Research on Poverty Statistics in Pakistan
Some Sensitivity Analyses

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I. INTRODUCTION

In the past, studies on poverty in a developing country like Pakistan have usually been based on an absolute (e. g. basic needs) concept of poverty see, e. g., Naseem (1977); Irfan and Amjad (1984); Ercelawn (1990) and Malik (1992). In this paper[1] we will state the case for using relative poverty thresholds, and present poverty statistics for Pakistan based on data from the Household Income and Expenditure Survey (1987-88). [Government of Pakistan (1988)]. The paper will also show the consequences of different choices in the assessment of the poverty threshold. In particular, instead of using one rather steep equivalence scale, as is the common practice in most studies, we will present poverty statistics based on three different equivalence scales. The effects of choices with respect to the concept of resources and the measure of poverty, will also be examined.

After a discussion of the concept of poverty (Section II), we compare the size and composition of the poor population using three relative poverty lines in Section III. In Section IV we present a number of sensitivity analyses, which show the effects of using different equivalence scales, using different indicators of household resources (income or total expenditures), and using measures of poverty different from the Head-count measure. The poverty incidence differentiated according to household characteristics is further analysed by means of cross-classification and logit analysis in Section V. Section VI presents some general conclusions.

II. THE CONCEPT AND MEASUREMENT OF POVERTY

In order to analyse poverty in a certain community the first step is to define the concept of poverty. The literature on poverty distinguishes three kinds of poverty definitions, viz. absolute definitions, relative definitions, and subjective definitions of poverty see, e.g., Hagenaars (1986); de Vos (1991). According to absolute

definitions of poverty, someone is poor if he is below a certain threshold–e.g., the income necessary to acquire a certain basket of basic needs–which is constant over time and place. As mentioned above, this is a very common approach in studies on poverty in developing countries. However, in practice absolute thresholds usually cannot withstand the pressures of changing circumstances and are not as absolute as the term would appear to imply.

Relative definitions of poverty are based on the notion that poverty is a situation in which one cannot take part in the ordinary way of life of the community one is living in. Subjective definitions, finally, base the poverty threshold on the subjective opinions of the members of the population.[2]

It can be 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 society one is studying. As hunger and starvation are exceptional situations in Pakistan, it can therefore be maintained that the relevant poverty concept for Pakistan is relative too.[3] 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.

A second classification of poverty definitions in the literature is the one between 'direct' and 'income' definitions see, e.g., Sen (1981). According to direct definitions poverty is a situation in which the minimal level of living *is* not reached while according to income definitions poverty implies that resources are so low that the minimal level of living *cannot* be reached. 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, because the income data in the HIES are considered less reliable see, e.g., Ahmad and Ludlow (1989) and Havinga *et al.* (1990).

We will present poverty statistics for households and persons. However, we use total household expenditures to assess the poverty status of the household members, because these data are available on the household level only. This implies that we do not take possible intra-household inequality into account.

To compare households of different size and composition we make use of equivalence scales: the poverty line is fixed at a percentage of average expenditures per equivalent adult. Contrary to other poverty studies, in which results are usually based on only one equivalence scale, or even on per capita values, we present the

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[2]One subjective approach is based on the answers to the Income Evaluation Question developed by van Praag (1968). See, e.g., Hagenaars (1986).

[3]Burki (1988) argues that there is conclusive evidence that Pakistan has succeeded in eliminating the worst forms of absolute poverty and that it therefore should be classified in a different league from other developing countries of South Asia.

consequences of using three different equivalence scales. In this way we can check to what extent the concentration of poverty in large households usually found for Pakistan can be attributed to the choice of the equivalence scales.

