YOUTH IN LABOUR MARKET: AN ECONOMETRIC ANALYSIS OF MICRO DATA IN PAKISTAN

HAFIZ RIZWAN AHMAD

ROLL NO. 01-PhD-2004

SESSION: 2004-2009

DEPARTMENT OF ECONOMICS

GOVERNMENT COLLEGE UNIVERSITY LAHORE

A THESIS TITLED

YOUTH IN LABOUR MARKET: AN ECONOMETRIC ANALYSIS OF MICRO DATA IN PAKISTAN

Submitted To

Government College University, Lahore

In Partial Fulfillment of the Requirements

For the Award of Degree of

DOCTOR OF PHILOSOPHY
IN
ECONOMICS

BY

HAFIZ RIZWAN AHMAD
ROLL NO. 01-PhD-2004
SESSION 2004-09

DEPARTMENT OF ECONOMICS

GOVERNMENT COLLEGE UNIVERSITY, LAHORE

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled "Youth in Labour Market: An Econometric Analysis of Micro Data in Pakistan" has been carried out and completed by Hafiz Rizwan Ahmad, Roll No. 01, under my supervision during his study of Doctor of Philosophy in Economics.

Dated: _____

_____

Supervisor
Professor Dr. Parvez Azim

Submitted Through

_____

Asif Saeed, Chairman
Department of Economics
GCU, Lahore.

Controller of Examination
GCU, Lahore.

_____

DECLARATION

I, Hafiz Rizwan Ahmad, Roll No. 01, student of Doctor of Philosophy in Economics, Session 2004-09, hereby declare that the matter printed in this thesis titled "Youth in Labour Market: An Econometric Analysis of Micro Data in Pakistan", is my own work and has not been printed, published and submitted as research work in any form, in any university, Research Institutions etc, in Pakistan or abroad.

Dated: _____

Deponent:

_____

Hafiz Rizwan Ahmad
PhD Economics
Roll No. 01 (2004-09)
GCU, Lahore.

DEDICATION

To My Parents, Who have Devoted Their Lives
for the Success of Their Children

ACKNOWLEDGMENTS

First of all, I would like to praise and thank Allah Almighty, The most Merciful, and The All Knowing. He knows both the secret and open, and we cannot compass aught of His knowledge except as He Willeth. Then, I would like to thank my supervisor, Dr. Parvez Azim, a disciplined, modest, and knowledgeable person, whose encouragement, guidance and support enabled me to complete my thesis. I would also like to acknowledge the efforts and support of all my friends, teachers, and colleagues, especially Dr. Ijaz Hussain and Dr. Shabib Haider Syed who always encouraged and helped me a lot in my research work. I am also grateful to Mr. Asif Saeed, Chairman Department of Economics for all his efforts to facilitate my studies. I am also highly obliged to Dr. Sanjit Dhami for his valuable suggestions and lessons he gave me as a referee of my thesis. The things I learned through his remarks have changed the way of thinking and learning in my life. In the end, I would like to say that I have no words to thank my family, especially my Mother, who has devoted her life for the success of her children. Finally, I pray to Allah to bless all my teachers, family, friends and relatives who always pray for my success and feel my success as their own.

ABSTRACT

This study is an attempt to analyze the youth labour market activities and outcomes in Pakistan. Based on micro data of Labour Force Survey (2006-07), the strength of analysis presented in the study is twofold. First, it presents a comprehensive descriptive analysis of youth labour market at provincial and country level. Second, the econometric analyses describe the determinants of youth activities, employment probabilities, wage, employment status and supply of working hours in Pakistan. Moreover, a comparison between youth, child, and adult labour market outcomes is also made to judge the relative position of youth in the labour market. One of the main contributions of the study is that it tests the link between educational attainment and youth labour market outcomes in Pakistan. More specifically, we set the human capital theory not only in terms of wage equation but also extend it to analyze the impact of human capital on probabilities of employment, employment status choices and decision of hours worked. Our results confirm the hypothesis that increase in the level of education increases the earnings of individuals. Surprisingly, however, we find higher probabilities of unemployment among educated youth in Pakistan. Further analysis shows that lack of proper skills and experience, higher expectations about job and earnings, predominance of the informal economy (which is highly biased towards unskilled low wage labour) are the main factors that may contribute to the higher unemployment among the educated youth in Pakistan. Results show that young people with higher education level are more likely to be an employee instead of self-employed. On the other hand, youth with low level of education are more likely to be self-employed and less likely to work for normal hours. Another important contribution of the study is the analysis of youth labour market based on usual status approach. We find large differences between unemployment rates based on weekly status and usual status approaches. The main reason of such differences is the selection of one week reference period which greatly undercounts the extent of unemployed people in the country. The study shows that a significant percentage of young people start their career early and are vulnerable in the labour market. Moreover, a substantial percentage of youth is neither in labour force nor enrolled as student which shows the wastage of human resources in the society. To empirically investigate the youth labour market outcomes, the study uses two types of econometric techniques, logistic and multinomial logistic regression analyses. Our results suggest that youth living in rural areas are more likely to participate in economic activities, work in informal or agricultural sector, work for fewer hours and are less likely to be unemployed or enrolled as a student as compared to their urban counterparts. In general, being a female reduces the chances of employment or full-time student, and increases the chances to remain in the vulnerable employment throughout the working life. Our results show that age, sex, marital status, migration, training, location, employment status, education level and characteristics of head of household have significant impact on youth labour market activities and employment probabilities. Similarly, young people living in households with better employment status and education of the head of household are more likely to enroll as a student

instead of being engaged in informal and low paid activities. Results of the multinomial logit estimates for supply of working hours suggest that chances of working for excessive hours increase if the young person is male, living in urban areas or have status of employer or self-employed. At the end, study makes some recommendations that youth in Pakistan cannot be considered as a homogeneous group, their preferences and opportunities of work depend upon their age, sex, marital status, education level and family structure. Therefore, the needs of youth must be addressed in a comprehensive manner keeping in view their educational, social and labour market requirements in different regions of the country.

TABLE OF CONTENTS

LIST OF FIGURES

Number **Page**

LIST OF TABLES

Number **Page**

Definitions and Concepts[1]

Adolescent: "Adolescent means a person who has completed his fourteenth but has not completed his eighteenth year".

Adult: "Adult means a person who has completed his seventeenth year".

Child: According to Employment of Children Act 1991, "child is a person who has not completed his fourteen years of age".

Decent Work: According ILO (2008a), Decency of work means " people not only have work, but work that gives them enough to live on and support their dependants, is safe, does not threaten their health, or well-being, that allows for their personal development, and offers some sort of social security framework."

Elementary Occupations[2]: "Elementary occupations consist of simple and routine tasks that require the use of hand-held tools or some physical efforts" For example, work like selling goods in streets or public places, various street services (cleaning, washing etc.) carrying luggage etc. are considered as elementary occupations.

Employed: "A person is considered as an employed if he or she has worked at least one hour during the reference period and was either paid-employed or self-employed"

Employment-to-population Ratio: It is the ratio between the number of employed people in a particular group and the total population in that group.

[1] Definitions and concepts given here are mostly taken from the Labour Force Survey (2006-07) unless otherwise specified.

[2]Complete list and definition of elementary occupations is available at: http://www.ilo.org/public/english/bureau/stat/isco/isco88/9.html

Employment by Status: The Study divides the employment by status into following categories:

1) Employer: “A person working during the reference period, on own-account or with one or a few partners at a self-employment job with one or more employees engaged on a continuous basis”.
2) Employee: “A person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece rates or pay in kind. Employees are divided into the following categories:
    a. Regular paid employee with fixed wage
    b. Casual paid employee
    c. Paid worker by piece rate or work performed
    d. Paid non-family apprentice”
3) Unpaid Family Worker: “A person who works without pay in cash or in kind on an enterprise operated by a member of his/her household or other related persons”.
4) Self-employed: “A person whose remuneration is directly dependent upon the profits, or the potential profits, derived from the goods and services produced”.

Household: “A household consists of a single person or a group of persons who usually live together and have common cooking arrangement”.

Inactive: Study considers a person as inactive who is neither in Labour Force nor enrolled as a student.

Inactivity Rate: It is calculated by dividing the total inactive population in age group (i) on total population in age group (i) expressed as percentage. ,

Mathematically, Inactivity Rate (i) = $\frac{Inactive\ population_i}{Total\ Population_i} \times 100$

Labour Force: "Labour force consists of all persons employed or unemployed in a particular age group (i), it is also called currently active population".

Mathematically, Labour Force $_{(i)}$ = Employed$_{(i)}$ + Unemployed$_{(i)}$

Here $_{(i)}$ shows the respective year of age.

Labour Force Participation Rate: "Labour force participation rate in age group (i) is the labour force in age group (i) divided by the total population in that age group multiply by 100". Mathematically,

Labour Force Participation Rate (i) = $\frac{Number\ of\ Employed(i) + Unemployed(i)}{Total\ population(i)} \times 100$

Labour Market Outcomes: Labour Market Outcomes include labour force participation rate, inactivity rate, unemployment rate, employment status and other indicators like this.

Labour Market Sectors: Labour market is divided in following three sectors:

1) Agriculture Sector: "Agricultural sector covers the activities of growing of crops, fruits & vegetables, harvesting & threshing, growing of trees & logging, fishing, breeding and rearing of animals and poultry, production of milk, eggs, dung, raw wool etc. For the purposes of computation of value added estimates, the sector has been divided in to the following four sub-sectors
    a. Crops
    b. Livestock
    c. Fishery
    d. Forestry"

2) Informal Sector: “Informal Sector in Pakistan is formulated in terms of household enterprise and size of employment. For statistical purpose, the provenance of employment in informal sector is given as follows:

a. All household enterprises owned and operated by own-account workers, irrespective of the size of the enterprise (informal own-account enterprises),
b. Enterprises owned and operated by employers with less than 10 persons engaged. It includes the owner (s) of the enterprise, the contributing family workers, the employees, whether employed on an occasional or a continuous basis, or as an apprentice, and
c. Excluded are all enterprises engaged in agricultural activities or wholly engaged in non-market production”.

3) Formal Sector: “All non-agricultural activities are classified into formal and informal activities; all activities other than agricultural and informal are formal sector activities”.

Not in Labour Force: “Comprise all persons who were not employed or unemployed during the reference period .They are classified into the following categories:

a. Attending educational institutions,
b. Engaged in household duties,
c. Retired or old age,
d. Too young to work,
e. Unable to work/handicapped,
f. Agricultural landlord and/or property owner; nature of ownership includes land, commercial/residential buildings, cinemas, hotels, petrol pumps, power looms, etc. (given on rent or lease). They are owners but they do not work for their properties.

g. Others (persons who derive their income solely from royalties, dividends, etc; engaged in immoral pursuits such as prostitutes, beggars, thieves and smugglers etc.; voluntary social workers doing work outside the family enterprise, living entirely on charity, etc.)".

Old Age Dependency Ratio: Old age dependency ratio is calculated by dividing the population aged 65 above on working age population of 15-65 years multiply by 100.

Mathematically, old age dependency ratio = $\frac{Population\ above\ 65\ years}{Workin\ age\ population\ (15-65\ years)} \times 100$

Own-account Worker: "Own-account workers are those who are working alone and self-employed"

Prime Working Age: 25-54 years of age is considered as prime working age.

Principal Activities: Principal activities during most of the last 12 months. Labour Force Survey (2006-07) divides principal activities of all respondents into the following three categories:

a. Employed
b. Unemployed
c. Not in labour force (not working and looking for work and not available for work)

Total Dependency Ratio: Total dependency ratio is calculated by dividing the population under 15 years of age and above 65 years on working age population of 15-65 years and multiplying by 100. Mathematically,

Total dependency ratio = $\frac{Population\ under\ 15\ years + population\ above\ 65\ years}{Workin\ age\ population\ (15-65\ years)} \times 100$

Underemployed: "A person is considered as underemployed if he or she during the reference period worked less than 35 hours a week and sought or were available for alternative or additional work".

Unemployed: "A person who during the reference period is:

i) "Without work" i.e. is not in paid-employment or self-employment; and

ii) "Currently available for work" i.e. is available for paid-employment or self-employment: or

iii) Not currently available for the following reasons: illness, will take a job within a month, is temporarily laid off, is an apprentice and is not willing to work".

Unemployment Rate: "Unemployment rate is the unemployed population expressed as a percentage of the currently active population (Employed+ Unemployed), i.e. Labour Force".

Mathematically, Unemployment Rate (i) = $\frac{\text{Number of Unemployed(i)}}{Labor\ Force\ (i)} \times 100$

Vulnerable Employment: Vulnerable employment consists of own-account workers and unpaid family helpers in the labour market. They are considered vulnerable as they do not have any social security or protection during low demand periods. Unpaid family helpers are unpaid and usually depend upon the other members of households.

Vulnerable Employment Rate: Vulnerable Employment rate is the total number of own-account workers and unpaid family helpers expressed as percentage of total employed in a particular age group (i). Mathematically,

Vulnerable employment rate (i) = $\frac{own-account\ workers_i + unpaid\ family\ helpers_i}{Total\ Employed_i} \times 100$

Young Age Dependency Ratio: Young age dependency ratio is calculated by dividing the population under 15 years of age on working age population of 15-65 years multiplied by 100.

Mathematically, young age dependency ratio = $\frac{Population\ under\ 15\ years\ of\ age}{Workin\ age\ population\ (15-65\ years)} \times 100$

Young Workers: "A young worker is a person whose age is between 15 to 17 years".

Youth: "Youth is an age group of 15-24 years people".

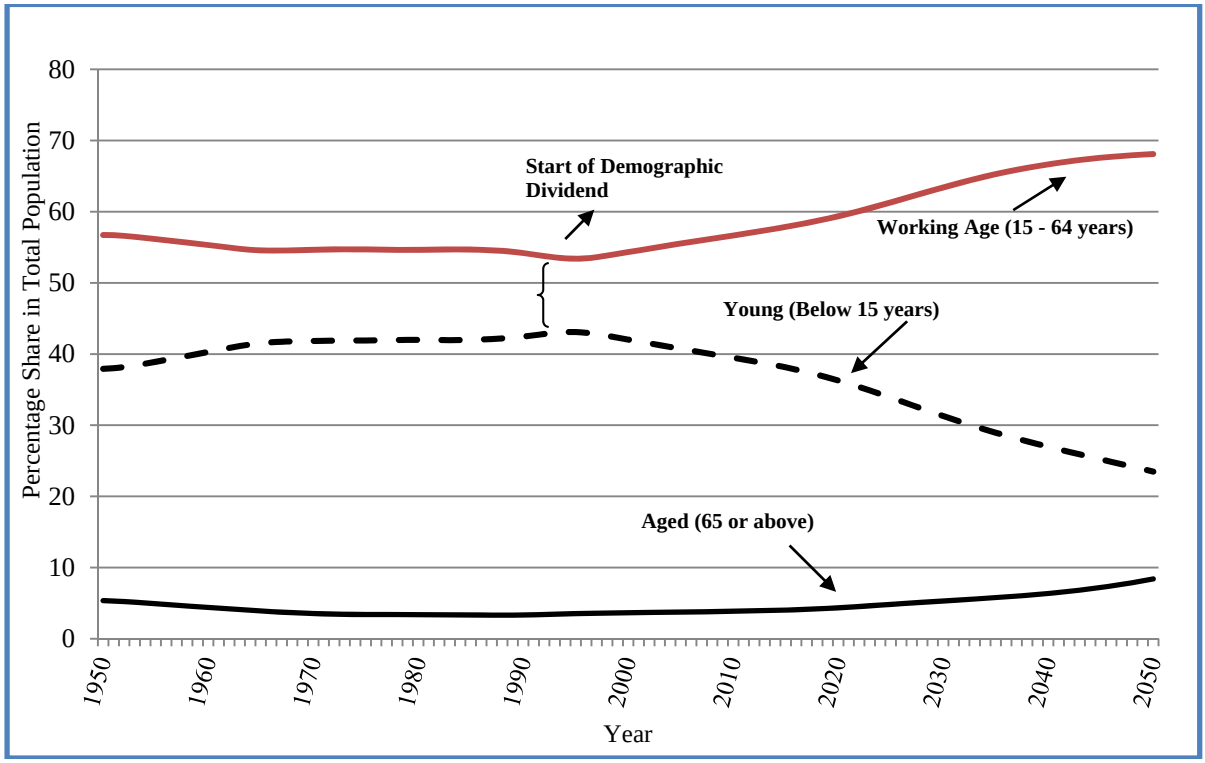
Chapter 1

Introduction and Motivation

During the last century, the size and composition of world's population has gone through some dramatic changes, world population grew from 1.6 billion to 6 billion and is projected to reach 9.3 billion by the year 2050 [United Nations (2004)]. Moreover, population projections of United Nations indicate that over the next 50 years, all European nations as well as Japan will face the problem of ageing population, and by the year 2050, the number of older persons in the world will exceed the number of younger persons for first time in history. This trend of ageing population is irreversible and the young populations of the past are unlikely to occur again. [United Nations (2002)]. This ageing process is confined not only to developed countries but number of developing countries will also face the problem of ageing population by the year 2020. In many developing countries including Pakistan, however, the demographic process has not advanced greatly and the share of working-age population will increase in the coming decades. For example, Table 1.1 shows that from 1950 to 2000, the proportion of younger people rose from 37.9 percent to 42 percent, while that of working-age group (15-65) declined slightly from 56.7 percent to 54.3 percent. However, over the next half century (2000-2050), proportion of working-age population is projected to rise and proportion of younger population will decline substantially (Table 1.1). This process of demographic transition can be seen in Figure 1.1 which clearly indicates the start of the demographic dividend[1] and the potential opportunity of a huge labour force for Pakistan in future.

[1] A country with high proportion of working age population and low proportion of dependant population may enjoy a boost in economic growth. This phenomenon of high proportion of working age and low proportion of dependant population is known as the demographic dividend. [Bloom *et al*.(2001)]

Figure 1.1: Changing Age Structure in Pakistan



Source: Based on World Population Prospects: The 2006 Revision.

This change in the age structure of population can play an important role in the economic performance of a country [Ross (2004)]. A number of researchers [for example, Bloom *et al.* (2001); Mason (2001); Lee *et al.* (2006), and Nayab (2008)] have already claimed that developing countries may make use of this demographic dividend for their economic development. However, this demographic dividend can be utilized for the wellbeing of the country only if effective and timely policies are formulated and implemented to convert the youth population into a productive labour force [Bloom *et al.*(2001); Arif and Nusrat (2008)].

