View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Research Papers in Economics

PIDE Working Papers
2010: 60

Determinants of Urban Poverty: The Case of Medium Sized City in Pakistan

Masood Sarwar Awan
University of Sargodha, Sargodha

and

Nasir Iqbal
Pakistan Institute of Development Economics, Islamabad

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means—electronic, mechanical, photocopying, recording or otherwise—without prior permission of the Publications Division, Pakistan Institute of Development Economics, P. O. Box 1091, Islamabad 44000.

© Pakistan Institute of Development Economics, 2010.

Pakistan Institute of Development Economics
Islamabad, Pakistan

E-mail: publications@pide.org.pk
Website: http://www.pide.org.pk
Fax: +92-51-9248065

Designed, composed, and finished at the Publications Division, PIDE.

C O N T E N T S

List of Tables

List of Figures

ABSTRACT

Urban poverty, which is distinct from rural poverty due to demographic, economic and political aspects remain hitherto unexplored, at the city level in Pakistan. We have examined the determinants of urban poverty in Sargodha, a medium-size city of Pakistan. The analysis is based on the survey of 330 households. Results suggest that employment in public sector, investment in human capital and access to public amenities reduce poverty while employment in informal sector, greater household size and female dominated households increase poverty. We recommend greater investment in human capital and public amenities as a strategy for poverty alleviation.

JEL classification: I310, I320, R200
Keywords: Urban Poverty, Pakistan

1. INTRODUCTION

The process of urbanisation has dual impact on the development process of an economy. Initially, it encourages the workers to switch from low productive sector i.e. agriculture to high productive sectors like services and manufacturing [Becker, *et al.* (1994)]. Subsequently, it generates formidable problems for residents by depriving them of access to essential basic needs [Egziabher (2000)]. It is also observed that the poor try to urbanise faster as compared to the whole population [Ravallion (2007)] and this urbanisation process leads toward the emergence of urban poverty. Urban poverty is distinct from the rural poverty with respect to its incidence, economic, demographic and political aspects. The urban poverty can be controlled by developing the clear understanding of its nature, magnitude and intensity.

It is estimated that the urban population of Pakistan is 35 percent of the total population and its annual average growth rate is 3.4 percent (1990-2005) which is much higher as compared to South Asia's figure of 2.8 percent in the same period [World Bank (2007)]. Such expansion of urbanisation formulates a daunting task of peering at the issues of urban poverty. In Pakistan, the phenomenon of poverty is moving like a business cycle. It was high in 1960s and came down in 1980s, but again moved upward in 1990s before falling rapidly after 2000. Urban poverty fell from 22.7 percent in 2000-01 to 13.1 percent in 2005-06 [Pakistan (2008)]. This rapid fall of urban poverty is linked with strong economic growth, rise in per capita income, large inflow of remittances, and better economic and social policies of last government [Chaudhry, *et al.* (2006)]. Recently, high inflation eroded the gain made in poverty reduction by pushing people clustered close to the poverty line to the below the poverty line [Anwar (2008)]. High inflation, global financial crises and recession in domestic economy cause positive shift in poverty measures.

In a single glance, we can observe the dimension and movement of poverty in different time periods by observing these poverty trends and statistics. These statistics depict the path of poverty but in a limited way. Specifically, this information does not provide with any details of the causes of poverty. For instance, is poverty high due to low education or large family size or due to any other reason? Given the changing level of poverty and emergence of new forms of urban poverty, it is necessary to examine urban poverty especially at city level. City level poverty assessment is tool for acquiring up-to-date information

Acknowledgements: The authors are thankful to Pakistan Institute of Development Economics that provide funding for survey 'Assessment of Poverty in Sargodha City'.

on a city's poverty and its social development. Poverty profile at city level will provide a snapshot about who is poor, where they live in the city, their access to services, their living standards and so forth, thereby contributing to the effective targeting of poverty by policy measures. Keeping this in view, the objective of this paper is to estimate the poverty level and its determinants that affect the poverty status at city level.

The sample city, chosen in this study to analyse the urban poverty and its determinants is 'Sargodha' which is 10th largest city of Pakistan. The estimated population of the city was 0.57 million in 2007 where 0.464 million people resided in municipal jurisdiction and almost 0.106 million dwelt in cantonment area [Punjab (2007)]. Sargodha city is the central hub of the district's agriculture and industrial activities. The major crops of this area are wheat, rice, sugarcane and citrus. Moreover, the district has gained immense fame in citrus production especially the oranges (kinnows) of Sargodha which have earned worldwide praise in taste. Hosiery, Textiles, Chemicals and Soap are major manufactures of this area. Sargodha has grown at a very rapid rate and become a major urbanised area in Punjab. It is the industrial, commercial, financial and service centre of the country. In recent years, the urban infrastructure has become overburdened and the city has been subjected to considerable urban strife. Keeping the importance of the city in view, it becomes essential to conduct a detail study on poverty.

The theoretical concepts are presented in section two and socio-economic characteristics of the city followed by this section. Section four and five consists on methodology and poverty profile of the city respectively. Section six explains the determinants of the poverty and last section concludes the paper and tries to present some piece of policy recommendation to reduce poverty.

2. REVIEW OF LITERATURE

Poverty is a multidimensional phenomenon and measured in various ways. Generally, concept of absolute poverty is used to measure the poverty. Absolute poverty is based on defining minimum calorie intake for food need and minimum non food allowance for human need required for physical functioning and daily activities and this approach requires assessment of a minimum amount necessary to meet each of these needs [Anwar (2006)]. For this purpose, the most prominent approach used in Pakistan is calorie-based approach [Naseem (1977); Irfan and Amjad (1984); Cheema and Malik (1984); Malik (1988)]. In this approach, the poverty line is set as the average food expenditure of those households who consume in the region of the minimum required calorific intake. Ercelawn (1990) used calorie consumption function to derive expected total expenditure of those households who consume minimum required calorific intake. This method derives expected expenditure for potential (2550) calorific intake [Sherazi (1993)]. Subsequently, this method was modified by adjusting

for non-food expenditures [Jafari and Khattak (1995); Ali (1995); Amjad and Kemal (1997)]. These studies used 2550 calories per day per adult as the calorific cut-off point for estimation of absolute poverty. This calorie norm was recommended by Pakistan Planning Commission (1985) and supplemented by recommendations of FAO/WHO. The nutrition cell of Planning Commission, Government of Pakistan reduced the calorie cut-off point for Pakistan to 2150 calories per person per day per adult in 2002 but revised this threshold level to 2350 calories per adult equivalent per day in July 2002 [Anwar (2006)]. Recently, there are number of studies conducted in Pakistan by different institutions and authors to examine the true picture of poverty in Pakistan. These studies used 2350 calories per adult equivalent per day as threshold point by including food and non food items for measuring absolute poverty [World Bank (2006); Anwar and Qureshi (2003); Anwar, *et al.* (2004); Anwar (2006); Jamal (2005); Jamal (2007) and Planning Commission and CRPRID (2006)].

