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ASSESSING VULNERABILITY TO POVERTY: EVIDENCE FROM PAKISTAN

SOCIAL POLICY AND DEVELOPMENT CENTRE

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Assessing Vulnerability to Poverty: Evidence from Pakistan

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The paper assesses the extent of household vulnerability to poverty in Pakistan. Preferably, household panel data of sufficient length is used to measure the incidence of vulnerability. However this data is rare in developing countries and if available is not nationally or regionally representative. As a second-best option, this study estimates the extent of vulnerability as "expected poverty" using cross-sectional household surveys. The estimates show that about 52 percent population was vulnerable to poverty during 2004-05. The rural headcount ratio in terms of household vulnerability is relatively high as compared to the vulnerability incidence in urban areas. Although monetary poverty has declined during the period 2001-05, the relative incidence of vulnerability has increased from 50 in 2001 to 52 percent in 2005.

JEL Classification: I3, C31, D3

Keywords: Vulnerability, Poverty, Cross-Section Data, Pakistan

1. INTRODUCTION

Vulnerability in economic literature is defined as an outcome of a process of household responses to risks. This risk-response-outcome framework may be examined[1] in terms of poverty dynamics (poverty status: transition in and out of poverty), food security (probability of not meeting food needs), environment (survival loss), health (malnourishment), disaster management (welfare loss) etc. Thus, vulnerable households are those that are in, or are very close to, a state of destitution as a result of the cumulative process of a particular risk and household response.

The notion of vulnerability in the context of poverty is not as developed as the meaning and measurement of poverty[2]. For the purpose of empirical assessments and quantifications, the working concept of vulnerability, as described in Alwang et al. (2001), is "a household is said to be vulnerable to future loss of welfare below socially accepted norms caused by risky events. The degree of vulnerability depends on the characteristics of the risk and the household's ability to respond to risk. Ability to respond to risk depends on household characteristics – notably their asset-base. The outcome is defined with respect to some benchmark—a socially accepted minimum reference level of welfare (e.g., a poverty line). Measurement of vulnerability will also depend on the time horizon: a household may be vulnerable to risks over the next month, year, etc".

Poverty analysts advocate that risk and vulnerability should be conceptualized as a component of poverty, as traditional poverty measures neglect several important

[1] See Alwang et al. (2001) for discussion on vulnerability viewed from different disciplines.

[2] There are differences in the interpretation of vulnerability and its relationship with different aspects of poverty. For instance, many practitioners describe vulnerability to poverty in relation to chronic poverty as the potential for people to enter into poverty. For example, Okidi and Mugambe (2002) state that in the case of Uganda "the finding that the majority of the panel households had mixed status (moved in and out of poverty) suggests that vulnerability (the risk of slipping back into poverty) is reasonably high for a number of households". The notion of vulnerable to poverty is also reflected in the context of 'transient poor'. The transient poor are both the 'churning poor', who fluctuate above and beneath the poverty line and the 'occasionally poor', who occasionally dip into poverty due to an extreme decline in income. In this context, 'vulnerability' does not focus on those already in poverty – the chronically poor. Vulnerability to shocks is also considered an important aspect and is seen as being a cause of poverty. For a detailed discussion, see Prowse (2003).

dimensions of household welfare. For instance, Ligon and Schechter (2003) argue that a household's sense of well-being depends not just on its average income or expenditures, but also on the risk it faces, particularly in households with fewer resources. Similarly, a World Bank publication concludes that vulnerability analysis is crucial for understanding poverty in so far as it helps to identify the characteristics of those impoverished households (vulnerable groups) that lack the means to ascend the economic ladder and to tailor human development policies to their specific needs. It also helps to quantify not only the existing poor but also those in danger of becoming poor in the future and identifies a comprehensive set of sources of vulnerability for this group (World Bank, 2000).

It seems desirable therefore to have a measure of household welfare which takes into account both average expenditures and the risk that households bear. Vulnerability assessments facilitate in designing better risk-management and anti-poverty policies by highlighting the distinction between ex-ante poverty prevention interventions and ex-post poverty alleviation interventions.

