to a somewhat larger extent in 1987-88. The next classification, based on the *age of the head* also does not show any significant changes in the poverty rates. Poverty remains

widespread among all age groups. As a result of a significant decrease in their share in the total population, the share of the households headed by elderly persons in the poor population decreased significantly. Households with heads aged 40 to 49 show a reverse trend.

The classification according to *Province* yields the most notable of the trends found so far. In 1984-85 the highest poverty rate (40.1 percent) was found for Balochistan, while this province showed the lowest poverty rate (21.7 percent) in 1987-88. In both years this province had the lowest average equivalent expenditures. These results imply that there has been a remarkable reduction in inequality in Balochistan during the period in question. For NWFP, we find a significant increase in the poverty rate, while for Punjab, in which we find above average poverty rates in both years, there is no significant change in the poverty rate. The share in the poor population of Balochistan decreased, while that of NWFP and Sindh increased significantly.

The classification according to *type of community* shows that in both years the poverty rate of the urban part of the population is clearly below that of the population living in rural areas. Moreover, average equivalent expenditures in urban areas increased faster than in rural areas, and the poverty rate of the urban areas decreased significantly. As a result, the share of the poor population living in urban areas declined, and that of rural areas increased. In the next Section, we will analyse in detail the differences in the trends in group-specific poverty between rural and urban areas. Moreover, in both years, the poverty rate is notably higher for households with a head whose *level of education* is less than primary than for households with heads with primary or higher education.

In terms of persons, the overall poverty rate shows the same trends as those in terms of households. The fact that the poverty percentage is clearly higher than the corresponding figure for households once again shows that poverty is relatively widespread among large households. Differentiated according to the *age* of the persons, the poverty rate only decreased significantly for persons aged 50–59. In both years, the poverty rates are the highest for children aged less than 10, followed by persons aged 10 to 13. The classifications based on *employment status* and *sex* of persons do not show any significant changes. Non-working persons and females have relatively higher poverty rates in both years.

V. SOME EXTENDED ANALYSES

In this section, we analyse poverty statistics separately for rural and urban areas by focusing on the 66.7 percent cut-off and by subdividing the results across

other subgroups. It is clear from Appendix Table 3 that, analogous to the aggregate results for rural and urban households, the trends in the group-specific poverty rates differ considerably between rural and urban areas. In *urban* areas, the poverty rate declined significantly for households headed by professionals, technical and related workers, sales workers and employers, households with seven or eight members and households living in Balochistan. These results were also noted for Pakistan as a whole in Section IV. The poverty rate increased significantly for households living in urban NWFP in about the same way as for both rural and urban regions together. However, for some subgroups a different trend is noted in urban areas compared to the trend for rural areas and for Pakistan as a whole: the poverty rate in urban areas declined for households headed by service workers, households headed by self-employed, households with five or six members, households with one and two earners, households living in Punjab and Sindh and households headed by persons with less than primary education. In terms of persons, the poverty rate declined significantly for all persons living in urban areas, and in almost all subgroups.

For *rural* areas, the aggregate result is that the poverty rate decreased only slightly. With few exceptions, this result is repeated for almost all subgroups. The differentiation with respect to region provides some interesting outcomes. Analogous to the results for urban areas, the poverty rate increased significantly for households living in rural areas of NWFP, and decreased for households in rural Balochistan. Remarkably, the poverty rate increased significantly for rural Sindh (from 33.4 percent to 37.6 percent), while it decreased significantly for urban Sindh (from 10.7 percent to 8.8 percent). This result is a clear reflection of a growing gap between rural and urban areas of Sindh.

The results presented so far assume that the purchasing power of household resources is the same across rural and urban areas. Furthermore, an identical poverty line is applied for households in the two types of areas. Given some evidence of differences in the minimum cost of loving across urban and rural areas see Ercelawn (1990) and Ahmad and Allison (1990), the results presented above are likely to overestimate the poverty incidence in rural areas, and underestimate the poverty incidence in urban areas. Following earlier work [Zaidi and de Vos (1993)], we assume that every rupee spent in rural areas yields 10 percent more than the same unit spent in urban areas, and check how the poverty trends are affected. As expected, we find that the difference between the poverty rate for rural and urban areas is considerably reduced. With few exceptions, the trends in the poverty rate are not much different from those presented in Appendix Table 3. Moreover, households living in rural areas still constitute a large majority of the poor population

in Pakistan in both years. In view of the fact that this exercise is based on a rough approximation, the results should be interpreted with caution. For the statistics pertaining to this sensitivity analysis, and to the sensitivity analyses presented in the next Section, we refer the reader to the main paper [Zaidi and de Vos (1994)].