The first equivalence scale we use is the equivalence scale originally devised by the OECD (1982), which implies that for every additional adult and for every child younger than 14 a household needs 0.7 and 0.5 times the resources of the first adult, respectively, to be on the same welfare level. We also include results based on a modification of the OECD scale which assumes that the relevant coefficients are 0.5 and 0.3. This scale has been used earlier in a study of poverty in the European Community see Hagenaars, de Vos and Zaidi (1992). The coefficients may be too low for a developing country like Pakistan, where economies of scale may be less high. The third equivalence scale for which we present results has been used earlier for Pakistan by Wasay (1977) and Havinga *et al.* (1990). It implies that every additional adult earner needs 1.0 times the resources of the first adult, while for each dependent adult and each child the comparable coefficients are 0.8 and 0.7, respectively. This scale is clearly steeper than the OECD scale.

Thus, we will present poverty statistics based on a poverty threshold fixed at certain percentages (50, 66.7 and 75 percent)[4] of average equivalent expenditures, using three different equivalence scales. The definition of total expenditures which we use also includes imputed rent, income in kind and self-supplied goods. Despite the doubts on the reliability of the income data we will also present poverty statistics based on income as a measure of resources. Here, imputed rent, income in kind and self-supplied goods are also included.

The measure of poverty which is used throughout this paper is the poverty percentage or Head-count ratio. This poverty measure does not take into account that not every poor household is equally poor. Therefore, we also add a table with results of different poverty measures, viz. the average poverty gap and the index of Foster, Greer and Thorbecke (1984).

III. POVERTY INCIDENCE IN PAKISTAN (1987-88)

Table A.1 gives the average equivalent expenditures and poverty rates based on the poverty thresholds fixed at 50 percent, 66.7 percent and 75 percent of average equivalent expenditures for different socio-economic classifications, along with the composition of the total population and the population of poor according to the 66.7 percent threshold. The average equivalent expenditures amount to Rs 551 per month. Based on a poverty line drawn at 50, 66.7 and 75 percent of this amount, 10.7, 31.2 and 41.9 percent of all households are poor. As expected, the choice of the threshold percentage is crucial in determining the size of the poor population.

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[4]In itself, these percentages are arbitrary. The resulting poverty lines are fairly close to poverty lines based on absolute poverty concepts see, e.g., Malik (1992). A difference is that we use common poverty lines for the whole of Pakistan, implicitly assuming that the country may be viewed as one community (for an argument see Zaidi (1992).

1. Poverty in Terms of Households

In this section, we will summarise the detailed results, focusing on the poverty population according to the 66.7 percent threshold. Next, we will check whether the conclusions about the composition of the poor population are notably affected when we use the other poverty thresholds. First, we analyse the results for households.

The first classification, based on the *occupation of the head*, shows the highest poverty rate and lowest average equivalent expenditures for households headed by labourers in transport and construction. The largest group of poor in this classification consists of households headed by workers in agriculture, followed by households headed by workers in transport and construction. These two groups together represent 60 percent of the poor population as against about 52 percent of the total population.

The next classification, *employment status of the head*, shows that households with heads classified as self-employed have the highest poverty rate and the lowest average equivalent expenditures. Almost 70 percent of all poor households are headed by self-employed persons. This confirms the results of the first classification, since more than two-thirds of the self-employed households belong to the two groups identified as high poverty groups there. Contrary to the expectations, the poverty rates of households with unemployed and inactive heads are relatively low. This may be due to the fact that the head of household is not necessarily the person who contributes most to household income, but the person who is considered as the head by the members of the household.

The breakdown according to *household size* confirms the result of previous studies that poverty in Pakistan is relatively widespread in large households. In Section IV we will check to what extent this result can be attributed to the choice of the equivalence scales. The classification according to the *number of earners* shows that the poverty rate increases with the number of earners, a result which is probably related to the high poverty rates in large households. The classification, based on the *age of the head*, shows that poverty is widespread among all the age groups. Contrary to results in many developed countries, the elderly do not appear to be a particular risk group.