In the context of Pakistan, various studies are available which analyze poverty in a dynamic framework[3] (see McCulloch and Baulch, 1999 and 2000; Mansuri and Healy, 2002; Kurosaki and Hussain, 1999; Jamal and Lohano, 2008). These studies however are based on household panel data which is not nationally or regionally representative. For instance, Mansuri and Healy (2002) study to predict vulnerability in rural areas is based on a rural Pakistan panel for which the five study districts were chosen purposively[4]. The data used for this study is therefore not representative of Pakistan or of rural Pakistan.

The study by Ninno et al (2006) on the contrary used data from the "Household Income and Expenditure Survey" (HIES), which is nationally representative and traditionally

[3] A concept related to the 'risk and vulnerability' phenomenon.

[4] The study is sponsored by International Food Policy Research Institute (IFPRI). For a detailed discussion on survey methodology, see Alderman and Garcia (1993).

used to determine poverty indices or aggregates in Pakistan. They chose procedure[5] developed by Chaudhuri et al (2002) to assess the vulnerability to poverty from cross-sectional data, mainly due to the absence of panel data representative of the whole of Pakistan. The authors found that "the estimates of vulnerability (in 2001), instead, range between 47 to 67 percent, depending on the choice of the time horizon of the analysis and the threshold of vulnerability". About one third of the population is vulnerable due to a low level of resources, regardless of the time horizon, while for 24-34 percent of the population, vulnerability to poverty stems from a high volatility of consumption.

This paper also replicates Chaudhuri et al's (2002) methodology for vulnerability assessment using Pakistan cross-sectional data of HIES, 2004-05[6]. The methodology first estimates a consumption function using household characteristics. The mean (expected value) and variance of the consumption function is then used to estimate the probability of a household becoming poor (vulnerable to poverty) in the future with a threshold of vulnerability. The methodology is described in detail in the next section while the results are presented in Section 3. Some concluding comments are furnished in the last section.

2. METHODOLOGY FOR ESTIMATING VULNERABILITY TO POVERTY

The vulnerability should ideally be assessed with a longitudinal (panel) data of sufficient length and necessary information. The reason for using panel data is that without following households for several years, it is difficult to quantify the volatility faced by households and their responses to it. Household consumption variability may be estimated using cross-sectional or repeated cross-sectional information without panel. Nonetheless, it is argued that a focus on consumption variability (instead of volatility) will understate the true risk and perhaps the true vulnerability to risk (Morduch, 1994).

[5] They also used some crude and ad-hoc methods (sensitivity analysis using different poverty bends and naïve micro-simulation in terms of per capita expenditure) to find out the likelihood of a household to be poor and to remain poor in the near future.

[6] The sample of 2004-05 HIES was 14708 (5809 from urban and 8899 from rural areas) households. According to Federal Bureau of Statistics (Government of Pakistan), the variability for the characteristics for which estimates are prepared, population distribution, field resources available and reliability constraints, this sample was considered appropriate to provide reliable estimates of key characteristics at the national/provincial level with an urban/rural breakdown.

Such a focus may lead analysts to ignore the adverse consequences of risk management strategies for permanent income or long-term improvements in well-being.

Nonetheless, panel data are rare in developing countries. Due to costs of data collection, panel data often suffer from small sample sizes and hence, lack of representativeness. Panel data sets in developing countries also tend to be of shorter durations and therefore not as comprehensive as required for vulnerability assessments. Therefore, the second-best option to assess vulnerability to poverty is to use cross-sectional household surveys with detailed data on household characteristics, consumptions and incomes.

Chaudhuri et al (2003) developed a methodology[7] for estimating vulnerability to poverty using cross-sectional data. A household's vulnerability to poverty can be expressed as a probability statement reflecting its inability to attain a certain minimum level of consumption in the future. Formally, the vulnerability level of a household *h* at time *t* is expressed as the probability that the household will find itself consumption poor at time *t+1* as:

$$V_{h,t} = \Pr\left(c_{h,t+1} \leq z\right) \tag{1}$$

where $c_{h,t+1}$ measures the household's per capita consumption at time *t+1* and *z* is an appropriate consumption benchmark (poverty line).