VI. SENSITIVITY ANALYSIS

Trends in Poverty using Different Cut-off Percentages

In itself, the choice of the percentage of average equivalent expenditures to be used as the poverty line is rather arbitrary. Therefore, we have also used the poverty rates using 50 and 75 percent of average equivalent expenditures as the poverty line. We found that, in contrast with the results according to the 66.7 percent cut-off, the overall poverty rate in terms of households decreased significantly (from 11.9 to 10.7 percent) using the 50 percent cut-off, while it increased slightly (from 41.6 to 41.9 percent) using the cut-off at 75 percent. In terms of persons, the trends are similar. Thus, the comparison of the relative poverty rates of both years suggests that the percentage of households with very low resources (below 50 percent of average equivalent expenditures) is decreasing, while the percentages of households with a level of resources below more generous relative cut-offs do not show significant changes.

We find that the breakdown according to household characteristics generally identifies the same groups as having poverty rates clearly above the average whichever cut-off percentage we use. Moreover, these risk groups are the same in both years. Concerning the trends in the poverty rates and the change in the composition of the poor population, there are no subgroups which show significant changes with different signs according to different cut-offs.

Comparison Based on a Constant Poverty Line

Up to now, the underlying poverty concept is based on the assumption that the minimal level of living is related to the average level of living in the society in question. However, it would also be interesting to notice to what extent the households in 1987-88 have managed to surpass the poverty line assumed to be valid for 1984-85, if only to evaluate the increase in welfare in absolute terms. To some extent, this type of analysis might be more acceptable to researchers used to dealing with absolute poverty lines. However, apart from conceptual objections, this type of analysis may also suffer from empirical problems. In particular, one necessary

condition for the comparison based on constant poverty lines is that the underlying data are comparable. As is obvious from the results presented in Section II that the relevance of a trend analysis of poverty based on constant poverty lines may be limited.

In real terms, average equivalent expenditures as computed from the HIESs increased by 11.5 percent. As a result, the poverty lines drawn at 50, 66.7 and 75 percent of average equivalent expenditures of 1984-85 would amount to about 45, 60 and 67 percent of average equivalent expenditures of 1987-88. As expected, we find that the poverty rate has decreased considerably, both compared to 1984-85 and to the poverty rates based on the relative poverty lines of 1987-88. Without exception, this decrease is also reflected in the group specific poverty rates. Concentrating on the results based on the 66.7 percent cut-off, for which we find an overall poverty rate of 22.2 percent compared to 31.2 percent based on the relative line, we again note that the poverty risk groups remain the same in both years. Consequently, the composition of the poor population changes only marginally.

Trends in Poverty using Income Instead of Expenditures

Ideally, we would like to measure the long-run resources of a household, and both income and expenditures recorded during a short reference period may not be good indicators of these resources. As mentioned above, under the life cycle or permanent income hypothesis, expenditures come closer, but in reality even if we find a steady level of consumption, it might still not adequately reflect resources, e.g., as a result of lower needs. Moreover, expenditures are subject to *measurement errors*.[1]

In view of these considerations, it is essential to check whether the trends in poverty as obtained using expenditures remain the same when we use income. In summary, the income-based results imply that the relative poverty has declined for Pakistan as a whole, and for most of the subgroups. This trend differs from the trend based on the expenditure-based poverty lines. Given doubts about the quality of income-data in the HIESs, in particular for the 1987-88 survey, we refrain from attaching much significance to these differences. What is notable is that using

[1]Strictly speaking, expenditures may be measured correctly during the recording period (e.g., a month in the HIESs), but the error is made when we multiply these amounts to obtain yearly figures, and then compare households surveyed in different months of the same year. In fact, these measured expenditures of a household can be seen to be drawn from a certain distribution (with the actual yearly amounts as means, and with higher or lower variances). Next to expenditures, income may also be subject to this kind of measurement error, especially when the reference period is short.

income the poverty risk groups, and the changes in the composition of the poor population remain largely the same as obtained using the expenditure-based poverty lines.