Natural population growth, rural to urban migration and the reclassification of rural to urban areas works as deeper determinants of urban poverty. It is estimated that rural to urban migration and reclassification of areas are responsible of 40 to 50 percent of urban population growth [UN (2005)]. Role of informal sector could not be ignored in explaining the phenomenon of urban poverty. Informal sector absorbs a large part of gigantic population of developing countries. Hence informal sector, a dominant part of urban areas, assimilates a lot of workers which are constantly becoming the part of urban population due to rising urban population, rural-urban migration and reclassification of areas. Over the year, absorption of labour force in informal sector of the economy increases from 60.2 percent (1999-00) of the total labour force to 66.1 percent in 2006-07 in urban areas of Pakistan [Pakistan (2008)]. The poor section of the urban population can be divided into the ‘working poor’ category and ‘unemployed poor’ category whereas the informal sector is dominated by the working poor category but at the same time the destitution of unemployed cannot be ignored [Manda and Odhiambo (2003)].

Poverty dynamics are closely linked with demographic characteristics of the household especially family size, dependency ration, sex of the head of the household, age composition and literacy of the head of the household. Household size is prime demographic factor and it is generally positively related with the poverty status [Qureshi and Arif (2001); Chaudhry (2009)]. Large family size is likely to put extra burden on a household’s assets and resource [McKay and Lawson (2002)]. Education of household head is the significant determinant of household poverty [Qureshi and Arif (2001)] and the literate head of household reduces the probability of being poor [Chaudhry (2009)]. Jamal (2005) showed that in urban areas dependency ratio is also positively related with the poverty status of the household.

Human capital acts as fundamental determinant in enhancing the income level and hence in poverty reduction. Pakistan has owned the poverty reduction strategy paper in which one of the main pillars of poverty reduction is human capital. Without human capital formulation, the goal of development or poverty elimination is inevitable. Human capital accumulation is largely based upon education and skills attainment. Nasir and Nazli (2000) found that monthly earnings of an individual worker increased by 7.3 percent with an additional year of schooling. Earnings will be increased by 37 percent with the attainment of ten years of schooling against no education. They also found that quality of schooling has significant effect upon earnings where quality is here defined as schooling at private schools. Hence education can increase the earnings potential of the poor. Thus investment in human capital of the poor in the form of additional schooling can make them productive. Siddiqui (2001) concluded that improvement in human capital formation can be important in increasing women's economic involvement and a reduction in gender based poverty. Jamal (2005) showed that in urban areas the education of the head of the household is negatively related with poverty. Haq (2005) found that poor persons of Pakistan have low level of human capital and education clearly reduces the probability of being poor because the role of education is important in the labour market as those with higher education are more likely to get employment and have higher wages. Wages and productivity in non-farm activities rise with education at an increasing rate as education rises [Kurosaki and Khan (2006)].

Provision of public services in the vicinity of the household is also critical in determining the status of the household. Haq (2005) found that the human poverty indicators, like housing, health, drinking water, sanitation facilities and garbage collection system, are in deplorable conditions in poor areas of city. Poor persons have low standard of housing, majority suffered from chronic diseases, mostly use the open well as a source of water, open drain system is prevalent in poor persons and almost no garbage collection system is present for the community. Arif and Iqbal (2009) found that access to electricity and provision of education facilities for girls and health facilities in the public sector play an important role in explaining the differences in poverty levels. So investing more in provision of education and health services is thus key to an increase in overall income of the population and hence to reduce the poverty.

These studies clearly depict the multidimensional nature of poverty and only knowledge about the absolute number is not sufficient to design the effective poverty reduction strategy. Rather than focusing on national and regional level poverty estimate, there is needed to conduct detail study at city level to acquire the true picture of poor people. To fulfill this gap in literature, this study explores these factors at medium sized city in Pakistan such as Sargodha.

3. SOCIO-ECONOMIC CHARACTERISTICS OF CITY

In this section the descriptive analysis of the socio-economic characteristics of Sargodha city is presented. This profile is based on survey conducted for this study.

3.1. Education

Education is an important component of human capital and it is very much effective in poverty reduction. Analysis shows that 14.2 percent individuals never attended educational institutions whereas 55 percent availed the education facility in past and 30.8 percent are presently enrolled in educational institutions. Regarding the absorption of educational institutions we have seen that out of the total students who were enrolled or presently studying 73.4 percent are students of government institutions and 25.2 percent are students of private institutions (Table 1). It shows that in city, public sector is still providing the educational facility to many students. Only 0.6 percent in *Deeni Madaris*, 0.3 percent in schools which are running by NGOs, trusts and foundations, 0.1 percent in education schools and 0.4 percent in the category of 'others'.

Table 1

Type of Education Facility Availed

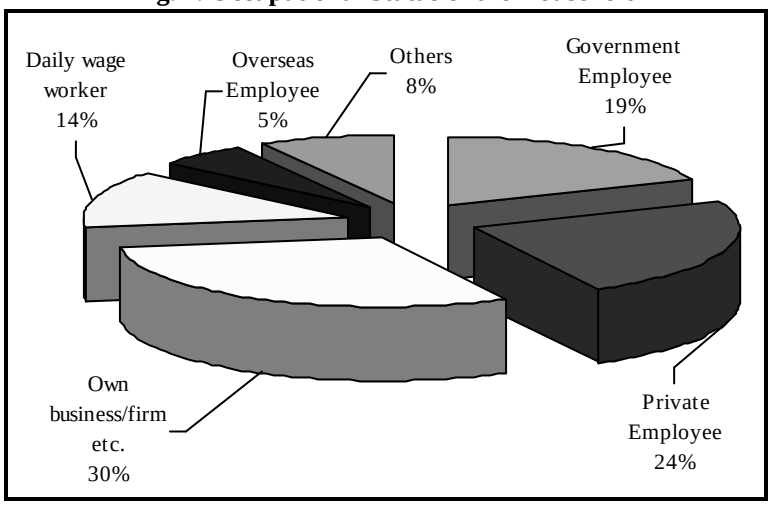
Type	Percent
Government (Public)	73.4
Private	25.2
Deeni Madaris	0.6
NGO, Foundation	0.3
Education School	0.1
Others	0.4

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

3.2. Occupational Status with Sectoral Composition

The occupation status shows that 18.6 percent of total individuals are employed in government category. In this category people employed in government departments/institutions and semi-government institutions are included and 23.4 percent are working in private corporate sector. Analysis also indicate that the largest occupation is own business/firm category (30.5 percent). The workers who are getting salaries on daily wages are 13.7 percent and 5.2 percent are overseas Pakistanis. Those whose income is based on pension are only 1.8 percent. The individuals in house-job are 0.6 percent and 0.9 percent are searching jobs in labour market, while only 0.5 percent is not eligible to be employed (Figure 1).