The probability that a household will find itself poor depends not only on its expected (mean) consumption but also on the volatility (i.e., variance, from an inter-temporal perspective) of its consumption stream. Therefore, both estimates (household expected consumption and the variance of its consumption) are required to quantify the level of household's vulnerability to poverty.

Assuming that the stochastic process generating the consumption of a household h is given by:

[7] Chaudhuri et al (2003) applied this methodology to Indonesia. Several authors also applied this methodology to estimate vulnerability in developing countries. For instance, Appiahi-Kubi et al (2008) and Jha and Dang (2008) used this methodology to assess vulnerability in Ghana and Papua New Guinea respectively.

$$\ln c_h = X_h\beta + e_h \quad (2)$$

where c_h is per capita consumption expenditure, X_h represents observable household characteristics such as household size, dependency ratio, educational attainment of the household head, etc., β is a vector of parameters, and e_h is a mean-zero disturbance term that captures idiosyncratic factors (shocks) that contribute to different per capita consumption levels for households that are otherwise observationally equivalent.

Two assumptions are necessary to make because vulnerability is estimated from a single cross-section[8]. First, it is assumed that the idiosyncratic shocks to consumption are identically and independently distributed over time for each household. This implies that unobservable sources of persistence (arising for example, from serially correlated shocks or unobserved household-specific effects) over time in the consumption level of an individual household are ruled out. It is also necessary to assume that the structure of the economy (captured by the vector β) is relatively stable over time, ruling out the possibility of aggregate shocks (i.e., unanticipated structural changes in the economy). By assuming a fixed β over time, it implies that the uncertainty about future consumption stems solely from the uncertainty about the idiosyncratic shock, e_h, that the household will experience in the future.

The variance e_h however is not identically distributed across households and depends upon observable household characteristics. A simple functional form is used to relate variance of the consumption function and household characteristics.

$$\sigma^2_{e,h} = X_h\theta \quad (3)$$

A three-step feasible generalized least squares (FGLS) procedure, suggested by Amemiya(1977) is used to estimate β and θ. First, equation (2) is estimated using an Ordinary Least Square (OLS) procedure. The residuals e_h from equation (2) are then regressed on X_h using OLS as follows:

$$e^2_{OLS,h} = X_h\,\theta + n_h \quad (4)$$

[8] Without longitudinal data, the identification of parameters driving persistence in individual household consumption levels is not possible.

The predicted values $X_h\hat{\theta}$ from this auxiliary regression are then used to transform equation (4).

$$\frac{e^2_{OLS,h}}{X_h\hat{\theta}} = \left\{\frac{X_h}{X_h\hat{\theta}}\right\}\theta + \frac{n_h}{X_h\hat{\theta}} \tag{5}$$

This transformed equation is estimated using OLS to obtain an asymptotically efficient FGLS estimate (θ_{FGLS}). It can be shown that θ_{FGLS} is a consistent estimate of $\sigma^2_{\varepsilon,h}$ which is the variance of the idiosyncratic component of household consumption. Equation (2) is also transformed with the standard error of (θ_{FGLS}).

$$\hat{\sigma}_{\varepsilon,h} = \sqrt{X_h\,\theta FGLS} \tag{6}$$

$$\frac{\ln c_h}{\hat{\sigma}_{\varepsilon,h}} = \left(\frac{X_h}{\hat{\sigma}_{\varepsilon,h}}\right)\beta + \frac{e_h}{\hat{\sigma}_{\varepsilon,h}} \tag{7}$$

OLS estimation of equation (7) yields a consistent and asymptotically efficient estimate of β. The estimated β_{FGLS} and θ_{FGLS} symbolize expected log consumption and variance of log consumption respectively.