Trends in Poverty using Different Equivalence Scales

For sensitivity analyses with respect to equivalence scales, we have resorted to the usage of two other equivalence scales. First, we have checked the sensitivity of the results by using a flatter equivalence scale which is a simple modification of the original OECD scale (i.e., 1,.5,.3 instead of 1,.7,.5). This scale is used in Hagenaars, de Vos and Zaidi (1994). Second, we use an equivalence scale as used earlier for Pakistan by Wasay (1977) and Havinga *et al.* (1990). This scale implies that every additional earner needs 1.0 times the resources of the first adult to be on the same welfare level and for each dependent adult and child the comparable coefficients are 0.8 and 0.7, respectively. This scale is clearly steeper than the original OECD scale.

The results show that the changes in the poverty rate are small and they are in the same direction for all three equivalence scales. This result clearly reveals that for the trends in the overall poverty rate the choice of the equivalence scale hardly makes a difference. However, one can expect some changes in the composition of the poor population, since flatter equivalence scales cause the poverty rate and the poor population share of small households to increase, and those of large households to decrease. An opposite pattern will be noted for the steeper equivalence scales.

As expected, using the modified equivalence scale, the poverty rates and the poor population shares of small households are higher, and that of large households are lower. However, despite these differences in the poverty rates, large households (7 or more members) remain high poverty groups, and small households still have a poverty rate lower than the overall poverty rate in both years. The poverty rates for other groups are also found to be sensitive to the choice of the equivalence scale, depending upon whether these households are generally large or small households. What is important to note is that in both years the poverty risk groups as identified from different classifications remain the same as obtained using the original OECD scales. Moreover, concerning the trends in poverty, we see that the changes in the group-specific poverty rates and in the composition of the poor population are all in line with the changes observed using the original OECD scale.

When we use the equivalence scale of Wasay, we find that the poverty rate and the poor population shares of large households are higher, whereas those of

small households are lower. With few exceptions, the conclusion drawn above can be drawn again, i.e., the poverty risk groups, and trends in the poverty rate and changes in the composition of the poor population remain the same as obtained using the original OECD scales. Our results seem to imply that the results are slightly more sensitive when equivalence scales steeper than the original OECD scale are used.

VII. SOME CONCLUSIONS

In a previous study, we have argued for an important departure from the traditional approach followed to estimate poverty in Pakistan. Based on the judgement that starvation and hunger are no longer common phenomena in Pakistan, we made a case for poverty to be viewed as a relative concept. Therefore, we operationalised the concept of poverty by using the poverty lines which are defined as a certain percentage of the national average.

In this paper, we follow the same approach, and compare the resulting poverty statistics based on two HIESs (1984-85 and 1987-88). First, in Section II, we make brief remarks on the quality and reliability of the surveys. As a result of different growth rates in consumption per capita between the HIESs and the National Accounts, some concerns are raised for the comparability of the two surveys, in particular for the exercise which uses a constant poverty line between the two years.

After a recapitulation of the concept of relative poverty in Section III, we present a trend analysis of poverty in Pakistan. A notable finding of our work is that the poverty rate declined significantly when a relatively low poverty line (50 percent cut-off) is used. As opposed to this, the poverty rate changed only slightly for the 66.7 percent cut-off and it increased significantly for the 75 percent cut-off. Focusing on the 66.7 percent cut-off, we find a significant decline in the poverty rate for households headed by professional, technical and related workers, sales workers, employers, employees and unemployed persons, for households with seven or eight members, and for households living in urban areas. Notably, the poverty risk groups remained the same in both years. They are households headed by workers in transport and construction and in the agricultural sector, households headed by self-employed persons, large households, households living in rural areas, households living in Punjab and households with heads with less than primary education.

In Section V, we provide some extended analyses by focusing on the 66.7 percent cut-off and by further subdividing the results across rural and urban areas.