The classification according to *Province* yields the highest poverty rate (34.4 percent) for the largest province, Punjab, and the lowest (21.7 percent) for Balochistan. Remarkably, the average equivalent expenditures in the latter province are also the lowest, implying that inequality is clearly lowest in this part of Pakistan. Moreover, there is a clear difference between the poverty rates of the. *urban* and *rural* parts of the population: the poverty rates in rural and urban areas are 36.1 and 18.1 percent, respectively. About 72 percent of all households and 84 percent of all poor households live in rural areas. In Section V, we will analyse in detail the differences in group-specific poverty between rural and urban areas. Poverty notably decreases with the *level of education* of the heads of household. Almost 70 percent of all households and almost 80 percent of all poor households

have a head with less than primary education. Looking at the 50 percent and 75 percent threshold, it can be concluded that the groups with high poverty rates are the same as those according to the 66.7 percent thresholds in all classifications. There are only a few slight changes in the ranking of the different groups.

In summary, it can be concluded that poverty is relatively widespread for 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 and households with heads with less than primary education. Further analysis in Section V would show which of these characteristics of these overlapping groups can be seen to be decisive in increasing the chances of poverty.

2. Poverty in Terms of Persons

The overall poverty rates in terms of persons increase from 12.6 percent to 35.1 percent and 46.4 percent of all persons when the poverty line changes from 50 percent to 66.7 percent and 75 percent of the average equivalent expenditures. The fact that these percentages are clearly higher than the corresponding figures for households confirms that the poverty rate is relatively high among large households.

If we concentrate on the 66.7 percent threshold, we see that, differentiated according to the *age* of the persons, the poverty rate is relatively high among children (age 13 or less). The poverty rates in the other age groups are all below the average, but nowhere lower than 29.1 percent. Again, it appears that the elderly are not a particular risk group for poverty in Pakistan. The next two classification, based on *employment status* and *sex* of the persons, show only marginal differences between average equivalent expenditures and poverty rates. The results for the 50 and 75 percent threshold again leave the conclusions drawn from the 66.7 percent threshold intact.

IV. SOME SENSITIVITY ANALYSES

1. Using Alternative Equivalence Scales

Average equivalent expenditures increase from Rs 551 to 739 per month when the modified OECD scale is used instead of the original OECD scale (see Table A.2). The overall poverty rate according to the 66.7 percent threshold increases only slightly (from 31.2 to 31.9 percent). Because equivalent expenditures increase more for large households than for small households (in fact, for single person they remain the same), poverty will show a shift to smaller households as a result of using this less steep equivalence scale. Indeed we see that the poverty rates increase for households with up to 6 persons, but decrease for households with 7 persons or more. However, it should be noted that large households still have poverty rates above the average. Thus, the conclusions with respect to the risk groups do not change. To a certain extent this might be expected because of the fact that small households make up only a small part of the population in Pakistan.

As a result of the shift of poverty to smaller households, the poverty rates broken down according to the other classifications are also slightly affected. Still, in all cases the groups identified as risk groups by the poverty threshold using the original OECD scale remain the same.

In terms of persons the poverty rate according to the 66.7 percent threshold decreases from 35.1 percent to 33.9 percent. From the decomposition according to *age* categories it can be seen that this decrease chiefly affects the poverty percentages for children. The groups of persons aged 50 to 59 and 60 and older, apparently overrepresented in smaller households, face a slight increase in their poverty rates. Still, children younger than 14 remain the only age group with poverty rates above the average. The decrease in the poverty rates for children also affects the poverty rate for non-working persons.

When, we apply the steeper scale of Wasay, the above results are reversed. Average equivalent expenditures decrease from Rs 551 to 445 per month and the poverty rate according to the 66.7 percent threshold decreases slightly from 31.2 to 30.7 percent (see Table A.3). Poverty rates decrease for households with up to 6 members and increase for households with 7 or more members. As a consequence, the result that large household groups are the risk groups becomes even more obvious.

As a result of the moderate shift of poverty to larger households, the poverty rates differentiated according to the other classifications again change slightly Again the risk groups remain those which were already indicated by the poverty threshold using the OECD scale.

