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Structural Adjustment, Macroeconomic Policies, and Poverty Trends in Pakistan

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I. Introduction

Poverty has increased rather sharply in the 1990s in Pakistan. It is generally believed that the slowing down of growth rates to around 4 percent in 1990s from 6 percent in the 1980s are responsible for that. While slowing down of growth rates could be a factor for rising poverty in the 1990s, it needs to be noticed that Pakistan has witnessed periods of high economic growth accompanied with increase in poverty levels, periods of low growth and reductions in poverty levels as well as periods in which economic growth has had a positive impact on poverty [see Amjad and Kemal (1997)]. Probably, the differential impact of economic growth on poverty can be found in the basic structural characteristics of the economy, changes in the structure over time and the economic policies accompanying changes in the economic structure.

Pakistan has implemented various structural change and stabilisation programmes with a view to improving the levels of efficiency and consequently higher levels of output and employment. These programs implemented since 1987-88, however, have been accompanied with falling rates of GDP growth rates and rising unemployment and poverty incidence. This is rather disturbing and as such there is a need to examine the nature of these policies if they have been responsible for increase in poverty.

Evaluation of the impact of Structural Adjustment and Stabilisation Programme (SAP) that entails broad range of policy conditionalities and envisages changes in a large number of variables is quite complex because a number of other factors may have been influencing the economic development process. Therefore, with a view to discerning the impact of SAP, a counter-factual needs to be established. Since such counter-factual relies on historical functional relations to evaluate the performance of a period characterised by massive structural changes, the problems in its formulation can be well understood.

While incidence of poverty has already increased to an alarming proportion, there is an imminent danger that it may increase even further unless a pro-poor bias is introduced in the macroeconomic policies and/or social safety nets are placed so that those who suffer by way of unemployment and reduction in incomes below poverty levels as a result of Structural Adjustment and Stabilisation measures are compensated. The study is based on the firm premise that macroeconomic policies can significantly alter economic performance not only in terms of increasing

efficiency and growth trends but also in ensuring a more equitable distribution of the gains of economic development. This can be achieved primarily through ensuring that economic growth has the maximum impact on the creation of remunerative and productive employment opportunities in a labour surplus economy as well as through investing in human resource development especially education and health services.

The main aim of this study is to identify those economic policies, especially at the macro level, which can play an important part in ensuring that the process of economic growth and development translates itself into real improvements in peoples' lives - not just in reducing poverty as measured in meeting minimum nutritional needs but also in ensuring adequate access to education and health services so as to combat early mortality, high rate of disease and very high levels of illiteracy. Pakistan's economic performance in fighting poverty cannot be divorced from its so far meager efforts at improving overall human development indicators.

The four mechanism through which macro economic policies may generate poverty include the economic programs and policies which do not promote employment through choice of technology, promotion of large firms at the cost of small firms; the taxation policy of the government; the structure of public sector expenditures especially the policy towards provision of social services and transferring income to the poorer sections of the society.

The task of identifying economic policies impacting directly and indirectly the poverty alleviation is carried out by exploring the key economic variables which explain changes in the level and trends in poverty over time in Pakistan. The plan of the study is as follows. After this introductory section, the availability and nature of data to estimate poverty trends and its determinants are discussed in Section II. Trends in poverty levels, depth and severity of poverty, income distribution, poverty and child mortality, nutritional status, and functional income distribution are analysed in Section III. The Macro-economic policies pursued under structural adjustment and stabilization are reviewed in section IV. The correlates and determinants of poverty are the subject matter of section V. Conclusions and policy implications are presented in Section VI.

II. THE AVAILABILITY OF NATURE OF THE DATA

Data are required to estimate both the levels of poverty and its determinants. Household Income and Expenditure Surveys (HIES) and in recent years Pakistan Integrated Household Surveys (PIHS)

conducted by the Federal Bureau of Statistics are the basic sources for estimating poverty trends in Pakistan.¹ Fifteen such surveys have been conducted in selected years between 1963/64 and 1998/99 but not at regular intervals. These data are also available separately for rural and urban areas and are also broken down for the four provinces in the country. While poverty levels and trends separately for the urban and rural areas are available and the sampling errors are small, the same cannot be said about the provincial level estimates. The coverage of two of the provinces (NWFP and Balochistan) in most of the years is not fully representative as they do not cover significantly large areas in these provinces where poverty is known to be high.²

For the most recent year 1998-99, the data pertain to “Pakistan Socio-economic Survey” (PSES) carried out by Pakistan Institute of Development Economics (PIDE) which has much smaller samples and covers only one season has been utilised. While this may not be fully comparable to the earlier data set, the comparison of various other characteristics shows that it is not out of line with the HIES data.

The HIES data are the only data to estimate poverty levels but they suffer from various problems such as gross under-estimation of income which has forced researchers to use the consumption based poverty estimates. From where the consumption in excess of income is financed, the studies, therefore, are generally silent. These data are not useful in formulating a policy to target those who are poor as the sample is not large enough to draw conclusions even at the provincial levels. Moreover, poverty-stricken areas sometimes are completely missing. These data, in particular, are quite weak to estimate income inequality as the highest income groups are almost excluded. It under-estimates the income inequalities. Nevertheless, the trends are not much affected because these problems exist in almost all the years.

1. There are of course a number of micro studies at the city or village level or a slightly larger geographical area based on field surveys which provide interesting insights into the characteristics of the poor as well as changing trends in poverty amongst different groups living in these areas but since this study is primarily investigating the relationship between macro-policies and poverty alleviation, these are not covered in the study. Nevertheless, it uses the data collected by Pakistan Institute of Development Economics (PIDE) for the year 1998-99.

2. Because provincial data involves large sampling error, such estimates are not included in this study.

III. TRENDS IN POVERTY LEVELS

A. Definition of Poverty

Poverty may alternatively be defined as the proportion of population whose incomes fall below a specified poverty line, generally known as head counts; the income gap, i.e. the income required to bring all the poor above the poverty line; income inequality among the poor known as FGT index etc. Whatever the poverty line, consumption levels essential to meet the food and other basic needs of the common man, the assessment of basic needs of the poor is subjective. Malik (1988) defined poverty line with reference to calorie requirement of 2550 for the adult³, and the revealed expenditure pattern of the poor between food and the non-food expenditures. The poverty line for different years is adjusted by changes in the Consumer Price Index to ensure that the same poverty line in terms of real incomes is used to estimate the poor in each year. Similar methodology is used by FBS (1995) where basic needs is defined with reference to 2550 calories for adults and the average coefficient of non-food expenditures of the poor is regressed against the food goods. The basic needs of the poor may also be estimated on the basis of educated guesses of the knowledgeable persons [for example, see Ahmed (1993)]. Linear expenditure systems approach may be used to determine the basic needs of the poor reflecting norm of society relating to basic needs of the people in a particular year [see Ali (1995)]. The poverty estimates presented in Qureshi and Arif (1999) are based on the food energy intake and the cost of basic needs.⁴ The requisite food expenditure corresponding to the required calorie intake has been obtained by regressing daily calorie-intake per adult equivalent against the monthly food expenditure per adult equivalent for both rural and urban areas. The cost of non-food elements of the basket was determined by assuming that those households whose food expenditure were equal to the food poverty line would also satisfy their other basic needs. The sensitivity of poverty to increasing non-food expenditure has also been estimated by them.

3. He used adult equivalence scales to adjust for the gender and age considerations.

4. Poverty lines have been determined on the basis of estimated cost of food consistent with a calorie intake of 2550 per adult equivalent per day of rural areas. A daily intake of 2295 calories per adult equivalent is considered for urban areas of the country.

However, poverty is a multi-dimensional concept than simple income (consumption) deprivation. Any single measure of poverty, such as head-count ratio based on specific poverty line does not fully capture all the dimensions in which poverty manifests itself. It does not reflect the real causes of wider human sufferings. 'Poverty of opportunity' index, a composite of deprivation in three vital dimensions, health, education and income is quite useful in this regard [see MHCHD (1999)]. This index captures both present as well as future deprivation; many more people are denied basic human opportunities than are denied income. Whereas about one-third of Pakistan's population is below the poverty line if poverty is defined fairly normally, nearly one-half suffer from serious deprivation of the most basic opportunities of life [Syed, (1999)].

B. Incidence of Poverty

Because of difference in the methodologies to estimate poverty lines, it is difficult to ascertain the trends in poverty. Even then the results of the studies based on different methodologies (or poverty lines) have commonly been used to investigate the changes in the incidence of poverty. Nevertheless, Amjad and Kemal (1997), Jafri (1999), and World Bank (2000), have developed consistent time series on rural, urban and total poverty covering several years of the 1980s and 1990s, for which the HIES data sets were available.