Fig. 1. Occupational Status of the Household



Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

Sectoral composition indicates that 5.1 percent people are working in agriculture sector, which is very low because sample only covers the city region of Sargodha. 2.2 percent fall in the category of mining and quarrying and 6.2 percent are working in manufacturing sector while 6.7 percent in construction related activities. Analysis also shows that 2.2 percent are involved in the distribution of services such as gas and electricity, 3.0 percent are engaged in storage and communication sector and 15.8 percent are in wholesale and retail trade. Persons in finance and insurance, ownership of dwellings and public administration and defense are 6.4 percent, 0.9 percent and 5.0 percent respectively. Social service is the second highest sector having 21.0 percent of working people (Table 2).

Table 2

Sectoral Composition of Labour Force

Sectors	Percent
Agriculture	5.1
Mining and Quarrying	2.2
Manufacturing	6.2
Construction	6.7
Electricity and Gas Distribution	2.2
Transport, Storage and Communication	3.0
Wholesale and Retail Trade	15.8
Finance and Insurance	6.4
Ownership of Dwellings	0.9
Public Administration and Defense	5.0
Social Services	21.0
Others	25.6

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

3. 3. Dwelling Types and Status

Analysis shows that out of the total dwelling 93.6 percent houses are independent houses and only 0.9 percent is apartment or flat. This low figure is correct in the sense that in Sargodha city there is no such flat-culture and most of the people have independent houses. Result indicates that 5.5 percent dwell in a facility which is part of the large unit and 87.9 percent houses are occupied by the owners. Only 3.9 percent are in the category of owner occupied (self-hired). The houses on rent, subsidised rent and free of rent are 7.0 percent, 0.9 percent and 0.3 percent respectively. Most of the houses have three rooms (24.5 percent of the total houses). Houses with two rooms are 16.4 percent and residences with four and five rooms are 14.5 percent each (Table 3). It is seen that houses with one room and with above six rooms are in low proportion.

Table 3

Presence of Number of Rooms in a House

No. of Rooms	Percent	No. of Rooms	Percent
1	5.2	8	3.6
2	16.4	9	1.2
3	24.5	10	0.6
4	14.5	11	0.3
5	14.5	12	0.6
6	11.2	14	0.6
7	6.4	15	0.3

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

3.4. Provision of Public Amenities

As the area of analysis is urban region therefore regarding the provision of basic infrastructure services such as electricity, gas, telephone and sewerage, it is expected that urban dwellers are enjoying better facilities. Result shows that almost 99.7 percent houses have electricity connections and only 0.3 percent is deprived of this service while 82.6 percent houses have gas connections and 17.4 percent are without it. Regarding land-line facility, it is noted that 58.2 percent houses have the land-line phone service against 41.8 percent who are without it. It is also a noticeable fact that recent boom in cellular mobile companies effected the monopoly of government land-line phone service. Water supply facility is availed by 85.8 percent of the total community and 95.1 percent houses have the sewerage system and only 4.9 percent are deprived of it (Table 4). It is observed that 89.1 percent houses connected with underground drains, 4.2 percent with just covered drains, 6.1 percent with open drains and 0.6 percent have no such system. 91.8 percent houses have flush connected to public sewerage, 5.2 percent houses have flush connected to pit and only 3.0 percent houses with flush connected to open drain.

Table 4

Houses with Availability of Infrastructure (Percent)

Services	With Service	Without Service
Electricity	99.7	0.3
Gas	82.6	17.4
Telephone	58.2	41.8
Water	85.8	14.2
Sewerage	95.1	4.9

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

For drinking water, 56.7 percent houses rely upon motorised pumping/tube-well, 27.6 percent use piped water in their houses, 11.8 percent use hand pump and only 3.9 percent use other sources of water for drinking purposes. It is also observed that 85.3 percent houses have water in tap for 24 hours. From this figure we cannot conclude that water facility of municipal administration is efficient because large number of houses depend upon motorised pumping to use under ground water. We have observe low figure for less than 24 hours and only 5.2 percent houses have less than one hour water available in their taps. Water charges are very negligible in country and also paid by very less proportion that use this facility. Only 33.6 percent of the total houses pay for water supply and 66.4 percent do not.

4. DATA AND METHODOLOGY

4.1. Data Source and Data Collection Procedure

Poverty analysis is generally based upon primary data at household level. For this study, primary data is collected under the joint survey 'Assessment of Poverty in Sargodha City' by the Pakistan Institute of Development Economics (PIDE) Islamabad, and the University of Sargodha (UOS) Sargodha in May 2008. Sargodha city is mainly divided into 22 union councils. The information is taken through randomly selecting 11 union councils and then interviewed 30 households at random in each selected union council. For selecting union councils and household, we used the information provided by Federal Bureau of Statistics. This activity provides the detailed information of 330 households in the city on major components required for poverty estimation, including roster of the household, income of the household, expenditure of household on food items, fuel and utilities, housing, frequent non-food expenses and other non-food expenses like clothes, footwear, education, and health related expenses. It also contains information on socio-economic indicator of the household.

4.2. Definition of Poverty Line

Poverty estimates are measured by using three different poverty lines. First; official poverty line, estimated by the Planning Commission of Pakistan is used. By using the Pakistan Integrated Household Survey (PIHS) 1998-99 data, the Planning Commission estimated absolute poverty line as Rs 673.54 per month per adult equivalent. This poverty line is adjusted by consumer price index (CPI) to get the adjusted poverty line for 2008. The Commission has already adjusted the poverty line for the 2000-01, 2004-05 and 2005-06 periods using the Consumer Price Index (CPI). In 2004-05, the official poverty line was Rs 878.64 per month per adult equivalent and in 2005-06 the inflation adjusted official poverty line was Rs 944.47 per month per adult equivalent [Pakistan (2008)]. Adjusted official poverty line, for 2007-08, used in this study is Rs 1140 per month per adult equivalent. Anwar (2006) estimated poverty line by using latest PSLM data for 2004-05 and applying 2350 calories per adult equivalent per day as a cut-off point. Poverty line based new estimate was Rs 933 per month per adult equivalent for 2004-05. Adjusted poverty line is Rs 1211 per month per adult equivalent for 2007-08. This poverty line also validates the findings of World Bank (2006) about head count ratio in Pakistan. To make these two poverty lines compatible with urban areas, these lines were adjusted by rural urban food price differentials. The focus of this study is to investigate the poverty in urban area, so to strengthen the result and make them more suitable for urban area, this study also used urban specific poverty line to get clearer picture of the poverty. Qureshi and Arif used the Food Energy Intake (FEI) method to compute separate poverty lines for both rural and urban areas. The cost of food component of this basket was equal to the food poverty line determined by estimating the cost of food consistent with a calorie intake of 2550 per adult equivalent per day for rural areas and 2295 calories per adult equivalent for urban areas. They used 'Pakistan Socio-economic Survey' (PSES) 1998-99 data for estimation of urban poverty line. The estimated urban poverty line was Rs 874.13 per month per adult equivalent for 1998-99 [Qureshi and Arif (2001)]. The adjusted urban poverty line is Rs 1476 per month per adult equivalent[1] for 2007-08.