In terms of persons the poverty rate according to the 66.7 percent threshold increases from 35.1 percent to 36.2 percent. The decomposition according to *age* categories yields increasing poverty percentages for children and decreasing poverty rates for the groups of persons aged 50 to 59 and of 60 and older.

All in all, from this sensitivity analysis we may conclude that the equivalence scales in question yield marginally different poverty rates and only slightly affect the composition of the population of poor in Pakistan.

2. Using Income Instead of Expenditures

The next sensitivity analysis concerns the use of income instead of expenditures as indicator of household resources. A concern about the underreporting of income arises immediately by the discrepancy between the average income and average expenditures. The distribution of this discrepancy determines how the poverty rate is affected: if it is higher in low income groups, the poverty rate is overestimated, and vice versa. Table A.4 shows that about 29 percent of all households are poor when the poverty line is drawn at 66.7 percent of average equivalent income, which is 2 percent lower than the corresponding expenditure-based poverty rate. A similar difference is found for the 50 percent and 75 percent cut-offs. The result that both the average and the poverty rate are lower for income

implies a greater underestimation of income for the higher income groups. Burki (1988) also suspects this type of sampling error in the HIES data.

The income-based poverty rates are also lower in all socio-economic groups, except for households headed by an employer and households with a single earner. Still, the risk groups remain the same as those of the expenditure-based poverty lines. Poverty in terms of persons also decreases with almost 2 percent, but the composition according to *age, sex* and *employment status* is only marginally affected.

One important advantage of having access to micro-data is that we identify the households who are poor by both the expenditure- and the income-based poverty lines, and those who are poor by only one of these poverty lines. For Pakistan, the percentage of households who are poor according to both 66.7 percent poverty lines reduces to 25.7 percent (see Table A.5). This shows that 5.4 percent of the households are spending less than 66.7 percent of the average equivalent expenditures and earning more than 66.7 percent of the average equivalent income. The reverse holds for 3.4 percent of all households. The household groups which show the highest poverty rates according to both income and expenditures poverty lines remain the same as those identified in Section III.

The poverty rates in terms of persons show that children (age 13 or less) remain a high poverty group if we define poverty based on both expenditures and income. For all groups, the poverty rates for the expenditure-based poverty line only is higher than that of income-based poverty line only.

3. Other Poverty Measures

The next sensitivity analysis shows the poverty intensity in Pakistan by using two different measures or indices of poverty: the average poverty gap and the index of Foster, Greer and Thorbecke (1984) (taking $\alpha = 2$). The poverty gap reflects the average difference between the resources of the poor and the poverty line, while the FGT-index presents the average squared difference, by which it takes into account the distribution of the resources of the poor.

Table A.6 presents the average poverty gap and the FGT-index for the country as a whole and for different household groups using the 66.7 percent cut-off. From the overall poverty gap, it can be seen that on average the equivalent expenditures of the poor are about 20 percent below the poverty line. The household groups identified as high poverty groups on the basis of the Head-count measure remain the same, implying that poverty is not only more widespread but also it is more serious in certain groups. One notable exception is that the households with unemployed heads have the highest poverty gap, whereas households with self-employed heads have the highest poverty rate.

In contrast to the average poverty gap, the FGT-indices are computed over all households. Again, except for households with unemployed heads, the risk groups

as identified by the Head-count measure remain unchanged. However, in some cases the relative positions of the groups change.

From the decomposition of the average poverty gap and the FGT-index, we find that the share of the high poverty groups increases compared to their share according to the Head-count measure. This is another indication that poverty in certain groups is not only more wide-spread but also more severe. The only exception is the group of households with self-employed heads in which the poverty intensity is relatively low.

In terms of persons, the poverty intensity as shown by both the average poverty gap and the FGT-index is above average for children of age 13 or less. The same is true for non-working persons. The decompositions of both these indices show an increase in the share of children in the poor population.