With a view to establishing trends in poverty over different time periods, we may divide the total period into four broad periods relating to the last few decades. While Naseem (1973), and Allaudin (1975) show that both rural and urban poverty had declined between 1963-64 and 1969-70, Mujahid (1978) after correcting for a methodological error in these two studies showed that poverty levels had declined in urban but increased in rural areas during this period. The studies which related the poverty line to the absorption of a minimum diet based on nutritional requirements taking as a norm the recommended 2550 calories per day per adult equivalent also showed an increase in rural poverty [see Khan and Khan, (1980), Naseem (1977), Irfan and Amjad (1984), and Malik (1988)]. Malik (1988) also covered urban areas and concluded that poverty levels had declined over the period.

That there was a dramatic decline in poverty in the 1970s overall as well as in the rural and urban areas based on a caloric norm or monthly household expenditure, all the studies are unanimous [see Irfan and Amjad (1984), Malik (1988) and Kruijk and Leeuwen (1985)].

Malik (1996) and Shirazi (1995) show that while poverty both overall as well as in rural and urban areas declined between 1984/85 and 1987/88, it then increased between 1987/88 and 1990/91. Gazdar *et. al.*, (1994) while confirm an unambiguous fall in poverty between 1984/85 and 1987/88 show a further decline till 1990/91.

The major differences in the trends in poverty are between 1987-88 and 1993-94. Jafri (1999) shows that the declining trends in poverty in the 1980s continued in the early 1990s, although he showed a slight increase in poverty between 1992-93 and 1993-94 (Table 1). The findings of the World Bank (2000) are similar, and showing further that poverty declined again in 1996-97 (Table 2). Both Jafri and the World Bank show that in 1993-94, about 28 percent of the population was poor. According to the World Bank study this percentage declined to 24 in 1996-97. However, Amjad and Kemal (1997) have shown a 5 percent increase in poverty between 1987-88 and 1992-93 overall as well as in rural areas (Table 3). Several other studies, such as Malik (1992), and Ali and Tahir (1999), support the view that poverty has increased in the 1990s. Two more recent studies, Jamal and Ghaus-Pasha (2000) and Qureshi and Arif (2001), show a further increase in the poverty in the late 1990s (Table 3). Except Jafri (1999) and World Bank⁵ (1995 and 2000), all other studies show a rise in the incidence of poverty in the 1990s.

Table 1. Incidence of poverty (head-count ratios, % poor population)

Year	Pakistan	Rural	Urban
1986-87	29.1	28.2	29.8
1987-88	29.2	29.3	30.3
1990-91	26.1	25.2	26.6
1992-93	26.8	24.6	28.3
1993-94	28.7	25.4	26.9

Source: Jafri (1999)

5. These studies had ignored variations in the size of households belonging to the same income group and therefore included households as poor which were not and otherwise.

Table 2. **Poverty measures for Pakistan (head-count ratios, % poor population)**

Year	Pakistan	Urban	Rural
1984-85	46	38	49
1987-88	37	31	40
1990-91	34	28	37
1992-93	25	26	25
1993-94	28	22	31
1996-97	24	20	26

Source: World Bank (2000)

Table 3. **Trends in the Incidence of Poverty (head-count ratios, % poor population)**

Year	Total	Rural	Urban
1963-64	40.24	38.94	44.53
1966-67	44.50	45.62	40.96
1969-70	46.53	49.11	38.76
1979	30.68	32.51	25.94
1984-85	24.47	25.87	21.17
1987-88	17.32	18.32	14.99
1990-91	22.1	23.59	18.64
1992-93	22.40	23.35	15.50
1996-97	31.00	32.00	27.00
1998-99	32.60	34.80	25.90

Source: Amjad and Kemal (1997); Jamal and Ghaus-Pasha (2000); Qureshi and Arif (2001)

It is, therefore, clear that there is no real consensus regarding trends in poverty after 1987-88. However, there is an emerging consensus that poverty has increased in the 1990s. Moreover, it is difficult to explain the declining trends in poverty in the 1990s, as shown by Jafri (1999) and World Bank (1995 and 2000), through macro-level factors such as demographic dynamics that affect the labour force and dependency ratio, employment levels, real wage rates, workers' remittances, assets ownership and access, and inflationary impact on food availability.

C. Depth and Severity of Poverty

Besides Head-count ratios examined above, the income-gap ratio and inequality among the poor known as FGT index are also widely used. While head-count measures the proportion of deprived persons, it ignores the poverty gap, i.e. the incomes required to pull the persons out of poverty. It fails to differentiate between the individuals or households who are nearer to the poverty

line from those who are at a large distance from it. An index, which takes into account the average income of the poor and its distance from the poverty line, is the income gap ratio, defined as the average poverty gap of the poor expressed as a fraction of the poverty line. The average income shortfall is taken as the poverty gap. This together with the head count index show the number of the poor as well as the depth of poverty.

While the income gap ratio determines the average depth of poverty, it is insensitive to the transfer from a poor household to a relatively poorer household, i.e. it treats all the poor the same way and as such ignores the inequality amongst the poor. Foster, Greer and Thorbeck (FGT) index exposes more poverty with greater inequality among the poor. According to this measure poverty would be higher in a situation where the dispersion in the income amongst the poor is relatively much higher than in a situation where it is relatively much smaller. The index essentially shows the income inequalities among the poor.

The studies carried out in 1970s and 1980s have rarely focused on these two important indicators of poverty. It has gradually become common among studies in poverty in Pakistan to report data on depth and severity of poverty. Data showing chronological changes in P_1 and P_2 are presented in Table 4. Data are not available for all years when the HIES was carried out.

Two studies of the World Bank (1995 and 2000) show a gradual decline in P_1 from 11 in 1984-85 to only 4 in 1996-97 (Table 4). Jamal and Ghaus-Pasha (2000) show the value of P_1 to be 7 for the 1996-97 period. Taking the results of these studies into consideration, it seems that the average income of poor households was 4 to 7 percent of the average income of the entire sample. This implies that though pervasive, poverty is not very deep in Pakistan, and therefore, it can, by and large, be reduced by proper targeting through a comprehensive poverty alleviation programs (Jamal and Ghaus-Pasha, 2000). The implications of the low values of P_2 are the same. Arif, Nazli and Haq (2001) provides estimates of P_0 , P_1 and P_2 using the same poverty line in real terms for three different years. It shows much sharper increase in the poverty gap (P_1) than the World Bank. It increases from 5.3 percent in 1993-94 to 7.6 percent in 1998-99. The poverty severity has also increased while World Bank shows a decline.

Table 4. **Poverty Trends in the 1990s by Rural and Urban Areas**

Year	Rural-urban Areas	Poverty Incidence (P ₀)	Poverty Gap (P ₁)	Poverty Severity (P ₂)
1993-94	Total	27.4	5.31	1.6
	Urban	29.9	6.67	1.8
	Rural	23.1	4.82	1.4
1996-97	Total	29.6	5.80	1.7
	Urban	31.6	6.00	2.1
	Rural	27.4	5.90	1.1
1998-99	Total	35.2	7.58	2.5
	Urban	39.8	8.39	2.6
	Rural	31.7	9.67	3.5

Table 5. **World Bank: Poverty Indicator 1984-85 to 1996-97**

Year	P0	P1	P2
1984-85	46	11	4
1987-88	37	8	2
1990-91	34	7	2
1992-93	25	5	1
1993-94	28	5	2
1996-97	24	4	1

Data on depth and severity of poverty, as reported by Jafri (1999) and presented in Table 6, show high values for P₁; the average income of poor households was below the poverty line by about 20 percent in 1986-87, and after a gap of seven years it was still 19 percent in 1992-93⁶. Similarly, Jafri (1999) shows no change in the value of P₂ overtime. It implies from Jafri's results that poverty is deep in Pakistan. In poverty alleviation programs not only the prevalence of poverty but also the depth and severity of poverty should be rigorously addressed.

6. Probably Jafri estimates the percentage of gap with incomes of the poverty line, rather than total income. That may explain the difference between his estimates and that of World Bank and Arif.

Table 6. **Poverty Indicators Under Basic-needs Approach
(based on distribution of expenditure)**

	P ₀	P ₁	P ₂
1986-87	29.1	19.7	1.7
1987-88	29.2	19.8	1.7
1990-91	26.1	19.7	1.5
1992-93	26.8	18.5	1.4
1993-94	28.7	19.3	1.6

Source: Jafri (1999)

Note: P1 refers to the transfer needed to lift the average poor person above the poverty line.

Poverty transition is another interesting concept to assess the nature of poverty. However, only one study carried out by Baulch and McCulloch (1998) has developed a poverty transition matrix for Pakistan. The data used in this study was taken from a panel data survey of around 800 households in 52 villages in rural Pakistan conducted by the International Food Policy Institute (IFPRI) between July 1986 and October 1991.⁷

The IFPRI Pakistan panel has used a relative poverty line equal to the bottom quintile of the distribution of either incomes or consumption expenditures, both expressed in per capita terms. Simple transition matrices between poverty and non-poverty were constructed for each sequential pair of years and between the first and last years of the panel. The poverty line (Rs.2,000 per adult equivalent in 1986 constant Rupees) represents the lowest quintile of the per adult equivalent income distribution in the first year of the panel and was held fixed for subsequent years. Thus although the boundary between poverty and non-poverty is determined relative to the income distribution in 1986/87, it remains absolute for the duration of the panel. The transition matrix for 1986/87 to 1987/88 is shown in Table 7 below.