4.3. Measures of Poverty

By using these poverty lines based on the total expenditure necessary for an acceptable standard of living considering 2350 calories of the food items provided by the government of Pakistan, we estimate the three important indicator of poverty:

[1] While adjusting household consumption expenditure in order to get per adult equivalent expenditure, this study has used an equivalent scale that gives a weight of 0.8 to individuals younger than 15 years and 1 for all other individuals.

4.3.1. *Head Count Ratio*

This estimate of poverty is worked out by counting the persons below an exogenously defined cut-off level of consumption expenditure, known as the poverty line from the distribution of persons obtained from the consumer expenditure modules of survey of the PIDE/UOS. The ratio between the person below the poverty line and the total number of individual in the sample is called Head Count Ratio (HCR). Mathematically it is defined as:

$$HCR = \frac{H}{N}$$

HCR = Head Count Ratio.

H = Number of person below the given poverty line.

N = Total number of persons in the sample.

4.3.2. *Poverty Gap*

This indicates the aggregate poverty depth of the poor relative to the poverty line. This is a good indication of the depth of poverty in that it depends on the distance of the poor below poverty line i.e., the average consumption gap between the actual expenditure of the poor and the poverty line. Potential for eliminating poverty by targeting transfer to the poor is another implication of this indicator [Ravallion (1992)]. Poverty gap also represents the total amount of income necessary to raise every one, who is below the poverty line up to that line. Estimating Procedure for this indicator as follow:

$$P = \frac{1}{n}\sum_{i=1}^{n}\left[\frac{Z - Y_i}{Z}\right]$$

Where

P = Poverty Gap (Distance of the poor below the poverty line).

Z = Poverty line determining expenditure.

Y_i = Consumption Expenditure of the ith poor household.

4.3.3. *Severity of Poverty*

It is Foster-Greer-Thorbecke P_2 measure representing severity of poverty. For this the poverty gaps of the poor are weighted by those poverty gaps in assessing aggregate poverty. This also shows variance in the poverty gap. It is estimated as:

$$P_2 = \frac{1}{n}\sum_{i=1}^{n}\left[\frac{Z - Y_i}{Z}\right]^2$$

Where

P_2 = Severity of poverty.

Z = Poverty line determining expenditure.

Y_i = Consumption Expenditure of the *i*th poor household.

5. POVERTY PROFILE OF THE MEDIUM SIZED CITY

5.1. Extent, Gap and Severity of Poverty

To measure the extent of poverty i.e. poverty ratio or head count ratio, three different poverty lines are used. The result shows that the head count ratio in Sargodha city is 14.3 percent by using official poverty line, 15.9 percent by using poverty line given by Anwar (2006) and 21.0 percent by applying urban specific poverty line calculated by Qureshi and Arif (2001). Poverty gap and severity of poverty are aggregate measures of 'spread' of the poor below the poverty line i.e. they aggregate the distance of all poor individuals from the poverty line. Analysis shows that poverty gap is sufficiently large (4.4 percent) in 2008 as compared to the poverty gap (2.1 percent) measured in 2005-06 for urban area of Pakistan [Pakistan (2008)]. As the alleviation of poverty is the individual household phenomenon, the income distribution pattern and individual household poverty gap would lead towards the actual increase in income needed for the household to be out of the poverty trap. A lower value indicates that most of the poor are bunched around the poverty line. Higher value of poverty gap indicates bad condition of the poor. The severity of the poverty is shown by the squared of the poverty gap. So more the poverty gap, the more would be the severity of the poverty. Severity of the poverty for Sargodha city is 2.6 percent by using official poverty line, 2.8 percent by applying Anwar (2006) definition of poverty and 3.3 percent by using Qureshi and Arif (2001) estimated poverty line.

Table 5

Extent of Poverty, Poverty Gap and Severity of Poverty (Percent)

	Poverty Line		
Indicators	Official	Anwar (2006)	Qureshi and Arif (2001)
Head Count Ratio	14.3	15.9	21.0
Poverty Gap	4.4	5.2	6.0
Severity of Poverty	2.6	2.8	3.3

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

5.2. Poverty Dynamics in Sargodha City

5.2.1. *Poverty by Demographic Characteristics of Household*

Various characteristics of the household have direct or indirect bearings on the income generating activities or consumption pattern of the households. These economic aspects of the individual household determine the living standard of the household by which the poverty status has been measured. The first demographic characteristic is the age composition of the head of the household. The age of the head of the household is divided into three categories. Analysis indicates that poverty level reduces with the increase of age of the head of the household. Lowest incidence of poverty is found among the age group of 61 and above (Table 6). These households probably had some assets, more experience and relatively more earners, so less poverty in the household. The second demographic characteristic is family size. Based on data, the family size is divided into four groups. Household size is positively related with the incidence of poverty. Large household were more likely to be poor than small household because larger households probably had more young children, that encounter financial burden due to high cost of living, education, health and other social as well as societal activities and vice versa. The incidence of poverty for the largest households (9 + members) were more than three times the incidence of poverty for the smallest group (1-4 members). This gave the direct implication of family size and incidence of poverty so family size is positively related with existence of poverty. Migration status also plays vital role in moving household out of poverty because migration provides better opportunities to get more and more resources. Incidence of poverty was lower among those heads of households who moved in the past to their current place of residence (Table 6).

Table 6

Decomposition of Poverty by Demographic Characteristics (Percent)

Household Characteristics	% Share	Poverty Line		
		Official	Anwar (2006)	Qureshi and Arif (2001)
Age (Head of Household)				
14-40	22.4	15.9	18.7	22.7
41-60	61.3	15.8	16.5	22.2
61 and above	16.3	6.9	10.1	13.8
Sex (Head of the Household)				
Male	93.5	14.2	15.6	20.0
Female	6.5	16.4	20.0	21.1
Household Size				
1-4 Members	9.8	7.1	7.1	8.5
5-6 Members	32.9	7.4	8.2	11.2
7-8 Members	28.4	14.5	17.1	20.7
9 and above Members	29.0	24.4	26.3	36.7
Migration				
Non-migrant	79.2	16.8	18.7	24.4
Migrant	20.8	4.9	4.9	8.2

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

5.2.2. *Poverty among Occupational Groups*

In order to have an idea about the living status of persons engaged in different occupations, the incidence of poverty has been calculated for major occupation groups. Results show that incidence of poverty is highest among the daily wage worker and lowest among the government employees (Table 7). This indicates that secure job and proper flow of income has direct implication for poverty status. People are more secure in government sector, so they are less poor, while people working on daily basis are not secure with their earnings. People with secure job have more capacity to absorb economic shocks.

