Chronic and Transitory Poverty in Pakistan: Evidence from a Longitudinal Household Survey

G. M. ARIF and FAIZ BILQUEES

This paper analyses the incidence of chronic and transitory poverty in Pakistan in both urban and rural settings. The findings are that rural poverty is severer and also chronic as compared to transitory poverty in urban centres. The main factor behind this phenomenon is the homogeneity of the rural set-up which affects the employment and wage levels adversely. On the other hand, in the urban areas, heterogeneous population with diverse occupations provides better employment and wage opportunities. Furthermore, illiteracy, landlessness, lack of ownership of dwellings, and dependency on sharecropping are the main factors accentuating rural poverty. The paper also analyses the *zakat* element of the safety net strategy. Contrary to the prevailing perception that *zakat* does not reach the actually poor, it turns out that in fact *zakat* has become an "identification mark" for the chronic poor. The findings of this paper have significant implications for the poverty reduction strategy of the Government of Pakistan.

JEL classification: I3, I32
Keywords: Poverty, Chronic Poverty, Household Surveys Longitudinal, Pakistan

1. INTRODUCTION

Generally, poverty has been conceptualised in 'material' terms such as low income or low levels of material wealth. However, more recently, lack of opportunities as well as vulnerability and deprivation of basic capabilities such as health and education have been included and emphasised as key aspects of poverty. Combinations of and interactions between material poverty, capability, deprivation, and vulnerability often characterise the poor [CPRC (2005)]. Poverty is, thus, not the outcome of a single factor; it is indeed a multi-dimensional phenomenon.

Similarly, poverty is not a static condition; rather, poor people tend to move into and out of poverty. However, many people remain in poverty for a long period, and this extended duration of the poverty status is the distinguishing feature of 'chronic poverty'. Chronically poor may have little access to productive assets and have low capabilities in terms of health, education, and social capital. In this context, living in poverty for long periods is not only a symptom of past deprivation, it is also the cause of future destitution.

The common assumption that the 'chronically poor' are much fewer than the 'transitory poor' has been challenged by the evidence presented in the Chronic Poverty

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Report 2004–05. Combining US$1/day poverty figures with the available panel data, the Report has estimated that out of the 1.2 billion people living in poverty in 134 countries approximately 25 to 33 percent of them are chronically poor. The Report has also shown that about one-third of the poor population in South Asia is chronically poor. For these estimations, the CPRC has taken the US$1/day poverty figures from the World Development Indicators 2003, which provides data for 80 countries. For missing countries, the CRPC assumes that they had the same proportions in poverty as the regional average. The available panel data were used in the Report to compute the proportion of chronically poor that is poor at two points in time. The estimates of chronic poverty, according to the CRPC, are liable to be underestimated [CPRC (2005)].

The analysis of chronic and transitory poverty focuses on the ways in which people's poverty status changes, or does not change over time. This type of analysis can provide useful guidelines for formulating policies to combat poverty. For example, 'chronic poverty' points to the need for more structural changes in existing policies such as education, health and land reforms that aim to permanently enhance the incomes and assets of the poor. 'Transitory poverty', on the other hand, may indicate that priority should be given to measures such as safety nets, credit and insurance schemes that are designed to smoothen the incomes (or consumption expenditures) of the poor around the poverty line.

Pakistan has recently been able to reduce poverty by 10 percentage points, from 34.5 percent in 2000-01 to 23.9 percent in 2004-05 [Pakistan (2006)]. However, like in other South Asian countries chronic poverty is a serious issue in Pakistan. This study shows the chronic poverty was 22 percent in 2001 while Dorosh and Malik (2007) show a much higher percentage of chronic poor. No panel data is available for the more recent period. It is likely that a considerable proportion of the present stock of the poor in Pakistan is in the state of chronic poverty.

The focus of the government of Pakistan on poverty reduction since 1999 has opened a window of opportunity to ensure that the social and economic causes and consequences of transitory as well as chronic poverty are better understood by policy-makers. This paper is likely to contribute to this understanding; particularly what it means to be chronically or transitorily poor, what are the underlying social processes that result in poverty, and what is required to deal with these poverty groups?

Poverty dynamics can best be examined by the panel datasets, and in Pakistan the IFPRI panel which tracked about 700 households from rural Pakistan (four districts only) between 1986 and 1991,[1] has been the single major data source for research on poverty dynamics in Pakistan until late nineties. However, it is hard to generalise the findings of these studies, based on the sample of four districts only. A more recent panel data set titled the Pakistan Socio-economic Survey (PSES) is provided by the Pakistan Institute of Development Economics (PIDE) is based on a large sample of 3564 households, carried out in 1998-99, and is representative at the national level. These households were re-visited after two years in 2000-01. This study uses the PSES panel datasets to examine the determinants of chronic and transitory poverty in Pakistan.

The rest of the paper is organised as follows: Section 2 elaborates on the terms 'chronic' and 'transitory' poverty, this is followed by a brief description of the data

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[1]IFPRI stands for International Food Policy Research Institute. The four districts covered by the IFPRI panel were: Attock and Faisalabad in Punjab, Badin in Sindh and Dir in NWFP.

source and method of analysis in Section 3. The magnitude of chronic and transitory poverty is reported in Section 4. Results of the multinomial logit model showing the correlates of poverty dynamics are presented in Section 5. The final section lists the main findings of the study and provides some plausible recommendations based on these findings.