7. Each household in the survey was interviewed a total of fourteen times between these dates, although due to the uneven spacing of visits it has only been possible to construct a panel for five annual rounds. Data collection took place in three provinces, Punjab, Sindh and NWFP, and within each Province in one purposively sampled least developed district.

Table 7. **Poor/Non-poor Transition Matrix 1986/87 – 1987/88**

1986/87	1987/88		Total
	Poor	Non-Poor	
Poor	67	71	138
Non-poor	80	468	548
Total	147	539	686

Source: Baulch and McCulloch (1998).

Whereas in 1996-97, poverty incidence on the basis of head-count was 20.1 percent, as much as 51.4 percent of the poor were able to escape poverty. At the same time, 14.6 percent of the non-poor fell into poverty between these two years. Overall, more than a fifth of households moved between the two categories in these two years. This high level of mobility continues throughout the period of the panel. The dynamic nature of poverty within the panel emphasizes the importance of understanding the factors influencing entries into and exits from poverty.

To calculate the impact of different explanatory variables on the changes of entering and exiting poverty, Baulch and McCulloch (1998) constructed a proportional-hazard model. The results show that the district in which a household resides does not affect either its probability of entering poverty or its chances of exit. Education and asset variables also have very little impact on a household's chances of making a poverty transition. Neither the ownership of land nor the value of physical capital affects the entry or exit probabilities. However, ownership of livestock reduce the chances of falling into poverty as well as helps them to escape from poverty.

D. Income Distribution

Income distribution, measured in terms of Gini coefficient and household income share of lowest and top 20 percent for rural and urban areas are presented in Table 8. Since the 1960s level of inequality in Pakistan has tended to be moderate, with the Gini coefficient of household income around 0.35 or below. The Gini coefficient reached 0.407 in 1990-91 and declined slightly to 0.400 in 1996-97.

In 1990-91 the income share of the bottom 20 percent of households fell to just 5.7 percent, after having been typically in the range of 7.5 to 8.0 percent over the 1970s and 1980s. With the share of the upper quintile rising, the ratio of the share of the top quintile to that of the bottom

quintile rose to an unprecedented 8.6 percent in 1990-91. The increase in income share of the bottom 20 percent of households increased from 5.7 percent in 1990-91 to 7.0 percent in 1996-97 and consequently the ratio declined to 7.1 in 1996-97 (Table 8). Separate data for rural and urban areas presented in Table 9, indicate that the increase in inequality around 1990 occurred in both places. In the former, however, the jump from 1987-88 was dramatic while in the latter it was more the continuation of a trend, which began in the mid-1980s.

During the more recent period, 1992/93–1996/97, income distribution has worsened in both rural and urban areas, although there was a slight improvement in income distribution for urban areas between the 1992/93 and 1993/94 period. The data on income distribution particularly for the 1980s give cause for serious concern about the distribution of the fruits of growth in Pakistan. It seems that the growth is weakly associated with distribution in Pakistan.

Table 8. Household Income Distribution in Pakistan

Year	Household Gini Co-efficient	Household Lowest 20%	Income Middle 60%	Share Highest 20%	Ratio of Highest 20% to Lowest 20%	GDP Growth Rates
1963-64	0.386	6.4	48.3	45.3	7.1	6.5
1966-67	0.355	7.6	49.0	43.4	5.7	3.1
1968-69	0.336	8.2	49.8	42.0	5.1	6.5
1969-70	0.336	8.0	50.2	41.8	5.2	9.8
1970-71	0.330	8.4	50.1	41.5	4.9	1.2
1971-72	0.345	7.9	49.1	43.0	5.4	2.3
1979	0.373	7.4	47.6	45.0	6.1	5.5
1984-85	0.369	7.3	47.7	45.0	6.2	8.7
1985-86	0.335	7.6	48.4	44.0	5.8	6.4
1986-87	0.346	7.9	48.5	43.6	5.5	5.8
1987-88	0.348	8.0	45.3	43.7	5.5	6.4
1990-91	0.407	5.7	45.0	49.3	8.6	5.6
1992-93	0.410	6.2	45.6	48.2	7.8	2.3
1993-94	0.400	6.5	46.3	47.2	7.3	4.5
1996-97	0.400	7.0	43.6	49.4	7.1	1.9
1998-99	0.410	7.2	40.5	42.3		

Source: Economic Survey 1999-2000.

Table 9. Household Income Distribution by Rural-Urban Areas

Year	Rural Share		Gini Co-efficient	Urban Share		Gini Co-efficient
	Lowest 20%	Highest 20%		Lowest 20%	Highest 20%	
1979	8.3	41.3	0.32	6.9	48.0	0.40
1984-85	7.9	42.8	0.34	7.0	47.7	0.38
1985-86	7.9	40.0	0.33	7.5	45.0	0.35
1986-87	8.0	39.0	0.32	7.9	44.0	0.36
1987-88	8.8	40.0	0.31	6.4	48.1	0.37
1990-91	6.0	47.4	0.41	5.7	50.5	0.39
1992-93	7.0	44.8	0.37	6.1	48.9	0.42
1993-94	7.4	43.1	0.40	6.7	47.1	0.35
1996-97	7.3	49.3	0.41	7.6	47.0	0.38

Source: Economic Survey 1999-2000.

Household income distribution appears to have worsened more in rural areas than in urban areas. Gini coefficient in rural areas increased from 0.31 to 0.41. While the share of the lowest 20 percent of the households has declined, those at the top experienced a gain, which resulted into rising highest to lowest income ratio.

E. Functional Income Distribution

Three main factors that govern personal income distribution are (i) distribution of assets, (ii) functional income distribution and (iii) transfers from other households, government and the rest of the world and the tax structure. The industrialization affects distribution of personal incomes by altering the distribution of assets and by changing the functional income distribution. Since the wage earners hardly hold any assets, changes in personal income distribution would be significantly affected by the functional income distribution. Moreover, increase in investment which also embodies sophisticated techniques of production that are capital intensive and imported from capital abundant countries tends to raise the share of capital in the output resulting in the deterioration of functional income distribution. Not only demand for labour does not grow rapidly, real wages remain constant as long as supply of labour is unlimited, and as a result any increases in productivity tends to raise the rate of profit.

Since Green Revolution technology is scale neutral it resulted in reduction of poverty and higher demand for labour [see Chaudhary (1976)]. Nevertheless as pointed out by Hussain (1992),

the impact of technology on size distribution of farms depends on the prevailing patterns of land-ownership and the social organization of agricultural production and that may have led to higher poverty especially in recent years. Poverty in recent years may also have gone up because of the increase in the input cost, stagnant yield per acre and that the farmer has to sell-off his output to pay the debt, has resulted in mass poverty in rural areas. While an increase in input prices tend to increase the cost of production, the increase the price of output hardly benefits the subsistence farmers because of their limited marketable surplus.

Functional income distribution in Pakistan indicates an improvement in the share of labour upto 1986/87; the share of wages in GDP increased from 30.2 percent in 1980-81 to 33.0 percent in 1986-87 which is in line with trends in poverty over that period. However, functional income distribution worsened to around 30.0 percent in the 1990s. Increase in capital intensity in recent years especially in the industrial sector because of fiscal concessions that cheapened the capital resulted in worsening the functional income distribution. The increase in poverty in recent years can at least partly be attributed to changes in the functional distribution of income.

F. Poverty and Child Mortality

Another variant of poverty is high incidence of child mortality. About 26 percent of mothers in 1998-99 reported the incidence of child mortality, and it was higher in rural areas than in the urban areas. The incidence of child mortality is higher among working than non-working women [(see Ali (2001)]. Less educated mothers and poor households in urban areas display higher level of incidence than their counterparts in rural areas.⁸ Housing conditions (person per room), quality of water, and type of toilet facilities used by households generate wide mortality differentials. Nevertheless, there has been differential impact between rural and urban areas. For instance, while poor households are afflicted with higher incidence of child mortality the relationship is insignificant in case of rural areas. Similarly, the relationship between mother's education, sources and cleanliness of water and faecal contamination and mortality appears to be region specific.

8. Effect of food poverty on the incidence of child mortality in rural areas was insignificant.

G. Nutritional Status

The three common indicators of nutritional status of pre-school children are stunting (height-for-age), underweight (weight-for age) and wasting (weight-for-height) [see Qureshi, Nazli and Soomro (2001)].⁹ As much as 38.8 percent children in 1998-99 were underweight, 60.1 percent stunted and 9.5 percent wasted. This indicates that a substantial proportion of children are living in poor socio-economic conditions at high risk to disease exposure. There has been improvement in the incidence of malnutrition over time and a decline in underweight children from 51.5 percent in 1985-87 to 38.8 percent in 1998-99. Stunting or height-for-age indicates chronic or long-term malnutrition. Table 10 shows a decline in the percentage of stunted children during 1980s but it increased to 50.2 percent in 1990-91 and further to 60.1 percent in 1998-99. This indicator is associated with poor socioeconomic conditions and increased risk of frequent exposure to illness. The high incidence of malnutrition can partly be explained by the increasing trend of poverty in 1990s [Qureshi and Arif (2001)]. The increased level of food poverty coupled with unfavourable socioeconomic conditions and inappropriate feeding practices has resulted in an increase the incidence of chronic malnutrition.