Table 7

Poverty among Occupational Group (Percent)

Occupation	% Share	Poverty Line		
		Official	Anwar (2006)	Qureshi and Arif (2001)
Government Employees	18.9	3.3	3.4	5.7
Private Employees	23.8	11.0	11.0	13.6
Own Business/ Firms etc.	31.0	7.5	9.0	11.5
Daily Wage Workers	13.9	30.0	33.3	45.6
Overseas Employees	5.3	8.8	8.2	8.8
Pensioners	1.9	8.3	8.3	25.0
Others	5.2	20.9	20.9	20.9

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

5.2.3. *Poverty among Sectoral Groups*

Sectoral composition indicates that incidence of poverty is more likely in construction sector (Table 8). In urban areas, the informal sector particularly construction sector, most of labours work on daily wage basis. Informal sector create uncertainty and increase the chances of unemployment in the economy. In this sector, there is no proper flow of income for the household. This probably increase the chances that individual is most likely to be poor if works in this sector i.e., construction sector. Another important findings is that poverty in those household works in public sector is negligible, this indicate that public sector is more reliable sector through which poverty can be reduced.

Table 8

Poverty among Sectoral Group (Percent)

Sectors	% Share	Poverty Line		
		Official	Anwar (2006)	Qureshi and Arif (2001)
Agriculture	5.1	9.1	9.1	9.1
Manufacturing	6.2	7.5	10.0	15.0
Construction	6.7	27.9	32.6	37.2
Electricity and Gas Distribution	2.2	7.1	7.1	7.1
Transport, Storage and Communication	3.0	15.8	15.8	21.0
Wholesale and Retail Trade	15.9	10.8	12.8	16.7
Finance and Insurance	6.4	0.0	0.0	2.4
Public Administration and Defense	5.0	0.0	0.0	3.1
Social Services	21.0	5.9	5.9	10.4
Other	34.0	18.7	19.2	23.1

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

5.2.4. *Poverty by Access to Amenities*

Distributional implications of the household's indoor amenities affect not only the quality of life of the households but also have direct bearings on the economic activities of the labour force of the households. It is argued that households having access to amenities are likely to be less poor compared to those without such provisions. Table 9 shows that only very few household are without electricity (0.3 percent only). So electricity in term of poverty of the household did not contribute much because almost all household has the facility of electricity in their house. In city 82.6 percent of the sample household have gas connection while the remaining 17.4 percent were managing fuels by some alternative sources. The incidence of poverty was 14.2 percent among the households having gas connection and 14.9 percent in the households having no gas. So the poverty incidence was relatively higher in the households having no access to this utility when compared with households having gas connection in their vicinity.

Table 9

Decomposition of Poverty across Availability of Amenities (Percent)

Amenities	% Share	Poverty Line		
		Official	Anwar (2006)	Qureshi and Arif (2001)
Electricity				
Yes	99.7	14.3	15.9	21.0
No	0.3	0.0	0.0	0.0
Gas				
Yes	82.6	14.2	15.6	19.2
No	17.4	14.9	17.0	29.8
Telephone				
Yes	58.2	5.2	6.1	7.3
No	41.8	27.1	29.4	40.2
Water Supply				
Yes	85.8	2.9	4.2	8.5
No	14.2	18.9	20.5	26.0
Sewerage				
Yes	95.1	12.5	14.1	18.5
No	4.9	47.1	47..0	65.8

Source: Computed from the survey of 'Assessment of Poverty in Sargodha City'.

In case of telephone facility in the households, only 58.2 percent availing this facility and remaining 41.8 percent don not have this facility. The incidence of poverty was more in the household having no connections of telephone as compared with households having connection (Table 9). Moreover, the fast growing mobile phone industry has solved the communication problem and people prefer mobile connection rather than fixed-line connection. In case of piped water supply, 85.2 percent households availing this facility while only 14.8 percent deprived from it. Poverty level was high in those households where this facility is not available and less in those having this facility. Similarly, availability of sewerage facility has the similar relation with poverty.

6. DETERMINANTS OF POVERTY

Poverty is a multi-dimensional phenomenon, so varieties of factor determine the nature and direction of poverty. These factors could be economic, social or political. Identification of these factors helps us to formulate policy to combat poverty. To measure the effect of these factors, binomial logistic regression model is used in which the dependent variable is dichotomous: 0 when a household is above and 1 when below the poverty line. Predictor variables are demographic, human capital and dwelling endowment. The results will not be interpreted through the coefficients but we will use the odd ratios in

logistic regression to see that the occurrence of any particular event will increase or decrease the probability being poor of individual and with what proportion as compared to the reference category.

6.1. Model Specification

Let's assume the general equation

$$Y_i = f(X_{1i}, X_{2i}.....X_{ki}) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Y_i is the dependent variable representing the Households' level of poverty and *Xs* are the various household level of education and experience. Let's suppose that the response variable y^* captures a true status of the household either as poor or non-poor so we can estimate the regression equation as follows

$$y_i^* = \sum_{j=0}^{k} X_{ij}\beta_j + \varepsilon_i \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (2)$$

y^* is not observable and is a latent variable. We can observe Y_i as a dummy variable that takes the value 1 if $y^* > 0$ and takes the value 0 otherwise. β is the vector of parameters and error terms are denoted with ε. The error terms entail the common assumption of zero mean and underlying distribution of the error terms is logistic. Let P_i denotes the probability that the *i*th household is below the poverty line. We assume that the P_i is a Bernoulli variable and its distribution depends on the vector of predictors *X*, so that

$$P_i(X) = \frac{e^{\alpha+\beta X}}{1+e^{\alpha+\beta X}} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

β is a row vector and α is a scalar. The logistic function to be estimated is then written as

$$\ln\left[\frac{P_i}{1-P_i}\right] = \alpha + \sum \beta_i X_{ij} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (4)$$

$\ln\left[\frac{P_i}{1-P_i}\right]$ is the natural log of the odds in favour of the household falling below the poverty line whereas β_j is the measure of change in the logarithm of the odds ratio of the chance of the poor to non-poor household. Equation (4) is estimated by maximum likelihood method and the procedure does not require assumption of normality or homoskedasticity of error in predictor variables. X_i is the vector of independent variables. These variables include size of household size, electricity connection in the house, phone connection in the house, gas connection in the house, water supply in the house, sewerage facility and education.