$$\hat{E}\ [(\ln c_h \mid X_h] = X_h\beta \tag{8}$$

$$\hat{V}\ [(\ln c_h \mid X_h] = e^2_h = X_h\theta \tag{9}$$

Assuming that the consumption is log normally distributed, the probability of a household vulnerability is now estimated as follows:

$$v_h = \widehat{Pr}\ (\ln c_h < \ln z \mid X_h) = \varphi\left[\frac{\ln z - X_h\beta}{\sqrt{X_h\hat{\theta}}}\right] \tag{10}$$

where ϕ is the cumulative density of the standard normal distribution and z is vulnerability threshold.

Following Chaudhuri et al. (2002), two threshold measures are used in this study. First is the relative vulnerability (i.e., those households who have an estimated vulnerability level greater than the observed incidence of poverty in the population but less than 0.5), and second is the high vulnerability of households or population (households that have an estimated vulnerability coefficient greater than 0.5). The choice of 0.5 is justified for two reasons. The first reason is that it makes intuitive sense to say that a household is

vulnerable if it faces a 0.5 (50%) or higher probability of falling into poverty in the next period. The second reason is that as argued by Pritchett et al. (2000), when a household whose current level of consumption is equal to the poverty line faces a zero mean shock; it has a one period ahead vulnerability of 0.5. In the limit, as the time horizon approaches zero, then being currently poor and being vulnerable to poverty coincide.

The selection of appropriate predictors of per capita household consumption is the next step. The set of initial regressors includes a host of explanatory variables which are both discrete as well as continuous. These regressors are essentially household-level variables focusing on: household assets, education levels and literacy, employment, household amenities, household structure, demographic characteristics and geographical location. These variables were constructed from the household surveys (HIES, 2004-05 and 2000-01)[9]. Optimal predictors[10] are selected using a combination of traditional regression statistics and test for correlation, prediction and multi-collinearity. Separate urban, rural and overall consumption functions are estimated; however an overall estimated consumption function[11] is selected for the vulnerability assessment due to a high magnitude of R^2 and better predictive power.

3. EMPIRICAL ASSESSMENT OF VULNERABILITY TO POVERTY

Figure 1 furnishes inter-temporal vulnerability to poverty estimates for both cutoff points (vulnerability thresholds)[12]. About 52 percent of the population was relatively[13] vulnerable to poverty in 2005. As expected, vulnerability to poverty is higher amongst the rural households as compared to the urban. About 57 percent of the rural population was vulnerable, while the vulnerable population in urban areas was 41 percent. The

[9] The choice of variable however is restricted and depends on the availability of data in these household surveys.

[10] Final specification of the selected consumption function with the FGLS estimation results (Equation–7) are provided in the Appendix – A.

[11] The function is estimated with regional and provincial dummy variables.

[12] The observed poverty incidence in the population, which is used as a cutoff point to estimate relatively vulnerability, is taken from Jamal (2007).

[13] Relative to observed poverty incidence, i.e., probability of being vulnerable is greater than the poverty incidence.

figure also depicts that relative vulnerability has increased, especially in rural areas as compared with the estimates for the year 2001. On the contrary, the estimates of high[14] vulnerability reveal a decline in the magnitude during 2001-05. According to the figure, about 25 and 30 percent of the population was highly vulnerable to poverty during 2005 and 2001 respectively[15].