Table 10. **Trends in the Prevalence of Malnutrition**
(%)

Data Year	Height-for-age (Stunted)	Weight-for-height (Wasted)	Weight-for-age (Underweight)
1976-77	42.9	8.6	–
1985-87	41.8	10.8	51.5
1990-91	50.2	9.2	40.4
1998-99	60.1	9.5	38.8

Source: Micronutrient Survey (1977); National Nutrition Survey (1988); Pakistan Demographic and Health Survey (1990-91); and PSES (1998-99).

– implies not available.

9. In order to examine the status of child malnutrition, a comparison with a reference child of the same age and sex may be made. Z-score is calculated by using the median value and standard deviation (SD) of the reference population. The percentage of children whose Z-score falls below a defined cut-off point i.e., $-2SD$ from the median of the international reference population is identified malnourished children.

The various socio-economic factors affect significantly the growth pattern of children less than five years of age. Using regression framework, Qureshi, Nazli and Soomro (2001) show that mother's education, breast feeding and modernisation were negatively associated with malnutrition. Interestingly, the role of per capita caloric intake was insignificant in this context. This is rather esoteric and needs to be examined further as the results may have been affected by poor quality of the data.

IV. MACROECONOMIC POLICIES UNDER STRUCTURAL ADJUSTMENT AND STABILISATION PROGRAM

Pakistan has implemented various structural adjustment and stabilization programmes and the three such recent programmes relate to the 1988-91, 1993-96 and 1997-2000 periods. These programs aimed at reducing fiscal and balance of payments deficits and creating market friendly atmosphere. In particular, it contained rationalisation of tariff structure, import liberalisation, broaden sales taxes net, de-regulating investments and foreign exchange, financial reforms, reduction in subsidies and divestiture of public assets. While such programmes are expected to improve levels of efficiency, their impact on employment and poverty is uncertain. A number of studies including Corbo and Suh (1992), Jain and Bongartz (1994), Banuri, Khan and Mahmood (1997), Kemal (1994), Zaman (1995), Zaidi (1994), Killick (1995), Mcgillivray et al (1995), Morrissey (1995), Pasha (1995), Cameron (1995), Tetzlaff (1995) and Reiger (1995) provide conflicting evidence on the impact of such programmes on the economies of developing countries including Pakistan. In the following, we review some of these policies and trends in the strategic economic variables.

A. The Budgetary Deficits, Taxation Policy and Public Expenditures

Deterioration in government revenue, rapidly growing government expenditure and losses in public sector enterprises are the chronic deficiencies of the fiscal system of Pakistan. The tax structure, despite reform efforts remains seriously flawed. The government revenues are too narrowly based, inelastic and subject to individual and sectoral exemptions, whereas government expenditure is dominated by debt servicing. The growing imbalance between government expenditure and government revenue has resulted in accumulation of public debt, reduction in development expenditure, and further compounding the fiscal problems.

The 1988 agreement focussed on controlling the persistently rising budgetary deficit to an unsustainable level of 8.5 percent of the GDP in 1987-88. Even though budgetary deficit did decline to 6.5 percent of GDP in 1989-90, it increased to 8.7 percent of GDP in 1990-91 both because of government's failure to contain expenditures and because the financial reforms increased the cost of debt servicing. The programme signed in 1992-93 aimed at reduction in the deficit from 8.0 percent of GDP to 4.0 percent in three years but budgetary deficit never went down below six percent of GDP. Another programme signed in 1997 also called for a reduction in the fiscal deficit to 4 percent but instead it increased to 7.7 in 1997-98. It declined in subsequent years but only to 6.3 percent, almost the same at the start of the program. Besides, the already low development expenditure was further reduced. Since private and public sector investments are complementary as the latter pertain to infrastructures, the implications of the decline in public investment on growth are rather serious [see Kemal (1989)].

Table 11. **Budgetary Deficit in Pakistan**
(as percentage of GDP)

	Total Revenues	Tax Revenues	Surplus of Autonomous	Public Expenditures			Budgetary Deficit
				Total	Non-Development	Development	
1980-81	16.9	14.0	0.7	22.9	13.7	9.3	5.3
1984-85	16.4	11.9	0.5	24.7	17.9	5.5	7.7
1987-88	17.3	13.8	0.9	26.7	19.8	6.9	8.5
1989-90	18.6	14.0	0.8	25.7	19.3	6.5	6.5
1990-91	16.9	12.7	0.8	25.6	19.2	6.4	8.7
1992-93	18.0	13.3	1.2	26.0	20.3	5.7	8.0
1996-97	15.6	13.2	–	22.0	18.5	3.5	6.4
1997-98	16.0	13.2	–	23.7	19.8	3.9	7.7
1998-99	16.1	13.4	–	22.2	18.8	3.4	6.1
1999-00	17.1	12.8	–	23.4	20.0	3.4	6.3

Source: Economic Survey Statistical Supplement, 1999-2000 and previous issues.

B. Taxation Policy

The tax structure has suffered from several weaknesses that include narrow and distorted base, over-reliance on indirect taxes, and weak tax administration. The combined effects of these

weaknesses has resulted into low and stagnant tax-to-GDP ratio; low tax elasticity; and increase in poverty

Almost all the structural adjustment and stabilisation programmes call for a reduction in tariff rates and any loss of revenue was to be compensated through imposition of generalized sales tax on manufactures and imports and extending it to the retail stage. The tariff rates have already been reduced from about 125 percent to a maximum tariff of 35 percent and that may be reduced further to 30 percent in the next fiscal year. While sales tax net has been widened and efforts are underway to extend this to retail stage, it has failed to compensate fully for decline in the revenue resulting from reduction in import duties. Tax revenue has gone down from 14.0 in 1989-90 to 12.8 percent of GDP in 1999-2000. Similarly, total revenue has gone down from 18.6 to 17.1 percent of GDP over the same period.

The share of indirect taxes increased in 1980s. It increased from 79.9 percent in 1980-81 to 86.8 percent by 1989-90 because tariff reductions until 1989-90 were quite redundant and sales tax net was widened. Direct taxes fell because various concessions were provided to the investors. In the nineties, on the other hand, share of indirect taxes declined as tariff revenue fell sharply and increase in sales taxes could not compensate the decline. By 1999-2000 the share of indirect taxes had declined to 72.4 percent resulting in a fall in tax and total revenues.

Table 12. **Tax Structure of Pakistan**
(%age share of tax revenues)

	Direct Taxes	Indirect Taxes			
		Total	Tariffs	Sales	Excise Duties
1980-81	20.1	79.9	36.7	7.4	27.0
1984-85	17.4	82.6	41.2	8.4	27.6
1987-88	13.3	86.7	40.7	9.3	18.8
1989-90	13.2	86.8	42.4	13.0	19.5
1990-91	16.0	84.0	39.0	13.0	19.3
1992-93	21.0	79.0	35.1	13.0	19.8
1996-97	26.8	73.2	26.5	17.2	17.3
1997-98	29.8	70.2	21.0	15.2	17.7
1998-99	27.0	73.0	20.1	17.5	16.0
1999-00	27.6	72.4	15.6	28.9	14.3

Source: Economic Survey, Statistical Supplement, 1999-2000 and previous issues.

How the move-over from import-related taxes to the sales taxes has affected the poor? Whereas Pakistan's tax structure was progressive in pre-SAP period as was shown by Irfan (1974), Alauddin and Naqvi (1985), Jeetun (1978), Qureshi (1986) and Malik and Saqib (1989), Kemal(1994), by 1997-98 it had become regressive. We may note that over the ten year period from 1987/88 to 1997/98, the tax burden on the poorest has increased by 7.4 percent while it has declined by 15.9 percent for the richest households.