Generalised functional form of the model is as under:

$$P = a + b_1 HHS + b_2 Sew + b_3 WS + b_4 Tel + b_5 Gas + b_6 \Pr of + b_7 Bach + b_8 Inter + b_9 Mat + b_{10} Midl + b_{11} Exp + e$$

$P =$	Poor Household [1= if poor, 0= otherwise].
$HHS =$	Household Size [in numbers].
$Sew =$	Sewerage Facility [1= Yes].
$WS =$	Water Supply Facility [1= Yes].
$Tel =$	Land Line Telephone Facility [1= Yes].
$Gas =$	Gas Connection [1= Yes].
$\Pr of =$	Professional [1= Yes].
$Bach =$	Bachelor [1= Yes].
$Inter =$	Intermediate [1= Yes].
$Mat =$	Matriculation [1= Yes].
$Midle =$	Middle [1= Yes].
$Exp =$	Experience [in years].
$e =$	Error Term.

Dependant variable is defined by using official poverty line. Eleven explanatory variables are used in this model. Human capital variables are dummy variables and defined in term of educational level and experience. One of them will get the value one in response to the individual's highest educational attainment. It means the educational level of the individual will either fall in middle, matriculation, intermediate, bachelors or professional (masters and above) category. Here 'primary education' is used as reference category. In past research, it is found that human capital variables are negatively related with the poverty level. Other variables include experience, public services utilised by the individuals and their family sizes. The experience variable is attained through subtracting the years of schooling and school starting age from the age of a person. It is not the actual but the potential experience. To make potential experience more meaningful we have included the individuals with age above 14 years. The services include the Gas, Land-line Telephone, Sewerage and Water supply. All these services variables are dummy in nature if the individual is availing the particular facility the respective variable will get the value one otherwise zero. Household size variable is continuous. The household size is taken because it directly linked with the distribution of resources within the family members and is positively related with poverty level.

6.2. Results and Discussions

It is observed that the attainment of middle, matriculation, intermediate, bachelors and professional (masters or above qualification) will decrease the

likelihood of being poor by 38 percent, 70 percent, 79 percent, 92 percent and 96 percent respectively as compared to their reference category of primary education (Table 10). All the educational variables are negatively affecting the poverty status of individuals. Moreover, as we increase the educational qualification of individuals their chances of being non-poor increases or we can say that the probability of being poor declines vigorously. If an individual succeeds in getting matriculation education after middle than actually the increment in the probability decline being poor will be of 30 percent (70 percent–40 percent). Also such inter-educational level comparison shows little improvement between bachelors and professional categories but improvement is visible. With the increment of one year in potential experience will reduce the likelihood of being poor by 0.02 percent, although it is a minor effect but expertise is effective in reducing poverty. Provisions of public services are altogether negatively related with the poverty status. The decline in the chances being poor with the availability of gas, telephone, water supply and sewerage is 28 percent, 87 percent, 66 percent and 67 percent respectively (Table 10).

Table 10

Logistic Regression Model of Being Poor with Multiple Independent Variables

Variables	Coefficient	Level of Significance	Odd Ratios
Experience	–0.011	0.01	0.98
Education			
Middle	–0.592	0.03	0.62
Matriculation	–1.231	0.00	0.30
Intermediate	–1.819	0.00	0.21
Bachelor	–2.608	0.00	0.08
Professional	–3.291	0.00	0.04
Gas	–0.351	0.07	0.72
Telephone	–2.252	0.00	0.13
Water Supply	–1.200	0.00	0.34
Sewerage	–1.192	0.00	0.33
Household Size	0.346	0.00	1.51
Constant	0.850	0.10	1.92

Source: Computed from the survey of ‘Assessment of Poverty in Sargodha City’.

Family size is important because as we increase the family size the burden upon the pool of resources of any family will increase and practically we have lesser and lesser resources for the welfare of individuals. Large families are more prone to poverty. Therefore, we observe positive sign for the household size as expected so with the increase of one individual in family the rise in probability being poor of individual is 49 percent (Table 10). Provisions of public amenities are negatively related with status of the poor. All variable are

significant and have expected sign. These results indicate that access to these facilities play an important role in explaining the difference in poverty levels or per capita expenditure.

7. CONCLUSION AND POLICY OPTIONS

Where poverty is concentrated, who is affected and to what extent, are relevant questions in poverty analysis. The analysis of poverty presented in this study uses the data from survey conducted in Sargodha city during May 2008. It is first time that this type of analysis has been carried out in Sargodha. A survey of 330 households was conducted in city. Socio-economic profile of the households is also presented in paper.

The analysis based poverty line adopted by government to define poor shows that the head count ratio in Sargodha city is 14.3 percent while this ratio increases to 15.9 percent by using latest poverty line given by Anwar (2006) and 21 percent by using urban specific poverty line. Poverty gap for Sargodha city is sufficiently high (4.4 percent) as compare to the aggregate poverty gap (2.1 percent) measured in 2005-06 for urban area. By using other two poverty lines, poverty gap become very large. Severity of the poverty for Sargodha city is 2.6 percent by using official poverty line and 2.8 and 3.3 percent by using Anwar (2006) and urban specific poverty lines respectively. Socio-economics analysis shows that education, family size, nature of occupation and public amenities play important role in poverty alleviation. Incidence of poverty is highest among the daily wage worker and lowest among the government employees. The results also show that education, experience and public services are negatively related with the poverty status of individuals. Moreover, results show that public services availability is also very essential for poverty reduction. It is actually beyond doubt that proper service utilisation symbolises the improved living standard of the people.

Keeping the above analysis in view, following policy options can be used to reduce the urban poverty in general and particularly for Sargodha city:

There is need to focus on the education of the poor because human capital plays vital role in breaking the vicious circle of poverty. Public sector and private sector along with community participation should manage and create human capital in the shape of better technical education that will increase the productivity of the urban poor.

There is need to formulate programmes which help poor people to manage risk. Micro-insurance programmes, public works programmes, and food transfer programs may be mixed with other mechanisms to deliver effective risk management. There is need to develop programme which can prevent and respond to financial and natural shocks. There is need to increase local organisations' capacity which will help in promotion of community development which eventually enhance the control that poor people and their communities have over

the services to which they are entitled. But strong monitoring mechanisms are suggested in this regard. There is also need to support poor people's social capital by assisting networks of poor people to engage with market and nonmarket institutions to strengthen their influence over policy.

There is need to formalise the informal sector especially the construction sector. Steps should be taken to bring the informal sector into formal fold for better earnings. Steps should also be taken by government to minimise the wage differentials between public and private sector by increasing minimum wage to reduce poverty.

REFERENCES

Ahmad, S. (2006) A Profile of Poverty in Lahore District: An Analysis by Towns. Poverty Cell Centre for Research, Lahore School of Economics, Lahore.

Ali, M. S. (1995) Poverty Assessment: Pakistan's Case. *The Pakistan Development Review* 34:1.

Amjad, R. and A. R. Kemal (1997) Macroeconomic Policies and Their Impact on Poverty Alleviation in Pakistan. *The Pakistan Development Review* 36:1.