2. DEFINING CHRONIC AND TRANSITORY POVERTY

The Chronic Poverty Report 2004-05 lists five main categories of change in the poverty status as: (1) the always poor, whose poverty score in each period is below a defined poverty line; (2) the usually poor, whose mean poverty score over all periods is less than the poverty line, but who are not poor in every period if the survey covers several rounds; (3) the fluctuating poor, who are poor in some periods but not in others, and have a mean poverty score around the poverty line; (4) the occasionally poor, who have experienced at least one period in poverty, although their mean poverty score is above the poverty line; and (5) the non-poor with poverty scores in all periods above the poverty line. The first two categories (always poor and usually poor) characterise the chronically poor, while 'transitory poverty' comprises of the third and fourth categories (fluctuating poor and occasionally poor) [CPRC (2005)]. This study has followed this categorisation, however, since the study is based on the two rounds of the PSES (1998-99 and 2000-01), four categories of change in the poverty status are possible between these two rounds: (i) poor in both rounds of the PSES or 'always poor', (ii) poor in round-I and non-poor in round-II (moved out of poverty), (iii) non-poor in round-I and poor in round-II (moved into poverty), and (iv) non-poor in both rounds. In the present study, the first category, 'always poor' is considered as the 'chronic poverty' or 'chronically poor', while movement into or out of poverty between the two rounds is considered as the 'transitory poverty' or 'transitorily poor'. Three broad categories—'chronically poor', 'transitory poor' and 'always non-poor'—have been used in the study in a dynamic sense to describe change in the poverty status between the two rounds of PSES (1998-99 and 2000-01).

There is also a need to make a distinction between the concepts of 'severity of poverty' and 'chronic poverty'. The former is a static concept and refers to the shortfall below the poverty line. Poverty severity therefore captures the fact that the poor are not equally poor to the same level: some people are slightly below the poverty line, while others are far below it. The latter captures the change, if any, in poverty status over time. Some of the poor are poor for a short period of time (the transitory poor) while others are poor for long periods (the chronically poor). Poverty 'chronicity' is therefore a longitudinal concept, referring to persistence in poverty. However, it is intuitively plausible that it is much harder for someone who is well below a poverty line to advance far above it than for someone who is closer to it [CPRC (2005)].

3. DATA SOURCE AND METHODOLOGY

3.1. Data Source

As pointed out earlier, the data for this study are taken from the PSES, a panel survey of individuals and households. It has been designed to document Pakistan's social and economic transformation through the combination of retrospective data collection

and prospective panel. The PSES was financed by the International Development Research Centre (IDRC), Canada, under the Micro Impacts of Macro Adjustment Policies (MIMAP) project. The survey was supervised by researchers at PIDE. The baseline of the PSES (or Round I) was fielded in 1998-99 to 3564 households in rural as well as urban areas. The second round of PSES was fielded approximately two years later in 2000-01; the same households/individuals who were interviewed in the PSES-I of 1998-99 were traced and re-interviewed in 2000-01.[2]

The overall attrition rate between the two rounds was 22.2 percent, leaving the panel sample of 2774 in 2000-01 (Table 1). There is no major difference between rural and urban sub-samples in terms of attrition rate, although it is slightly higher in the latter (Table 1). However, it varies considerably across the provinces, being lowest, only 15.5 percent in Punjab and highest in NWFP, 33 percent. In other two provinces, Sindh and Balochistan, attrition rates were also high, around 29 percent. Arif and Bilquees (2006) list four main reasons for the attrition of the PSES sample households; migration of entire households from their original places of residence, refusal of the respondents to be part of the panel, exclusion of PSUs from the sample because of unrest in the NWFP and Balochistan after September 11, 2001 and deterioration of law and order situation in Sindh. In a comprehensive analysis, they also show that the attrition in PSES was to some extent selective on many attributes of respondents. Factors associated with mobility such as small family size, non-ownership of dwelling units were associated with households which either moved out of the original place of residence or could not be tracked in PSES-II.[3]

Table 1

1998 Sample of the PSES-I, Attrition Rate, Reasons for Attrition,
and 2000-01 Panel Sample of PSES-II

PSES Panel/Attrition	All sample	Rural areas	Urban areas	Province			
				Punjab	Sindh	NWFP	Balochistan
PSES-I (the 1998-99 Sample Households)	3564	2268	1296	1952	848	508	256
PSES-II (2000-01 Sample-Panel Households)	2774	1789	985	1650	604	338	182
Attrition Rate between 1998-99 and 2000-01 Rounds (%)	22.2	21.1	24	15.5	28.8	33.4	29.1
Reasons for Attrition (Only for Attriting Households)							
All	100	100	100	100	100	100	100
Dropped from the PSES II Sample	21.6	32.5	5	10.3	33.1	21.4	32.9
Moved Out of the PSU	26.4	17.1	40.6	28.6	29.3	22	19.2
Household not Found	22.8	19.8	27.4	18	35.1	14.9	21.9
Others	29.2	30.6	27	43.1	2.5	41.7	26

Source: Arif and Bilquees (2006).

Attrition was also highest among the lowest resource households, as measured in per capita expenditure, a situation similar to other recent work [Dorosh and Malik (2007)]. However, Arif and Bilquees (2006) could not find significant differences between the set of coefficients for attritors versus non-attritors for indicators of interest, particularly consumption and poverty; the coefficient estimates of standard background

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[2]For details on the sample designs of PSES-I and PSES-II, see Arif, *et al.* (2001) and Arif and Bilquees (2006), respectively.