The trends noted for the aggregate results, i.e., that the poverty rate declined for households living in urban areas, and that there is no evidence of a significant change in the poverty rate for households living in rural areas, are largely repeated in the trends for different subgroups living in the two areas. One striking result is observed for the province of Sindh: the poverty rate increased for households living in rural Sindh, and it declined for households in urban Sindh. Most of the subgroups identified as having relatively high level of poverty in the results for Pakistan as a whole remained the same in rural and urban areas.

In Section VI we provide some sensitivity analyses. First, we compare the trends using different cut-off percentages. Although there are some differences, both with respect to the trends in the overall poverty rates and the poverty rates in subgroups, generally, the poverty risk groups remain the same. Second, we present results using the poverty line based on average equivalent expenditures of 1984-85 on the data of 1987-88. Because the analysis of Section II showed that the averages are probably not totally comparable, this analysis should be interpreted with care. The decrease in the poverty rate based on this constant poverty line may be overestimated. Again, the composition of the poor population is only marginally affected.

The sensitivity analysis with respect to the choice of the indicator of household resources (i.e., income v. expenditures), is complicated by the fact that income appears to be more underreported in 1987-88 than in 1984-85, and in particular in the higher income groups. As a result, income based poverty has decreased significantly. The poverty risk groups remain the same, though. Although the choice of the equivalence scale does affect the composition of the poor population, especially with respect to household size, it does not appear to have notable effects on the trends in poverty.

Appendices

Appendix Table 1

Crosstabulation of Deciles of Equivalent Income and Equivalent Expenditures; Percentages of Households with Positive Savings, and Average Equivalent Savings/Dissavings

Pakistan 1984-85 → Income Deciles ↓ Expenditure Deciles	1	2	3	4	5	6	7	8	9	10	Total*
1.	85.9	12.3	0.7	0.3	0.3	0.1	0.0	0.1	0.1	0.1	1,640
2.	9.8	70.2	17.4	1.0	0.5	0.2	0.2	0.1	0.3	0.1	1,665
3.	1.0	15.5	62.2	18.4	1.4	0.6	0.2	0.6	0.1	0.1	1,628
4.	0.9	0.8	18.2	59.7	17.2	1.7	0.6	0.2	0.4	0.4	1,672
5.	0.9	0.4	0.7	19.0	58.3	18.1	1.6	0.3	0.4	0.2	1,634
6.	0.4	0.5	0.5	0.7	19.3	62.4	14.0	1.3	0.5	0.5	1,663
7.	0.5	0.5	0.2	0.3	1.3	16.9	67.6	11.1	1.0	0.4	1,637
8.	0.5	0.1	0.2	0.1	0.3	0.7	14.3	74.7	8.0	1.2	1,657
9.	0.1	0.2	0.2	0.0	0.2	0.3	0.7	10.7	83.3	4.3	1,649
10.	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.4	6.4	92.6	1,651
Total	1,646	1,665	1,651	1,650	1,626	1,673	1,633	1,644	1,659	1,649	16,496
% of Households with Positive Savings	44.6	48.0	53.2	55.6	54.7	59.4	61.8	62.0	64.1	65.6	56.9
Average Savings (+)/ Dissavings (–)	–14	–4	–1	0	2	4	7	10	18	120	14

Pakistan 1987-88 → Income Deciles ↓ Expenditure Deciles	1	2	3	4	5	6	7	8	9	10	Total
1.	77.9	22.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,814
2.	10.9	59.9	28.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1,825
3.	3.9	10.5	51.8	33.5	0.2	0.0	0.0	0.0	0.0	0.0	1,786
4.	2.0	3.8	9.1	49.8	34.3	1.0	0.0	0.0	0.0	0.0	1,853
5.	1.1	1.7	4.8	9.6	47.9	34.6	0.3	0.0	0.0	0.0	1,779
6.	1.1	1.4	2.0	3.8	9.0	50.3	32.5	0.0	0.0	0.0	1,830
7.	0.6	1.2	1.1	1.7	2.8	8.6	54.8	29.3	0.0	0.0	1,811
8.	0.7	0.4	1.2	1.4	2.0	3.5	7.4	61.3	22.0	0.0	1,814
9.	0.4	0.3	0.4	0.8	0.9	1.9	2.7	7.7	71.6	13.3	1,816
10.	0.4	0.4	0.5	0.4	0.5	0.9	1.8	2.2	6.0	86.8	1,813
Total	1,795	1,849	1,796	1,854	1,770	1,823	1,809	1,821	1,809	1,815	18,141
% of Households with Positive Savings	32.0	39.4	44.0	48.1	49.4	50.9	54.3	57.9	59.1	60.7	49.6
Average Savings (+)/ Dissavings (–)	–43	–24	–25	–20	–19	–25	–29	–30	–44	–76	–33