V. SOME FURTHER ANALYSIS

Upto now we have shown the prominent features of the poor population by using the classifications based on single characteristics of the households. This section seeks to find out more about the poor with the help of cross-classifications of the households and multivariate analysis. We will present results for the poverty line fixed at 66.7 percent of the average equivalent expenditures only.

1. Results of Two-way Classifications

Table A.7 shows that in Pakistan more than 70 percent of the total population live in rural households. One of the most notable result of Section III is that the poverty rate for households living in these areas is almost double the poverty rate in urban areas. This result is a clear illustration of the fact that poverty is more widespread in rural areas of Pakistan. In this section, we will further investigate this characteristic of the poor households by first distinguishing between the households living in rural areas and those living in urban areas. The results will show to what extent poverty in different groups may be attributed to the rural/urban distinction. However, one should keep in mind that for this result we do not differentiate between the cost of living of urban and rural areas.

The cross-classification with respect to the other characteristics also shows analogous differences in the poverty rates. The most striking is the result that the poverty rate is almost 30 percent higher for the households living in rural Sindh compared to those living in urban Sindh. In brief, with some exceptions the groups identified as the high poverty groups remain the same irrespective of whether they are living in rural or urban areas. Looking at poverty statistics for persons, we find that almost 41 percent of all persons living in rural areas are poor, as against almost 22 percent for urban areas. The poverty rate remains relatively high for children in both urban and rural areas.

Like most other studies in the past, so far we have not taken into account the possibility that the purchasing power of the monetary resources in the rural areas

may be somewhat higher than that in the urban areas. Since the estimation of the relevant purchasing power parity is beyond the scope of this paper, we make the rough approximation that every unit of money is worth 10 percent more for rural households compared to urban households for all levels of expenditures. With this approximation, we can check how the poverty statistics would be affected when we do take into account the differences in the purchasing power. Table A.8 presents the same statistics as presented in Table A.7, but with the additional assumption about the differences in the purchasing power. The results show that although the relative size of the poor population in the two areas is affected, the composition of the poor population with respect to the other characteristics remains largely unchanged. Since this exercise is based on a rough approximation, the results should be interpreted with caution.

2. Results of the Logit Model

Probability models, such as the Logit model, are used to predict the probability of the occurrence of an event and to identify the variables which are significant in determining this occurrence. In poverty analysis these models can reveal what characteristics of the households are significant in determining the poverty status of a household. The probability models provide an improvement over the decomposition exercise since they show the effect on poverty attributed to a change in a single characteristic of a household.[5] In the following paragraphs, we will discuss the results of the logit model using explanatory variables based on the *employment status of the head, household size, age of the head, provinces, type of community* and *educational attainment of the head* classifications. On the basis of the results of the two-way classification, we have also used interaction terms which show whether living in a rural area has an additional impact on the poverty probability of households living in the four different provinces. Table A.9 presents all the variables and their estimated coefficients included in the model. We only discuss the results of the variables found statistically significant at a 0.05 level of significance. The fact that a large number of coefficients are significant shows the plausibility of the model.

The classification according to *employment status of the head* shows that the households with heads as employers have a lower poverty probability compared to households headed by a self-employed person (the reference group), given that all other characteristics remain unchanged. The same holds for the households whose heads are inactive. The households whose heads are employees have a higher probability to be poor in comparison to the reference category. The first two results are very much in line with the results of the decomposition exercise, the third result, however, shows some differences. This may be due to the fact that the employee households have some other characteristics which keeps their poverty rate relatively

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[5]For a more detailed discussion on the topic, we refer to the paper "Probability Models in Poverty Analysis" [Zaidi and de Vos (1992)].

low, but when in the Logit model these other characteristics are kept unchanged they show a greater probability to be poor compared to households with self-employed heads.

The *household size* classification shows that it is more likely that a household is poor when there are more members in the family (again keeping the other characteristics of the household constant). The classification *age* of head of household shows that the poverty probability of a household whose head is aged 50 or more decreases significantly in comparison to households whose head is aged between 40 and 49, the other characteristics not changing. The poverty probability increases for households with heads younger than 40. These results lead to the same conclusions as given by the decomposition exercise.