Table 1.1: Indices of Age Structure and Dependency Ratios in Pakistan (1950-2050)

Year	Total Population (in 000)	Percentage of Population			Dependency Ratios		
		Below 15	15 to 65	Above 65	Young Age	Old Age	Total
1950	36944	37.9	56.7	5.3	66.89	9.42	76.32
1960	46259	40.3	55.3	4.4	72.84	7.89	80.74
1970	59566	41.9	54.6	3.5	76.60	6.43	83.02
1980	79222	42.0	54.6	3.4	76.89	6.17	83.07
1990	112991	42.5	54.2	3.3	78.36	6.14	84.49
2000	144360	42.0	54.3	3.6	77.38	6.69	84.07
2010	173351	39.5	56.7	3.8	69.67	6.77	76.44
2020	208315	36.3	59.4	4.4	60.03	7.43	67.47
2030	240276	31.3	63.4	5.3	49.36	8.35	57.71
2040	268506	27.0	66.6	6.4	40.50	9.54	50.04
2050	292205	23.5	68.1	8.4	34.50	12.35	46.85

Source: World Population Prospects: The 2006 Revision.

A timely recognition of this opportunity holds great potential benefit for the country and failure to act on this opportunity could have damaging consequences on future prospects of a country like Pakistan. Understanding and embracing this demographic challenge must therefore be a priority of all governments [Bloom *et al.* (2003)].

1.1 Demographic Change and Youth[2] Labour Market in Pakistan

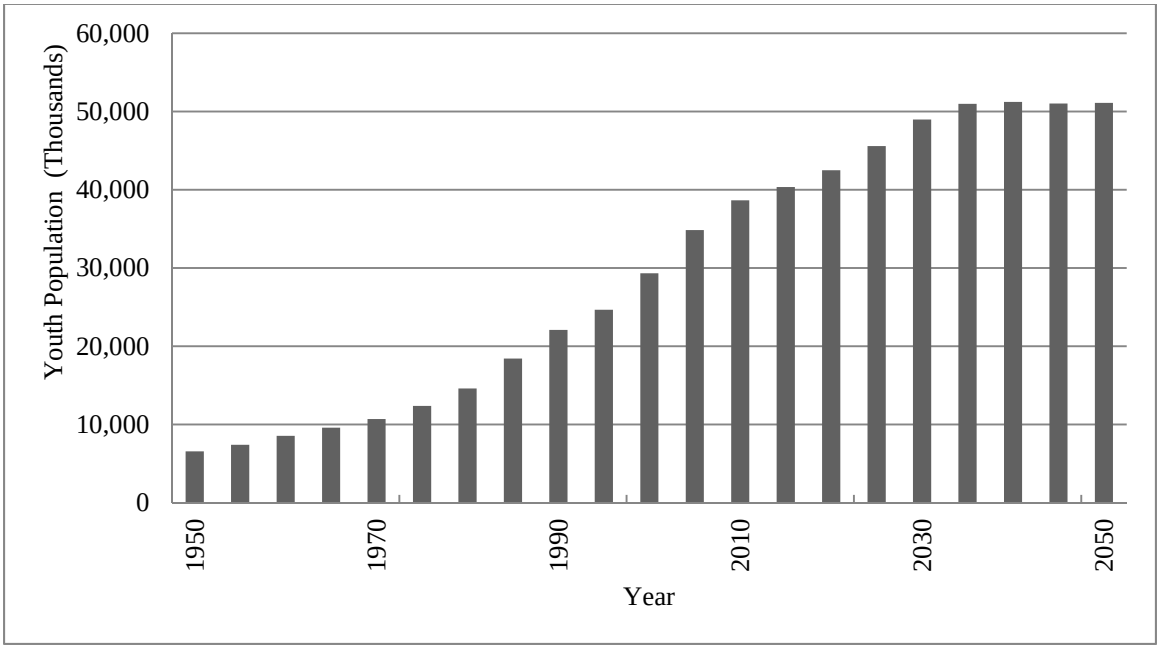
Youth constitutes a major share of our working age population[3]. According to population projections of United Nations, by the year 2050, there will be about 51 million youth population in Pakistan (Figure 1.2). Having a high proportion of youthful population presents both potential

[2] In Pakistan, Youth is considered as an age group of 15-24 years. Article 11 (3) of Pakistan's constitution prohibits the employment of children under the age of 14 in any factory, mine or hazardous employment. The Factory Act 1934 allows for the employment of children between the age group of 14 to 18 years provided that each adolescent obtain a certificate of fitness from a certified surgeon. For details, see Pakistan Factories Act (1934) and its amendments in 1997 available at: http://www.ilo.org/dyn/natlex/docs/WEBTEXT/35384/64903/E97PAK01.html. For detail discussion on the definition of Youth, see ILO (2006). "Global Employment Trends for Youth"

[3] According to Economic Survey of Pakistan (2008-09), the share of youth in working age population is 28.69 percent.

risk and benefits for Pakistan. In general, young people are more energetic, mobile and flexible and can play an important role in society owing to their being more receptive to new ideas, cultural changes and the like. At the same time, these young people can also present a great threat[4] to the society if proper economic opportunities are not provided to them.

Figure 1.2: Trends in Youth Population of Pakistan (1950-2050)



Source: World Population Prospects: The 2006 Revision.

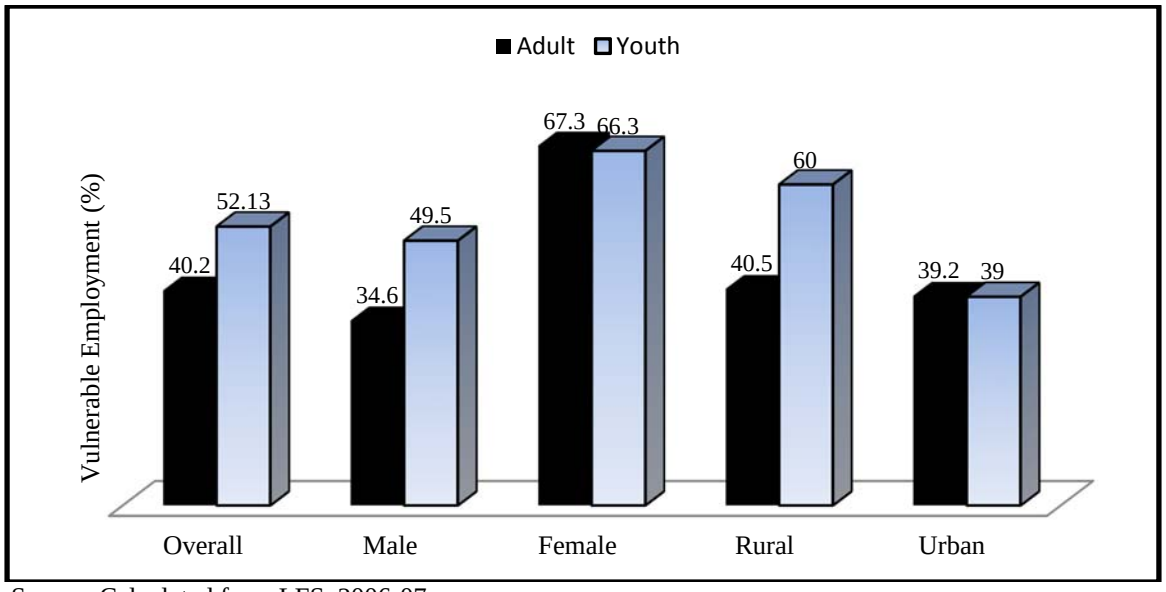
Young people in Pakistan are facing a number of challenges in their way to work. Early start of work, unemployment, underemployment, lack of education and vocational training opportunities are some of the major issues of youth labour market in Pakistan[5]. About 52.4 percent of young people are not part of labour force and those who are in the labour force face

[4] This has been the evident in Pakistan as most of the suicide attacks in recent years have been carried out by young people. A number of studies have already shown that majority of suicide attackers belong to the age group of 15-24 years of age. [see for example, studies by Cutler *et al.* (2001) and Rakhra (2008)]

[5] GOP (2008b). "National Youth Policy," Ministry of Youth Affairs, Islamabad. Available at: http://www.moya.gov.pk/national_youth_policy.html

significant difficulties in finding work. Their usual status[6] unemployment rate is 22 percent which is much higher than the adult usual status unemployment rate in Pakistan. Moreover, those who are employed are working for low paying jobs and are more vulnerable[7] in the labour market when compared with adult labour market. For example, Figure 1.3 shows the share of vulnerable employment as percentage of total employment for young and adult labour in Pakistan. Share of vulnerable employment in total employment is higher for youth as compared to adult labour especially in rural areas of Pakistan.

Figure 1.3: Share of Vulnerable Employment as Percentage of Total Employment



Source: Calculated from LFS, 2006-07

If we look at the education we find that about 32.5 percent of youth are totally illiterate, and 73 percent of youth are currently not enrolled in any educational program. Moreover, about

[6] Usual Status approach uses reference period of last twelve months instead of just one week to calculate unemployment rate. In chapter 1 and 5, we use usual status approach to calculate labour force participation and unemployment rate. For detailed analysis see section 2.1.1 in chapter 2.

[7] Own-account workers and unpaid family helpers are considered vulnerable in the labour market. Own-account workers are those who are working alone and are self-employed while unpaid family helpers are those who work without pay in cash or in kind on an enterprise operated by a member of household or other related persons. They are called vulnerable as they do not have any job security or social protection against low demand periods. For detail description, see LFS (Labour Force Survey of Pakistan, 2006-07), FBS, Islamabad.

30.5 percent of these young people are totally inactive, i.e. neither in school nor in labour force. Some of these statistics are summarized in Table 1.2

Young people in Pakistan cannot be considered as a homogenous group. In fact, there are great variations in labour market outcomes[8] within youth (15-24 years) on the basis of age, gender, and location. For example, Table 1.3 clearly shows the highest unemployment rate is at the start of the career and along with increase in age, unemployment rate decreases. Moreover, young people in rural areas face higher level of unemployment than young people in urban areas. Similarly, young female population also enjoys fewer employment opportunities than young male population.

Table 1.2: Summary Statistics of Youth in Pakistan

Indicators	Percentage
Labour force participation rate (LFPR)	47.6
Enrolled as a student (as percentage of total youth)	27.0
Combine work with school (as percentage of total youth)	1.2
Inactive (as percentage of total youth)	30.5
Have formal training (as percentage of total youth)	0.8
Unemployment rate (as percentage of total youth labour force)	21.7
Unpaid family helpers (as percentage of total employed youth)	38.5
Hours of work	
• Percentage of employed youth working less than 35 hours a week	14.2
• Percentage of employed youth working more than 48 hours a week	42.0
Married (as percentage of total youth)	20.8
Male married (as percentage of total male youth)	10.8
Female married (as percentage of total female youth)	31.3

Source: Calculated from LFS, 2006-07

[8] Labour market outcomes include different indicators like labour force participation and unemployment rates, employment by status and sectors, and working hours of youth in the labour market.

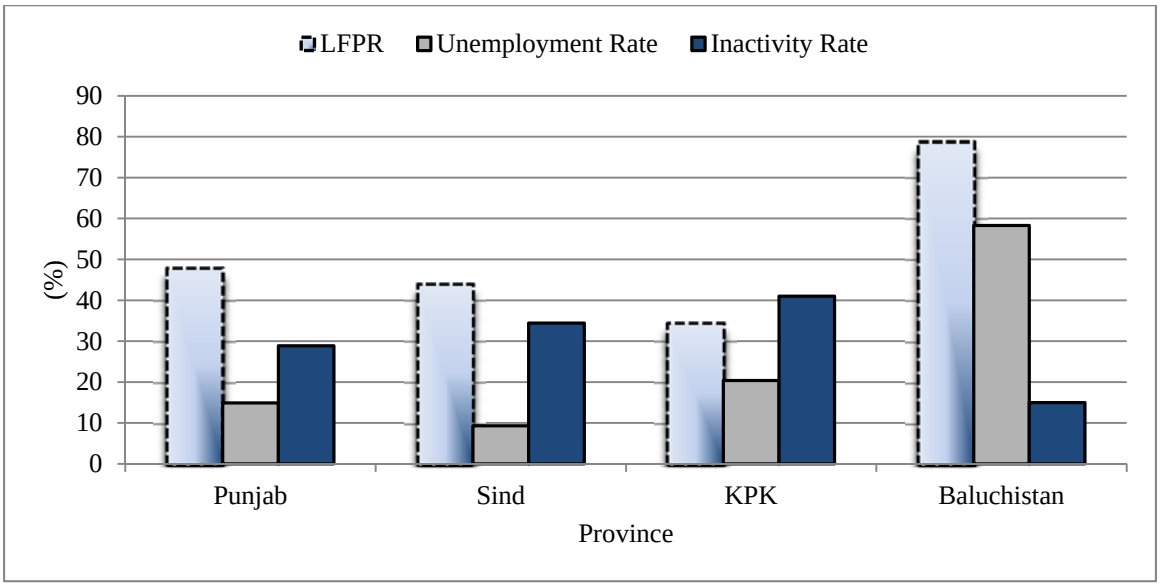
Similarly, if we analyze the youth activities on the basis of provinces we find that Baluchistan is a province where unemployment rate is highest among all four provinces. This shows that youth in Baluchistan face more difficulties in finding work. Moreover, in Baluchistan, inactivity rate is less than the inactivity rates that exist in other provinces which shows that youth of Baluchistan are more willing to work and to get education. By contrast, in KPK (Khyber Pakhtoonkhwa, the new name of NWFP province), inactivity rate is the highest in Pakistan showing the low labour force participation and enrollment rates amongst the youth of KPK (Figure 1.4).

Table 1.3: Principal Activities of Youth in the Labour Market (Male/Female)

Age	Labour Force Participation Rate (%)		Unemployment Rate (%)		Inactivity Rate (%)	
	Male	Female	Male	Female	Male	Female
15	43.41	21.65	28.43	58.06	5.17	37.90
16	55.09	24.07	22.62	54.67	5.87	46.98
17	56.14	22.18	17.38	51.78	5.89	47.56
18	69.55	24.07	14.60	50.07	6.48	55.73
19	71.68	23.92	12.25	42.78	7.80	56.94
20	78.26	25.39	9.56	46.56	6.29	64.03
21	78.91	25.25	7.43	40.72	6.76	62.75
22	85.72	25.79	7.11	42.86	6.02	68.70
23	87.35	27.78	8.03	41.69	4.68	66.99
24	91.62	28.85	4.47	41.31	5.17	69.44
Youth (15-24 years)	69.23	24.64	12.98	47.84	6.02	56.61

Source: Calculated from LFS, 2006-07

Figure 1.4: Provincial Differences in the Labour Market Outcomes



Source: Calculated from LFS, 2006-07

1.2 Objectives of the Study

1. To analyze the determinants of youth activities in Pakistan.
2. To analyze the impact of human capital indicators on youth labour market outcomes in Pakistan.
3. To analyze the determinants of employment probabilities for youth in the labour market.
4. To analyze the determinants of employment status of youth in the labour market.
5. To measure and analyze the determinants of supply of working hours by youth in the labour market.
6. To calculate and compare the usual status unemployment rate with that of official unemployment rate.
7. To judge the relative position of youth in the labour market by making a comparison between youth, child and adult labour market indicators in Pakistan.
8. To measure the regional and gender disparities in youth labour market outcomes in different areas of Pakistan.

To achieve the objectives of this study we adopt the following procedure:

1. Reviewing of the theoretical and empirical studies related to the topic under consideration.
2. Identification of variables that can affect the youth activities and labour market outcomes.
3. Setting up of a theoretical base of the relationship between the variables.
4. Formulating the hypotheses related to human capital indicators and youth labour market outcomes.
5. Application of statistical and mathematical models/techniques to analyze the data to reach the conclusion and make recommendations for future policy formulation in Pakistan.

1.3 Relevance of the Study

All facts and figures mentioned above show that youth in Pakistan face different situations in different areas of Pakistan and additional research has the potential to find out the exact causes of youth unemployment in Pakistan.

The relevance of the study can be judged from the following points:

1. In Pakistan, youth constitutes a major share of labour market. For proper planning, there is a need to specify the exact causes of youth unemployment, and lack of decent work[9] in different areas of Pakistan. It can be helpful in shifting young people from social dependence to self-sufficiency.
2. Youth unemployment, underemployment or lack of decent work imposes heavy social and economic costs which can result in the loss of opportunities for economic growth. Analyzing the problems faced by youth in the labour market at provincial level can

[9] For definition of decent work, see Definitions and Concepts, page XVII.

benefit the policy makers to formulate right kind of policies to materialize the potential demographic dividend for Pakistan due to youthful population.

3. In future, the majority of the population will be in the prime working age (Figure 1.1 and Table 1.1) and the opportunity cost of sitting idle of these young people can be very high. Therefore, providing better opportunities in labour market can decrease social unrest and tension in the society and will be a source of long run economic growth.
4. There is a great untapped potential of female youth in labour market and there also exist great gender and regional differences in youth labour market. Identifying the factors that are responsible for these differences can be helpful in making more appropriate policies to promote gender and regional equality.
5. A profile of youth labour market activities, pattern of employment, status of employment and how it varies with personal, regional and family characteristics will be helpful for further policy analysis. Better and up-to-date information about youth can be helpful for the government in reducing unemployment in the country.

1.4 Organization of the Study

The rest of the thesis is organized as follows:

Chapter 2 presents the current situation of labour market in Pakistan focusing on its absorbing capacity of youth. Chapter 3 describes the relevant literature review while Chapter 4 describes the theoretical framework and methodology of the study. Chapter 5 presents a descriptive analysis of data and chapter 6 describes the results of empirical analyses. Finally, Chapter 7 describes the conclusions and Chapter 8 gives policy recommendations.

Chapter 2

Labour Market Situation in Pakistan

This chapter analyzes the labour market situation with special reference to youth in Pakistan. The main focus of the chapter is to identify the existing and potential sources of employment generation and to highlight some of the issues and challenges of youth labour market in Pakistan. First section describes an overview of labour market trends and indicators while section two presents the key issues and challenges faced by youth in the labour market of Pakistan.