*As a result of rounding off errors, the number of households in each decile is not exactly 10 percent of the total. This does not affect the analysis, though.

Appendix Table 2

Pakistan 1984-85 and 1987-88; Average Equivalent Expenditures (Using the OECD Scale), Poverty Percentages (66.7 Percent Cut-off), Population Shares and Shares of Poor Population for Various Socio-economic Characteristics of Households and Persons

	Averages 1984-85 – 1987-88		Poverty Rates 1984-85 – 1987-88		Population Shares 1984-85 – 1987-88		Poor Pop. Shares 1984-85 – 1987-88	
Total	444	551	31.9	31.2	100.0	100.0	100.0	100.0
Occupation of the Head								
1. Professional, Technical and Related Workers	537	709	26.9	24.5^{-}	16.2	16.1	13.7	12.7
2. Administrative and Managerial Workers	1113	1417	3.2	1.6	0.9	1.1	0.1	0.1
3. Clerical and Related Workers	511	609	15.9	17.1	3.1	3.1	1.6	1.7
4. Sales Workers	476	609	27.7	24.6^{--}	13.0	12.5	11.3	9.9^{-}
5. Service Workers	391	473	35.7	33.9	5.1	5.3	5.7	5.7
6. Agricultural, Animal Husbandry and Forestry	420	495	32.9	33.0	37.3	37.9	38.5	40.0
7. Manufacturing Workers	414	508	32.7	31.8	8.6	9.7^{++}	8.8	9.9
8. Labourers in Transport and Construction	360	437	41.5	43.7	15.6	14.2^{--}	20.3	20.0
Employment Status of the Head								
1. Employer	848	1067	16.6	10.5^{-}	1.1	1.5^{++}	0.6	0.5
2. Self-employed	423	513	32.9	33.5	61.3	64.4^{++}	63.2	69.2^{++}
3. Employee	436	561	31.4	28.2^{--}	24.8	22.1^{--}	24.4	20.0^{--}
4. Unemployed	481	604	33.6	29.7^{-}	9.8	8.7^{--}	10.3	8.3^{--}
5. Inactive (i.e. Retired, Homemaker etc.)	695	828	16.1	18.6	3.0	3.4^{+}	1.5	2.0
Household Size								
1. 1-2 Members	634	786	13.1	13.7	9.7	9.0^{-}	4.0	3.9
2. 3-4 Members	520	665	23.0	21.2	20.6	20.1	14.8	13.7
3. 5-6 Members	456	580	32.2	30.6	28.4	27.7	28.6	27.2
4. 7-8 Members	412	505	39.8	37.4^{-}	22.1	23.5^{++}	27.5	28.2
5. 9-10 Members	399	480	42.1	44.4	11.5	11.4	15.2	16.2
6. More than 10 Members	430	518	40.8	40.3	7.8	8.3	9.9	10.8
Number of Earners								
1. Nobody Earning	644	723	24.4	22.9	6.5	6.2	5.0	4.5
2. One Earner	443	543	31.9	31.2	55.2	54.2	55.2	54.4
3. Two Earners	421	546	32.5	31.3	21.9	23.3^{++}	22.4	23.4
4. Three Earners	437	539	34.0	32.6	10.7	10.3	11.4	10.8
5. Four or More Earners	452	538	34.1	35.7	5.7	6.0	6.1	6.9

Continued—

Appendix Table 2–(*Continued*)