Table 13 - A Incidence of both Direct and Indirect Taxes

Income Groups	Average Income of the Groups (Rs. per month)	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
GI	489	7.94	8.74	8.95	8.40	8.09	8.97	8.61	8.89	9.58	9.22	8.60	8.38	8.24
GII	656	8.11	8.77	9.01	8.49	8.14	9.13	8.69	9.05	9.65	9.31	8.67	8.36	8.18
GIII	758	8.63	9.13	9.33	8.80	8.28	9.42	8.80	9.42	9.83	9.36	8.63	8.42	8.18
GIV	909	8.18	8.70	8.88	8.36	7.89	8.89	8.33	8.83	9.25	8.86	8.20	8.01	7.81
GV	1259	8.18	8.62	8.75	8.29	7.78	8.89	8.26	8.95	9.27	8.83	8.10	7.81	7.65
GVI	1744	8.24	8.63	8.74	8.29	7.75	8.95	8.28	9.10	9.35	8.82	8.00	7.69	7.54
GVII	2239	8.10	8.46	8.50	8.08	7.50	8.64	7.98	8.85	9.05	8.49	7.67	7.38	7.29
GVIII	2748	8.29	8.57	8.53	8.14	7.55	8.69	7.97	9.06	9.16	8.54	7.68	7.43	7.33
GIX	3246	8.03	8.32	8.31	7.93	7.27	8.49	7.77	8.79	8.92	8.31	7.43	7.08	7.13
GX	3736	8.87	9.17	9.12	8.76	8.00	9.42	8.58	9.85	9.90	9.18	8.14	7.65	7.69
GXI	4246	8.70	9.05	8.89	8.52	7.68	8.92	8.17	9.40	9.51	8.68	7.65	7.33	7.33
GXII	7770	10.17	10.41	10.06	9.84	8.74	10.14	9.25	10.70	10.64	9.75	8.59	8.03	8.14

Table 13-B The Percentage Increase in Tax Burden by Income Groups

Income Groups	Percentage Increase in Tax Burden as a percentage of Income			
	1987/88 to 1990/91	1987/88 to 1995/96	1987/88 to 1997/98	1987/88 to 1999/2000
GI	5.8	12.0	7.4	3.8
GII	4.7	18.7	6.0	0.9
GIII	2.0	13.9	-0.7	-5.2
GIV	2.2	13.0	-0.6	-4.5
GV	1.3	13.2	-1.7	-6.5
GVI	0.6	13.3	3.6	-8.5
GVII	-0.2	11.2	-5.9	10.0
GVIII	-1.2	10.5	-8.0	11.6
GIX	-1.8	11.2	-8.1	-11.8
GX	-1.2	11.6	-8.8	-14.3
GXI	-2.1	9.4	-12.5	-15.7
GXII	-3.3	4.7	-15.9	-20.7

C. Public Expenditures

The extent to which a country's public expenditure is directed towards the goal of poverty alleviation is of central importance. They have potential to reduce poverty in at least four major ways:

- employment creation
- primary education, basic health care, safe water and sanitation
- basic infrastructure needed by poor farmers, micro entrepreneurs, and labour-intensive manufacturers to provide livelihoods
- cash and food transfers to reduce the vulnerability of the marginalized segments of the society.

Public sectors development expenditure (PSDP), as percent of GDP has declined from 9.3 percent in 1980-81 to 6.9 percent in 1987-88 and further to 3.4 percent by 1999-2000. This had serious impact on growth and employment and hence the increase in poverty. At the same time the expenditure on social sectors increased especially on the Social Action Programme that focuses on primary education, primary health, nutrition, family planning and rural water supply and sanitation from 1.96 percent of GDP in 1992-93 to 2.20 percent of GDP in 1999-2000. However, increase in public expenditure on social services by one percentage point, had little impact on quality of life. As

a matter of fact, recent estimates show that enrolment rate has fallen in recent years and as may be noted from Table 14, social indicators continue to be poor compared to even other developing economies.

Table 14. **Social Indicators of Pakistan**

Items	Pakistan		All Developing Countries
	1991-92	1998-99	
Population Growth rate (%)	3.0	2.4	2.1
Adult literacy rate (%)	34.0	45.8	80.0
Primary School Enrolment (%)	66.3	63.2	85.7
Life expectancy at birth (years)	55.0	63.6	64.4
Infant Mortality Rate (per 1000)	106.0	89.0	64.0
Total Fertility Rate (%)	6.6	4.9	3.0
Contraceptive Prevalence Rate (%)	8.5	29.8	56.0
Rural Population's access to			
Safe Water (% Population)	44.0	59.2	71.0
Rural Sanitation (% Population)	12.0	25.0	42.0

Source: Pakistan Economic Survey, 1991-92, 1999-2000 and Social Action Program, 1992.

D. SUBSIDIES

The Structural Adjustment Programme also calls for elimination of both the development and the current subsidies. Elimination of development subsidies tended to increase the price of fertilizer, tubewells, pesticides etc. but the farmers were compensated through an increase in the prices of agricultural products. While it may have had positive impact on over-all growth, small farmers may have derived very little benefits. As a matter of fact, their output may have fallen. The current subsidies kept down the prices of wheat, vegetable ghee, etc. and withdrawal of subsidies has led to higher prices of these commodities.

Total per capita subsidies at constant prices increased from Rs 29.21 in 1980-81 to Rs 64.4 in 1987-88, but fell to Rs 24.7 in 1996-97. Similarly, as a percentage of GDP, subsidies increased from 0.82 in 1980-81 to 1.49 in 1987-88 period but declined to 0.33 by 1997-98 but since then increased to 0.8 percent but mainly due to subsidies provided to public enterprises to meet their losses.

Table 15. **Subsidies in Pakistan**

	At Current Prices			At Constant Prices		
	Total	Current	Development	Total	Current	Development
1980-81	2449	1425	1024	2449	1425	1024
1984-85	6861	5360	1501	5204	3937	1139
1987-88	10130	7950	2180	6687	5248	1439
1990-91	12097	10711	1386	6055	6047	694
1995-96	10777	10730	47	3188	3175	13
1996-97	11920	11920	–	3153	3153	–
1997-98	8840	8840	–	2169	2169	–
1998-99	15035	15035	–	3490	3490	–
1999-2000	25500	25500	–	5714	5714	–

Source: Pakistan Economic Surveys, various issues.

E. Safety Nets

There are various types of safety nets that transfer income both at the private level as well as at the state level. That 30 percent of the households have been the recipient of private transfers which formed 26 percent of their consumption and that shows a wide network on voluntary basis. In the lowest income group, 48 percent of the population were the recipient and almost half of their consumption was financed through the transfers. [see World Bank(1995)]. Main instruments of safety nets are discussed below.

Zakat and Ushr is the major safety net and the proceeds of this money may be used for destitute, sick and the aged and to most vulnerable group of population. Zakat is deducted by various financial institutions on deposits. State Bank of Pakistan keeps a percentage of all proceeds for national welfare and other schemes. The remaining amount is given to zakat committees for distribution who allocate 60 percent for subsistence and rehabilitation of deserving persons and 40 percent for welfare institutions.

The potential zakat, in 1996, was estimated to vary between 1.6 percent of gross domestic product (GDP) to 4.4 percent of GDP whereas the actual collection was only 0.26 percent of GDP. Table 16 indicates wide variations in zakat as percentage of gross domestic product collected and a declining trend over time. The reasons for poor collection among others include: private payment of

zakat, absence of legal compulsion, inefficiency of zakat collecting administration, and lack of confidence between contributors of zakat and the collecting agency.

Table 16. **Zakat Receipts** (Rs. Million)

Years	Total Deduction at Source	Zakat Voluntarily Paid	Other Receipts	Total Zakat	Total Zakat/GDP (%)
1980-81	844.25	1.6	–	845.9	0.31
1984-85	1334.8	1.8	–	1336.6	0.29
1987-88	2069.5	2.4	0.3	2072.2	0.33
1990-91	2792.0	5.6	0.6	2798.2	0.31
1994-95	3073.2	9.9	47.5	3130.6	0.18
1995-96	3260.6	12.5	208.1	3481.2	0.18
1996-97	3805.5	13.0	78.4	3896.6	0.17
1997-98	4088.1	11.2	19.5	4118.8	0.16
1998-99	4061.2	16.0	2434.8	6512.0	0.23

Source: State Bank of Pakistan (various issues), "Annual Report".

The other safety nets include the Food Stamp Programme that provides income transfer to meet nutritional needs, particularly for children; distribution of food, clothing and health services, and income generating projects run by non-government organizations; the voluntary private transfers through institutions including Mosques; Public Sector Benevolent Funds and Group Insurance paid through government institutional grant and monthly subscription paid by the employees; Employees' Old Age Benefit Scheme covers industrial, commercial and other establishments employing more than nine workers and provides for old age pensions, invalidity pensions, survivors pensions and old age grants to those not entitled to pension; and Micro-credit to the targeted households for poverty alleviation.

F. Monetary Expansion

Contractionary monetary policies under the Stabilization Programs eschewed the availability of credit. The reduced level of working capital as well as the credit for investments led to lower output and the levels of investments. Such policies had squeezed the credit to small scale and micro enterprises which are more labour intensive. Consequently, the employment levels did not sufficiently grow to absorb additional labour force and the real wage rates started falling. Consequently, poverty increased.

The higher fiscal deficit makes it difficult for the central banks to pursue the monetary policy. To ensure that sufficient credit for the investment is available while the inflation rate is contained in the presence of high fiscal deficit is a hard act.

The monetary expansion has been rather high since early 1990s, but the growth of money supply has fallen to single digit during the last two years because of the debt rescheduling. The increase in monetary assets resulted in high rate of inflation. During the 1990s, it increased to double digit though in the last three years it has fallen back once again to single digit level that was observed in the 1980s.