[3]Urban attrition is higher because many families live in rented accommodations which are generally temporary contracts, and over time they have tend to move out to places they can afford the rent.

variables are not affected by sample attrition. They concluded that, like many other panel datasets in developed and developing countries, attrition of more than 20 percent sample of the PSES is not a pervasive problem for obtaining consistent estimates.[4]

One major limitation of the panel data used for this study is the short duration of two years between the two rounds of the survey. Poverty dynamics are greatly influenced by significant changes in the macro picture over many more years.

3.2. Methodology

For the 1998-99 round this study uses the poverty lines estimated by Qureshi and Arif (2001). For the second round (2000-01), these lines were adjusted by the Consumer Price Index (CPI). Qureshi and Arif used the Food Energy Intake (FEI) method to compute separate poverty lines for both rural and urban areas. The cost of food component of this basket was equal to the food poverty line determined by estimating the cost of food consistent with a calorie intake of 2550 per adult equivalent per day for rural areas and 2295 calories per adult equivalent for urban areas.[5] For the cost of non-food elements of the basket, it was assumed that those households whose food expenditures were equal to the food poverty line would also satisfy their other basic needs. The average expenditure of these households on non-food components of the basket was taken as the estimated cost of non-food items. The non-food expenditures were added up in the food poverty line to get the overall poverty lines, as reported in Table 2. The total expenditures required at the household level to move out of poverty are also presented in this table. Provincial poverty lines, which could differ from the national line, have not been used in this study. The use of province-level lines is not common, at least, in Pakistan.

Table 2

Poverty Lines (Rs) for 1998-99, and 2000-01

Region	Poverty Lines (Per Capita)		Poverty Lines (Per Household*)	
	1998-99	2000-01	1998-99	2000-01
Rural Areas	672.50	706.31	4439	4874
Urban Areas	874.13	918.37	5874	6612

Source: Computed from the two rounds of PSES (1998-99 and 2000-01).
    *These lines are the multiplications of average household size with per capita poverty lines.

The PSES panel households are grouped into three categories—chronically poor, transitory poor and always non-poor—(as defined earlier in Section 2). Household poverty dynamics depend on many factors—the characteristics of the household itself, trends in the economy, society and physical environment, and recent events—both shocks and windfalls. This study has associated only household and individual (head of households) characteristics with poverty transition (or change in poverty status). Household is the unit of analysis. First, the magnitude of chronic and transitory poverty is

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[4]For more details, see Arif and Bilquees (2006).
[5]It is worth noting that the official poverty line adopted by the Planning Commission is based on a threshold of 2350 calories intake per adult equivalent per day for both rural and urban areas.

determined by analysing the data from two rounds of PSES. Then the multinomial logit technique is used to examine the socio-economic factors associated with the change in poverty status between these two rounds. All regressors are measured on 1998-99 basis.

4. MAGNITUDE OF CHRONIC AND TRANSITORY POVERTY

Table 3 sets out data on the change in poverty status of panel households between 1998-99 and 2000-01 for the overall sample as well as for rural and urban areas separately. Overall more than one-fifth of the households are chronically poor since they remained below the poverty line in 1998-99 and 2000-01. There is a marked difference between urban and rural areas in terms of chronicity of poverty; compared to only 12 percent in the former, 28 percent households in the latter are chronically poor. Similarly, there are more transitory poor in rural areas (33 percent) than in urban areas (22 percent). As defined earlier, the transitory poverty consists of households that either moved into or moved out of poverty between the two periods. Table 3 also shows the data for these two sub-categories separately. The number of households that moved into poverty between 1998-99 and 2000-01 resulted in a net increase in overall poverty. This finding is consistent with the other cross-section surveys such as the Pakistan Integrated Household Survey (PIHS), which has shown an increase in poverty between 1998-99 and 2001-02. Based on the longer period longitudinal data, 1991-2001, Dorosh and Malik (2007) have also shown a rise in overall poverty because of movement into poverty.

Table 3

Distribution (%) of Households by Change in Poverty Status between
Two Rounds 1998-99 and 2000-01, by Place of Residence in 1998-99 [6]

Change in Poverty Status between 1998-99 and 2000-01 Rounds	Place of Residence (1998-99)		
	Urban Areas	Rural Areas	All Areas
Chronically Poor	11.9	28.2	22.4
Transitory Poor	22.0	32.5	28.8
Enter into Poverty	12.6	18.9	16.7
Exit from Poverty	9.4	13.6	12.1
Always Non-poor	66.1	39.3	48.8
All Households (%)	100	100	100
N (Households)	970	1782	2752

Source: Computed from the two rounds of the PSES (1998-99 and 2000-01).

The net movement into poverty is witnessed in rural as well as urban areas. Table 3 shows that overall, approximately half of the households remained in the non-poor category in two periods—1998-99 and 2000-01. Rural-urban differentials are also evident in this category. Around two-third of the urban households remained in the non-poor category in two rounds of the PSES, whereas the corresponding percentage was only 39 percent for the rural households. It appears from these statistics that although in urban areas approximately one in every eighth household is chronically poor, the high

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[6]It may be noted that statistics reported in this table differ slightly from those reported in Arif (2004) because this data set is based on cleaned series.

percentage in non-poor status in two periods with chances of making transition from being poor to being non-poor, urban poverty in Pakistan can largely be considered as transitory in nature. Chronic poverty in Pakistan is basically a rural phenomenon.