Age of the Head								
1. Less than 30	462	549	27.2	25.7	13.3	12.9	11.3	10.7
2. 30–39	441	535	32.9	32.6	24.4	25.3	25.1	26.5
3. 40–49	423	541	34.1	34.1	25.2	26.2 +	26.9	28.7 +
4. 50–59	459	575	30.3	29.6	17.6	18.4	16.7	17.5
5. 60 or More	457	559	32.5	30.3	19.6	17.2 – –	19.9	16.7 – –
Province								
1. Punjab	431	544	35.6	34.4	59.2	60.5 +	65.9	66.8
2. Sindh	484	577	23.1	24.9	21.6	22.2	15.6	17.7 ++
3. NWFP	461	543	26.2	30.0 ++	13.1	12.9	10.7	12.5 ++
4. Balochistan	407	524	40.1	21.7 – –	6.1	4.4 – –	7.7	3.0 – –
Type of Community								
1. Urban	544	702	20.2	18.1 – –	27.7	27.6	17.5	16.0 –
2. Rural	403	488	36.4	36.1	72.3	72.4	82.5	84.0 +
Educational Attainment of the Head								
1. Less than Primary	386	474	37.0	36.2	69.3	68.7	80.2	79.8
2. Primary or Higher	572	714	20.6	20.1	30.7	31.3	19.8	20.2
POVERTY IN TERMS OF PERSONS								
Total	439	543	35.8	35.1	100.0	100.0	100.0	100.0
Age Categories								
1. Less than 10	405	495	41.0	40.1	32.6	33.0 +	37.3	37.8
2. 10–13	416	522	37.6	36.8	10.7	10.6	11.3	11.2
3. 14–17	444	542	33.7	34.5	7.9	8.1	7.5	8.0
4. 18–29	476	590	30.0	29.1	18.5	18.2	15.5	15.1
5. 30–39	455	561	34.5	34.1	10.2	10.4	9.9	10.1
6. 40–49	452	571	33.6	33.5	8.3	8.4	7.8	8.0
7. 50–59	480	595	31.3	29.2 –	5.6	5.6	4.9	4.6
8. 60 or More	458	579	33.6	32.4	6.2	5.7 – –	5.9	5.3
Employment Status								
1. Working Persons	452	561	33.0	32.3	25.2	25.2	23.3	23.2
2. Non-working Persons	435	536	36.7	36.0	74.8	74.8	76.7	76.8
Sex								
1. Male	442	541	35.3	34.7	51.9	51.6	51.3	51.1
2. Female	435	544	36.2	35.5	48.1	48.4	48.7	48.9

+,–: Significant differences ($p < 0.05$).

+ +,– –: Significant differences ($p < 0.01$).

Appendix Table 3

Pakistan 1984-85 and 1987-88; Poverty Percentages (Poverty Cut-off 66.7 Percent of Average Equivalent Expenditures) in Rural and Urban Areas for Various Socio-economic Characteristics of Households and Persons

		Urban Areas Poverty Rates		Rural Areas Poverty Rates	
		1984-85	1987-88	1984-85	1987-88
Total	20.2	18.1		36.4	36.1
Occupation of the Head					
1. Professional, Technical and Related Workers		16.2	13.5	31.9	30.4
2. Administrative and Managerial Workers		1.2	0.5	8.9	7.0
3. Clerical and Related Workers		13.4	11.3	20.5	25.7
4. Sales Workers		19.9	17.3	36.0	31.9
5. Service Workers		27.6	22.8	43.1	45.2
6. Agricultural, Animal Husbandry and Forestry		21.8	20.2	33.2	33.4
7. Manufacturing Workers		19.1	18.8	47.2	44.8
8. Labourers in Transport and Construction		26.7	28.0	49.0	50.0
Employment Status of the Head					
1. Employer		8.8	1.6	21.9	17.4
2. Self-employed		23.7	21.2	35.2	36.5
3. Employee		17.3	15.9	43.2	39.5
4. Unemployed		21.7	19.5	38.5	34.3
5. Inactive (i.e. Retired, Homemaker etc.)		8.3	8.7	19.2	23.2
Household size					
1. 1–2 Members		4.5	4.8	16.3	16.5
2. 3–4 Members		10.0	7.9	26.5	25.4
3. 5–6 Members		19.3	16.3	36.5	35.7
4. 7–8 Members		24.5	21.4	46.3	43.5
5. 9–10 Members		29.4	28.1	48.7	52.8
6. More than 10 Members		29.9	28.5	47.4	46.7
Number of Earners					
1. Nobody Earning		12.4	8.3	27.4	26.6
2. One Earner		21.1	18.6	36.1	36.1
3. Two Earners		21.3	18.0	37.0	36.6
4. Three Earners		17.3	18.5	40.8	38.7
5. Four or More Earners		18.6	19.8	40.5	41.5