Table 17. **Growth in Monetary Assets**

Years	Monetary Assets	Domestic Assets	Inflation Rate
1980-81	13.2	16.5	10.4
1984-85	12.6	25.0	5.7
1987-88	12.3	12.7	6.3
1990-91	17.4	18.8	12.7
1994-95	17.2	13.1	13.0
1995-96	13.8	18.8	10.8
1996-97	12.2	15.3	11.8
1997-98	14.5	15.0	7.8
1998-99	6.2	3.5	5.7
1999-2000	9.4	9.4	3.6

Source: Economic Survey Statistical Supplement, 1999-2000 and previous issues.

G. GROWTH OF GDP

During the 1950s and 1960s, governments emphasized high economic growth and poverty and income distribution were left to market forces with the belief that benefit of growth will trickle down. These expectations were not fully materialized. During the 1970s, Pakistan's development strategy changed radically. Industries and financial sector of the economy were nationalized and land reform was introduced. These measures resulted in sizeable reduction in the private sector investments in productive sectors and the rate of economic growth. The worker's remittances became a major source of foreign exchange earnings. The high growth rate and increased inflow of remittances, in the 80s helped in reduction of poverty. The growth rate has fallen significantly in the nineties. While the inadequacy of infrastructure especially energy and transport facilities always threatened to slow

down the growth rate, the decline in public investment coupled with failure of private investment to rise resulted into lower level of productive capacity. Total investment increased upto 1992-93 but it has declined since then. The slowdown of growth in the 1990s and fall in remittance had adverse consequences for poverty alleviation.

An analysis of poverty in the context of growth and income inequalities in rural and urban areas is quite revealing. Poverty in rural areas show a decline in both the time periods if higher poverty lines are used but it shows a decline in the earlier period and an increase in the latter period corresponding to the lower poverty line. Since in the 1984-85 to 1987-88 period growth was accompanied with falling income inequality, poverty declined, the impact of growth seems to have been inadequate to offset the effect of rising income inequality in the latter period. It needs to be underscored that the income share of very poor, i.e., the first quartile, has gone down but the incomes of the remaining quartiles have increased. This pattern of differential in the growth or lack of it may be attributed to removal of subsidy on agricultural inputs and compensation of the farmers through an increase in the prices of output. The farmers who had very little marketable surplus were at a disadvantage because their input cost increased but they could hardly draw any benefits from increase in the prices of agricultural products. In the urban areas the poverty increased despite a growth rate of GDP per capita of 2 percent per annum mainly because the employment opportunities fell significantly and wages of the unskilled workers declined.

Table 18. **Investment and Growth**

	Growth of GDP	Fixed Investment (% of GDP)		
		Total	Private	Public
1980-81	6.4	15.9	7.2	8.7
1984-85	8.7	15.3	7.0	8.2
1987-88	6.4	15.8	7.4	8.5
1990-91	5.4	17.1	8.7	8.3
1992-93	2.1	19.0	10.0	9.0
1994-95	5.1	16.8	8.6	8.2
1995-96	6.0	17.4	9.1	8.3
1996-97	1.7	16.5	9.6	6.9
1997-98	3.5	15.2	9.9	5.3
1998-99	3.2	13.4	8.0	5.3
1999-00	4.5	13.5	8.1	5.4

Source: Annual Report of State Bank of Pakistan, 1999-2000.

Lower level of investment, deflationary policies, tariff rationalization, inadequate infrastructure, smuggling etc. has led to a very sharp fall in the growth of output in the nineties, averaging 4.0 percent per annum. Since Structural Adjustment and Stabilization Programmes did not lead to reduction in inflation, and at the same time also resulted in slower growth rates, the poor has been hit quite hard.

H. EMPLOYMENT

Time trend on labour market shows higher level of activity rate but at the same time employment has grown at a rate of just 2 percent resulting in an increase in unemployment rate over time. An examination of the age-specific un- and under-employment shows that teenagers and youth suffer from higher level of unemployment than the remaining age cohorts. Moreover, a quarter of the employed persons earn incomes falling short of the subsistence level, while another one-quarter is on the borderline of the subsistence level. About ten percent of the employed had insufficient work, i.e., less than 35 hours a week.

With the existing employment elasticity ranging between 0.30 to 0.35, the growth rate shall have to exceed 8 percent, if incremental labour force is to be employed. Unless there are massive dozes of capital flows either in the form of foreign aid or in terms of private investment, such high rates of growth are not very realistic. Alternatively, efforts shall have to be mounted to increase the employment elasticity through macro-economic policies.

Table 19. **Distribution of Unemployment Rates**

Year	Pakistan	Urban	Rural
1989-90	3.1	4.6	2.6
1992-93	4.7	5.8	4.3
1993-94	4.8	6.5	4.2
1994-95	5.4	6.9	4.8
1996-97	6.1	7.2	5.7
1998-99	6.4	8.9	5.0

Source: LFS 1992-97 and PSES 1998-99.

Poverty and labour market interlinkages may be investigated through disaggregation of household population and workers by poverty status. An association between inactivity and poverty but mostly in the rural areas has been found in recent years in Pakistan. Labour force belonging to poor households exhibited higher level of unemployment and underemployment than their counterparts in the non-poor households. Controlling for the poverty status of the households, the association between employment structure and poverty suggests that workers from poor households are disproportionately absorbed in informal and farm sector whereas the reverse holds for relatively richer households who are employed in formal sector, government as well as non-government.

Table 20. **Percentage Distribution of Workers by Establishments**

Establishments	Poor			Non-Poor		
	Pakistan	Urban	Rural	Pakistan	Urban	Rural
Farm	43.62	4.45	50.26	37.69	5.09	60.75
NF.NFE <10	37.96	68.42	34.38	25.11	43.37	24.58
NF.NFE > 10	5.78	7.69	4.93	17.44	24.88	3.56
Govt.	4.30	6.75	3.14	12.10	16.14	5.47
Other	8.34	12.69	7.30	7.66	10.52	5.64

Source: The PSES 1998-99.

Real wages of all types of workers (public as well as private) at best reflect stagnation during the 1990s. This is despite the fact that there was an increase in per capita income, though low compared to earlier periods, but living conditions of the wage earners in the society deteriorated.

I. CGE Modelling

The impact of tariff reduction on poverty has been derived through CGE modeling Kemal *et al.* (2001) who use the framework developed by Decaluwe *et al.* (1996). The simulation exercises suggest that reduction in tariff rates lowers the price of imported goods, which in turn affect the domestic relative output price and input price structure and hence supply and demand of all commodities. The tariff reduction increases the gap between the rich and poor as the results show that share of capital in GDP has increased and that of labour declined. Gini coefficients show worsening income distribution, though the increase is marginal. However, consumption of each

household group has increased, though the increase in consumption of rich is greater than the increase in consumption of poor. This implies that the policy change favours rich class and benefits more to rich as compared to poor in terms of income as well as consumption. Nevertheless, this indicates an increase in poverty.

Table 21. **Factors Share in GDP and Income Distribution**

	Before Simulation	After Simulation
Factors Share in GDP		
Labour Share	0.28	0.27
Capital Share	0.72	0.73
Income Distribution		
Gini-coefficient		
Pakistan	0.3911	0.3913
Urban	0.3784	0.3791
Rural	0.4005	0.4008

V. UNDERSTANDING POVERTY: DIFFERENTIALS AND CORRELATES

Who are poor and what has led to changes in poverty is important for devising poverty alleviation strategy. In this study, we use both cross-section as well as time series analysis to explore the determinants of poverty.

A. Cross-section Analysis

Multivariate regression analyses were carried out to identify the characteristics of the poor people. The dependant variable is alternately the food poverty and poverty by basic needs and takes the value of one if poor and zero otherwise. We designate the two as model 1 and model 2. As the dependant variable in both the models was binary, logistic regression was used.¹⁰

10. A logit estimate is considered significant if it is double the associated standard error value. At the bottom of each column of the table are the relevant number of cases and the value of $-2 \log$ likelihood.

Table 22. Logistic Regression Effects of Predictors on Being Poor (Odds Ratios)

Predictors	Model 1	Model 2
	Food Poverty	Basic Needs
Age of the Head of Households (Years)	0.98 [†]	0.98 [†]
Sex of the Head of Household (Male = 1)	0.97	0.99
Household Size		
1-4	1.00	1.00
5-6	2.78 [†]	2.93 [†]
7-8	4.62 [†]	5.81 [†]
9+	8.34 [†]	10.86 [†]
Education of the Head of Household		
Illiterate	1.00	1.00
Primary (1-5 Years Schooling)	0.74 [†]	0.77 [†]
Middle (6-9 Years Schooling)	0.54 [†]	0.45 [†]
Matriculation & above (10+ Years Schooling)	0.24 [†]	0.22 [†]
Technical Education (Yes = 1)	1.12	0.84
Farm status of households (Farm = 1)	0.55 [†]	0.61 [†]
Duration of Continuous Residence (Head Only)		
Since Birth	1.00	1.00
< 10 Years	1.08	0.99
≥ 10 Years	0.96	0.85 ^{**}
Place of Residence (Urban = 1)	0.56 [†]	0.31 [†]
Number of Earners in a Household	0.89 [†]	0.96
Remittances (Receiving = 1)	0.69 [†]	0.63 [†]
-2 Log Likelihood	3963	3852
(N)	3544	3544

Source: Kemal, Irfan and Arif (2001).