As noted earlier, considerable analysis has been undertaken using the IFPRI rural panel datasets. The Chronic Poverty Report 2004-05 recently summarised the main findings of the IFPRI panel based studies, which are reproduced in Table 4. This table also shows results of two more studies carried out by Kurosaki (2002, 2003), based on a rural panel in NWFP. Results of a recent study based on IFPRI and Pakistan Rural Household Survey (PRHS) 2001 panels by Dorosh and Malik (2007) have also been added in the table. The IFPRI panel covers five years with several waves while Kurosaki's research in based on a two-wave panel, between 1996 and 1999. PRHS has revisited the IFPRI panel in 2001, thus providing information for a longer period—1986-87 to 2001.

Table 4

Different Approaches to Chronic Poverty in Rural Pakistan

Sample	Time-frame	Source	Poverty Line	Definition of Chronic Poverty	Proportion Chronically Poor
727 Households from IFPRI Rural Survey	1986-7-1988- (12 waves)	Adams and Jane (1995)	Poorest quintile (income)	Poorest quintile in all 3 years	6%
			Poorest quintile (expenditure)		10%
686 Household from IFPRI Rural Survey	1986-7-1990-1 (5 annual waves)	McCullough and Baluch (1998)		Poor at least 4 out of 5 periods	7%
				Poor in all 5 periods	3%
"	"	Baluch and McCullough (1999)	2100 Kcal/day – Rs 2000 (approximates poorest quintile); welfare measure real income per adult equivalent	Mean income over five years below poverty line	About 50% of households classified as poor in the first year
About 6% of households classified as non-poor in the first year
				Poor in all periods	5%
"	"	Baluch and McCullough (2000)		Mean income over five years below poverty line	26%
"	"	CPRC calculations		Poorest quintile in both 1986 and 1991	10.3%
"	1986-7-1990-1 (2 annual waves)	World Bank (2002)	Rs 2850	Mean expenditure level is below the poverty line	39.7% (northern irrigated plains 34.3%, barani plains 25.9%, dry mountains 46.7%, southern irrigated plains 46.4%)
299 Households from Rural NWFP Survey	1996-1999 (2 waves)	Kurosaki (2002)	Rs 7,140 (WB 1995 adjusted for rural CPI) (expenditure)		63.2%
		Kurosaki (2003)	Official national poverty line (expenditure)	Poor in both periods	43.7% – 58.3% (depending on; observed or fitted consumption values, poverty line or 90% poverty line)
571 Households from IFPRI Panel Revisited in PRHS 2001	1990-91 – 2001 1987-88 – 2001 (2 waves approach)	Dorosh and Malik (2007)	Bottom 40% according to the 5-year average of real income per adult equivalent for 1987 to 1991.	Poor in both periods	18% in 1987/88 31% in 1990/91 35% in 2001

Source: CPRC (2005); Kurosaki (2002, 2003); Dorosh and Malik (2007).

The use of different waves and different approaches to defining chronic poverty has led to a wide variation in estimates of chronic poverty. For example, Adams and Jans (1995) use 12 quarterly waves of the IFPRI panel spreading over three years period (1986-87–1988-89) and apply the income and expenditure of the poorest quintile as the poverty line to define the chronic poverty.

Their estimates show that the proportion of chronically poor, who remained poor in all three years, was only 6 percent. Study by McCullough and Baluch (1998) using 5 annual waves of the IFPRI panel (1986-87–1990-91) defines chronically poor as those who remained poor at least in 4 out of 5 periods. With this change in methodology the chronic poverty was estimated to be 7 percent. The CPRC (2005) used two annual waves of IFPRI, 1986-87 and 1990-91, and found the proportion of chronically poor to be 10 percent. Similarly the World Bank (2002) used two annual waves and defined chronic poverty as mean expenditure level below the poverty line. The proportion of chronically poor as a result was 26 percent. In the combined panel of IFPRI (1990-91) and PRHS (2001), chronic poor were 35 percent. Research conducted by Kurosaki (2002, 2003) calculated a higher incidence of chronic poverty, 63 percent. When he applied the official poverty line on two waves of his panel data, the proportion of chronically poor varied between 44 and 58 percent (Table 4).

It appears from this brief description of earlier studies that the choice of indicators that are used to measure poverty and number of waves of the panel data used have an important bearing on the estimates of poverty. However, the analysis of two annual waves of a panel generally suggests a high degree of chronic poverty in rural Pakistan. The findings of this study are in line with these studies. Thus it can be concluded that although relatively more rural poor are in transitory poverty, chronic poverty is pervasive in rural Pakistan. The other serious issue which deserves the attention of the policy-makers as well as the civil society is the low retention rate of rural households in the desired status of 'remaining non-poor' in two periods, only 39 percent as compared to 66 percent in urban areas. It indicates the high degree of vulnerability of rural households to falling into poverty.

5. CORRELATES OF CHRONIC AND TRANSITORY POVERTY: A MULTINOMIAL LOGIT ANALYSIS

To see how the chronic and transitory poor households are different from the non-poor households in terms of socio-economic characteristics we examine the socio-economic correlates of the change in poverty status between the two waves of the PSES by using multinomial logit models. As noted earlier, household is the unit of analysis. The dependent variable is defined as one of three mutually exclusive outcomes of the change in poverty status between 1998-99 and 2000-01: chronically poor (poor in 1998-99 as well as in 2000-01), transitory poor (moved into poverty or moved out of it between 1998-99 and 2000-01) and remaining non-poor in two periods. The last category, households that were non-poor in 1998-99 and also in 2000-01, is the reference category in the multinomial logit models.