FIGURE – 1
VULNERABILITY ESTIMATES

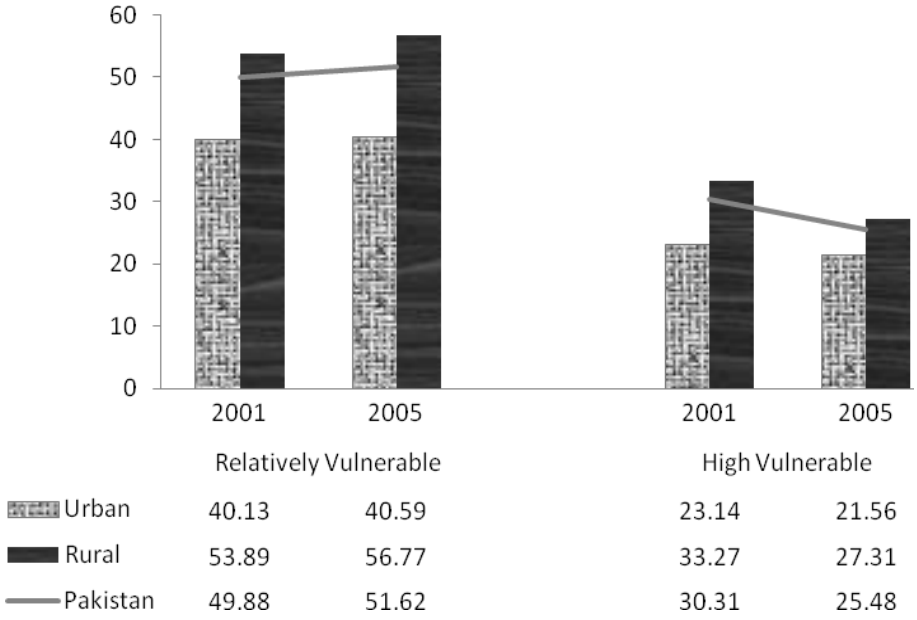

Table 1 and 2 provide comparative estimates of relative vulnerability and income poverty for the years 2005 and 2001 respectively. The vulnerability rate of 52 percent in 2005 is significantly higher than the estimated poverty rate of 30 percent. This indicates that the estimated probability of experiencing poverty in the near future was greater than the average risk of poverty (equal to the observed incidence of poverty) in the population. These estimates indicate that the observed incidence of poverty underestimates the fraction of the population that is vulnerable to poverty. The level of underestimation is revealed by the vulnerability to poverty ratio, which is 1.73 for 2005 data. Urban and

[14] Probability of being vulnerable is greater than 0.5.

[15] Henceforth, vulnerability estimates are discussed in terms of relative vulnerability, while the estimates of high vulnerability are furnished in Appendix – B.

rural ratios are 1.46 and 1.84 respectively. Another important finding, which emerges from these two tables, is that the vulnerability and vulnerability to poverty ratio has increased during 2001-05. This era is characterized with high GDP growth and a declining trend of income poverty.

TABLE – 1
ESTIMATES OF VULNERABILITY TO POVERTY – 2005
[Population Relatively Vulnerable]

	Percentage of Population		Vulnerability Poverty Ratio
	Vulnerable	**Poor**	
Pakistan	51.62	29.85	1.73
Urban	40.59	27.70	1.46
Rural	56.77	30.85	1.84

Source: Estimated from HIES (2004-05) data.

TABLE – 2
ESTIMATES OF VULNERABILITY TO POVERTY – 2001
[Population Relatively Vulnerable]

	Percentage of Population		Vulnerability Poverty Ratio
	Vulnerable	Poor	
Pakistan	49.88	33.37	1.49
Urban	40.13	30.24	1.33
Rural	53.89	34.65	1.56

Source: Estimated from HIES (2000-01) data.

Table 3 presents a cross-distribution of the percentage of vulnerable and poor population for the year 2005. It is evident from the table that a significant percentage of non-poor are vulnerable to poverty. About 37 percent of the non-poor population is estimated as being vulnerable to poverty. As expected, a majority of the poor are also vulnerable. However, about 14 percent of the poor population is estimated as non-vulnerable to poverty. The findings assert that programs that aim to reduce the vulnerability and risk in the population should be designed and targeted differently from those aimed at poverty alleviation.

TABLE – 3
CROSS-DISTRIBUTION OF POVERTY AND RELATIVE VULNERABILITY – 2005

Poverty Status	**Vulnerability Status**		**Total**
	Vulnerable	**Non-Vulnerable**	
Poor	85.75	14.25	**29.85**
Non-Poor	36.62	63.38	**70.15**
Total	**51.62**	**48.38**	100.0

Source: Estimated from HIES (2004-05) data.