2.1 Labour Market Trends of Youth in Pakistan[1]

Pakistan is the 6th largest country in the world with a total population of 159.57 million people in 2007-08. Out of this, about 51.78 million are part of labour force[2]. However, the labour market in Pakistan is confronted with number of challenges. Low labour force participation rate (LFPR), high unemployment rate among educated people, predominance of informal economy, low level of education[3] and skills and very low participation by females are some of the features of labour market in Pakistan. However, over the years, there are signs of improvements in many indicators of the labour market in Pakistan. Table 2.1 presents the key labour market indicators for youth in Pakistan for the period of 1999 to 2007. First indicator is the labour force participation rate which shows the overall supply of labour in the market. Labour force participation rate for youth in Pakistan shows that 44.2 percent people in the age group of 15-24 years are either employed or unemployed. Remaining 55.8 percent are neither working nor willing to work. The main reason of this low LFPR is low economic participation by females in

[1] Section 2.1 draws heavily on GOP (2008c), *"Pakistan Employment Trends"*.
[2] Labour Force here means all persons 10 years or above who are in the categories of either employed or unemployed.
[3] According to Economic Survey of Pakistan (2008-09), about 46 percent of labour force in Pakistan is either illiterate or have less than one year of education.

Pakistan. Due to cultural and social barriers, female participation in economic activities is as low as 18.4 percent. However, since 1999, female LFPR has shown considerable improvement of 8.2 percentage points. Figures of 2006-07 show a declining trend in labour force participation rate particularly for male youth. This trend may be attributed to the increase in enrollment rate of male youth in recent years[4].

Employment-to-population ratio (EPR) is another important indicator that shows the absorbing capacity and ability of economy to create jobs. From 1999 to 2007, youth population grew by 7.3 million while youth EPR increased from 35 to 41 percent. This shows that youth employment growth has outpaced the population growth rate in the country. However, this ratio is lower than the average EPR in South Asia and in the world.[5]

There also exists great gender gap in employment-to-population ratios of male and female youth in Pakistan. The main reason may be the low LFPR of women in our society. Another important point here is that over the years, female EPR has shown much more improvement as compared to male EPR in Pakistan. This also shows that more opportunities are also being created especially for female youth along with increase in population.

Unemployment rate is the most important and widely used indicator of the labour market. It is defined as the percentage of unemployed people in total labour force. This rate is also showing a declining trend over the years in Pakistan. Again this rate shows relatively large improvement for females in Pakistan. Unemployment rates presented in Table 2.1 are based on weekly status approach in which a person is considered as unemployed who during the reference period of one week (preceding the date of interview) was without work and also available for work. It is important to note that the reference period of just one week to calculate

[4] Male youth enrollment rate has increased by 2.1 percentage points from 2006 to 2007 as compared to 1.9 percent decrease from 1999 to 2006.[GOP (2008c)]

[5] According to World Development Indicators (2008), Average Employment-to-population ratios in South Asia and in the world are 43 and 47.5 respectively.

unemployment rate in Pakistan may undercount the extent of unemployed people in the country. To see the real situation of unemployment in the country, we calculate unemployment rate based on longer reference period of one year instead of just one week. The rational of this approach is described in next section.

Table 2.1: Youth Labour Market Indicators in Pakistan

Youth (15-24 years)	Period					Percentage Points change from 1999-2007
	1999-2000	2001-2002	2003-2004	2005-2006	2006-2007	
Labour Force Participation Rate						
Both Sexes	40.5	43.4	44	46	44.2	3.7
Male	69.3	70.2	71	72	69.2	-0.1
Female	10.2	14.8	16	19	18.4	8.2
Employment-to-population Ratio						
Both Sexes	35	37.6	39	42	41	6
Male	62	62	63	66	64	2
Female	7.2	12	14	17	17	9.8
Unemployment Rate						
Both Sexes	13.3	13.4	12	9	7.5	-5.8
Male	11.1	12	11	8.4	7.1	-4
Female	29.3	21	15	9.6	8.9	-20.4
Share of Industry in Total Employment						
Both Sexes	24.1	27.7	26.6	26.88	26.7	2.6
Male	24.8	28	27.1	27.5	28.5	3.7
Female	18	26	24.5	23.8	19.2	1.2
Share of Agriculture in Total Employment						
Both Sexes	44.2	38.8	40.7	41	41.5	-2.7
Male	42.5	36	36.4	36.4	35.4	-7.1
Female	59.4	54.3	60.9	59.7	65.3	5.9
Share of Services in Total Employment						
Both Sexes	31.7	33.5	32.7	32.2	31.8	0.1
Male	32.7	35.9	36.5	36.1	36.0	3.3
Female	22.5	20.0	14.6	16.5	15.4	-7.1

Source: GOP, 2008c. Pakistan Employment Trends

2.1.1 Usual Status[6] Unemployment of Youth in the Labour Market

In Pakistan, officially, a person is considered as employed who has worked at least for one hour during the reference period of one week (preceding the date of interview). In other words, working for one hour is sufficient enough to be excluded from the group of unemployed people no matter whatever the usual status may be during most of the last 12 months. Similarly, a person is considered as unemployed only, if he or she during the reference period of last week was without work and also available for work. Reference period of just one week is too short for many people who may not be available during last week but may be available during most of past few months. For example, women are generally more likely than men to exit and re-enter the labour market due to their household affairs and child care. They often need to make personal arrangements before entering the labour market. Using one week reference period may exclude them from labour force and hence from the definition of unemployed. Exclusion of people from the definition of unemployed who are not available for work during last week may greatly undercount the extent of unemployment in the country[7]. To encounter this shortcoming and present the true picture of the labour market we calculate unemployment and labour force participation rates on the basis of usual status (status during most of the past 12 months) instead

[6] This approach uses usual status of people during the reference period of one year instead of just one week. Labour Force Survey asks a question from every respondent about the principal activities during most of the last 12 months. Options given to respondents include employed, unemployed and not in labour force. We use these activities to calculate 'usual status' of people as these are based on relatively a longer period of one year instead of just one week. In India, National Sample Survey Organization calculates unemployment rates by three methods, i.e. Current weekly status approach with a reference period of seven days, usual status approach with a reference period of one year and current daily status approach with each day of the preceding week as the reference period. For details, see Pandey, (1999). "*Status of Employment and Unemployment Statistics in India,"* available at: http://www.unescap.org/stat/meet/keyindic/india current manpower.pdf

[7] Some researchers have already questioned the low unemployment rate of youth in Pakistan, for example, Fares *et al.* (2006) indicated that Pakistan has the third lowest unemployment rate but highest jobless rate in the world. They further gave reasons that relatively few young people who are unemployed are part of labour force and unemployment rate in Pakistan is artificially low. Similarly, Amjad (2005) indicated that youth unemployment rate in Pakistan is 24 percent which is much higher than the official statistics of youth unemployment in Pakistan.

of just last one week. Table 2.2 presents a comparison between unemployment rates based on two approaches.

Table 2.2: Unemployment Rates Based on Weekly and Usual Status Approaches

Youth (15-24 years)	Unemployment Rate	
	Weekly Status	Usual Status
Pakistan	7.5	21.7
Male	7.1	12.9
Female	8.9	47.8
Rural (both sexes)	6.1	19.0
Rural Male	5.8	12.0
Rural Female	6.8	39.0
Urban (both sexes)	10.5	26.0
Urban Male	9.5	15.0
Urban Female	17.4	64.0
Punjab	7.7	14.9
Sind	5.0	9.3
KPK	12.5	20.4
Baluchistan	4.3	58.3

Source: Calculated from LFS, 2006-07

It is clear from Table 2.2 that unemployment rate based on 'usual status' is almost three times than the official rate (based on one week reference period) at country level. Larger differences exist in case of females living in both rural and urban areas. Although, differences exist in all four provinces, Baluchistan seems to be an exception where unemployment rate based on longer reference period is much higher than the unemployment rate calculated on one week reference period. The main reason of such a difference may be due to higher long term unemployment or inadequacy of permanent work opportunities that might exist among females in different regions of the country especially in Baluchistan. It may be due to the fact that many females want to work but they might not be actively seeking work due to social and cultural barrier which may impede them to make themselves available for work in the labour market.

Another reason of such differences may be the common perception among many people who think that job opportunities are not available so they do not try to find work and hence are excluded from the definition of unemployed. Being a student sometimes do not allow young people to be available to work for all the time but they might be willing to work in most of the time if proper opportunities are available to them. All these differences show that reference period of one week is too short to analyze the real picture of the labour market in Pakistan. To overcome this shortcoming of weekly status approach, we calculate and compare the unemployment rates based on usual status approach for different age groups in chapter 5.

2.1.2 Employment Generation for Youth in Pakistan

In Pakistan, agriculture sector is the main sector that contributes about 41.5 percent to the youth employment. Its share in female youth employment is about 65 percent which has increased by 5.9 percentage points since the year 1999. However, overall share in youth employment in agriculture sector shows declining trend in Pakistan (Table 2.1). It would be beneficial to further analyze the structural shift in employment over the years. For this purpose, Table 2.3 presents the percentage share of different sectors in total employment for the periods of 1999 to 2007. It also gives the absolute figures of jobs generated for youth in different sectors of Pakistan's economy.

Table 2.3 shows that share of agriculture sector in total employment has decreased by 2.7 percentage points. However, during the period of 1999 to 2007, it has absorbed about 15, 84,400 additional young people in the economy. Manufacturing, construction, whole sale and retail trade sectors have also shown strong growth in employment generation for youth in Pakistan. The other main sectors which are providing employment to young people include trade, transport, services and financial sectors. Financial sector has absorbed additional 73,000 young people since 1999. Majority of young people are working in agriculture, manufacturing, construction,

trade and services sectors. However, over the years there is slight change in the structure of employment. Share of agriculture has declined while that of construction, manufacturing, and financial sectors has increased.

Table 2.3: Sectoral Shares of Youth Employment in Pakistan

Major Sectors	Percentage Share		Total Employment Creation (in thousands)
	(1999-2000)	(2006-2007)	(1999 to 2007)
Agricultural, forestry, hunting and fishing	44.2	41.5	1584.4
Mining and quarrying	0.0	0.1	13.6
Manufacturing	16.7	18.5	976.4
Electricity, gas and water	0.1	0.2	18.3
Construction	7.2	7.8	386.3
Whole sale and retail trade, restaurant and hotels	14.4	14.5	646.1
Transport, storage and communication	5.2	4.7	166.7
Finance, insurance, real estate and business services	0.4	0.8	73.1
Community, social and personal services	11.8	11.8	524.7
Total	100	100	4393.7

Source: Based on GOP, 2008c. Pakistan Employment Trends

2.2 Issues of Youth Labour Market in Pakistan

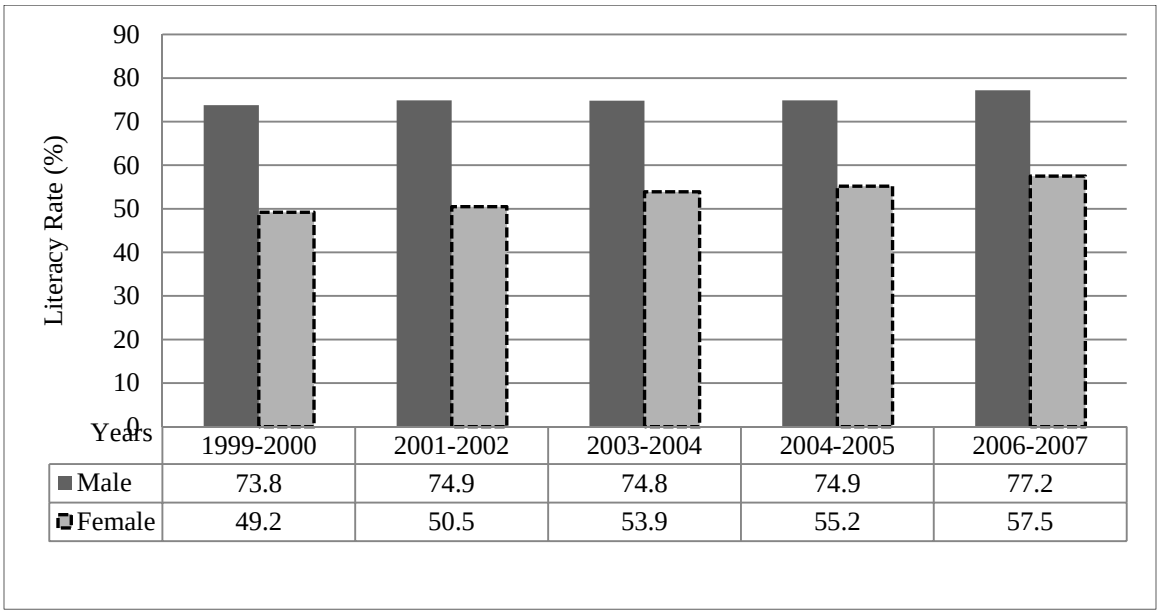
Labour market in Pakistan is confronted with number of challenges. Some of critical issues related to the youth labour are discussed below. The basic purpose of this section is to provide an insight of the youth labour market before formulating the hypotheses of the study.

2.2.1 Poor Level of Education and Skills

Education plays an important role in the development of a country. It raises the productivity and efficiency of individuals in the labour market. Unfortunately, Pakistan is lagging behind in the field of education and skills. About one-third of the youth population, a total of 10.4 million (3.7 million males and 6.7 million females) are illiterate [GOP (2008c)].

Figure 2.1 presents the literacy rate[8] of male and female youth in Pakistan. It is clear that literacy rate among female youth is much lower than that of male youth in Pakistan.

Figure 2.1: Youth Literacy Rate (%)



Years	1999-2000	2001-2002	2003-2004	2004-2005	2006-2007
Male	73.8	74.9	74.8	74.9	77.2
Female	49.2	50.5	53.9	55.2	57.5

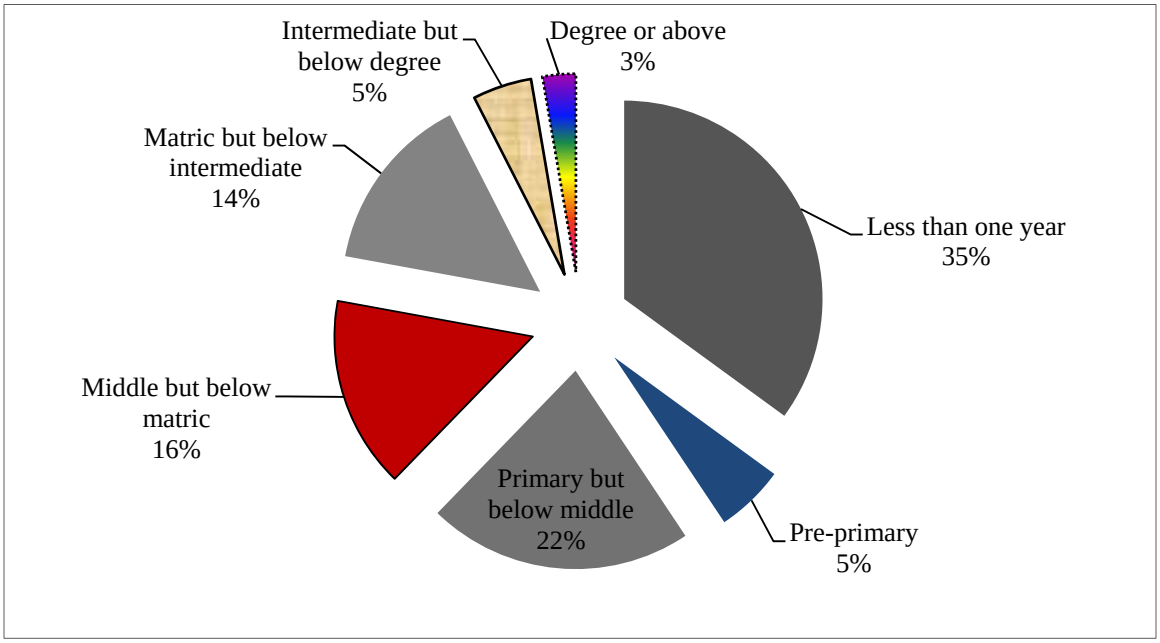
Source: Based on GOP, 2008c. Pakistan Employment Trends

However, over the years, female youth has shown much more improvements. Female literacy rate has improved by 8.3 percentage points as compared to 3.4 percentage points increase in male literacy rate (Figure 2.1)

Statistics of educational attainment of youth also do not present a good picture of situation. In the year 2006, more than half of the youth labour force (62.2 per cent) had either less than one year or just primary education (Figure 2.2). It is not hard to imagine the skills and productivity of the labour force with such a low level of education.

[8] A person is considered as 'Literate' if he or she can read and write in any language with understandings.

Figure 2.2: Educational Attainment of the Youth Labour Force (%)



Source: Calculated from LFS, 2006-07

Technical and vocation institutions also play an important role in the process of employment generation especially for young people. Returns on investment in education and training is very high for youth because they are more mobile and flexible. A study by Nasir and Nazli (2005) has shown that a one year increase in technical education resulted in 2.4 percent increase in income of individuals in Pakistan. However, the state of Technical and Vocational Educational Institutions is not very satisfactory in the country. According to Economic Survey of Pakistan (2008-09) there are just 1522 Technical and Vocational Institutions in Pakistan (Table 2.4). Only 1.6 percent students after matriculation are enrolled in Technical and Vocational institutions as compared to 8 percent in developing and 18 percent in the developed countries[9]. Moreover, the quality and structure of these institutions is also not very good. According to Asian Development Bank Survey in year 2005, the performance of 28 percent of Vocational and Technical

[9] UNESCO (2006).