Anwar, T. (2006) Trends in Absolute Poverty and Governance in Pakistan: 1998-99 and 2004-05. *The Pakistan Development Review* 45:4.

Anwar, T. (2008) Growth, Poverty and Inequality. Published in Poverty Assessment Update. Asian Development Bank.

Anwar, T. and S. K. Qureshi (2003) Trends in Absolute Poverty in Pakistan: 1990-2001. *The Pakistan Development Review* 42:4.

Anwar, T., S. K. Qureshi, and H. Ali (2004) Landless and Rural Poverty in Pakistan. *The Pakistan Development Review* 43:4.

Arif, G. M. and N. Iqbal (2009) Infrastructure and Poverty Nexus: the Case of Rural Pakistan. Islamic International University, Islamabad. (Conference Paper.)

Becker, C., A. Hammer, and A. Morrison (1994) *Beyond Urban Bias in Africa*. Portsmouth, N. H: Henemann.

Chaudhry, I. S. (2009) Poverty Alleviation in Southern Punjab (Pakistan): An Empirical Evidence from the Project Area of Asian Development Bank. *International Research Journal of Finance and Economics* 23.

Chaudhry, I. S., S. Malik, and S. Imran (2006) Urban Poverty and Governance: The Case of Multan City. *The Pakistan Development Review* 45:4.

Cheema, A. A. and M. H. Malik (1984) Changes in Consumption Patterns and Employment under Alternative Income Distribution. *The Pakistan Development Review* 24:1.

Egziabher, T. G. (2000) An Overview of Urban Poverty in Addis Ababa. Paper Presented at City Consultation Addis Ababa, Ministry of Works and Urban Development Addis Ababa and UN-HABITAT, Nairobi.

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

Haq, R. (2005) An Analysis of Poverty at the Local Level. *The Pakistan Development Review* 44:4.

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

Jafri, S. M. Y. and A. Khattak (1995) Income Inequality and Poverty in Pakistan. *The Pakistan Economic and Social Review* 33:2.

Jamal, H. (2005) In Search of Poverty Predictors: The Case of Urban and Rural Pakistan. *The Pakistan Development Review* 44:1.

Jamal, H. (2007) Updating Poverty and Inequality Estimates: 2005 Panorama. Social Policy and Development Centre, Karachi. (SPDC Research Report No. 69.)

Kurosaki, T. and H. Khan (2006) Human Capital, Productivity, and Stratification in Rural Pakistan. *Review of Development Economics* 10:1.

Malik, M. H. (1988) Some New Evidence on the Incidence of Poverty in Pakistan. *The Pakistan Development Review* 27:4.

Manda, K. D. and W. Odhiambo (2003) Urban Poverty and Labour Force Participation in Kenya. Kenya Institute for Public Policy Research and Analysis (KIPPRA).

McKay, A. and D. Lawson (2002) Chronic Poverty: A Review of Current Quantitative Evidence. (CPRC Working Paper No 15.)

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

Nasir, Z. M. and H. Nazli (2000) Education and Earnings in Pakistan. Pakistan Institute of Development Economics, Islamabad. (Research Report No. 177.)

Pakistan, Government of (2008) *Pakistan Economic Survey 2007-08*. Islamabad: Ministry of Finance.

Punjab, Government of (2007) Punjab Development Statistics. Government of Punjab.

Qureshi, S. K. and G. M. Arif (2001) Profile of Poverty in Pakistan 1998-99. Pakistan Institute of Development Economics, Islamabad. (MIMAP Technical Paper Series No. 5.)

Ravallion, M. (2007) Finance and Development. *A Quarterly Magazine of IMF* 44:3.

Schultz, T. (1961) *Education and Economic Growth*. Chicago: Chicago University Press.

Shirazi, N. S. (1993) An Analysis of Pakistan's Poverty Problem and its Alleviation Through INFAQ. Unpublished Ph.D. dissertation in Economics, International Islamic University, Islamabad.

Siddiqui, R. (2001) Gender Dimensions of Poverty in Pakistan. Paper presented at the 'Asia and Pacific Forum on Poverty: Reforming Policies and Institutions for Poverty Reduction' Asian Development Bank: Manila.

UN (2005) *Urban Agglomerations 2005*. New York: United Nations.

World Bank (2007) *World Development Indicators 2007*. Washington, DC: The World Bank.

World Bank (2006) Summary of Key Findings and Recommendation for Pakistan: Poverty, 2004-05. Islamabad

PIDE Working Papers

2006: 1. *Remittances, Trade Liberalisation, and Poverty in Pakistan: The Role of Excluded Variables in Poverty Change Analysis* by Rizwana Siddiqui and A. R. Kemal (2006). 40pp.

2006: 2. *Poverty-reducing or Poverty-inducing? A CGE-based Analysis of Foreign Capital Inflows in Pakistan* by Rizwana Siddiqui and A. R. Kemal (2006). 43pp.

2006: 3. *Bureaucracy and Pro-poor Change* by Ali Cheema and Asad Sayeed (2006). 26pp.

2006: 4. *Civil Servants' Salary Structure* by Faiz Bilquees (2006). 21pp.

2006: 5. *Wheat Markets and Price Stabilisation in Pakistan: An Analysis of Policy Options* by Paul Dorosh and Abdul Salam (2006). 17pp.

2006: 6. *Stock Market Liberlalisations in the South Asian Region* by Fazal Husain and Abdul Qayyum (2006). 19pp.

2006: 7. *Volatitlity Spillover between the Stock Market and the Foreign Exchange Market in Pakistan* by Abdul Qayyum and A. R. Kemal (2006). 15pp.

2006: 8. *A Significant Shift in Causal Relations of Money, Income, and Prices in Pakistan: The Price Hikes in the Early 1970s* by Fazal Husain and Abdul Rashid (2006). 18pp.

2006: 9. *A Social Accounting Matrix for Pakistan, 2001-02: Methodology and Results* by Paul Dorosh, Muhammad Khan Niazi, and Hina Nazli (2006). 31pp.

2006: 10. *Demographic Dividend or Demographic Threat in Pakistan* by Durr-e-Nayab (2006). 29pp.

2006: 11. *Awake the Sleeper Within: Releasing the Energy of Stifled Domestic Commerce*! by Nadeem Ul Haque (2006). 14pp.

2006: 12. *Myths and Realities of Long-run Development: A Look at Deeper Determinants* by Lubna Hasan (2006). 37pp.

2007: 13. *A Fresh Assessment of the Underground Economy and Tax Evasion in Pakistan: Causes, Consequences, and Linkages with the Formal Economy* by M. Ali Kemal (2007). 30pp.

2007: 14. *The Relationship between Corporate Governance Indicators and Firm Value: A Case Study of Karachi Stock Exchange* by Attiya Y. Javed and Robina Iqbal (2007). 22pp.

2007: 15. *Perfect Competition* by M. Ali Khan (2007). 21pp.