Three types of explanatory variables have been used: individual characteristics of the head of household i.e, sex, age, literacy and employment; household characteristics including family size, number of earners, farm status, ownership of housing unit, electricity connection, land and livestock ownership, tenurial status, access to safety nets

(*Zakat* and remittances—domestic and overseas) and credit; and community variables i.e., place of residence (rural or urban) and province. All these regressors are measured on the 1998-99 basis.

However, most of these variables or determinants of poverty are themselves affected by poverty. For example, while acquisitions of such assets as housing and ownership of land and livestock have been used as determinants of poverty, they themselves could be influenced by poverty. A vicious cycle may exist between the poverty and acquisition of assets. Exclusion from society is also a defining characteristic of poverty, and its causal effect stem from a variety of factors: lack of access to public services and infrastructure, education, employment opportunities, local governance and legal system. The same also applies to different direct policy interventions for poverty reduction i.e., *zakat* disbursement, where low coverage and inadequate funds to help the poor escape poverty are the common problems. All these factors have mutually reinforcing impacts among themselves. In the presence of two-way causation, the econometric results of this study can be biased.

However, this study is primarily concerned with the change in poverty status of the sampled households between two periods (1998-99 and 2000-01). The dynamics of poverty have commonly been examined in terms of their maintainers and drivers; the former makes the poverty persistent and traps people in poverty while the latter causes individuals and households to fall and slide into poverty [CRPC (2005)]. Maintainers and drivers cannot always be precisely distinguished from each other, however. Independent variables used in the multinomial logit models of this study help explain how the socio-economic environment and concrete experiences keep people poor or escape poverty.

Definition of independent variables used in these models, with their mean values and standard deviation are reported in Table 5. Average household size of the chronically poor is much larger than the non-poor households. Transitory poor also live in relatively large-sized households; but the size is lower than the size of chronically poor households and higher than the size of non-poor households. These findings are consistent with those of Reyes (2002) which show that in Philippines 'families that are always poor over the three years period have an average size of 6.1 while those that are always non-poor have a size of 4.6.

There is no major difference among the three types of households in sex and age of the head of households. However, average literacy rate among the heads of non-poor households is more than double of that of the heads of chronically poor households. This difference was also considerable between the heads of non-poor and transitory poor households. There is no real difference in terms of the proportion of heads of household employed and average number of earners. More chronically poor and transitory poor households are engaged in the farm sector as compared to non-poor households (Table 5).

Results of the multinomial logit model for the full sample are presented in Table 6. Since poverty, particularly chronic poverty is primarily a rural phenomenon the results of a multinomial logit model based on the rural sub-sample are presented in Table 7. Rural model appears to be the mirror view of the full model, however, similarities and differences between the two models are discussed below.

Table 5

Mean and Standard Deviation of Characteristics by Change in Poverty
Status between Two Rounds of the PSES (1998-99 and 2000-01)

Characteristics (1998-99)	Change in Poverty Status between 1998-99 and 2001-01							
	Chronically Poor		Transitory Poor		Always Non-poor		All	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Household Size (Number)	8.42	3.12	6.98	3.15	5.97	3.14	6.81	3.28
Female Headed HHs (Female=1)	0.06	0.23	0.08	0.26	0.08	0.28	0.08	0.26
Age (Head of HHs) in Years	47.84	13.14	49.39	14.66	48.71	14.67	48.71	14.35
Literacy (Head of HHs)(Literate=1)	0.27	0.44	0.35	0.48	0.56	0.54	0.43	0.52
Employed (Head of HH) (Working=1)	0.81	0.39	0.78	0.41	0.79	0.41	0.79	0.52
Number of Earners	1.71	1.07	1.49	0.89	1.50	0.87	1.54	0.93
Farm Households (Farm=1)	0.31	0.46	0.32	0.47	0.25	0.43	0.29	0.45
Ownership of Housing Unit (No Ownership=1)	0.09	0.28	0.10	0.30	0.08	0.28	0.09	0.29
Electricity Connection (Yes=1)	0.64	0.68	0.77	0.67	0.88	0.65	0.80	0.67
Land Owned (Yes=1)	0.23	0.42	0.24	0.43	0.22	0.41	0.23	0.42
Sharecropping (Yes=1)	0.08	0.28	0.08	0.27	0.06	0.24	0.07	0.25
Livestock Ownership (Yes=1)	0.07	0.26	0.08	0.27	0.06	0.23	0.07	0.25
Zakat Received (Yes=1)	0.03	0.18	0.02	0.15	0.00*	0.09	0.02	0.13
Remittances Received (Yes=1)	0.10	0.30	0.11	0.32	0.15	0.36	0.13	0.34
Loan Obtained Last Year (Yes=1)	0.28	0.45	0.23	0.42	0.19	0.39	0.22	0.41
% Urban Residence (Urban=1)	0.19	0.39	0.27	0.44	0.48	0.50	0.35	0.48
Sindh (=1)	0.15	0.36	0.22	0.41	0.25	0.43	0.22	0.41
NWFP (=1)	0.14	0.35	0.13	0.34	0.11	0.31	0.12	0.33
Balochistan (=1)	0.04	0.19	0.08	0.27	0.07	0.25	0.06	0.25

Source: Computed from the two rounds of PSES (1998-99 and 2000-01). *Shows significance at 5 percent level.