The classification *province* shows that all provinces have statistically significant coefficients. The negative sign for all the coefficients shows that in comparison to the household living in Punjab, the households living in all other provinces have a lower poverty probability. Again, these results confirm the findings of the one-way classifications. From the classification, based on *type of community*, we find that the coefficient of the variable for the urban areas is also significant. This implies that living in urban areas is a factor which would independently reduce the chances of poverty, keeping all other characteristics constant. The *education of the head* classification confirms the results of the one-way classification that the households whose heads had primary or more education have a lower poverty probability compared to those whose heads had less than primary education.

Table A.8 also shows that all three interaction terms are statistically significant. The first significant coefficient shows that the poverty probability increases for the households living in rural Sindh. Notably, this effect on the poverty probability is attributed to this distinctive combination of household characteristics, in addition to the separate effects of being a rural household and living in the province of Sindh. The same result is found for Balochistan. However, for NWFP the coefficient is negative, which implies that this distinctive combination reduces the poverty probability. All in all, we find that the Logit model identifies the same characteristics of the households in affecting the poverty probability by the decomposition exercise of Section III.

VI. SOME CONCLUSIONS

In this 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 a common phenomenon in Pakistan, we make a case for poverty to be viewed as a relative concept. Therefore, we operationalise the concept of poverty by using poverty lines which are defined as a certain percentage of the national average. Next to this, we have made some other choices, such as the use of expenditures to measure household resources and the application of the OECD equivalence scale. A major part of the paper consists of showing the

sensitivity of poverty statistics to these choices. The general conclusion is that, given a large family size for a vast majority of the households, the level of poverty and the composition of the poor population are not much affected by the choice of the equivalence scales. Moreover, the risk groups as identified by using total expenditures remain unchanged when we use income. We have also calculated some other measures of poverty to show some other aspects of poverty, in particular the distribution of resources within the poor population. We find that the household groups with less educated heads, rural households and household living in Punjab are not only relatively often poor, but poverty in these households is also more severe.

A further contribution of this paper concerns the use of probability models (viz. the Logit model) to determine the household characteristics which are significant in the determination of the poverty status of the households. The results of this model show that with one or two exceptions the results of the one-way classifications are confirmed.

For some policy implications we would like to draw attention to one important finding of this paper. The households with heads in paid employment, in particular self-employed households, are more often poor than the households whose heads are unemployed or inactive. This shows that it is not the absence from the labour market which makes people poor, but that their activities do not earn them enough to escape poverty. In this respect, we would agree with De Tray (1989) that the 'poverty alleviation programmes should concentrate on the income-generating potential of the poor', with a particular attention to the self-employed. Some other findings of this paper, such as that a large proportion of households have heads with no education, also support such a policy objective since, households with more educated heads have a lower probability to be poor. The creation of human capital would increase the productivity of the poor, and it may be the most effective indirect way of addressing the problem of poverty see, for instance, World Bank (1990) and Danzinger *et al.* (1986).

REFERENCES

Ahmed, E., and S. Ludlow (1989) Poverty Inequality and Growth in Pakistan. *The Pakistan Development Review* 28:4 Part II.

Atkinson, A. B. (1991) Comparing Poverty Rates Internationally: Lessons from Recent Studies in Developed Countries. *The World Bank Economic Review* 5:1 3–21

Burki, S. J. (1988) Poverty in Pakistan: Myth or Reality. In T. N. Srinivasan and P. Bardhan (eds) *Rural Poverty in South Asia.* New York: Columbia Press.

De Tray, D. (1989) Reducing Poverty in Developing Countries–Some Basic Principles for Policy Design. *The Pakistan Development Review* 28:4 Part I.