2007: 16. *The Harris-Todaro Hypothesis* by M. Ali Khan (2007). 11pp.

2007: 17. *Wage Differentials, Rate of Return to Education, and Occupational Wage Share in the Labour Market of Pakistan* by Asma Hyder (2007). 20pp.

2007: 18. *Foreign Direct Investment and Economic Growth: The Role of Domestic Financial Sector* by Muhammad Arshad Khan (2007). 47pp.

2007: 19. *Trade Liberalisation, Financial Development and Economic Growth* by Muhammad Arshad Khan and Abdul Qayyum (2007). 34pp.

2007: 20. *Preference for Public Sector Jobs and Wait Unemployment: A Micro Data Analysis* by Asma Hyder (2007). 18pp.

2007: 21. *Awareness and the Demand of Safe Drinking Water Practices* by Eatzaz Ahmed and Abdul Sattar (2007). 21pp.

2007: 22. *Determinants of Interest Spread in Pakistan* by Idrees Khawaja and Musleh-ud Din (2007). 18pp.

2007: 23. *X-efficiency, Scale Economies, Technological Progress and Competition: A Case of Banking Sector in Pakistan* by Abdul Qayyum and Sajawal Khan (2007). 16pp.

2007: 24. *Why Civil Service Reforms Do Not Work* by Nadeem Ul Haque (2007). 32pp.

2007: 25. *Effectiveness of Regulatory Structure in the Power Sector of Pakistan* by Afia Malik (2007). 34pp.

2007: 26. *Impact of Export Subsidies on Pakistan's Exports* by Nadeem Ul Haque and M. Ali Kemal (2007). 18pp.

2007: 27. *Efficiency of Large Scale Manufacturing in Pakistan: A Production Frontier Approach* by Tariq Mahmood, Ejaz Ghani, and Musleh-ud Din (2007). 15pp.

2007: 28. *International Competitiveness—Where Pakistan Stands?* by Uzma Zia (2007). 20pp.

2007: 29. *Entrepreneurship in Pakistan* by Nadeem Ul Haque (2007). 54pp.

2007: 30. *Delivering Access to Safe Drinking Water and Adequate Sanitation in Pakistan* by Faheem Jehangir Khan and Yaser Javed (2007). 47pp.

2007: 31. *Exchange Market Pressure and Monetary Policy: Evidence from Pakistan* by M. Idrees Khawaja (2007). 24pp.

2007: 32. *Health Care Services and Government Spending in Pakistan* by Muhammad Akram and Faheem Jehangir Khan (2007). 25pp.

2007: 33. *National Finance Commission Awards in Pakistan: A Historical Perspective* by Iftikhar Ahmed, Usman Mustafa, and Mahmood Khalid (2007). 22pp.

2007: 34. *The Taylor Rule and the Macroeconomic Performance in Pakistan* by Wasim Shahid Malik and Ather Maqsood Ahmed (2007). 25pp.

2007: 35. *Monetary Policy Objectives in Pakistan: An Empirical Investigation* by Wasim Shahid Malik (2007). 25pp.

2007: 36. *What Determines Private Investment? The Case of Pakistan* by Sajawal Khan and Muhammad Arshad Khan (2007). 17pp.

2007: 37. *Stock Market Reaction to Catastrophic Shock: Evidence from Listed Pakistani Firms* by Attiya Y. Javid (2007). 31pp.

2007: 38. *Dynamic Effects of Agriculture Trade in the Context of Domestic and Global Liberalisation: A CGE Analysis for Pakistan* by Rizwana Siddiqui (2007). 21pp.

2007: 39. *Measures of Monetary Policy Stance: The Case of Pakistan* by Sajawal Khan and Abdul Qayyum (2007). 18pp.

2007: 40. *Public Provision of Education and Government Spending in Pakistan* by Muhammad Akram and Faheem Jehangir Khan (2007). 35pp.

2007: 41. *Household Budget Analysis for Pakistan under Varying the Parameter Approach* by Eatzaz Ahmad and Muhammad Arshad (2007). 29pp.

2008: 42. *Pension and Social Security Schemes in Pakistan: Some Policy Options* by Naushin Mahmood and Zafar Mueen Nasir (2008). 33pp.

2008: 43. *Income, Public Social Services, and Capability Development: A Cross-district Analysis of Pakistan* by Rizwana Siddiqui (2008). 24pp.

2008: 44. *Monetary Policy Transparency in Pakistan: An Independent Analysis* by Wasim Shahid Malik and Musleh-ud Din (2008). 26pp.

2008: 45. *Bilateral J-Curves between Pakistan and her Trading Partners* by Zehra Aftab and Sajawal Khan (2008). 11pp.

2008: 46. *On Measuring the Complexity of Urban Living* by Lubna Hasan (2008). 30pp.

2008: 47. *Growth Diagnostics in Pakistan* by Abdul Qayyum, Idrees Khawaja, and Asma Hyder (2008). 24pp.

2008: 48. *The Conditional Capital Asset Pricing Model: Evidence from Karachi Stock Exchange* by Attiya Y. Javid and Eatzaz Ahmad (2008). 46pp.

2008: 49. *Test of Multi-moment Capital Asset Pricing Model: Evidence from Karachi Stock Exchange* by Attiya Y. Javid and Eatzaz Ahmad (2008). 28pp.

2009: 50. *Reforming Institutions: Where to Begin?* by M. Idrees Khawaja and Sajawal Khan (2009). 27pp.

2009: 51. *Human Capital vs. Physical Capital: A Cross-country Analysis of Human Development Strategies* by Rizwana Siddiqui (2009). 27pp.

2009: 52. *Does Governance Contribute to Pro-poor Growth? Evidence from Pakistan* by Rashida Haq and Uzma Zia (2009). 20pp.

2009: 53. *Trends in Inequality, Welfare, and Growth in Pakistan, 1963-64 to 2004-05* by Nadia Zakir and Muhammad Idrees (2009). 17pp.

2009: 54. *Pakistan's Wage Structure during 1990-91–2006-07* by Mohammad Irfan (2009). 47pp.

2009: 55. *Pakistan's Trade Policy, 1999–2008: An Assessment* by Mirza Qamar Baig (2009). 22pp.

2010: 56. *Rural to Urban Migration in Pakistan: The Gender Perspective* by Shahnaz Hamid (2010). 17pp.

2010: 57. *Corporate Governance in Pakistan: Corporate Valuation, Ownership and Financing* by Attiya Y. Javid and Robina Iqbal (2010). 81pp.

2010: 58. *Factors Determining Public Demand for Safe Drinking Water (A Case Study of District Peshawar)* by Iftikhar Ahmad, Miraj ul Haq, and Abdul Sattar (2010). 26pp.

2010: 59. *Analysing the Terms of Trade Effect for Pakistan* by Nishat Fatima (2010). 15pp.