Table 6

Multinomial Logit Model: Effects of 1998-99 Socio-economic Characteristics on
Change in Poverty Status between 1998-99 and 2000-01 (All Areas)

Correlates (1998-99)	Chronically Poor/Non-poor	Transitory Poor/Non-poor
Household Size	0.350*	0.182*
Female Headed Households	−0.258	0.087
Age of the Head of Households	−0.029*	−0.006
Literacy of the Head of Household	−1.401*	−0.862*
Head of Household Employed	−0.244	−0.186
Number of Earners	0.05	−0.137*
Farm Households	−0.237	0.076
Housing Unit Not-owned	0.209	0.427*
Electricity Connection	−0.804*	−0.130
Land Ownership	−1.022*	−0.693*
Sharecropping	0.612*	0.240
Livestock Ownership	−0.165	0.031
Zakat Received	1.301*	0.512
Remittances Received	−0.906*	−0.696*
Loan Obtained Last Year	0.316*	0.113
Urban Residence	−1.664*	−1.078*
Provinces		
Punjab[a]	–	–
Sindh	−0.865*	−0.083
NWFP	−0.108	0.166
Balochistan	−1.487*	−0.116
Constant	0.537	−0.030
Log Livelihood Ratio	4368.151	
N	2489	

Source: Computed from the two rounds of PSES.   * Shows significance at 5 percent level.
     [a]The sign for Punjab, the reference category, is positive.

Table 7

Multinomial Logit Model: Effects of 1998-99 Socio-economic Characteristics on
*Change in Poverty Status between 1998-99 and 2000-01 (Rural Only)*

Correlates (1998-99)	Chronically Poor/Non-poor	Transitory Poor/ Non-poor
Household Size	0.377*	0.208*
Female Headed Households	0.018	0.129
Age of the Head of Households	–0.026*	–0.005
Literacy of the Head of Household	–1.217*	–0.748*
Head of Household Employed	–0.214	–0.246
Number of Earners	0.088	–0.077
Farm Households	–0.276	0.0182
Housing Unit Not-owned	0.447	0.679*
Electricity Connection	–0.690*	–0.133
Land Ownership	–1.062*	–0.695*
Sharecropping	0.830*	0.346
Livestock Ownership	–0.157	0.002
Zakat Received	1.457*	0.417
Remittances Received	–1.028*	–0.669*
Loan Obtained Last Year	0.112	0.037
Provinces		
Punjab	–	–
Sindh	–1.040*	–0.201
NWFP	–0.075	0.194
Balochistan	–1.777*	–0.031
Constant	0.047	–0.242
Log Livelihood Ratio	3004.43	
N	1589	

Source: Computed from the two rounds of PSES.   * Shows significance at 5 percent level.

Household size appears to be the most dominant factor influencing rural poverty. This variable has a significant and positive association with the probability of being either chronically poor or transitory poor for full sample as well as for rural sub-sample (Tables 6 and 7). This association suggests that large families are more likely to either stay longer in poverty or to be vulnerable to poverty than being 'always non-poor'. In 1998-99, approximately three-quarters of the chronically poor households had 7 or more members whereas the corresponding percentage was only 34 in the case of non-poor households. However, the importance of the relationship between family size and poverty for policy purposes is limited unless one understands the main mechanism operating behind this association. Orbeta (2005) shows that the main mechanism operating between family size and poverty and vulnerability to poverty are savings, the labour supply, earnings of parents, and the investments in the education of children. The first two are known to be the primary sources for consumption smoothing of households. The last one is the main avenue of securing the future consumption of children and also of parents in their old age. In

Pakistan, chronically poor have large families and their monthly per capita expenditures are very low, while non-poor households have small families and their monthly per capita expenditures are more than double of the chronically poor households (Figure 1). It appears that households, particularly the poor are not able to maintain expenditure per capita as household size increases. Family size is also likely to have a negative influence on health and education expenditure. This low investment can lead to reinheritance of poverty by the next generation.

Fig. 1. Average Household Expenditure by Change in Poverty Status and Family Size
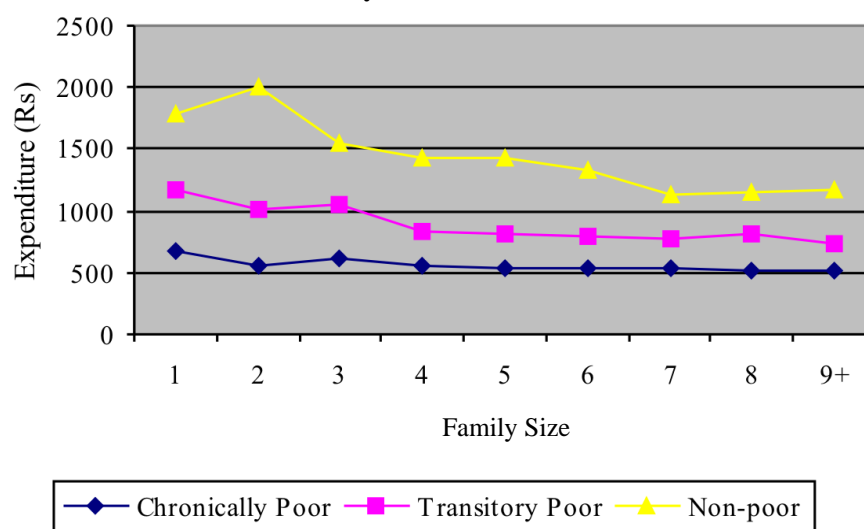
Source: Authors' calculations from PES I and PSES II.