Provincial estimates of vulnerability to poverty are furnished in Table 4. Unsurprisingly, the highest vulnerability rates are estimated for the province of Balochistan. About 74 percent of the population of the province was vulnerable to poverty in 2005; 66 percent of the urban population and 77 percent of the rural population. Overall, the lowest incidence of vulnerability of poverty is estimated for the Sindh province mainly due to very low (26 percent) urban[16] vulnerability. The rural incidence of vulnerability in Sindh however is quite high (59 percent). The provinces of Punjab and NWFP ranked second and third in terms of overall vulnerability estimates respectively.

TABLE – 4
PROVINCIAL ESTIMATES OF VULNERABILITY – 2005
[Percentage of Relatively Vulnerable Population]

Punjab		51.22	
	Urban		46.46
	Rural		53.40
Sindh		44.95	
	Urban		26.18
	Rural		59.25
NWFP		58.14	
	Urban		53.30
	Rural		59.11
Balochistan		74.54	
	Urban		66.05
	Rural		76.76

Source: Estimated from HIES (2004-05) data.

A vulnerability profile by selected household characteristics is displayed in Table 5. The table depicts a positive correlation between vulnerability and household size. According to the table, about 80 percent of households with more than 9 members are vulnerable to poverty. The least vulnerable age group of head of household is less than 25 years after which an increase in vulnerability is noted. The education level and literacy of head/spouse of household are an important determinant of vulnerability (as well as poverty). As evident from the table, increase in the level of education significantly affects the incidence of vulnerability. For instance, only 14 percent of the population is vulnerable in households where the head of the household has an intermediate (higher

[16] Large proportion (about 55 percent) of population of the province resides in urban areas.

secondary) level education against a 66 percent incidence in case of an illiterate head of household. Moreover, the educational attainment of a spouse is a relatively stronger factor than the educational attainment of the head of the household in reducing vulnerability. The relationship between vulnerability to poverty and the economic activities in which households are engaged is also important from policy perspectives. In the agricultural sector, sharecroppers are the most vulnerable to poverty (71 percent), while vulnerability for wage employees (mostly in urban areas) is estimated at 55 percent.

Table – 5
Vulnerability Estimates for Selected Household Characteristics– 2005
[Percentage of Relatively Vulnerable Population]

Overall Vulnerable Population	51.62
Family Size	
1-5	17.31
6-9	50.59
More than 9	79.66
Age of Head of Household	
< 25	45.40
25-50	53.78
50 plus	49.28
Schooling of Head of Household	
Illiterate	66.23
Primary	57.17
Matric	33.22
Inter	13.72
Graduate	10.69
Schooling of Spouse	
Illiterate	59.55
Primary	30.02
Matric	15.51
Inter	4.12
Graduate	0.41
Occupational Status of Head	
Employer	11.91
Wage Employed	54.81
Self Employed	47.40
Self Cultivator	51.63
Sharecropper	70.75
Livestock Holder	55.43

Source: Estimated from HIES (2004-05) data.

4. CONCLUDING COMMENTS

Risk and vulnerability should be conceptualized as a component of poverty because traditional poverty measures neglect several important dimensions of household welfare. Assessment of vulnerability appraises household welfare incorporating both average expenditure and the risks that households bear.

An attempt has been made in this paper to estimate vulnerability to poverty using the latest available household cross-sectional data. The vulnerability in the risk-response-outcome framework is best assessed or quantified with a rich panel or longitudinal data of households. Nonetheless, due to the non-availability of a nationally representative panel in Pakistan, methodology to compute vulnerability from cross-sectional data is adopted. Therefore, the vulnerability estimates are a ballpark figure and should be interpreted accordingly.