De Vos, K. (1991) Micro-economic Definitions of Poverty Dissertation. Rotter-
   dam: Erasmus University. Danzinger, S. H. and D. H. Weisberg (1986) *Fighting
   Poverty*. Harvard University Press, U.S.A.

Ercelawn, A. A. (1990) Absolute Poverty in Pakistan; Poverty Lines, Incidence and
   Intensity. Karachi: Applied Economic Research Centre, University of Karachi.
   (Draft Paper.)

Foster, J., J. Greer and E. Thorbecke (1984) A Class of Decomposable Poverty
   Measures. *Econometrica* 52:761–767.

Hagenaars, A. J. M. (1986) *The Perception of Poverty*. Amsterdam: North Holland.

Hagenaars, A. J. M., and K. de Vos (1988) The Definition and Measurement of
   Poverty. *The Journal of Human Resources* 23:2.

Hagenaars, A. J. M., K. de Vos and M. A. Zaidi (1992) Poverty Statistics Based on
   Micro-data: Results for Nine Member State of the European Community. Report
   submitted to the Statistical Office of the European Community (Eurostat), Doc.
   No. POV. 50/92, Luxembourg.

Havinga, I. C., F. Haanappel and A. Louter (1990) Poverty and Inequality in
   Pakistan,1984–85. In R. Teekens and B. M. S. Van Praag (eds) *Analyzing
   Poverty in the European Community*. Luxembourg: Eurostat News Special
   Edition.

Irfan, M., and R. Amjad (1984) Poverty in Rural Pakistan. In A. Rehman and Eddy
   Lee (eds) *Poverty in Rural Asia*. Bangkok: ILO, Asian Employment Programme
   (ARTEP).

Malik, S.J. (1992) Rural Poverty in Pakistan: Some Recent Evidence. *The Pakistan
   Development Review* 31:4 Part II.

Naseem, S. M. (1977) Rural Poverty and Landlessness in Pakistan. Poverty and
   Landlessness in Rural Asia. Geneva: ILO.

OECD (1982) The OECD List of Social Indicators. Paris: Organization for
   Economic Cooperation and Development.

Pakistan, Government of (1988) *Household Income and Expenditure Survey 1987–
   88*. Karachi: Federal Bureau of Statistics.

Sen, A. K. (1981) *Poverty and Famines: An Essay on Entitlement and Deprivation*
   New York: Clarendom Press.

Teekens, R., and M. A. Zaidi (1990) *Relative and Absolute Poverty in the
   European Community: Results from Family Budget Surveys*. In R. Teekens and
   B. M. S. Van Praag (eds) *Analyzing Poverty in the European Community*.
   Luxembourg: Eurostat News Special Edition.

Van Praag, B. M. S. (1968) Individual Welfare Functions and Consumer
   Behaviour. Amsterdam: North Holland.

Wasay, A. (1977) An Urban Poverty Line Estimate. *The Pakistan Development
   Review* 16:1.

World Bank (1990) Poverty. *World Develpment Report 1990*. Washington, D.C.

Zaidi, M. A. (1992) Relative Poverty in Pakistan: An Estimation from the Household Income and Expenditure Survey (1984–85). *The Pakistan Development Review* 31:4 Part II.

Zaidi, M. A., and K. De Vos (1992) Probability Models in Poverty Analysis. Discussion paper, Department of Economic Sociology and Psychology, Erasmus University, Rotterdam.

Comments on
"Research on Poverty Statistics in Pakistan: Some Sensitivity Analyses"

In the present study the authors have departed from traditional poverty estimation based on an absolute threshold level and have focused on a relative concept of poverty. The argument given for this is that starvation and hunger are no longer a common phenomenon in Pakistan. The data used have been drawn from the Household Income and Expenditure Survey of 1987-88.

Based on the different equivalence scales, the authors have fixed poverty lines at 50, 66.7 and 75 percent of average equivalent expenditures and incomes and used these to compute the head count, poverty gap and the Foster, Greer and Thorbecke indexes to measure poverty.