Institutions in Pakistan was poor, 60 percent was fair and only 12 percent of institutions' performance was ranked as good.[10]

Table 2.4: Trends in Technical and Vocational Education in Pakistan

Indicators	**1995-96**	**2006-07**
Number of Institutions	577	1522
Total Enrollment	86000	314188
Percentage enrollment in Technical and Vocational education	0.56	1.66

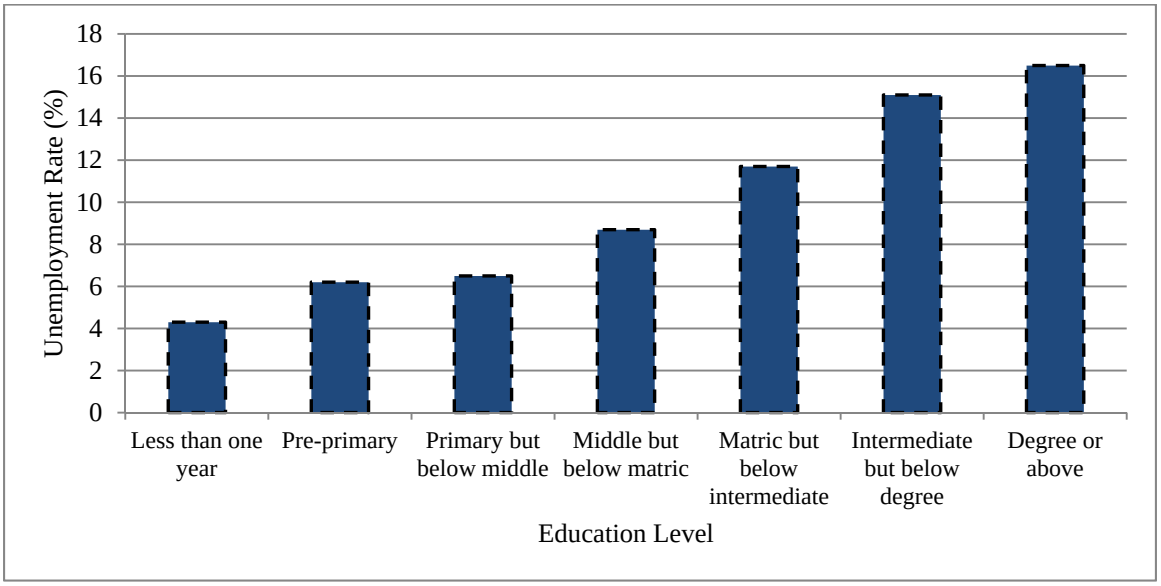
Source: GOP, 2008a. Economic Survey of Pakistan, 2007-08 and HDR, 2007

2.2.2 Higher Unemployment[11] among Educated Youth in Pakistan

There is incidence of higher unemployment among educated people in Pakistan which shows the mismatch between type of education and opportunities available in labour market. It is clear from Figure 2.3 that unemployment rate among those with higher level of education is much greater than those with lower level of education. It does not mean that education is not good for labour market success in Pakistan. The main reason is that in general, tertiary education in Pakistan is not providing required skill for jobs in the labour market. Students generally do not have any practical knowledge and skills during their education in schools. After education, they usually demand comparatively higher wages as compared to people with low level of education which results in the higher level of unemployment for them. Another important reason of this phenomenon in Pakistan is the predominance of informal economy which is highly biased towards unskilled labour. Analysis of unemployment on the basis of education however, over the years, has shown some positive signs. Table 2.5 shows the trends of unemployment on the basis of education level in Pakistan. It clearly shows that demand for educated people especially for females is increasing in the country.

[10] Cited in HDR (2007).
[11] Figures presented in this section are based on Weekly status approach and are official figures.

Figure 2.3: Unemployment on the basis of Education Level in Pakistan (Youth, 2006-07)



Source: Based on GOP, 2008c. Pakistan Employment Trends

2.2.3 Predominance of Informal Economy

In Pakistan, informal economy is formulated in terms of household enterprises owned and operated by own-account workers [LFS (2006-07)]. Share of informal economy in total GDP is 37 percent in Pakistan which is much higher than the average share of informal sector in South Asian economies (26 percent of GDP). It is considered as the primary source of job generator after agriculture sector and provides more than half of the total employment in urban areas of Pakistan[12]. The main reason of this may be its biasness towards unskilled labour. Youth in early stage of their careers, get involved in informal economic activities which may result in low wage and productivity in future.

[12] ILO (2005).

Table 2.5: Trends in Unemployment Rates Based on Educational Attainment in Pakistan

(Population 15 years or above)

Level of Education	Period					Percentage points Change (1999-2007)
	1999-2000	2001-2002	2003-2004	2005-2006	2006-2007	
Less than one year						
Both Sexes	6.2	7	6	5.5	4.8	-1.4
Male	3.9	5	4.2	4.1	3.5	-0.4
Female	13.4	15	11.1	8.7	7.6	-5.8
Pre-primary						0
Both Sexes	6.3	7.2	7.4	5.2	4.6	-1.7
Male	5.6	6.8	7.1	9.7	4.2	-1.4
Female	19.3	13.3	12.4	4.8	8.3	-11
Primary but below middle						
Both Sexes	7	7.4	6.3	6	4.3	-2.7
Male	5.6	6.4	5.3	9.8	3.7	-1.9
Female	30	19	16.5	5.5	9.6	-20.4
Middle but below matric						
Both Sexes	10.1	9.3	8.8	5.8	5.4	-4.7
Male	9	8.4	8.5	5.5	5	-4
Female	35	23.1	15.4	10.5	10.9	-24.1
Matric but below intermediate						
Both Sexes	9	9.7	10.4	7.6	6.2	-2.8
Male	7.7	8.2	9.4	6.9	5.3	-2.4
Female	27	25.3	20.9	14.6	15.3	-11.7
Intermediate but below degree						
Both Sexes	8.7	10	11.2	8.1	6.5	-2.2
Male	7.3	8.3	9.8	6.9	5.6	-1.7
Female	22.6	20.3	22	16.5	13.9	-8.7
Degree or above						
Both Sexes	6.7	8.5	8.8	7	5.4	-1.3
Male	5.7	7.4	7.2	5.9	4.6	-1.1
Female	14	15.3	17.1	12.9	9.7	-4.3

Source: GOP, 2008c. Pakistan Employment Trends

2.2.4 Gender Gap in the Labour Market Outcomes

Last column of Table 2.6 highlights the gender gap in different labour market outcomes for youth in Pakistan. All indicators show the biasness against female youth in the labour market. Their LFPR is almost 51 percentage points lower than that of male LFPR. Similarly, literacy rate of female youth is 19.7 percentage points less than that of male youth. Most of employed female are working as unpaid family helpers which shows the lack of proper work opportunities for them as compared to their male counterparts.

Table 2.6: Gender Gap in Labour Market Indicators (2006-07)

Indicators	Male	Female	Gender Gap[13]
Labour Force Participation Rate	69.2	18.4	50.8
Unemployment Rate	7.1	8.9	-1.8
Employment-to-population Ratio (EPR)[14]	64.0	17.0	47.0
Literacy Rate	77.2	57.5	19.7
Share of Employment in Formal economy as percentage of total employment	14.0	9.0	5.0
Share of Employment in informal economy as percentage of total employment	53.0	32.0	21.0
Share of unpaid family helpers in total employment	35.0	56.5	-21.5

Source: Calculated from LFS, 2006-07

2.2.5 Attitude towards Work and Education[15]

A substantial percentage (30.5 %) of youth in Pakistan is neither in school nor in labour force. This shows their attitude towards work and education. Only 27 percent of young people (22.1 percent female and 31.7 percent of male youth) are currently enrolled as a student in the age when they are supposed to complete their education. About 14.2 percent of employed youth work for less than 35 hours a week. Majority of them (about 94.4 percent) are not available for

[13] Gender Gap is calculated by deducting the respective indicator of female youth from that of male youth. For example, gender gap in literacy rate = male literacy rate – female literacy rate.
[14] EPR is taken from GOP (2008c). *"Pakistan Employment Trends"*
[15] Figures quoted under this heading are calculated from LFS (2006-07).

additional work. Those who are available for additional work do not take serious measures to find work. Only 2.6 percent of them are actively seeking for additional or alternative work. Availability for work is also an important indicator that can show the attitude and preferences of youth in the labour market. Table 2.7 shows the reasons of non-availability for work during last week for male and female youth in Pakistan. It is clear that there are two major reasons of non-availability of youth for work in Pakistan. For male youth, the most important reason of non-availability is the school enrollment while for female youth, housekeeping is the main reason for non-availability for work.

Table 2.7: Reasons of Non-availability for Work during Last Week (Youth, 2006-07)

Reasons	Sex		Total
	Male	Female	
Illness	1.5%	0.5%	0.8%
Will take a job within a month	0.7%	0.0%	0.2%
Temporarily laid off	0.3%	0.1%	0.2%
Apprentice and not willing to work	3.6%	0.2%	1.2%
Student and not willing to work	85.0%	25.2%	43.2%
Housekeeping and not willing to work	2.4%	72.9%	51.6%
Landlord and not willing to work	0.5%	0.0%	0.2%
Too young to work	0.5%	0.1%	0.2%
Handicapped	2.2%	0.4%	1.0%
Other reason	3.2%	0.5%	1.3%
Total	100%	100%	100%

Source: Calculated from LFS, 2006-07

2.2.6 Competitiveness in the Labour Market

According to Global Competitive Index[16] (2007-08), out of 134 countries in the world, Pakistan ranked 101 and placed 3rd in South Asia. There are 12 indicators used to calculate this index which are usually known as twelve pillars of Global Competitive Index (GCI). Table 2.8 presents some of its indicators (pillars) which can be directly linked to the skill and productivity of labour in South Asian countries. These indicators include health and primary education, labour market efficiency and higher education and training. An analysis of these indicators gives an idea of relative position of Pakistan in the world with respect to the labour market. Higher value of any pillar means relatively lower performance in that indicator by respective country. Table 2.8 shows that fourth pillar is about health and primary education, the two basic requirements of productivity and efficiency of labour. Without proper health, basic education and skills, chances of employment and growth remains limited in the labour market. Unfortunately Pakistan's position in this regard is not very good as compared to rest of the world. Pakistan's position is 113 out of 134 countries even lowest in the region of South Asia.

Table 2.8: Global Competitive Index (GCI) and its Pillars (South Asia, 2007-08)

Country	Global Competitive Index (GCI)	Pillars		
		Labour Market Efficiency	Higher Education and Training	Health and Primary Education
Pakistan	101	124	118	113
India	50	83	66	101
Sri Lanka	77	111	64	47
Nepal	126	122	124	106
Bangladesh	111	112	129	105

Source: Based on Global Competitiveness Report, 2008-09

[16] Global Competitive Index (GCI) is developed by World Economic Forum. The index looks at the factors that contribute to the productivity and competitiveness in different sectors of economic and social life of a country. For details, see "*The Global Competitiveness Report:* (2008-09)," World Economic Forum, Geneva.

Similarly, the 5th pillar is about the higher education and training. This pillar reveals the quality of educational system and enrollment in tertiary and secondary education in the country. Its score can reveals the ability of labour force to adopt the changing technology and environment in the world. Pakistan‘s position is 118 in the world. The performance of Sri Lanka and India is better than Pakistan’s in this regard.

As far as the efficiency in the labour market is concerned, Pakistan’s position is 124 out of 134 countries in the world and is also at lowest position in the region of South Asia. This indicator highlights the issues of cooperation in industrial relations, flexibility of wage determination, rigidity of employment, hiring and firing practices of worker etc.

Chapter 3

Literature Review

This chapter provides a comprehensive review of literature about youth in the labour market. A review of past studies is helpful in a number of ways. It helps to develop a theoretical framework, in identifying the important variables, in formulating the hypotheses to be investigated and to design the study. Section 3.1 in this chapter describes the issues related to the entry in the labour market, its timings and importance in life. Section 3.2 gives review of studies about determinants of youth labour market outcomes (unemployment, economic participation, earnings, employment status choices etc.). Section 3.3 discusses the issues of gender and racial discriminations in the youth labour market while section 3.4 summarizes the issues related to different types of data to analyze the youth labour market. A summary of different variables related to the labour market outcomes is given in section 3.5 while section 3.6 presents a conclusion of the current chapter and its relevance to the rest of the thesis.

3.1 Issues Related to the Start of Career, its Timings and Importance in life

This section describes the issues related to the start of career, its timing and importance later in life. There are two issues related to timing of entry in the labour market. First is the early entry and second is the failure to enter the labour market. Early start of career is more often a phenomenon that exists in developing countries like Pakistan where children leave the school and start working at an early age.

There has been a debate among researchers over the effects of early start of career. Their main focus is on the impact of early start of career on educational achievements, human capital accumulation, productivity and finally on earnings later in life. In USA, a study by Michael and Nancy (1984) has shown that early work experience of youth should not be ignored as it does

impact on labour market experience later in life. The main purpose of their study was to analyze the impact of early work at the age of 14 and 15 on subsequent employment pattern of youth after 2 years. By using data from National Longitudinal Survey of Youths (NLSY) who were 14-21 years of age in 1979, they run a linear probability regression on a dummy variable of employment on number of independent variables. Their independent variables include religion, US or non-US citizens, nativity, family structure at the age of 14, number of siblings, region, urbanization of residence at age 14, education level and employment status of parents, and a dummy variable representing black and white Hispanic. They found that employment chances for youth rise with age. However, those who start working early (at the age of 14 and 15) in their career are more likely to be employed and work more hours on average after slight increase in age, i.e. after 2 years.

Study by Michael and Nancy (1984) shed light on the importance of early work experience on subsequent chances of employment but it failed to throw light on how early work can affect school performance, productivity and earnings later in life. These issues have been discussed by some researchers who found that those who start working early can find themselves in lower income quartile later in life. For example, in Brazil, Ilahi *et al.* (2005) found that the boys who entered the work force before the age of 12, earned 20 percent less and were 8 percent more likely to be in lowest income quintile than the boys who started working after age 12. Among others, Emerson and Andre (2006) also found that those who entered the labour market before the age of twelve earned 20 percent less than those who started working after the age of twelve. In her study, Faizunnisa (2005) found that, in Pakistan, 50 percent of young males in lowest income quintile start working before the age of 15 which leads to fewer opportunities and earning later in the life. The main focus of these studies was that early entry in the labour market

may affects the educational performance and hence the productivity in future. Moreover, these young people are mostly unskilled and are trapped in low skilled and low wage activities. Sultana (2005) used data from Nationally Representative Survey of Youth in Pakistan (2001-02) and found that young males and females in rural areas of Pakistan are twice as likely as compared to their urban counterparts to start working before the age of 15. Moreover, young women are more willing to work as compared to young men if opportunities are available.

Beegle *et al.* (2004) also analyzed the impact of child labour on education, wages, occupational choices and health. By using panel data from Vietnam Living Standard Surveys (1992-93 and 1997-98) they found that child labour significantly affects the educational attainment and work experience in future. Working as a child labour at the time of first survey (1992-93) significantly reduced the school attendance and increased the chances of wage employment five year later, i.e. at the time of second survey (1997-98).

Some researcher analyzed the factors that can affect the decision of schooling and work of young people in market. For example, Rosati and Rossi (2003) analyzed the decision of household regarding the school attendance or labour supply (hours worked) by young people in Pakistan. Using Household Survey[1] data, they applied Tobit model for the dependent variable of hours worked per week and Probit model on the decision to school enrolment of children. Independent variables include age, age squared (as a proxy variable for experience), household income, household size, number of children in household, and dummy variables for being female, and residence of rural areas. Their results showed that household size and number of children present in the household reduce the probability of school enrollment. Similarly, children living in rural areas are also less likely to be enrolled. The model of labour supply (hours worked

[1] The Survey was led by ILO in 1996 within the program on the elimination of child labour. The survey contains information about the working children by their age, sex, occupation, location, hours worked and socio-economic characteristics of children and their families.

per week) by children showed that increase in the income of household reduces the number of hours worked by children. Female children with larger household size worked fewer hours in market, this may be due to the fact that they spend more time in household work which increases in case of large household size.

On one hand, many young people start their career early in life while many fail to enter the labour market and get some work. Early unemployment experience can affect earnings and social attitude of youth later in life. There are number of researchers who analyzed the reasons of youth unemployment and its effects on subsequent earnings and labour market experience. For example, Mroz and Timothy (2006) examined the long-term effects of youth unemployment on labour market earnings of youth. They used the sample of young people (14-19 years age in 1979) from Nationally Longitudinal Survey of Youth (NLSY1979). They developed a model which incorporated the decisions of schooling, training, and work by young people over time. According to that model, each year a young person decides whether to attend school, training, or to participate in economic activities depending upon his employment and unemployment experience. Their result showed that early unemployment experience may adversely affect the future earnings of a young person as long as ten years despite the catch-up response[2]. It may be due the fact that because of lost experience, young persons may permanently got trapped into the jobs characterized by low wages and little room for advancement.

3.2 Studies Related to the Determinants of Youth Labour Market Outcomes

This section presents the studies that analyzed the factors that can affect different youth labour market outcomes. It gives us an idea that how different social, economic and demographic

[2] Unemployed worker when gets employment tries to work more hours and get some training in order to compensate the loss of earnings during unemployment. This behavior of unemployed people in the labour market was termed as catch-up response.

variables can affect youth employment, earnings, employment status choices and decisions of working hours in the labour market.

Youth unemployment is one of the most important issues of the labour market. Many researchers have investigated and indentified the reasons of youth unemployment in different countries. For example, in USA, Freeman (1982) used data from the Survey of Income and Education ,1976 to analyze the probabilities of employment and unemployment for young people of age 16-24 years. He divided explanatory variables into three categories, i.e. economic, geographic and individual and household characteristics of youth. Variables representing individual and household characteristics include years of education, household income, race, if family is taking welfare, receipt of food stamp, if family is living in public housing, female-headed household, region of residence, a dummy variable if the income of household is below poverty line, and a dummy variable if young man is the head of the household. His results showed that youth living with poor family background (families receiving welfare or food stamp, residence of public housing, family living below poverty line) has lower probabilities of employment. He included number of variables to find the impact of geographic and economic variations on youth employment and unemployment. These variables included relative number of young people in that area, percentage of households below poverty line, adult unemployment rate, rate of growth of personal income, and proportion of jobs in young-worker intensive industries (restaurants, retailers etc.). Their results show that demand side factors such as level of economic activity in the areas (growth rate of personal income in areas and unemployment rate of prime age (30-34 years old) have powerful effects on youth labour market outcomes. In areas where prime age unemployment rate is higher, youth unemployment rate is also higher. While in

areas where rate of growth in personal income is higher more job opportunities are available for young people.