The working status of the head of household has no significant association with the change in the poverty status (Tables 6 and 7). It suggests that although many poor are economically active, they are unable to escape poverty probably because of the terms of their employment and their lack of access to productive assets. The statistically significant and negative association of the number of earners with the transitory poor category reinforces this argument (Table 5). Thus, getting work does not always translate into escaping poverty. Terms of employment, particularly the level of wages matters to make transition from poverty, and real wages in rural areas in fact declined during the 1998-99 and 2000-01 period [Malik (2005); MHHDC (2006)].

Literacy of the head of household has a significant and negative association with both chronic and transitory poverty in the complete as well as the rural model, suggesting that non-poor households are more likely to be headed by literate persons (Tables 6 and 7). Human capital improves the quality of labour as an asset and is the key element in contexts where access to material assets is highly constrained [CPRC (2005)]. Education is therefore the critical pathways out of poverty.

To examine the relationship between the access to assets and the change in poverty status, dummy variables for the following variables are included in the equations: ownership of dwelling unit (coded 1 if no ownership), cultivated land, livestock and tenurial status of the

household (where sharecropping is coded as 1). Results for these relationships are very informative and interesting. As expected, land ownership is negatively associated with both chronic and transitory poverty, showing that land-owners are more likely to be in the 'always non-poor' category. However, having a household head with primary education increased the real expenditure more than owning 5 acres of land [Dorosh and Malik (2007)]. Ownership of livestock did not turn out to be statistically significant while, the non-ownership of a dwelling unit has a positive association with the probability of being transitory poor. Sharecropping has a significant and positive relationship with the probability of being chronically poor. The statistically significant associations between poverty dynamics and land ownership, non-ownership of dwelling unit and sharecropping is found in both the complete as well as the rural model.

For more clarity, in Table 8 transitory poor have been divided into two mutually exclusive categories; those who entered into poverty and those who exited from poverty between 1998-99 and 2000-01. It is interesting to observe that non-ownership of the dwelling unit has a positive association with 'falling into poverty'. In the case of sharecropping households, this significant and positive association is found for the chronically poor as well as for those falling into poverty category. It thus becomes clear that non-ownership of a dwelling unit in rural areas and dependency on sharecropping for the livelihood either keep the families in poverty for longer duration or push the non-poor families into poverty. These results are consistent with the findings of Arif (2004) on the rapid assessment of bonded labour in agriculture sector in Punjab and NWFP. He showed that the very poor economic condition of sharecroppers pursued them into forced labour. This worst form of poverty labour is the direct outcome of non-implementation or gross violations of tenancy legislations. There are large variations in tenancy arrangements across the country. The most disturbing aspect of these arrangements was that the landlord takes half of the produce without sharing any cost. In one district calculations of the cost of sowing wheat for one tenant under this arrangement showed that even if he has a good wheat crop, very little will be left for his family after giving 50 percent share to the landlord and adjusting the loan.

Direct transfers of income and/or access to safety nets are considered as the means to alleviate poverty and to move the poor out of poverty. *Zakat* is one of the major safety net programmes in Pakistan introduced in the 1980s. Similarly remittances from overseas or from within the country have been a major source of income transfer. In Pakistan, access to credit is also considered a key factor to assist the poor. All these variables have been tested and once again the findings are interesting.

In case of *zakat* it has a significant and positive association with the probability of being chronically poor. This association is found in all the models (Tables 6–8). In principle *Zakat* is meant to provide the basic minimum of subsistence to those groups of population which belong to the categories of *Fuqra* and *Masakeen* (destitudes). They are either unable to earn or earn very little and hence are below the poverty line not by choice but due to other constraints such as old age, illiteracy, lack of skills etc. Therefore this association conveys two messages which are consistent with the earlier findings. First the doubts about the fair distribution of *Zakat* are unfounded. It is not distributed randomly rather it largely goes to the poorest of the poor. Second, it symbolises chronically poor particularly in the rural areas. *Zakat* distribution in its present format does not serve as

Table 8

Multinomial Logit Model: Effects of 1998-99 Socio-economic Characteristics on Change in Poverty Status between 1998-99 and 2000-01 (Rural Only)

Correlates (1998-99)	Chronically Poor/Non-poor	Moved out of Poverty/Non-poor	Moved into Poverty/Non-poor
Household Size	0.383*	0.277*	0.158*
Female Headed Households	0.048	0.615	–0.345
Age of the Head of Households	–0.026*	–0.008	–0.004
Literacy of the Head of Household	–1.216*	–0.729*	–0.756*
Head of Household Employed	–0.222	–0.372	–0.152
Number of Earners	0.086	–0.065	–0.088
Farm Households	–0.271	0.067	–0.017
Housing Unit Not-owned	0.449	0.513	0.802*
Electricity Connection	–0.696*	–0.201	–0.097
Land Ownership	–1.069*	–0.745*	–0.652*
Sharecropping	0.801*	–0.403	0.622*
Livestock Ownership	–0.177	–0.416	0.201
Zakat Received	1.474*	0.731	0.094
Remittances Received	–1.038*	–0.819*	–0.575*
Loan Obtained Last Year	0.104	–0.062	0.109
Provinces			
Punjab	–	–	–
Sindh	–1.047*	–0.333	–0.124
NWFP	–0.090	–0.123	0.400
Balochistan	–1.770*	–0.023	–0.056
Constant	0.038	–1.182	–0.736
Log Livelihood Ratio	3658.751		
N	1589		

Source: Computed from the two rounds of PSES.