Estimates show that about half the population of Pakistan was vulnerable to poverty during 2005. Computed with the prevailing poverty incidence during 2005 as vulnerability thresholds, the findings suggest that about 52 percent of the population was vulnerable. As expected, probability of being vulnerable to poverty in the rural areas was relatively higher than the probability in urban populations. Provincial vulnerability estimates present the worst situation in terms of the vulnerability prevailing in the province of Balochistan. More than three-fourths of the population of the province is estimated as being vulnerable to poverty. The national and regional results also show that during 2001-05, vulnerability has increased despite a declining trend in income poverty.

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APPENDIX – A
ESTIMATED CONSUMPTION FUNCTION

Estimated Consumption Function – FGLS Estimates [Equation – 7] [***Dependent Variable – Logarithm of Per Capita Household Expenditure***]			
		Coefficients	**t-Statistics**
Household Demography:			
Family Size		-.068	-55.025
Dependency Ratio		-.002	-20.230
Number of Earners in Household		.023	7.183
Household Education:			
Out of School Children – Primary		-.041	-3.762
Out of School Children - Secondary		-.037	-3.534
Highest Education Level in Family – Female		.006	5.387
Highest Education Level in Family – Male		.006	5.661
Head of Household:			
Age of Head		.002	6.160
Education Level – Primary		-.030	-3.072
Education Level – Higher Secondary		.136	7.723
Education Level – Tertiary		.256	19.116
Occupation – Wage Employment		-.082	-10.335
Occupation – Non-farm Household		-.107	-12.016
Occupation – Sharecropper (HARI)		-.054	-2.911
Household Assets:			
Asset Score		.059	6.434
Livestock Ownership		.059	6.434
Ownership of Non-Agricultural Land		.111	7.102
Ownership of Non-Residential Buildings/House		.035	2.409
Housing Quality and Services:			
Telephone Connection		.213	22.689
RCC Roofing		.110	12.180
More Than Three Persons Per Room		-.091	-11.611
Household Use Gas for Cooking purposes		.070	6.429
Locational Variables:			
Urban Areas		.015	1.474
Large (Metropolitan) Cities		.180	15.376
Sindh Province		.096	10.101
Balochistan Province		-.032	-2.822
NWFP Province		.033	3.481
Intercept (Constant)		7.169	383.793
Summary Statistics:			
Adjusted R-Square	0.62	Condition Index	21.54
F-Value	839.11	Durbin-Watson	1.48
Source: Estimated from HIES (2004-05) Data			

APPENDIX – B
ESTIMATES OF HIGH VULNERABILITY

Table B –1
Provincial Estimates of Vulnerability – 2005
[Percentage of Highly Vulnerable Population]

Punjab		23.98	
	Urban		24.12
	Rural		23.92
Sindh		21.89	
	Urban		12.96
	Rural		28.69
NWFP		31.08	
	Urban		33.72
	Rural		30.56
Balochistan		47.92	
	Urban		43.73
	Rural		49.02

Source: Estimated from HIES (2004-05) data.

Table B–2
Cross-Distribution of Poverty and High Vulnerability – 2005

Poverty Status	Vulnerability Status		Total
	Vulnerable	Non-Vulnerable	
Poor	54.41	45.59	**29.85**
Non-Poor	12.77	87.23	**70.15**
Total	**51.62**	**48.38**	100.0

Source: Estimated from HIES (2004-05) data.

Table B–3 **Vulnerability Estimates for Selected Household Characteristics– 2005** ***[Percentage of High Vulnerable Population]***	
Overall Vulnerable Population	25.48
Family Size	
1-5	5.42
6-9	20.57
More than 9	50.30
Age of Head of Household	
< 25	19.81
25-50	26.56
50 plus	24.53
Schooling of Head of Household	
Illiterate	35.38
Primary	27.40
Matric	13.93
Inter	3.45
Graduate	3.06
Schooling of Spouse	
Illiterate	30.45
Primary	8.77
Matric	4.28
Inter	.54
Occupational Status of Head	
Employer	0.85
Wage Employed	31.46
Self Employed	21.16
Self Cultivator	19.67
Sharecropper	36.88
Livestock Holder	27.86
Source: Estimated from HIES (2004-05) data.	