Some researchers argued that majority of youth are voluntarily unemployed and their unemployment is not a serious problem. For example, a study by Feldstein and Ellwood (1982) used micro data of Current Population Survey (1976) in USA to analyze the teenage employment and unemployment situation in the country. By descriptive analysis of data, the study concluded that unemployment is not a serious problem for majority of teenagers who are in school as they are neither working nor looking for work. A serious problem of unemployment exists only among small groups of teenagers who are out-of-school, low educated, mostly non-white, and living in poor families. Their study provides an in-depth descriptive analysis based on micro data but it does not provide any empirical results. Similarly, researchers such as Heckman and Borjas (1980); Freeman and David (1982) claimed that young people traditionally work less as compared to adult people. They have lower opportunity costs such as short job tenure and leisure preferences which causes frequent changes in jobs and should not be a source of concern.

According to Freeman and David (1982), the most important reason of youth unemployment is the economic conditions of the area where they live. Youth unemployment is one of the most sensitive variables that fluctuate with economic activities. They measured economic activities by growth rate of personal income and unemployment rate in the area. Their results show that in areas where economic activities are high youth unemployment tends to be low as compared to the areas where economic activities are low. Similarly, Denu *et al.* (2005) explained that a fall in aggregate demand due to the war with Eritrea, the 2001 drought , weather circumstances; lack of skills; low availability of investment and capital, lack of financial

management skills and limited market accessibility are some of the causes of youth unemployment in Ethiopia.

Family/household characteristic of youth also play an important role in determining the position of youth in the labour market. Different researchers have analyzed the impact of family characteristics on employment probabilities of youth in different countries. For example, Rees and Gray (1982) analyzed the determinants of employment for out-of-school youth in U.S.A. They argued that much of education of young people takes place in house, so having educated parents who have been exposed to books and serious discussions while growing up may have advantages in finding and holding jobs over other youths who have same amount of formal schooling. Expectations of families can also influence the decisions of young about work, for example, families who expect their children or young people to go for work are much more likely to be employed than those young people whose families do not have this kind of expectation. They also found that youth whose brothers and sisters have jobs are more likely to have jobs themselves also. The main reason of this may be the labour market characteristics common to all family members, or it may be due to the reasons that family members may help other members to get job. Similarly, a study by Meyer and Wise (1982) also concluded that youth from wealthier families were more likely to get jobs that pay more per hour.

Demographic changes can also cause changes in youth labour market outcomes, for example, Mercedes (1989) analyzed how demographic changes in USA affected the unemployment rate. He estimated the impact of changes in age and sex composition on unemployment rate of youth. He suggested that increase in the share of young male and female and rise in female labour force participation rate have exerted upward pressure on unemployment rate in USA. He further stated that the effect of demographic changes on individual

unemployment rates might account for up to 40% of the whole compositional impact on the overall unemployment rate. In Pakistan, Arif and Nusrat (2008) analyzed the impact of demographic changes on youth employment. Using data from Demographic Surveys and Labour Force Surveys, they concluded that benefits of demographic transition can be obtained by providing proper education and skill to youth especially females in rural areas. In USA, Bound and Holzer (2000) found that less educated workers show less response to demand shifts and population adjustments across metropolitan areas and hence face higher unemployment relative to more educated workers.

Lynch (1986) analyzed the determinants of unemployment spell for young workers in USA. Using National Longitudinal Survey of Youth 1979, he developed a model in which the expected duration of unemployment of a worker depends upon the probability of receiving a job and probability of accepting the offer. According to Lynch, the probability of receiving a job offer depends upon the personal characteristics such as age, gender, marital status, education and local demand conditions which are proxied by the local unemployment rate. Probability of accepting a job offer will depend upon the reservation wage, the minimum acceptable wage for an individual. Factors that can affect that reservation wage include the cost of job search, unemployment income, and qualification of individual.

According to Lynch (1986), an individual will reject all those offers which are below his or her reservation wage. Method used was maximum likelihood estimates of re-employment probabilities. His results show that income during unemployment and local demand conditions significantly affect the re-employment probabilities of young people. He also found significant difference among male female and black and white young worker's labour market experience. Re-employment probabilities for both males and female reduced in case of non-white. He

concluded that high dropout rates and lack of training cause difficulties in the labour market. Living in an area with poor economic conditions doubles the expected duration of unemployment for males and more than triples the length of unemployment for females. In case of female, being married reduces the chances of re-employment probabilities while having technical training improves the chances of employment probabilities for both male and female.

Akhtar and Shahnaz (2005) explored the macro and micro dimensions of youth unemployment in Pakistan. By using Labour Force Survey data and a bi-variate regression model, they concluded that youth unemployment appears to be an urban phenomenon and comparatively less in rural areas due to disguised unemployment. Their main conclusions are: probability of youth unemployment decreases in case of large family sizes both in rural and urban areas. Probability of youth being unemployed is higher in KPK (Khyber Pakhtoonkhwa) and also increases if the head of the household is employed in informal sector. Technical training also affects the success of young workers in labour market, for example, Parent (1999) by using National Longitudinal Survey of Youth in USA, examined the impact of employer-provided training on the wage profile of young workers and found a positive effect on wage.

Meyer and Wise (1982) also mentioned some of the determinants of youth labour market outcomes in USA. They found that academic performance in high school is positively related to the wage rate and to the hours per week that youths are employed after they enter the labour force full-time. Moreover, they also found a strong relationship between hours worked during the high school and employment and wage rate later in career. Young persons who worked during high schools employed for more hours and get higher wages when enter the labour force full time than those who did not work while in high school. The main reason of this outcome may be the underlying commitment and ability to perform well in the market that young people show by

working during the study at high school. Similarly, Audas *et al.* (2005) found that among youth in Hungary, employment chances rises with school performance, having technical training and previous experience of job during school. Among others, Blau and Khan (2003), Dougherty (2005) and Azmat *et al.* (2006) found the difference in human capital accumulation between young men and women is the main cause of gender difference in wage of young workers.

Shahnaz (2006) used Labour Force Survey data of (2003-04) to model the behavior of youth's supply of working hours in Pakistan. By using a Multinomial Logit model, she concluded that underemployment rate is higher in females and migrant workers in Pakistan. Similarly, youth belonging to the lower occupational category and rural areas are more likely to be underemployed. Youth working as paid-employee and unpaid family helpers are working more hours than youth working as self-employed.

Education and investment in human capital is also important for the position of youth in the labour market. Many researchers have concluded that different degrees of education may results in difference in career achievement of youth. Theory of human capital presented by Becker (1964) suggests that education increases the productivity of labour by parting the useful knowledge and skills which leads to increase in life time earnings. Later on, theorists of human capital investment gave different explanations of how education increases the productivity and earnings of workers. For example, according to Spence (1973), schooling at higher level serves as a signal to indicate the potential ability of workers. Thurow (1975) argued that employers use education credentials in selection of workers as more educated workers can easily acquire training for particular job.

Most of the studies related to the human capital indicators and labour market outcomes discussed the impact of education, training and experience on earnings of individuals. However, there are

researchers who applied theory of human capital to explain the probabilities of employment in the labour market. For example, a study by Bloch and Smith (1977) set a theoretical justification of a relationship between human capital and employment. According to Bloch and Smith (1977) an individual with greater level of human capital may be more skilled in searching for jobs and consequently may have shorter spell of unemployment. They presented the theory of human capital in terms of employment equation instead of wage equation. Their equation took the following form:

$$Emp = f\ (edu,\ pexp,\ edu * pexp,\ Ms, Pexp * Ms, Con)$$

Here Emp is a dichotomous variable taking value 1 if individual is employed and 0 if unemployed. The probability of employment of person depends upon different human capital variables which include the level of education (edu), potential experience[3] ($pexp$) and interaction term $edu * pexp$ between education and experience. Ms is the marital status, while $Pexp * Ms$ is the interaction between potential experience and marital status. Variable Con is the group of remaining variables that includes region, city size, Spanish origin and class of worker (manager, clerk, labourer etc.).

By using data from Current Population Survey (1973) in USA, They used probit model to test the hypothesis that increase in the level of education increases the chances of employment in the labour market. Their results show a positive relationship between the probability of being employed and human capital indicators (years of formal schooling and years of potential experience). They found greatest returns to additional years of schooling for white females and least for black females.

[3] Bloch and Smith (1977) defined labour market experience as age minus years of schooling minus six. They called this experience as Potential experience.

In the work of Bloch and Smith (1977), experience was estimated as potential work experience (age minus schooling minus six) which was used as a proxy of actual work experience. This limitation was addressed by Jones and James (1979) who used the actual work experience to analyze the probability of being employed for young and mature women in USA. By using data from National Longitudinal Survey of young and mature women they test the hypothesis presented by Bloch and Smith (1977). They slightly modified the model and used an additional variable actual work experience along with potential work experience. Their results show the accumulation of human capital through actual work experience significantly increases the probability of employment. However, the coefficient of potential work experience was significant only for young women. They also found that the percentage increase in the employment ratio was much greater for actual work experience than potential work experience. They found the same results related to education as found by Bloch and Smith (1977) that the additional year of schooling increases the probability of employment.

In Pakistan, some researchers found higher unemployment rate among educated youth in Pakistan. According to Akhtar and Shahnaz (2006), majority of young educated people have degree in social sciences or arts with no practical application of knowledge usually wait for employment opportunities in public sector. Due to tough competition with professional degree holders and inadequate jobs they account for about 20 percent of total unemployment in formal sector. These studies also showed the ineffectiveness of education system to meet the requirements of labour market in Pakistan. Results of these studies, however, do not match with similar kind of studies in developed countries. For example, Teulings and Koopmanschap (1989) investigated the impact of education level on employment opportunities in Netherland. They

concluded that high unemployment rate of less educated workers is mainly caused by excess supply of qualified labour.

Accurate labour market information is an important factor of labour market success of youth. Lack of adequate information about labour market may decrease the probability of employment in the labour market. Parnes and Andrew (1975) analyzed the relationship between initial labour market information and subsequent success. They conducted two interviews from the young people of aged 14 to 24 years in USA. First, they conducted a test in 1966 from a sample of 5000 young people about labour market information and analyzed the scores obtained by different respondents in relations to their qualification, intelligence level, and family status. They conducted a second interview from the same group of young people after 2 years about their status in labour market. On the basis of their results they concluded that youth with superior information[4] about labour market obtained better and higher paying jobs. Moreover, they suggested that labour market information depends upon the amount of education, measured intelligence, and socio-economic status of family of the young person.

Relationship between work during school and future earnings has been the topic of discussion among researchers. For example, Meyer and Wise (1982) found that in U.S.A, academic performance of young people in high school is positively related to the wage rate and to the hours per week youths are employed after they enter the labour force full time. They also found a strong relationship between hours worked during the high school and employment and wage rate later in the career. Young persons who worked during high schools employed for more hours and got higher wages when enter the labour force full time than those who did not work during the study at high school. The main reason of this outcome may be the underlying

[4] Parnes and Andrew (1975) used this term about the information related to the labour market. They asked from respondents about ten different occupations, qualifications required to apply and expected earnings from these occupations.

commitment and ability to perform well in the market which they showed by working during their study at high school. They also concluded that youth from wealthier families are more likely to get jobs that pay more per hour than the youths with poor families. The main reason of this pattern may be the influence exerted by rich parents to get better jobs.

Different researchers also apply theory of human capital in explaining the decisions of career choice and employment status. They have different arguments about the impact of education on employment status. For example, studies by Weaver *et al*. (2006) and Moutray (2006) found that individuals with higher level of education are more likely to become self-employed. They argued that human capital is crucial in starting and setting a new business. Solid educational background is useful as it affects the performance and survival of new ventures. Similarly, Crosa *et al*. (2002) found that individuals with high school diploma or less are only half as likely as those with more education to start their own business.

Contrary to above studies, some researchers found negative relationship between the level of education and the probability to become self-employed. Rissman (2003) for example, found that individuals with advance degree find self-employment as less attractive option than a high paying job. He found that self-employment is more likely to be an option for those people who have limited options in the labour market.

Georgellis and Wall (2005) examined the factors that influence the transition from wage-employment to self-employment. By using data from the German Socio-economic Panel (1984-1997), they estimated the probabilities of transition from wage employment to self-employment for both males and females. Based on Multinomial Logit model, their results showed that men are more responsive to wage differential between wage employment and self-employment. Capital constraints are the main obstacle for men to become self-employed but not for women.

They also concluded that the probability of self-employment rises in young men if father is also self-employed. Similarly, the probability of moving into self-employment rises for men in case of being married but not for women. One possible explanation of this may be the availability of financial support for male members in household which may facilitate the transition into self-employment.

3.3 Studies Related to Discrimination in the Labour Market

Discrimination in labour market of youth on the basis of gender, race, and ethnic groups is also a hotly debated issue among researchers. There are a number of studies who discussed the wage difference between black and white youth and their determinants in the labour market. Flanagan (1978) analyzed the link between racial wage differential (difference between the wage of white and black youth in the labour market) and unemployment experience of youth and adult labour. By using data from the National Longitudinal Survey (1966) he concluded that wage differential between black and white youth increases the black youth's quit rate. Variables used were natural log of hourly wage rate and a number of independent variables related to personal, household and regional characteristics. Flanagan (1978) used two methods, linear probability model and logit regression to analyze the link between discrimination and racial unemployment. He further concluded that young black labour force participants are employed in relatively less stable jobs and wage differential increases the black quit rate. For younger cohorts, both quit and lay off rates[5] are greater in black than white cohorts. For older male cohorts, there are no significant racial differences exist in quit or layoff rates. The presence of wage discrimination will widen the racial turnover and unemployment differentials[6]. One problem with the study is

[5] Number of times an individual quit (is laid off) the jobs held during the previous year.
[6] Racial turnover is the difference between job turnover rates for black and white people while unemployment differential means the difference between unemployment rates for black and white people.

that it was restricted to the sample of non-agricultural, private, wage and salary workers only who were not enrolled in the school.

By using National Longitudinal Survey of Youth (1979), Oettinger (1996) tested a simple dynamic model of statistical discrimination. Methodology used was OLS , dependant variable was the log of real hourly wage which was regressed on a number of independent variables including education, experience , square of experience, tenure , square of tenure, marital status , region of residence, and a set of interaction terms between a dummy for race. He concluded that no black-white wage difference exists at labour force entry but that one develops as experience accumulates because black people get smaller benefits from job mobility. A black job changer gains about 2.75 percent less increment in wage than a white job changer. The main reason of such a pattern is that employer's preferences against blacks are stronger in positions involving greater responsibilities. Moreover, prior uncertainty about productivity is smaller for whites than for blacks. He used the sample of black and white males only and ignored the female youth.

Another study by Glen and Ross (1990) used decennial census of 1980 to analyze both supply and the demand-side factors that affect the hours worked by black youth. Supply-side factors included age of young person, family income, enrollment in school and if mother is the head of household. For demand side-factors they include number of variables which indirectly affect the hours worked by black youth. These factors include wage of white youth, hours worked by white youth, area unemployment rate and industrial structure of the area. Study assumed that in areas with much heavy industries demand for young people was low as compared to the areas with relatively large number of retailers, recreational, restaurants and other similar type of businesses where demand for young workers was relatively higher.

By regressing hours of worked by black youth of aged 16-21 on above mentioned independent variables, they concluded that average wage of white men positively affected the demand for black youth. It means higher wage rate of white men in the area increases the demand for black youth. They also concluded that expansion in the service industry in the area improves the employment conditions for both white and black youth. All other variables show insignificant results except of welfare assistance received by black youth which may reduce their motivation to work. Glenn and Ross (1990) included only the sample of male youth and ignored female youth to avoid the complications that might arise with labour market behavior of women, for whom household work sometimes competes with market work.

Discrimination between male and female labour market outcomes has also been a debate among researchers, for example, Seguino (2003) used aggregate data to analyze the impact of macroeconomic factors that contribute to gender difference in unemployment in Caribbean countries. By regressing ratio of male to female unemployment on a number of macroeconomic variables they concluded that men are more likely to find employment in an economic upturn. Moreover, employer's preference for male workers is also a key factor of gender difference in employment rate. Such preferences may be due to the higher rate of absenteeism by women at the time of maternity and child care responsibilities. The study, however, failed to explain weather such preferences will exist for all the sectors or not which might gives different results. In Hungary, Audas *et al*. (2005) by using Longitudinal data of young people from 1994-1998 found that at the start of career, females are more likely to be unemployed than their male counterparts.

Female labour force participation in some developing countries like Pakistan is very low. Most of the women are engaged in household works which are mostly unpaid and hidden. A study by

Durrant (2000) showed that 45 percent of females aged 10–19 is apparently not engaged in any economic activities in Pakistan. Similarly, Sathar (2005) also investigated women work at home and found that at every age from 15-24, women work more hours than men but their work is largely unpaid and hidden.

Lloyd and Monica (2004) analyzed the gender differences in transition to adulthood in Pakistan. Using Adolescent and Youth Survey of Pakistan (2001-02), they developed a model to analyze the determinants of youth activities in Pakistan. They divided the youth activities into three categories, i.e. household work, schooling, and paid work. They selected number of factors that can affect youth time use or activities in Pakistan. These factors included age, education level, parent's literacy, composition of household (number of children, number of young males and females, and number of adult males and females in the age group of 25 years and above). Study concluded that the presence of children, elderly and young people in household is associated with increase in the time of non-economic household work by young females. Having literate parents decrease the time spend on household work by young females especially in urban areas. Their study also highlights that the availability of school, technical institution, and opportunity for job (presence of factory in the area) are strongly associated with time use pattern of young males and females in Pakistan. Availability of schools within one kilometer of area reduced the chances of paid work among young females, while presence of factory in the area increases the time spent by young male and female on paid work.

3.4 Data Issues to Analyze Youth Labour Market

Experience of youth in labour market can be judged through time-series, cross-sectional or longitudinal data. Different researchers such as Feldstein (1973); Wachter and Kim (1982); and Clark and Summers (1982) used time-series data to analyze youth labour market outcomes. One advantage of using time- series data is that it allows the analysis of changes in labour market indicators over time. These studies provide a useful insight about the impact of change in economic or demographic indicators on labour market outcomes such as unemployment and labour force participation rates.