    * Shows significance at 5 percent level.

mean to pull the recipient out of poverty. However, it is important to note that poverty in the urban areas is largely of a transitory nature because employment opportunities in the ever-growing informal sector are easily available compared to the rural areas. The transitory poverty can be handled more easily through safety nets designed to smoothen income (or consumption) around the poverty line.[7]

      Remittances have a significant and negative association with the probability of being chronically poor or being transitory poor. However, it is worth noting that very few poorest of the poor households have an opportunity to send a member overseas or even to cities within the country. They move from one rural area to other rural area as a survival strategy, but this movement does not help them to escape poverty. The analysis also shows that chronically poor are more likely to depend on debt than the non-poor. This dependency can impose the forced labour on the chronically poor families. Finally, as expected, chronically or transitory poor are more likely to be rural residents than the non-poor category. It also appears from the present analysis that the performance of NWFP in poverty transition is not statistically significant probably because of an interaction between the dummy variable of this province and higher occurrence of large and less educated poor households in NWFP.

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[7]There is a considerable body of literature on the *Zakat* system in Pakistan. See, for example, Assad (2004), Heltberg (2004), Irfan (2003), Issues and Policies Consultants (2004), Mohammad (1991), Shirazi (1996), Arif (2006).

6. CONCLUSIONSAND POLICY IMPLICATIONS

This study has grouped the PSES panel households into three categories: chronically poor, transitory poor, and always non-poor. The net movement into poverty was witnessed in both rural and urban areas, leading to a net increase in overall poverty between 1998-99 and 2000-01 period. Overall more than one-fifth of the households were chronically poor; but more rural households were found in this category as compared to urban households.

Household size increases the risk of falling into poverty or remaining in chronic poverty. Chronically poor have large families and their monthly per capita expenditures are very low. The poor are not able to maintain expenditure per capita as household size increases. Although many poor are economically active, they are unable to escape poverty mainly because of low wages and lack of access to productive assets. Thus, getting work does not always translate into escaping poverty. In the context of Pakistan, literacy and elementary education can make a significant difference in improving the household well-being.

Non-ownership of a dwelling unit in rural areas and dependency on sharecropping for the livelihood either keeps the families in poverty for longer duration or pushes the non-poor families into poverty. The analysis shows that *Zakat* is largely distributed among the poorest of the poor, however, it does not help the poor to move out of poverty. Remittances have a significant and negative association with the probability of being chronically poor or being transitory poor. Chronically poor are more likely to depend on debt than the non-poor. This dependency can lead to forced labour. Chronically or transitory poor are more likely to be rural residents than the non-poor category.

These findings have a number of policy implications: first, there is a need to acknowledge that poverty dynamics are not the same as poverty trends. According to the PSES panel data, headcount poverty rate increased by 4 percentage points between 1998-99 and 2000-01. However, while about 12 percent of poor households escaped poverty, 16 percent of previously non-poor households became poor, and more than one-fifth of all households remained poor over time (the chronically poor). It suggests that poverty reduction policies may be designed on the basis of poverty dynamics. It is encouraging that the Medium Term Development Framework (MTDF) 2005-10 has identified policy measures to tackle chronic and transitory poverty.

Second, factors associated with chronic poverty in rural areas point to the need for more structural changes in existing policies. The positive association between household size and both poverty groups, chronic and transitory, shows the importance of having small families in poverty reduction. There is convincing evidence that Pakistan has entered in the demographic bonus phase; fertility decline since the late 1980s has led to declining trends in child dependency and rise in working age population. This is right time for Pakistan to invest more in children education and their health to reap the benefits of demographic transition in terms of high economic growth and reduction in poverty. Education is a very important instrument because of its additional effect on reducing fertility.

Rural industrialisation (animal husbandry, forestry, poultry) has been neglected in the past. To remedy this situation skill development of the rural landless and urban poor with a guaranteed employment near their homes is the best way out to enhance the

earnings of the poor. These essential structural changes would eventually lead to permanent increase in their asset base, which is necessary to move out of poverty.

The positive association between chronic poverty and sharecropping requires a strict enforcement of the existing tenancy laws. Legal protection to the share croppers and targeted interventions like improving their marketing skills so that they can sell their produce on profit would help them improve their living standard.

Third, with regard to the social safety nets *Zakat* is generally meant to overcome urgent needs of food, health, and other emergencies facing the very poor as described earlier. However, *Zakat* in its present structure creates dependency and probably reduces dynamics among the chronically poor, particularly in rural areas. Further, the reduction in work incentives because of this dependency cannot help the poor to escape poverty. *Baitulmal* which is a government institution and is meant to give credit without interest only to the poor can help to pull the poor out of poverty. Unfortunately this institution, for whatever reasons has never been highlighted for its prescribed role. There is a need to spread its outreach to the poor to enable them to improve their existing earning capacities with small borrowings.

Fourth, the prevalence of transitory poverty in urban as well as rural areas indicates that priority should be given to enhance productive employment opportunities. In fact, productive employment opportunities for the rural and urban poor, who are largely rural migrants in search of jobs in the urban areas would follow from the adoption of rural industrialisation. The implementation of this policy on a vast scale would help take care of a number of issues related to chronic and transitory poverty. Alternative productive employment opportunities for the poor would help these landless and other such dependent groups of population get rid of their dependence on the landlords to provide land for dwellings and unending interest based credit lines usually resulting in bonded labour.

In short, revised and broad based education, health and credit policies and sincere efforts at promoting rural industrialisation would go a long way in alleviating poverty, particularly in the rural areas. Furthermore, it would also help reduce the population pressures on the already fragile urban environment and overburdened infrastructure by reducing rural-urban migration.

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