Continued—

Appendix Table 3–(*Continued*)

1. Less than 30	17.6	14.4	30.4	29.1
2. 30–39	19.8	17.8	37.8	38.8
3. 40–49	22.6	20.3	39.4	40.0
4. 50–59	17.6	17.0	35.6	34.7
5. 60 or More	21.3	18.3	36.1	34.0
Province				
1. Punjab	25.9	23.0 $^{--}$	39.0	38.2
2. Sindh	10.7	8.8 $^{-}$	33.4	37.6 $^{++}$
3. NWFP	20.4	27.3 $^{++}$	27.1	30.5 $^{+}$
4. Balochistan	25.8	12.8 $^{--}$	41.4	23.0 $^{--}$
Educational Attainment of the Head				
1. Less than Primary	27.6	25.5 $^{-}$	39.3	38.7
2. Primary or Higher	12.7	11.4	27.0	27.5
POVERTY IN TERMS OF PERSONS				
Total	23.8	21.5 $^{--}$	40.8	40.7
Age Categories				
1. Less than 10	29.1	26.3 $^{--}$	45.6	45.3
2. 10–13	26.0	24.0 $^{-}$	42.6	42.5
3. 14–17	22.2	22.5	39.8	40.4
4. 18–29	17.9	16.3 $^{--}$	35.8	35.0
5. 30–39	21.9	18.7 $^{--}$	39.6	40.7
6. 40–49	22.2	20.0 $^{-}$	38.5	39.1
7. 50–59	19.0	16.1 $^{--}$	36.4	34.4
8. 60 or More	19.5	18.4	36.6	36.3
Employment Status				
1. Working Persons	20.0	18.6 $^{--}$	38.1	37.6
2. Non-working Persons	25.0	22.5 $^{--}$	41.7	41.7
Sex				
1. Male	23.0	21.2 $^{--}$	40.5	40.3
2. Female	24.6	21.8 $^{--}$	41.1	41.0

+,–: Significant differences ($p < 0.05$).

+ +,– –: Significant differences ($p < 0.01$).

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Comments on
"Trend Analysis of Relative Poverty in Pakistan
(1984-85–1987-88)"

The paper by Zaidi and de Vos provides comprehensive and very useful analysis of poverty trends in Pakistan. However, the authors should elaborate more on the following issues:

First, in the revised version poverty rates are calculated by applying OECD equivalent scales, modified OECD scales, and Wasay's equivalence scales. No details of these scales are given. The discussion of scales will be useful to examine:

(i) The usefulness of OECD scales for Pakistan;
(ii) the need for alternative equivalence scales; and
(iii) the differences among these scales.

Second, the authors are comparing poverty estimates for two years, i.e., 1984-85 and 1987-88. But they do not mention the role of price differentials between urban and rural areas. The authors acknowledge the existence of these differences but they do not mention how it will affect the comparability of estimates between the urban and rural areas.

Third, poverty rates are higher among the self-employed population. Considering the rise in self-employment can we say that poverty rates will rise in Pakistan. How can we adjust for this problem?

Fourth, the paper reports a decline in the poverty rates in Balochistan. But no explanation is given except for the migration of population to other areas. However, in the absence of a population census this information does not seem reliable.

Fifth, the paper states that poverty rates are going down among children aged less than 10-years old. What are the implications of this statement? Does this mean that children are better fed now?

Sixth, what is the definition of needs?

Seventh, in Section V the authors mention that poverty rates are higher for small households if we use the modified OECD scales. However in Section I the