The age of the household head reduces the probability of the household being poor and larger size of the household is more likely to be poor. Households with 9 or more members were 8 times more likely than households with 4 or less members to be poor. Not surprisingly, the number of earners had a significant and negative impact on the probability of being poor. It appears from the effects of household size and the number of earners on the poverty status that dependency ratio may be quite high in large households. Schooling of household head was very influential on the probability of poverty. If the head of the households had at least 10 years of schooling, it was 0.24 times less likely to be poor than the illiterates. Primary and middle level education also had a significant negative effect on the probability of being poor. Farm status of household had an independent effect on the poverty status. Farm households are less likely than non-farm households to be poor. The residence in urban areas was negatively associated with the poverty status. Finally,

households that received remittances from abroad or within the country were less likely than non-receiving households to be poor. Consistent with other studies [see, for example Baulch and McCulloch (1998)], the sex of the household head had no significant effect on poverty status. Duration of continuous residence which was insignificant in model 1 turned out to be significant in model 2 at 10 percent level. Similarly, the number of earners that was significant in model 1 did not turn out to be significant in model 2.

B. Time Series Analysis

Four broad categories of factors impacting on the levels and trends of poverty are the structural characteristics of the economy, per capita output, foreign flows, and safety nets.

(i) Structural characteristics of the economy include amongst others the structure of output, the sectoral distribution of the labour force and the pattern of ownership of the means of production.

(ii) Output Levels. Especially important here is the availability of food at stable prices given the nutritional norms underlying the specification of the poverty line. Levels of per capita income (alternatively GDP or its growth) are expected to be associated with lower level of poverty, and higher level of inflation to adversely impact upon poverty levels.

(iii) Foreign Remittances: These flows can impact upon poverty levels both through directly supplementing incomes and consumption levels as well as through increasing the capital stock resulting in higher levels of output growth and employment generation in the economy.

(iv) Subsidies are provided by the Government to keep prices lower for essential commodities as well as subsidies for key inputs which would result in increasing output of key commodities especially in the agricultural sector.

With respect to the major correlates of poverty, we had identified some of the economic indicators which could best capture them.¹¹ These were:

- (i) Real per capita GNP (YPEP). Alternatively GDP and its growth rates (GGDP).
- (ii) Income distribution measured by gini coefficient (gini)
- (iii) Per capita availability of food grains (CPC).
- (iv) Inflation rate as percentage change over the previous year (CPI).

11. We could not examine the impact of subsidies and real wages as data were not available for all theyears.

(v) Unemployment (UNEMP).

In terms of available output for current consumption we would expect (i) the higher the per capita income, the lower would be poverty level; (ii) the higher the per capita availability of food grain, the lower would be the poverty levels; (iii) the lower the level of inflation, the lower will be the level of poverty; (iv) the higher the level of remittance per capita, the lower would be the level of poverty; (v) the higher the level of available subsidies, the lower would be the level of poverty; and (vi) the higher the unemployment lower the poverty.

In Amjad and Kemal (1997), Ali and Tahir (1999), and Mohsan, Kemal and Qadir (2001) have used the single variables to explain poverty. This does involve specification error as the following results of single variable case on regression shows. For example, increase in cereal production tends to increase poverty.

Table 23. **Determinants of Poverty — Single Variable Case (Log-linear)**

Explanatory Variable	Coefficient	Standard Error	R ²	R ⁻²	F-ratio
GDP	-0.422	3.87	0.52	0.48	14.97
Per capita income	-0.880	8804.87	0.63	0.60	23.73
Growth rate of GDP	-0.188	11.24	0.10	0.03	1.53
Gini coefficient	-2.202	1.81	0.20	0.14	3.28
Remittance	-0.180	7.04	0.78	0.76	49.50
Unemployment	-0.423	1.60	0.15	0.09	2.56
Cereal production	-0.459	2.66	0.34	0.29	7.06
Inflation	-2.541	2.68	0.34	0.29	7.17
Agricultural Productivity	-0.350	5.18	0.66	0.63	26.85
Openness	-0.640	5.88	0.71	0.69	34.57
Exports	-0.487	4.69	0.61	0.58	21.98

Would the growth rate of GDP help in reduction of poverty may be analysed through multivariate analysis. Three variables have alternately been used to capture the impact of growth on poverty, viz., GDP, growth rate of GDP, and per capita income. Since the series is short and a number of variables form collinear set, the impact of each variable is difficult to ascertain. When all the variables are introduced in the equation, growth turns out to be insignificant [equations 1, 6 and

11]. Gini coefficient has the right sign but insignificant. Cereal production is significant and has the wrong sign, i.e. increase in cereal production increases poverty is perverse. The two variables that turn out to be significant and have the right sign are remittances and unemployment. Since inflation rates also turn out to be insignificant, we exclude cereal production, inflation and Gini coefficient from our specification. Resultantly, the per capita incomes, employment and remittances are all rather significant in explaining poverty. Similarly, GDP also turns out to be significant though not the growth rate. The three factors explain 93 percent of the variations in poverty.

The results regarding some of the other variables need to be interpreted with extreme caution. The fact that the level of inflation is not significant may have far more to do with the way it has been defined and used in this analysis. Since it is picking up only the level of inflation in that year and the poverty levels are based on observations with widely different time intervals and hence reflecting changes over that time period as well as economic developments in that particular year, it would be difficult to isolate the impact of inflation in that year unless it was dramatically high. The same is true of the changes in the Gini coefficient.

	Constant	GDP	GGDP	YPER	REMT	GINI	UNEMP	CPC	CPI	R ²	R ⁻²	F
1	5.65 (1.65)	0.053 (0.15)			-0.234 (4.61)	0.612 (0.97)	0.616 (2.66)	0.281 (1.85)	-0.58 (0.30)	0.95	0.92	26.4
2	5.083 (2.70)	-0.20 (0.85)			-0.228 (5.17)	0.537 (0.98)	0.611 (2.79)	0.290 (2.06)		0.95	0.92	35.3
3	4.500 (1.15)	0.301 (0.56)			-0.221 (2.84)	-0.193 (0.19)			-1.554 (0.48)	0.83	0.76	11.9
4	8.700 (3.69)	-0.377 (2.04)			-0.178 (4.20)	-0.042 (0.08)	0.837 (3.84)			0.92	0.90	32.5
5	8.77 (5.56)	0.379 (2.61)			-0.180 (5.25)		0.859 (4.77)			0.93	0.91	52.07
6	6.643 (1.86)		0.047 (0.63)		-0.242 (6.87)	0.689 (1.14)	0.762 (2.68)	0.243 (1.68)	-0.72 (0.50)	0.95	0.92	27.74
7	4.897 (9.23)		0.033 (0.60)		-0.243 (7.25)	0.691 (1.08)	0.664 (3.38)	0.295 (3.12)		0.95	0.93	36.28
8	10.64 (3.66)		0.086 (1.12)		-0.244 (6.33)	0.507 (0.77)	0.997 (3.67)		-2.508 (2.30)	0.94	0.90	27.19
9	4.08 (6.44)		0.046 (0.52)		-0.260 (5.73)	-0.508 (0.87)	0.649 (2.41)			0.91	0.86	22.9
10	4.62 (33.47)		0.055 (0.75)		-0.264 (7.69)		0.591 (3.17)			0.89	0.87	33.43
11	5.880 (1.33)			-0.029 (0.05)	-0.225 (3.12)	0.571 (0.91)	0.638 (2.80)	0.269 (1.73)	-0.340 (0.22)	0.95	0.92	26.36
12	5.533 (1.43)			-0.094 (0.17)	-0.221 (3.37)	0.522 (0.94)	0.623 (3.02)	0.281 (2.04)		0.95	0.92	35.4
13	10.79 (3.2)			-0.876 (2.06)	-0.137 (2.33)	-0.148 (0.29)	0.818 (3.88)			0.92	0.90	32.70
14	11.260 (3.28)			-0.501 (-0.79)	-0.167 (-2.37)	0.147 (0.23)	0.842 (3.89)		-1.299 (-0.81)	0.93	0.90	25.38
15	11.32 (4.46)			-0.927 (2.63)	-0.131 (2.64)		0.824 (4.86)			0.93	0.91	52.35

IX. CONCLUSIONS AND POLICY IMPLICATIONS

The main conclusions are summarised in the following:

1. Compared to a significant decline in poverty during the 1980s, poverty incidence has increased rather significantly in the 1990s. Compared to 17.8 percent persons falling below poverty levels in 1987-88, and 22.4 percent in 1992-93, the incidence of poverty has increased to 32.6 percent according to calorific poverty line. The incidence increases to 35.2 percent if the poverty lines corresponding to definition of basic needs applied.
2. The incidence of poverty (food) in rural areas is more widespread in rural areas than in the urban areas. It was 34.8 percent in rural areas compared to 25.5 percent in the urban areas. On the basis of poverty lines corresponding to basic needs approaches, the incidence in rural areas was 39.8 percent and in the urban areas it was 31.7 percent.
3. Poverty is more widespread amongst the non-farm households than the farm-households in the rural areas. Similarly having larger household was associated with higher incidence of poverty. Those having low levels of education and skills form major proportion of the poor. The remittances have positive income on the poverty alleviation. Poverty is also associated with unemployment, under-employment and irregular work.
4. While the per capita income growth did fall, it still increased by roughly 10 percent between 1993-94 and 1998-99 period. However, it has been accompanied with worsening distribution of income. The ratio of the income of the highest 20 percent to the lowest 20 percent increased from 4.4 percent in 1993-94 to 5.2 percent in 1998-99. Gini coefficient also increased from 0.40 in 1993-94 to 0.41 in 1998-99.
5. Unemployment increased from 4.7 percent in 1992-93 to 6.4 percent in 1998-99. Moreover, it is much higher in the urban areas where it has increased from 5.8 to 8.9 percent and in rural areas from 4.3 to 5.0 percent over 1992-93 to 1998-99 period. Teenagers and youth suffer from higher level of unemployment than others. The under-employment has also increased from 11.5 to 18.4 percent over the same period.
6. There is an association between inactivity and poverty especially in the rural areas. Similarly, the labour force belonging to poor households exhibit higher levels of unemployment and under-employment than their counterparts in non-poor households.

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7. Rising level of unemployment has also affected the wage rates. Real wages of all types of workers at best reflected stagnation and in most of the cases real wages have fallen. Since the poor form larger proportion of the working class, both decline in employment possibilities and fall in real wages have been responsible for rising poverty levels.
 8. The child mortality is higher in the rural areas than in urban areas. In the urban areas incidence of child mortality is higher among working than non-working women, less educated mothers and the poor households. Housing conditions, quality of water and type of toilet facilities also are associated with differentials in mortality. In the rural areas, poverty of the households, mother's education, source of drinking water and sanitation also are not correlated with incidence of child mortality.
 9. About 38.8 percent children are underweight, a number very similar to the proportion of the poor persons. That as many as 60.1 percent had less height for their age, i.e. stunted, is rather worrisome. About 9.5 percent had less weight for height, i.e. wasted. All this indicates a substantial proportion of children living in poor socio-economic conditions at higher risk to disease exposure. A decline in mean weight of children under six months is a cause for concern. It not only indicates a high incidence of malnutrition among the children of this group but also of their mothers. Mother's education and modernisation affect positively the nutrition levels.
 10. Contrary to expectations, fall in tariff rates resulted in falling labour share. This may have been due to allocation of resources towards more capital intensive non-traded goods sector. In any case share of wages show decline from 0.28 to 0.27. Income distribution also worsens though marginally. However, consumption of each household group has increased, though increase in consumption of rich is greater than the increase in consumption of poor.
 11. Per capita income, remittances and employment turn out to be the major variables affecting poverty. Growth is biased towards employment generation would help in poverty reduction.

The analysis suggest that if the human development is promoted and pro-poor growth oriented strategy is pursued, it will help in poverty reduction. One of the main characteristics of the poor is their large size of households, lack of education and skills, and other human resources. Accordingly, government must accelerate the efforts at containing the growth rate of population. Various studies

have shown that there is unmet demand of contraceptives. There is a need to integrate family planning services with the health services at the service delivery level. Those having higher levels of education tend to have small families and in general are not poor. Universalisation of primary education in that direction can play an important role. Removing the gender and regional imbalances in the availability of education facilities and decentralisation of powers to the grass root level can be instrumental in realising the objective. The nutrition and health ought to be an important component of the poverty reduction strategy. Accordingly, there is a need for a shift in policy to emphasise preventive, promotive and primary health care by upgrading existing facilities.

The small and micro enterprises create more employment and result in higher level of output as they are productive users of capital. However, they suffer from inadequate credit and as is well known the credit is the entitlement to resources. Unfortunately, credit has been pre-empted by larger producers. Besides others, the stringent requirements of collateral and guarantees have been responsible for this state of affairs. Moreover, credit is necessary but not sufficient for employment generation. Mere provision of credit may result in the indebtedness.

Most of the poor live in the rural areas and maximum incidence of poverty is amongst the landless. Similarly, maximum incidence in the urban areas is amongst the informal sector. These segments of population must be provided the credit and that must be accompanied with a package comprising of external and internal demand for the product, skill development, choice of activity etc.

The provision of credit and package may be done through NGOs and community based organisations. Community-based models, direct interventions, require time and investment to reach a scale sufficiently large to have a significant impact on the overall poverty scene. They can help in the local level infrastructure, as an incentive for promoting community organisations, being an essential part of the strategy. Also in training of female workers through informal and imparting of basic technical skills, in conjunction with availability of microfinance would be undertaken to increase their participation in the development process. They would also be helpful in clustering of small NGOs to build capacity and achieve low overhead costs.

To enhance their productivity and transform them into a dynamic and fast growing workforce greater attention needs to be given to the development of their basic skills. The skills training should be geared towards labour market requirements and imparting practical and marketable skills. The

private sector and NGOs involvement can ensure that. Special vocational training institutions need to be established for workers.

Under the stabilisation programmes, the public investment tends to fall with a very strong multiple impact on employment and poverty as public investment focuses on construction projects that are labour-intensive. Accordingly, poverty strategy must combine the elements of public investment and private sector investment allocation to labour intensive activities.

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ANNEXURE

Years	Per Capita Availability of Food Grains	Consumer Price Index	Gross Domestic Product	GDP Growth Rate	GINI Coefficient	Gross National Product	Trade Openness Index	Export Openness Index	Population	Total Poverty	Rural Poverty	Urban Poverty	Remittances	Unemployment	Wages	Per Capita Income
1963-64	2.35	9.82	98,902	6.65	0.39	25,157	0.16	0.04	50.31	40.24	44.53	38.94	35.00	0.98	166.48	1,994
1966-67	2.08	9.80	119,832	3.74	0.36	38,985	0.13	0.03	54.79	44.50	40.96	45.62	39.00	1.13	110.71	2,222
1968-69	2.76	9.78	135,972	6.15	0.34	41,945	0.11	0.04	58.00	47.59	40.92	49.70	30.00	1.28	125.06	2,385
1969-70	2.96	9.75	148,342	9.10	0.33	48,298	0.10	0.03	59.70	46.53	38.76	49.11	100.90	1.42	106.81	2,541
1970-71	2.67	9.73	149,900	1.05	0.35	51,273	0.11	0.04	61.49	49.13	42.55	51.32	48.70	1.57	98.95	2,485
1971-72	2.68	9.71	153,018	2.08	0.37	55,367	0.12	0.06	63.34	49.85	39.37	53.35	106.90	1.74	99.49	2,695
1979	3.01	10.13	218,258	5.57	0.37	211,004	0.25	0.08	78.94	30.68	25.94	32.51	1,397.00	1.98	108.36	3,353
1984-85	2.82	10.58	321,751	8.71	0.36	463,375	0.28	0.08	94.13	24.87	21.17	25.87	2,445.92	1.74	80.16	4,127
1985-86	2.99	10.63	342,224	6.36	0.35	507,678	0.28	0.10	96.84	21.35	19.36	22.20	2,595.31	2.04	81.70	4,248
1986-87	1.15	10.86	362,110	5.81	0.35	551,809	0.28	0.11	99.60	18.65	16.86	19.43	2,278.56	1.92	97.59	4,336
1987-88	1.06	10.99	385,416	6.44	0.41	630,120	0.30	0.12	102.41	17.32	14.99	18.32	2,012.60	1.80	86.89	4,433
1990-91	1.10	11.12	446,005	5.57	0.41	928,406	0.33	0.15	110.79	22.11	18.64	23.59	1,848.29	1.69	79.92	4,639
1992-93	1.06	11.44	491,325	2.27	0.40	1,201,301	0.36	0.15	116.47	22.40	15.30	23.35	1,562.24	2.16	73.80	4,778
1993-94	1.08	11.76	513,635	4.54	0.40	1,404,853	0.33	0.15	119.39	27.93	20.89	31.24	1,445.56	2.63		4,813
1996-97	1.13	12.09	588,191	1.93	0.41	2,207,230	0.36	0.15	128.42	29.60	27.40	31.60	1,489.47	3.10		4,927
1998-99	1.18	12.43	632,517	3.11		2,685,531	0.32	0.15	134.90	35.20	31.70	39.80	1,055.88	3.55		4,946