On the other hand, different researchers have used survey data, i.e. cross-sectional data to analyze the labour market of youth. For example, Fafchamps and Wahba (2006); Emerson and Andre (2007); Sanchez *et al*. (2005); and Rosati and Rossi (2003) used cross-sectional data to investigate the different determinants of unemployment such as education level, training, skill, family characteristics, employment histories and racial differences. An advantage of using survey data is that it allows us to analyze and differentiate the labour market indicators for different racial and ethnic groups. One can also judge difference in rural and urban labour market indicators as well as difference in male and female unemployment rate with the help of cross-sectional data.

Longitudinal data is useful when we want to analyze the behavior of the same group over time. It allows researcher to examine the youth labour market outcomes in different economic phases and parameters that might change over time. Moreover, it also provides information about recent work histories of respondents, their personal and household characteristics which are very useful in analyzing a group of people over a period of time on which Longitudinal survey is conducted. For example, studies by Michael and Nancy (1984); Mroz and Timothy (2006) used

National Longitudinal Survey Data for Youth in U.S.A. Similarly, studies by Flanagan (1978) Meyer and Wise (1982), Rees and Gray (1982), Leighton and Mincer (1982), Clark and Summers (1982), also investigated how factors such as educational qualifications, family characteristics, turnover rates, employment histories, race and sex affect the different labour market outcomes for young workers in U.S.A.

3.5 Variables Affecting the Youth Labour Market Activities

Different studies have identified different variables that affect the activities of youth in the labour market. These can be classified on the basis of variables that affect unemployment, labour force participation, employment status choices and earnings of youth. These variables can further be divided into personal characteristics, household characteristics and socio-economic factors. Personal characteristics of youth may include educational attainment, skills, training, experience, age, sex, marital status, physical and mental health etc. Household characteristics include income of family, economic status of family, number of dependants in family, relation with the head of household, divorced parent, parent's occupation, education of parent, female-headed household and household size etc. Social and economic factors include economic conditions of the region[7], region, sector of employment, rate of unemployment, labour market laws, race or ethnicity etc.

Table 3.1 presents a list and descriptions of variables that can affect youth labour market outcomes. At the end of this chapter, brief description of some of the empirical studies and their findings are given in Table 3.2

[7] Lynch (1986) used local demand conditions as one of the determinants of youth unemployment, for this purpose he used local unemployment rate as proxy variable.

Table 3.1: Summary of Variables that Affect Youth Labour Market Outcomes

Variable	Description
Gender	Dummy variable ,male or female
Educational attainment	Classification on the basis of primary, secondary etc. or years of schooling
Ethnicity	Different racial or ethnic groups used as dummy variables
Race	Black white etc. Hispanic or non- Hispanic
Age[8]	Age groups or age in completed years
Age squared	As a proxy variable to capture the experience
Marital status	Dummy variable
Ever worked as child labour	Dummy variable
Migrated to earn living	Dummy variable
Physical or mental health	Dummy variable
Family income	Income per month or week
Family economic status	Low , middle or high
Number of siblings	Number of dependent children in household
Divorced parents	Dummy variable
Father's occupation	Occupational category or status
Region	Rural or urban or south, east etc.
Sector of employment	Formal or informal etc.
Cost of job search	In money terms
Unemployment benefits	In money terms
Living with parents	To proxy the parental pressure to search the job
Household size	Total members of household
Minimum wage	Legal minimum wage set by the authorities
Adult wage rate	Average wage of adult workers in the area
Economic activities	Level of economic activities as measured by GDP growth rate or employment rate etc.
Area unemployment rate	Overall unemployment rate that exist in the area
Duration of unemployment	For how long an individual is unemployed usually measured in terms of months
School quality / education quality	Ranking of school / School performance as shown by an individual grades in school

[8] Different researchers have used age as an important factor that can affect activities of youth in the labour market. Most of the times it is classified in different groups, for example, Anh *et al.* (2005) classified youth into 15-19 and 20-24 years of age groups, Kalachek (1969) used 14-17 and 18-19 age groups. Some researchers [Lynch (1986); Ballen and Freeman (1986) and Mroz and Timothy (2006)] used age as a continuous variable in their analysis of labour market outcomes.

3.6 Conclusions of Literature Review and Its Relevance to the Rest of the Thesis

This section attempts to conclude the review of studies presented in previous sections and explains how it is relevant to the current study. Section 3.1 highlights two important issues related to the youth labour market. First, is the early entry in the labour market as a child labour or young worker and second is the failure to enter the labour market or get employment at appropriate time. Early entry is more often a phenomenon that exists in the country like Pakistan. Various studies have shown that a substantial percentage of young people start working before their legal age to work. Due to early start of work, they may leave school or their school performance may be adversely affected. As a result, they may be trapped in a circle of low education, low productivity and earnings for the rest of their lives. On the other hand, many young people face the issue of unemployment at the start of the career due to lack of experience, skills, training and information about the labour market. Early experience of unemployment may trap themselves in low paying non-productive jobs which may have long lasting effects on future career development.

Based on insight gained from section 3.1, current study analyzes the activities of youth in different years of their lives. It calculates different labour market indicators like labour force participation and unemployment rates, employment status and hours worked for all the years of youth age bracket , i.e., from 15 to 24 years. It helps us to answer the following questions:

How many young people in different years of their lives (say for example, at the age of 15) are part of labour force, how many of them are unemployed or inactive, what is their enrollment rate, and in case of employment what is their status in the labour market and how many hours do they work? It also helps us to find the percentage of young workers working

against the employment rules prevailing in the country and how labour force participation and unemployment rates vary with age?

Section 3.2 in this chapter gives an overview of the determinants of labour market outcomes. Specifically, it explains the factors that can affect youth employment or unemployment probabilities, their earnings, their decisions to enroll as a student or to participate in economic activities. It also analyzes the determinants of employment status and number of hours worked in the labour market. The determinants explained in section 3.2 include economic, geographic, demographic, personal and household related factors.

Economic factors included level of economic activities, growth rate, unemployment rates, local demand conditions etc. Geographic factors include regions (South, East etc.), area of residence (rural or urban), industrial structure of area etc.

Demographic factors such as population, sex ratio, age composition, employment-to-population ratio etc. can also affect youth activities and labour market outcomes. Personal factors included age, gender, marital status, level of education etc. while household factors included size of household, number of siblings in household, family status, parents' education, employment status and living with single parents.

Section 3.2 particularly highlights the impact of human capital indicators on labour market outcomes and explains the theory of human capital in terms of wage and employment equations. It also reviews the studies which analyze the impact of human capital indicators on the decisions of employment status choices and hours worked in the labour market.

Based on insight gained from section 3.2, this study attempts to test different hypotheses and analyzes the determinants of different labour market outcomes in Pakistan. More specifically, it analyzes the determinants of youth activities, employment probabilities, earnings,

employment status and hours worked. For this purpose, we include number of factors that can affect above mentioned outcomes. Details of all factors and models estimated are described in Chapter 4.

Some researcher argued that youth unemployment is not a problem, they are voluntarily unemployed, and they are neither working nor willing to work. To see the real situation of youth unemployment, we calculate youth labour market indicators by two methods. One is based on weekly status approach and the other is based on usual status approach. The detail of these two approaches is presented in section 2.1.1 of Chapter 2.

Section 3.3 presents the issues of discrimination in labour market on the basis of race, ethnicity and gender. We also calculate gender and regional differences in labour market indicators not only at country level but also at provincial level. Moreover, empirical analyses presented in chapter 6 also include regional and gender dummies to capture any regional or gender differences in the labour market outcomes.

Data issues are discussed in section 3.4 of this chapter. To empirically investigate our hypotheses, we use micro data from Labour Force Survey of Pakistan (2006-07). We did not rely upon the published data of Labour Force Survey rather we use direct information from 224,280 respondents collected through the questionnaires from 32,000 households from all areas of Pakistan. A complete description of data is presented in section 5.1 of Chapter 5.

Table 3.2: Summary of Selected Studies

Author (s) (Year) Country/Region	Type of Data, Time Period(s)	Methodology	Main Findings
Arif *et al.* (2002) Pakistan	Pakistan Social and Economic Survey: Longitudinal panel data collected by PIDE 1998-2001	Logistic Regression	• Those with higher qualifications are more likely to be economically active to recoup their educational investment • For both male and female, age and marital status negatively affect the transition from employment to unemployment. • Education and training have positive influence on the probability of making transition from unemployment to employment.
Becker and Stephen (1980) USA	Longitudinal Survey 1966-1975 (Four rounds)	OLS	• Youth with longer duration (15 weeks or more) of unemployment earned lower subsequent wage than those with unemployment of shorter duration.
Beegle *et al.* (2008) Tanzania	Longitudinal data 1991-1994	OLS	• Early start of career is positively associated to the probability of being a farmer, growing cash crops, being married early and labour productivity and negatively associated with the probability of completing primary schooling
Fafchamps and Wahba (2006) Nepal	Labour Force Survey 1998-1999	Logistic Regression	• Children residing near or in urban areas attend school more and work less but are more likely to engage in wage employment or business. • Higher education of parents reduces the probability of child work.

Fares and Erwin (2006) Bosnia and Herzegovina	Panel data 2001-2004	Probit and Multinomial Logit	• Young people are more likely to be inactive or unemployed. • Initial spells of joblessness can adversely affect the earnings and employment in future. • Highly educated and skilled workers are less likely to be unemployed or transition from employment to joblessness.
Fasih (2007) Pakistan	Micro data from PIHS (Pakistan Integrated Household Survey) 1991	Logistic Regression	• Employment of children act 1991 helped in reducing the employment of children. • Children in migrant households are less likely to work.
Kingdon and Soderbon (2008) Pakistan	Pakistan Integrated Household Survey (PIHS) 1998-99, 2001-02	OLS, Multinomial Logit	• Productivity of labour increases with number of years and quality of schooling. • Men' earning is much higher than that of women's at all level of education. However, at lower level of education, marginal returns to education are higher for young women than of young men. (because far fewer women than men are educated in Pakistan) • Along with increase in education, the likelihood of involving in agricultural production reduces for young men rather they prefer to quite labour force.
Kurosaki and Khan (2004) Pakistan	Micro panel data of rural households. Household survey in three villages of Peshawar 1996,1999	Multinomial Logit, Probit	• Wages and productivity in non-farm activities rise with education at an increasing rate while in agricultural sector response only to primary education.

Lauerová and Terrell (2002) Czech Republic	Micro data from quarterly Labour Force Surveys 1993-1996	Multinomial Logit Model	• Younger men and women are more likely to be laid-off or quit the employment than older ones. They are also more likely to get employment. • Women's lower probability of exiting unemployment for a job is the main cause of gender gap in the unemployment rate. • Single men and women's unemployment rates are higher than married men and women.
Lin (2008) USA	Time series 1974-2000	2SLS	• There is a positive relationship between unemployment and crime rate of young workers.
Michael and Nancy (1984) USA	National Longitudinal Survey of Youth 1979,1981	Linear Probability Regression on students of ages 14 to 21	• Early job experience fosters dependability and self confidence, punctuality and traits that are important in later life. • Those who work early are more likely to be employed at slightly larger age as well.
Naqvi and Shahnaz (2002) Pakistan	PIHS (Pakistan Integrated Household Survey) 1998-99	Probit model Multinomial Logit estimates for women decision making in Pakistan	• Young women who are less educated enter the labour market not out of their own choice but by family decisions. • Women economic participation is significantly affect by their age, education, marital status, and employment status of household head. • Women's age and education level positively affect decision to participate in economic activities. • Married women are less likely to decide their own to participate in economic activities.
Neumark and William (2004) OECD countries	Pooled cross-sectional time series data 1975-2000	OLS	• Minimum wages cause unemployment among youth. • Disemployment[9] effects of minimum wages are strongest in those countries with least regulated labour market.

[9] Decrease in employment to population ratio and increase in unemployment rate for youth is given the name of disemployment of youth.

Oettinger (1996) USA	National Longitudinal Survey of Youth (14-21 years of age) 1979-1988	OLS	• No black-white gap exist at the time of labour force entry, it emerges as experience accumulates. • Black youth gains smaller benefits from job mobility as compared to white youth.
Patrinos and Psacharopoulos (1997) Peru	Cross-sectional Data, Living Standard Survey 1991	Logistic Regression	• Greater number of siblings negatively impact schooling and positively impact child labour. • Working of children in market does not affect their school performance.
Paz (2004) Argentine	Pooled data from Permanent Household Survey 1974-2004	Probit	• Secondary school increases the employment opportunities for youth relatively more than primary education. • Secondary education promotes participation in remunerated economic activities and affect is higher among young women than among young men • It also positively affects the wages for both male and female but affect is more positive for boys.
Sackey (2005) Ghana	Micro data from Living Standard Survey 1998,1999	Multinomial Logit and Probit models	• There is positive relationship between female labour force participation rate and schooling at primary and post primary level. • Being married positively affects the women's participation in economic activities especially in the urban areas.
Shahnaz (2006) Pakistan	Labour force Survey (2003-04)	OLS, Multinomial Logit and Logit models	• Youth belonging to lower occupational categories are more likely to be underemployed. • There exists a negative relationship between hours of work and level of education. • The probability of being underemployed increases for youth living in rural areas. • Youth working as paid employee and unpaid family helpers are working more hours than youth working as self-employed

Chapter 4

Theoretical Framework and Methodology of Study

This chapter provides a theoretical framework and conceptual foundation of the study based on literature review in previous chapter. Developing such a framework helps us to formulate hypotheses and to test the relationships among different variables of the study. The chapter also describes the selection of variables and estimation techniques for empirical analysis. The first section in the chapter describes the theoretical foundation on which we build the hypotheses of the study while section 4.2 discusses the expected relationship between different variables of the study. In the end, methodology of the study is described in section 4.3 of this chapter.

4.1 Theoretical Framework

This section provides a theoretical framework to apply theory of human capital on different labour market outcomes. More specifically, we test the impact of human capital indicators on youth activities, employment probabilities, earnings, employment status choices and hours worked. In the beginning, we present the theory of human capital and its different versions. Subsequently, the insights gained are summed up in the form of empirically testable hypotheses to pave our way for econometric modeling.

4.1.1 Theory of Human Capital and Labour Market Outcomes

Theory of human capital is one of most influential theory of economic literature. Becker (1964) suggested that education increases the productivity of labour by parting the useful knowledge and skills which leads to increase in life time earnings. The work by Becker (1964) and Mincer (1974) gave explanation of the link between worker's wage and investment in training. Their work on human capital investment paved the way for future research on education-earning relationship. Earning model presented by Mincer (1974) served as a

cornerstone of empirical studies related to returns to schooling. Later on, theorists of human capital investment gave different explanations of how education increases the productivity and earnings of workers. According to Spence (1973), schooling at higher level serves as a signal to indicate the potential ability of workers. Thurow (1975) argued that employers use education credentials in selection of workers as more educated workers can easily acquire training for a particular job. According to Blunch (2008), there are several ways of achieving skills from schooling. Schooling increases the productivity of individual thorough cognitive skills such as literacy and numeracy or from non-cognitive skills such as socialization or discipline skills [Heckman *et al*. (2006)]. Later on, Altonji and Dunn (1996) incorporated parental education level into their modified model of Mincerian wage equation and found mixed evidence on the role of parents' education on human capital function. Research on wage-earning relationship continue and now there is a common believe among researchers that age, gender, experience, education and training are important factors of wage differentials across individuals[1].

4.1.2 Theory of Human Capital and Employment Equation

Most of the literature[2] about human capital has examined its relationship with labour market earnings and wages while relationship between human capital investment and opportunity to rent human capital services is not considered as much. In this study we test the hypothesis presented by Bloch and Smith (1977) that Human capital theory can provide a framework for studying the determinants of employment in the labour market.

Bloch and Smith (1977) gave a simple theoretical justification of relationship between human capital and employment. In their article[3], Bloch and Smith stated, "On the supply side,

[1] See for example, studies by Meyer and Wise (1982), Parent (1999), Beegle *et al.* (2004) and Kingdon and Soderbon (2008).
[2] See for example studies of Mincer (1974), Psachoropoulus (1985), Willis (1986), Ashenfelter and Krueger (1994) that measure the return to schooling.
[3] "Human Capital and Labour Market Employment," *Journal of Human Resources*, vol.12, page 551.

individuals with greater level of human capital may be more skilled in searching for jobs and consequently may have shorter spells of unemployment… for the same reason, on the demand side, layoffs and therefore unemployment should be inversely related to the level of accumulated on-the-job training." They further explained that individuals obtain returns to human capital in two forms. First, they get higher prices of rental of their services (wages) and second, human capital investment also increases their chances and opportunities of employment in the labour market. On the basis of above discussions and literature review in chapter 3, we propose the following hypotheses related to the level of human capital and labour market outcomes for youth.

a) *Youth with higher level of human capital get higher prices of rental of their services, i.e. wages.*
b) *Youth with higher level of human capital have more chances of letting their services in the labour market as compared to those with low level of human capital.*

4.1.3 Theory of Human Capital and Employment Choices

Different researchers also apply theory of human capital in explaining the decisions of career choice and employment status. They have different arguments about the impact of education on employment status. For example, studies by Weaver *et al*. (2006) and Moutray (2006) found that individuals with higher level of education are more likely to become self-employed. They argued that human capital is crucial in starting and setting a new business. It also affects the performance and survival of new ventures. Therefore, solid educational background is not only useful for those who want to work for someone else but also essential for those who want to be their own boss. Earlier studies by Schultz (1961) and Becker (1975) also concluded that regions with greater level of human capital have increased entrepreneurships.

Crosa, *et al*. (2002) also found that individuals with high school diploma or less are only half as likely as those with more education to start their own business.

Contrary to above arguments, there are studies which show that education can also reduce the chances to become self-employed. Rissman (2003), for example, found that individuals with advance degree find self-employment as less attractive option than a high paying job. He further argued that self-employment is more likely to be an option for those people who have limited options in the labour market.

On the basis of above discussion we see that there are two types of arguments related to the impact of human capital on employment choices of people. First argument is based on the proposition that human capital is necessary to start and setting up of new business, therefore, increase in the level of human capital increases the chances of an individual to become self-employed instead of paid-employed. Second argument is based on the hypothesis that individuals with low level of human capital have limited options in the labour market so they prefer to be self-employed instead of paid-employed. We propose the following hypothesis in this regard.

a) *Individuals with higher level of human capital prefer to be in the category of employee instead of being self-employed.*

The justification of above hypothesis lies in the arguments presented by Rissman (2003). In the socio-economic context of Pakistan, we observe that people with low level of education and skills find it difficult to get a job. They have limited options but to start their own business. On the other hand, we observe that generally people get education for two purposes; one is to get higher earnings in the labour market and second is to achieve some position and status in the society. Therefore, we can expect that individuals with higher level of education prefer to be a paid-employed instead of self-employed.