The analysis of poverty has been fairly decomposed at a disaggregated level and extended analysis to various socio-economic characteristics of household and persons. The household with self-employed heads, households whose heads are labourers in transport and construction, households with nine or ten members, living in the province of Punjab, the rural households and the households with heads with less than primary education are identified as the "at-risk" groups. Similar results were found while using income based poverty lines. I would like to draw the authors' attention to two unpublished dissertations submitted to the Department of Economics, Quaid-i-Azam University by Nazir and Mazhar that attempt a similar analysis using the absolute poverty concept. It would be interesting to compare the results.

I have several minor observations on this paper which are listed below:

No doubt, the relative poverty concept is used where starvation and hunger is absent (developed countries case) and where the problem is only the degree of inequality. The statement that starvation and hunger is not a common phenomenon in Pakistan, is a very strong statement based largely on the available data. The data that describe poverty in LDCs, are very weak. Estimates of household or personal income typically come from surveys designed for other purposes. Common problems include inadequate sample design, especially incomplete coverage of the very rich and or the very poor and also misreporting. In the case of Pakistan, the Household Income and Expenditure Survey (HIES) data have relatively incomplete coverage of the poorest household. More important is the fact that the HIES does not cover at all that section of the poor population that is not resident in a permanent abode. The tenant eviction in rural areas, migration of displaced persons to urban areas and the growth of shifting urban slums and people living on charity, which comprise the poorest sections of society are beyond the coverage of the HIES sample survey. Hence, analysis based on HIES data of relative poverty may be

biased downward [see Hussain (1992), p. 20]. In view of the above poverty estimation based on absolute poverty threshold is still a useful concept in the case of Pakistan.

On page 1 of the paper the authors are of the view that in practice absolute poverty threshold usually cannot withstand the pressures of changing circumstances. However, we should point out that capturing the pressures of changing circumstances would be possible if time series data are under consideration, while, the authors are using cross section data.

The authors have used different percentages of the total equivalent expenditures for the poverty threshold. These are totally arbitrary, as the authors themselves state. Subsequent research can use other percentages as the threshold. So over time the comparability of the results especially with the existing studies on the topic is a serious issue. The focus of the debate and its policy relevance in Pakistan is as much on estimation of poverty levels as it is on changes or trends in these.

The authors are of the view that although the threshold percentages are arbitrary, still the results are close to the results of Malik (1992), based on the absolute poverty line updated for 1987-88 from the one estimated by Ercelawn (1991) for the 1984-85 data. This finding is surprising and arises largely by chance through the choice of a threshold that yielded percentages close to those in the Malik (1992) study. There is no theoretical reason for the two to converge except the arbitrary choice of the thresholds by the study under review.

The authors of the study under review implicitly assume that the country is one community (see footnote 3), and, therefore, use the same threshold for the country as a whole. The fact is that, the living conditions and the environment conditions are different from region to region, from urban to rural sectors and from remote villages to cities. One would expect, therefore, that the average equivalent scales of total expenditures will be different in different regions. This is confirmed by the studies by Ercelawn (1991) and Malik (1992). The authors need to take explicit cognizance of this phenomenon.

The study, on the whole, is an interesting and useful addition to the body of literature on poverty in Pakistan. It extends the work by Akhtar (1988) which uses the relative poverty concept and which interestingly is not cited by the authors.

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REFERENCES

Akhtar, S. (1988) Poverty in Pakistan. Islamabad: World Bank. (Mimeographed).

Ercelawn, A. A. (1990) Absolute Poverty in Pakistan: Poverty Lines, Incidence, Intensity. Karachi: Applied Economics Research Centre, University of Karachi: (Draft Paper.)

Hussain, Akmal (1992) Poverty and Poverty Alleviation. Background paper prepared for Eight Five-Year Plan Committee on Economic and Social Well-being.

Malik, Sohail J. (1992) Poverty in Pakistan: 1984-85 and 1987-88. Washington, D.C.: International Food Policy Research Institute. July.