On the basis of same arguments, education of head can also influence the decision of young people in their career choices. We assumed that youth with educated parents is also more likely to get higher education and engaged in paid-employment instead of self-employment. The argument also has support from earlier research by Rees and Gray (1982) who argued that much of education of young people takes place in the house, so having educated parents who have been exposed to books and serious discussions while growing up may have advantages in finding and holding jobs over other youths who have same amount of formal schooling. They further argued that expectations of families can also influence the decisions of young about work. Families who expect their children or young people to go for work are much more likely to be employed than those young people whose families do not have this kind of expectation. Based on above discussions and insight gained from literature review, we propose the following hypotheses related to the education of head and youth labour market outcomes.

a) *Having educated head in the household increases the chances of youth to be a full-time student.*
b) *Having educated head in the household reduces the chances of being inactive (neither in labour force nor enrolled as a student) by youth.*
c) *Having educated head in the household improves the chances of getting employment in the labour market.*
d) *Having educated head in the household improves the chances of youth to be in the category of employee instead of self-employed or unpaid family helper in the labour market.*
e) *Having educated head in the household reduces the chances of working for excessive hours (more than 48 hours a week) by youth in the labour market.*

4.2 Expected Relationship between Variables of Study

This section describes the expected relationships between different variables and youth labour market outcomes. These variables are classified into three categories, personal characteristics of youth, household characteristics and regional characteristics. The detail of these variables along with their descriptions is given in Table 4.2

4.2.1 Characteristics of Youth and Labour Market Outcomes

4.2.1.1 Age of Youth

Economic theory states that along with increase in age, people start taking part in economic activities and enter in labour market. In the beginning of career, a young person may experience unemployment due to lack of experience and skills but as a young person gets experience he or she earns more wages and becomes less likely to be economically inactive.

The variable of age can be presented in two components, age and age squared. Age squared can be use as a proxy variable of experience. It is expected that along with increase in experience, people can get better opportunities of employment and higher earnings. We expect a u-shape curve between age and unemployment.

Age can also affect the employment status of employed persons, for example, at early stage, there are more chances to be an unpaid family helper or employee. Later on, the person may decide to start his or her own business or get paid-employment. Therefore, it is assumed that along with increase in age, there are more chances to get paid-employment and engage in formal activities than those in early age. In our society, there is a great emphasis on early start of career especially, in rural areas where children start working with their families in fields. They start as unpaid family helpers and move towards relatively better position in the labour market as they get experience. Similarly, one can expect that along with increase in age and experience, earnings of person also increase.

4.2.1.2 Gender

In a male dominant society, females are less likely to participate in economic activities. They are also less likely to take part in formal activities or run a business. Moreover, in case of employment, they are more likely to work for less than standard working hours due to household responsibilities. In case of earnings, one can expect that females usually earn less because of high job quit rates and lack of experience in the labour market.

4.2.1.3 Marital Status

It is assumed that marriage brings some responsibility and a married person is more likely to be engaged in economic activities. However, this relationship cannot be expected for females, rather it is assumed that married female are more likely to engage in household work and taking care of siblings instead of doing some job or work. One can also expect that married person will search more actively for jobs which give higher earnings. Married persons are also less likely to work less than normal working hours (35 hours a week) due to financial responsibilities.

4.2.1.4 Education Level

Education level of a young person can also affect his/her labour market activities in two ways depending upon how we argue it. One can assume that investment in human capital increases the chances of getting employment in the labour market as educated people are more skillful and can better search for a job as compared to those with low level of education. On the contrary, one can also argue that young people with higher level of education usually have higher expectations about pay and jobs. They become more status conscious and prefer to wait for the time to get better and suitable employment instead of being involved in low paid or informal economic activities. Therefore, in country like Pakistan, where informal and agriculture sectors dominate the economy one can expect higher unemployment among educated people.

Educated people are expected to work for normal working hours. They are also expected to earn higher wages as compared to those with low level of education.

4.2.1.5 Migration

Migration is expected to increase the participation of youth in economic activities. People usually migrate to get suitable employment and higher earnings in labour market. Therefore, migration is expected to increase not only chances of employment but also earning potential of a person. It is also assumed that a young person who migrates may combine work with school to meet his or her expenditures. A migrant person can also be expected to work for excessive hours in order to get maximum benefits from migration.

4.2.1.6 Head of Household

It is assumed that being the head of household increases the responsibility of youth. They might start working earlier in their life in order to meet the financial responsibilities of household. Head is also expected to work full time and less likely to work as unpaid family helper.

4.2.1.7 Training

Training is considered as one of the major determinants of better employment opportunities and higher earnings in labour market. It is expected that young person equipped with technical skills and education will be better able to work in formal sector and get employment sooner than those who are without any technical skills and training. They are also more likely to get higher earnings in labour market.

4.2.2 Regional Factors and Youth Labour Market Outcomes

4.2.2.1 Location

It is assumed that youth living in rural areas are more likely to engage in economic activities instead of getting education and assumed to start working early. Moreover, youth living

in rural areas are expected to earn less as compared to their urban counterparts. They are also expected to work less than normal hours due to disguised unemployment in rural areas.

4.2.2.2 Province

There are four provinces in Pakistan, Punjab and Sind are considered as more developed relative to other two provinces. Due to diverse cultures, caste systems and traditions, young people in each province are expected to have different opportunities and attitude towards work. As most of the major cities in Pakistan and industrial structure exist in Punjab and Sind, we assume that more and better employment opportunities are available in these two provinces. On the other hand, Baluchistan and KPK are expected to have less employment opportunities due to poor law and order conditions.

4.2.3 Household Characteristics and Youth Labour Market Outcomes

4.2.3.1 Household Size and Number of Siblings

Household size may also affect the attitude of youth towards economic activities. Generally, in large families with many children in household increase the burden on young persons to engage in economic activities. This may have a positive impact on labour force participation and employment probabilities of youth in the household. One can also expect a negative impact of household size and number of siblings present in house on female labour force participation. As more children in household will require young females to stay at home and take care of young siblings instead of going to work.

4.2.3.2 Status of Household Head

In our society, head is usually responsible to fulfill the financial requirements of household. Therefore, status of household head may greatly affect the activities of young persons in labour market. If head is unemployed then other members of household especially young people may need to take the responsibility to finance the household expenditures. Moreover, it is

also expected that if head is working in formal sector he would be better able to finance his household and young persons may get their education instead of participating in economic activities.

4.2.3.3 Gender of Household Head

Head are generally male in our society; it will be interesting to find out whether youth living in female-headed household are more or less likely to engage in economic activities. Youth living in female-headed household may feel responsibility to manage their household and may start their career early.

4.2.3.4 Education Level of Household Head

Increase in the level of education of the household head is expected to reduce the chances of youth to start their career early. An educated person is expected to earn enough money that is sufficient to support their families. Therefore, it is expected that higher the level of education of the household's head more will be the chances that youth will engage in educational activities instead of economic activities. It is also assumed that youth belonging to educated parents would prefer to wait for better employment opportunities instead of being engaged in informal economic activities. They are assumed to be in paid-employment instead of self-employment.

4.3 Methodology of Study

This section describes the methodology used to empirically investigate the hypotheses of the study. Initially we describe the strategy of analysis for econometric modeling in section 4.3.1, later on, section 4.3.2 discusses the selection of variables and section 4.3.3 explains the estimation techniques.

4.3.1 Strategy of Analysis

To analyze the youth labour market outcome and empirically test the hypotheses of the study, we adopt the following strategy.

4.3.1.1 Determinants of Youth Activities in Pakistan

At first step, the study will investigate the factors that can affect the activities of youth particularly in labour market. For this purpose, activities of youth are divided into four different mutually exclusive categories i.e., full-time work, combine work with school, full-time student and neither enrolled as a student nor economically active.

4.3.1.2 Determinants of Employment Probabilities

Next step of the analysis is to find out the factors that can affect the probability of employment. For this purpose, we select the sample of only those youth who are currently active, i.e. part of labour force. This model helps us to test the hypothesis that increase in the level of human capital increases the chances of employment in the labour market.

4.3.1.3 Determinants of Wage

After estimating the determinants of employment probabilities, we analyze the impact of human capital variables on wage of youth. For this purpose, we estimate the wage equation for youth in the labour market. LFS (2006-07) provides data about wage only for those youth who are in the category of employee. To estimate the wage equation, we take natural log of wage as dependent variable and run a standard OLS regression on a set of explanatory variables. The basic purpose of this estimation is to test the hypothesis that ‘increase in the level of human capital increases the earnings of an individual in the labour market’.

4.3.1.4 Determinants of Employment Status

After estimating the employment and wage equations for youth, our next objective is to investigate the factors that can affect the employment status of youth in the labour market. For purpose of analysis, employment status is divided into the following four categories.

1. Employer
2. Self-employed
3. Unpaid family helper
4. Employee

One of the objectives of this model is to test the hypotheses related to human capital indicators and employment status choices.

4.3.1.5 Determinants of Supply of Working Hours

Finally, we analyze the factors that can affect the probabilities of supply of working hours by employed youth. For this purpose, we divide the youth into three mutually exclusive categories, those who are working for less than 35 hours, those who works for normal hours (35-48) and those who are working for excessive hours, i.e. more than 48 hours. Determinants of supply of hours worked are estimated in two stages. At first stage, we estimate a model of hours worked for all employed youth irrespective of their employment status. At second stage, we choose the sample of only those youth who are in the categories of employers and self-employed. Detailed results of estimation and justifications of all above mentioned models are described in chapter 6, Results of Empirical Analysis.

4.3.2 Selection of Variables

Table 4.1 and 4.2 give the construction of dependent and independent variables along with the estimation technique and objective of each model.

Table 4.1: Dependent Variables, Estimation Techniques and Objectives of the Models

Model	Dependent Variable	Description	Technique used	Objective
Model 1	Youth Activity	= 1 if full-time student = 2 if combine work with school = 3 if full-time worker = 4 if neither enrolled nor economically active (reference category)	Multinomial Logit Model	Determinants of youth activities
Model 2	Employed	= 1 if employed = 0 if unemployed (reference category)	Logistic Regression	Determinants of being employed
Model 3	Lnwage	Natural log of monthly wage	OLS	Determinants of wage
Model 4	Employment Status	= 1 if employment status is self-employed = 2 if employment status is unpaid family helper (reference category) = 3 if employment status is employee	Multinomial Logit Model	Determinants of employment status
Model 5	Hours Worked	= 1 if working for less than 35 hours a week = 2 if working for 35-48 hours per week (reference category) = 3 if working for more than 48 hours	Multinomial Logit Model	Determinants of supply of working hours

Table 4.2: Construction of Independent Variables

Covariates	Sub-groups/Description
Youth characteristics	
Age	Age in completed years
Age squared	Square of age (to capture the experience)
Gender	= 1 if female = 0 if male (reference category)
Married	= 1 if married = 0 if not married at present (reference category)
Training	= 1 if have some technical training and skills = 0 if do not have technical training (reference category)
Head	= 1 if head of the household = 0 if not head of the household (reference category)
Education Level[4]	= 0 if education level is below primary[5] (reference category) = 1 if education level is primary but below middle and 0 otherwise =1 if education is middle but below matric and 0 otherwise =1 if education level is matric but below inter and 0 otherwise =1 if education level is inter but below degree and 0 otherwise =1 if education level is degree or above and 0 otherwise
Employment by status	= 0 if employment status is unpaid family helpers (reference category) = 1 if employment status is employee and 0 otherwise = 1 if employment status is self-employed and 0 otherwise = 1 if employment status is employer and 0 otherwise
Job category	= 0 if working in elementary occupation = 1 if working as a legislature, senior official or manager and 0 otherwise = 1 if working as a professional and 0 otherwise = 1 if working as a technician and 0 otherwise = 1 if working as a clerk and 0 otherwise = 1 if working as a service worker and 0 otherwise = 1 if working as a skilled worker in agricultural sector and 0 otherwise = 1 if working as a craftsman and 0 otherwise = 1 if working as a plant and machine operator and 0 otherwise

[4] Different softwares require different methods to construct variables, we use STATA 9 which requires to generate variables as described in table 4.2 (for details see "Regression Models for Categorical Dependent Variables using STATA", 2nd Edition by J. Scott Long and Jeremy Freese, 2006)

[5] This category includes illiterate as well as those whose education level is below primary.

	Table 4.2 (continue)
Employment by sector	= 0 if working in agricultural sector (reference category) = 1 if working in formal sector and 0 otherwise. = 1 if working in informal sector and 0 otherwise.
Hours worked	Number of hours worked per week
Regional Factors	
Location	= 1 if location is rural = 0 if location is urban (reference category)
Province	= 0 if province is Punjab (reference category) = 1 if province is Sind and 0 otherwise = 1 if province is KPK and 0 otherwise = 1 if province is Baluchistan and 0 otherwise
Household characteristics	
Female head	= 1 if head is female = 0 if head is male (reference category)
Household size	Numbers of persons in household
Siblings	Number of children under the age of 15 years in household
Head education	= 0 if education level is below primary (reference category) = 1 if education level is primary but below middle and 0 otherwise = 1 if education is middle but below matric and 0 otherwise = 1 if education level is matric but below inter and 0 otherwise = 1 if education level is inter but below degree and 0 otherwise = 1 if education level is degree or above and 0 otherwise
Head activity	= 0 if head is unemployed or out of labour force (reference category) = 1 if head is working in formal sector and 0 otherwise = 1 if head is working in informal sector and 0 otherwise = 1 if head is working in agricultural sector and 0 otherwise

4.3.3 Estimation Techniques

4.3.3.1 Logistic Regression Analysis

To estimate the probabilities of being employed we apply logistic regression analysis with maximum likelihood estimation[6]. In our analysis, the dependent variable takes the value 1 when the response is 'employed' and 0 when response is 'unemployed'. The independent variables are classified into three categories, i.e. personal characteristics of youth, household characteristics and regional dummies.

Personal characteristics include age, age squared, training, marital status, migration, being the head of household, gender and education level. Household characteristics include household size, female headed household, and number of siblings present in household, employment status of household head and education level of household head. Regional dummies include location of respondents, i.e. rural or urban and a province dummy to capture the impact of provincial differences. The detail description of dependent and independent variables is given in tables 4.1 and 4.2 respectively. Our logistic model is defined as:

$$\log\left[P_{emp}/\left(1-P_{emp}\right)\right] = \propto +\beta_1 x_1 + \beta_2 x_2 + \ldots\ldots\ldots + \beta_k x_k = \propto + x\beta \quad \ldots\ldots\ldots (1)$$

Here P_{emp} is the probability of being employed, while $P_{emp}/\left(1-P_{emp}\right)$ shows the odds ratio. $\propto$ is constant and x are vector of independent variables, β are the logistic coefficients.

Sometimes it is easier to interpret the model in terms of probabilities, i.e. odds ratios, value of odd ratio greater than 1 indicates the increase in probability of being employed while less than one indicates the decrease in the probability of being employed. We obtain estimates of the relative odds (odd ratios) associated with a particular category of a covariate of interest such as:

$$Prob\ (Y = 1|x) = \exp(\propto + x\beta)/[1 + exp(\propto + \beta x)] = \Lambda\ (\acute{x}\beta) \ldots\ldots\ldots\ldots (2)$$

Here Λ indicates the logistic cumulative distribution function

[6] Logit and Multinomial Logit models describe here are drawn from Green (2008).

Since equation (2) is non-linear and standard OLS technique cannot be applied, Maximum likelihood estimation is used to calculate the coefficients for each independent variable. Coefficients in this model are difficult to interpret; they only provide information on the effects of the independent variables on the odds ratios. For categorical variables, a positive coefficient indicates an increase in the log odds for the particular category relative to a reference category, while a negative coefficient indicates decreased log odds. To interpret the effect of independent variables on the probability of being employed we also calculate the marginal effects of explanatory variables on the dependent variable. These marginal effects can be derived as probability derivatives which show the instantaneous rate of change in the dependent variable due to per unit change in the independent variable of interest. The marginal effects are given as:

$$\frac{\partial E[y \mid x]}{\partial x} = \Lambda(\acute{x}\beta)\,[1 - \Lambda(\acute{x}\beta)]\beta \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

We use Likelihood Ratio (LR) Chi-Square test to test the null hypothesis that all the slope coefficients in the model are zero.

4.3.3.2 Multinomial Logit Regression[7]

We estimate three different multinomial Logit models with maximum likelihood estimation procedure on a set of explanatory variables to model the determinants of youth activities, employment status and supply of working hours in labour market. Explanatory variables in the first two models are same as described for the logistic model. To model the supply behavior of working hours of youth we include two additional categorical variables, employment by status and employment by sector.

Probabilities in the multinomial model are given by

$$prob\,(Y_i = j|x_i) = \frac{e^{\hat{\beta}_j x_i}}{1+\sum_{k=1}^{j} e^{\hat{\beta}_j x_i}}, for\ \ j = 0,2,\ldots j, \beta_0 = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

[7] Multinomial Logit model is used when our dependent variable have more than two outcomes.

While J log-odds ratios are define as:

$$\ln\left[\frac{P_{ij}}{Pik}\right] = \acute{x}_i(\beta_j - \beta_k) = \acute{x}_i\beta_j \quad \text{if } k = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

We assume that the odds ratio, $\frac{P_j}{Pk}$ does not depend upon other choices.

As described by Green (2008), the log-likelihood can derived by defining for each individual, d_{ij}= 1 if alternative *j* is chosen by individual *i*, and 0 if not, for the *j*-1 possible outcomes, then for each *i*, one and only one of the d_{ij}'s is 1. The log-likelihood is given by:

$$\ln L = \sum_{i=1}^{n}\sum_{j=0}^{j} d_{ij} \ln Prob\ (Y_i = j) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

To interpret the effect of independent variables on the probabilities of each choice we also calculate marginal effects of each outcome. By differentiating equation (4) we find the marginal effects of the characteristics on the probabilities are

$$\delta_j = \frac{\partial P_j}{\partial x_i} = P_j\left[\beta_j - \sum_{k=0}^{j} P_k\beta_k\right] = P_j\left[\beta_j - \bar{\beta}\right] \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (7)$$

We use Likelihood Ratio (LR) Chi-Square test to test the null hypothesis that all the slope coefficients in the model are zero.

Chapter 5

Descriptive Analysis of Data

This chapter pertains to a descriptive analysis of the data. Such analysis will help us to find the relationship between different variables and to determine the position of youth in the labour market of Pakistan. First section of the chapter describes the data used and its source in the thesis, section two describes the different measures of youth activities which are discussed in the thesis. Section three presents youth labor market outcomes on the basis age, regions and gender. At the end of the chapter, in section four, a comparison between youth and different age groups is made to determine the relative position of youth in the labor market of Pakistan.

5.1 Data Source

This study is based on micro level data of Labour Force Survey of Pakistan (2006-07). Micro data provides direct access to information collected through questionnaires from large number of individuals whereas the identities of respondents and households are concealed. This data is obtained from Federal Bureau of Statistics (FBS) under data dissemination policy for research purposes only. Micro data enabled us to use information collected from 32,744 households from all over Pakistan. This data set contains information about 224,280 individuals about their age, sex, marital status, literacy, level of education, migration and number of other variables related to employment situation, principal activities and household composition. Data explores the dimensions of employed and unemployed labour force and provides information about employment on the basis of industry, sectors, status, hours worked and level of education. It covers all urban and rural areas in four provinces of Pakistan as defined by the Population Census (1998) excluding Federally Administrative Tribal Areas (FATA) and military restricted areas which constitute about 2 percent of total population of Pakistan.

As far as sampling procedure is concerned, a stratified two-stage sample[1] design has been adopted for the survey. For sampling frame, FBS has divided each city/town in number of enumeration blocks and these enumeration blocks in cities and villages of rural areas are considered as primary sampling units (PSUs). The sampling method used at this stage is the probability proportional to size (PPS) method[2]. With respect to second stage, households within each sampled PSU are taken as Secondary Sampling Units (SSUs). Using a systematic sampling technique with a random start, a total sample of 32,744 households was selected from 2,319 Primary Sampling Units (PSUs) out of which 1090 were urban and 1229 were rural. After excluding AJK and FATA, we are left with a total sample of 224,280. From this we select the sample of 44,902 young people between the age group of 15-24 to use in our analysis of youth labour market. Table 5.1 presents the distribution of youth on the basis of province, region and gender.

5.2 Measures of Youth Activities

One of the main objectives of the study is to provide a comprehensive analysis of the position of youth in the labour market. For this purpose, we calculate multiple measures related to youth activities and labour market outcomes in Pakistan (Figure 5.1 and 5.2). These measures are helpful to analyze the youth labour market in detail. For example, a high rate of "out of school and out of labour force" may indicate the extent of discouraged workers who withdrew from labour force. It also measures the extent of unused human capital in the society. Similarly, another measure to capture the early start of career can be the 'combined work with school".

[1] In this method, we divide the population into Strata (group of homogenous population) and then select a sample from each stratum.

[2] A sampling technique in which the probability that a particular sampling unit will be selected in sample depends upon the size of the population in that particular sampling unit. It is used when the population size of the sampling units vary. It assigns unequal probabilities of sampling based on the size of that particular sampling unit.

Youth who in early age combine work with school possess a great risk of early school exit that in turn can affect productivity and earning potential in the later part of life [Beegle *et al.* (2004)]. Moreover, to better judge the position of employed youth, we calculate and analyze their employment by status and by sector of activities (Figure 5.2). High rate of unpaid family helpers or employment in informal sector may signal less secure jobs and lack of social security protection in labour market. Finally, to judge the under or over utilization of youth resource, we analyze the supply of working hours by youth in the labour market.

Table 5.1: Distribution of Youth Sample

Province	**Frequency**	**Percent**
Punjab	21,522	48.0
Sind	10,535	23.5
KPK	8,259	18.4
Baluchistan	4,546	10.1
Total	44,862	100.0
Region		
Urban	19,263	42.9
Rural	25,599	57.1
Total	44,862	100.0
Gender		
Male	23,118	51.5
Female	21,744	48.5
Total	44,862	100.0

Source: Calculated from LFS, 2006-07

Figure 5.1: Measures of Youth Activities

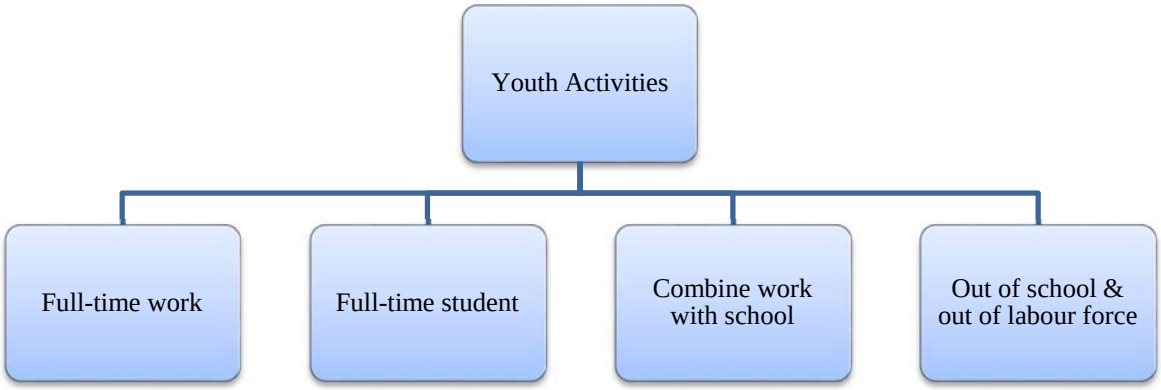
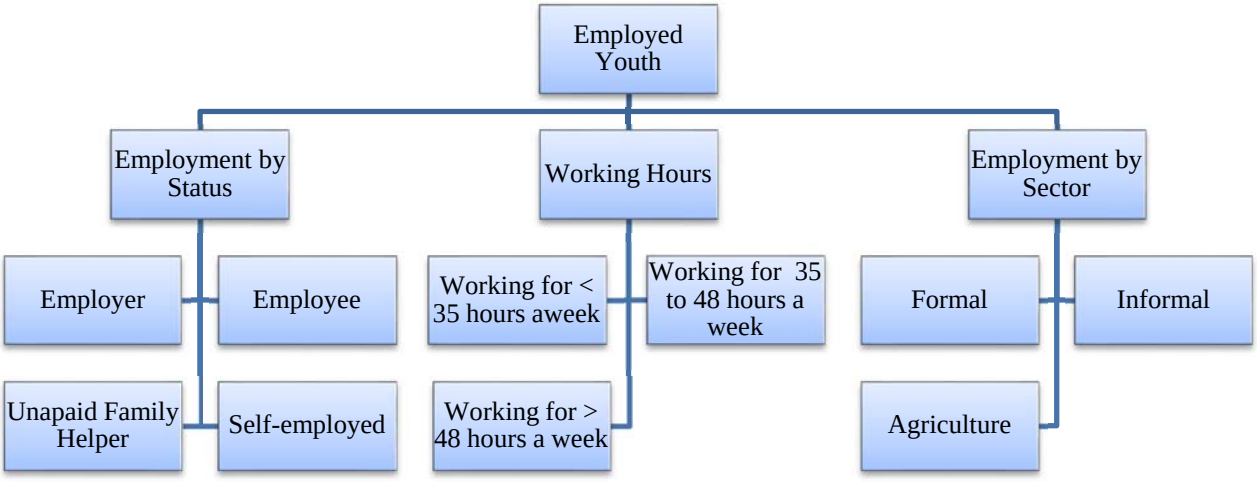


Figure 5.2: Measures of Decent Work



5.3 Youth in the Labour Market

This section provides an in-depth analysis of youth activities in labour market and their status on the basis of age. Age wise analysis is helpful in a number of ways. It provides a comparison of youth in different years of their life and will enable us to find why and which age group face more problems in finding jobs. An important point here to note that labour force participation and unemployment rates presented in this chapter and in the tables of Annexure are based on usual status approach.

This analysis reveals that on average, in Pakistan, the labour force participation rate of youth is 47.7 percent while 21.7 percent of youth in labour force are unemployed (Table 5.2). This unemployment rate is much higher than the unemployment rate in the country as a whole and shows the difficulty level youth face at the start of their career. Early unemployment at the start of career may have telling effects later in the life and young persons may quit efforts to find work anymore [Fares *et al.* (2006); Lin (2008)]. This is evident from Table 5.2 that shows that about 30.54 percent of youth in Pakistan are neither in labour force nor enrolled as a student (inactivity rate). It also indicates to a social problem of our society where so many young people wander around and waste their time without any productive or useful activity. Table 5.2 shows that in general, as age increases, labour force participation rate increases and the unemployment rate decreases. This accentuates that at the start of their career, young people face more difficulties in finding work. For example, unemployment rate at the age of 15 is about 24 percentage points higher than that at the age of 24 years. This could be attributed to the lack of experience and knowledge about the labour market. A study by Fares *et al.* (2006) also showed that young people in general, spend 1.4 years in intermittent work and joblessness.

We also analyze the position of employed youth in labour market. For this purpose, two indicators, employment by status and working hours are calculated. Employment by status provides useful information about the share of vulnerable employment in total employment while supply of working hours shows the extent of under or over utilization of human resources in the country.

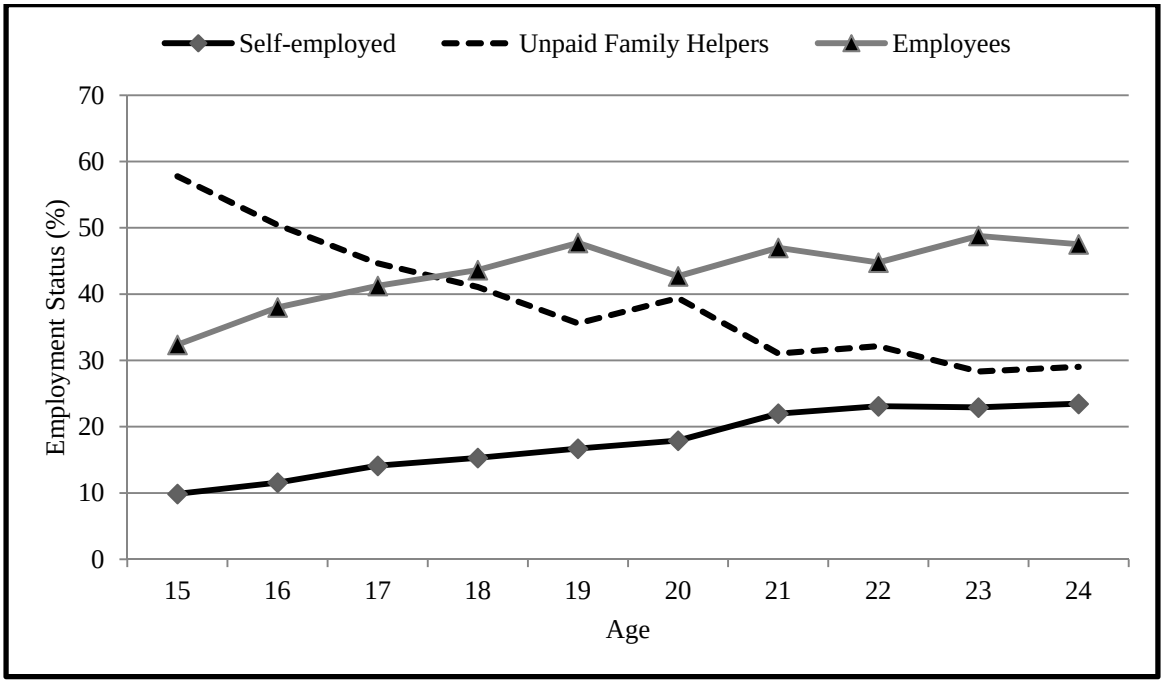
The Labour Force Survey divides the employment status into eleven different categories which can be further subdivided into four main categories, i.e. employees, self-employed, unpaid family helpers, and employers. To analyze the supply of working hours by age, we divide the employed youth into three categories, i.e. those who work for less than 35 hours a week, who work for 35-48 hours a week and those who work for more than 48 hours a week.

Figure 5.3 shows the employment status in different years of the life of young people in Pakistan. It is clear that at the start of their career, about 58 percent of employed youth work as unpaid family helpers whereas 32 percent of them work as paid employees. Such a large percentage of unpaid family helpers shows the lack of decent work at the start of their career. Unpaid family helpers mainly depend on the goodwill and generosity of their family members. They do not have any written contract to protect themselves in case of disputes. Their family members usually look after their interest. An important point to note here is that as age increases, the shares of paid and self-employed in total employment increase whereas that of unpaid family helpers decreases.

The number of hours worked may have an impact on the health and well-being of workers. Full-time workers in some developed and developing countries have expressed concerns about the adverse impact of long working hours and their effects on their families and

community life[3]. It is evident from Figure 5.4 that as age increases, the share of youth supplying less than 35 hours a week decreases and that of more than 48 hours a week increases. At the age of 17, about 32 percent of young workers supply more than 48 hours a week which is against the employment rules prevailing in Pakistan[4].

Figure 5.3: Relationship between Age and Employment Status

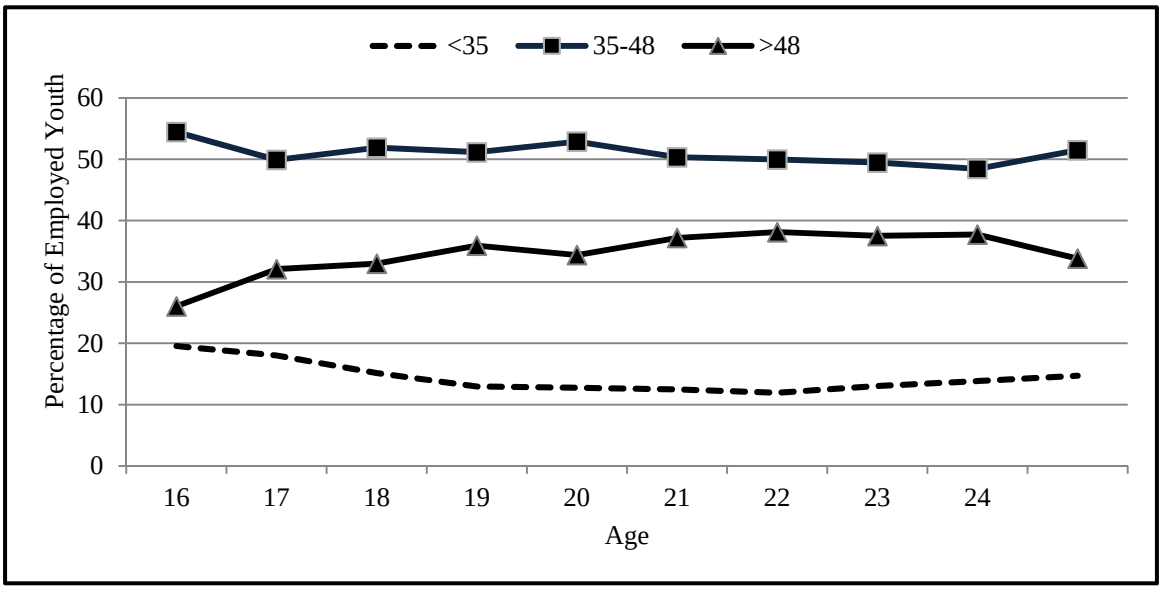


Source: Calculated from LFS, 2006-07

[3]See the studies of Spurgeon (2003) and Lee, D. McCann and J. Messenger (2007) cited in KILM 6, ILO. Available at: http://www.ilo.org/public/english/employment/strat/kilm/download/kilm06.pdf

[4] According to the Factories Act (1934), "No Adult worker shall be allowed or required to work in a factory for more than 48 hours in any week, or, where the factory is seasonal one, for more than fifty hours in a week". Moreover, the working hours limit for young workers (15-17 years of age) is 35 hours a week in factory and 48 hours per week on a shop. For details, see Pakistan Factories Act, 1934 as amended in 1997 available at: http://www.ilo.org/dyn/natlex/docs/WEBTEXT/35384/64903/E97PAK01.html.

Figure 5.4: Relationship between Age and Hours Worked/Week



Source: Calculated from LFS, 2006-07

Table 5.2: Activities of Youth in the Labour Market (Pakistan)

Age	LFPR (%)	Unemployment Rate (%)	Inactivity Rate (%)
15	33.07	37.65	20.72
16	40.53	31.55	25.16
17	39.33	26.99	26.52
18	49.26	22.33	28.45
19	48.74	19.45	31.41
20	51.29	18.90	35.74
21	52.21	15.44	34.62
22	55.89	15.32	37.22
23	58.09	15.94	35.29
24	59.20	13.74	38.36
Youth (15-24 years)	47.62	21.72	30.54

Source: Calculated from LFS, 2006-07

5.3.1 Hours Worked by Youth in the Labour Market

Working hours can be influenced by the choice of occupation, time spent in the household activities and income of other family members [Robinson and Nasreen (1979); Shehnaz (2006)]. To answer the question that who controls the supply of working hours, we analyze the working hours on the basis of employment status and nature of activities.

Those who are self-employed or employer can have more flexible hours than those who are in the category of employee. The work schedule for employees is usually set by the employers. However, it also depends upon the nature of job and preferences regarding full-time or part-time work. In our sample of employed youth, a large share (55 percent) of employees includes casual paid employees and paid workers by piece rate or work performed. One can expect their working hours more flexible as compared to the regular paid employees with fixed wage. Table 5.3 shows the descriptive frequencies of hours worked by youth in Pakistan on the basis of their employment status. It clearly shows that about 14 percent of young people are working for less than 35 hours a week.

Table 5.3: Hours Worked on the Basis of Employment Status by Youth

Employment Status	Hours worked				
	< 35	**35 - 41**	**42 - 48**	**49 - 55**	**56 & above**
Employers	14.7%	5.9%	20.6%	5.9%	52.9%
Self-employed	9.3%	10.5%	20.4%	16.4%	43.3%
Unpaid family helpers	22.9%	23.1%	21.0%	12.8%	20.1%
Employees	7.4%	11.7%	38.3%	11.4%	31.2%
Total	14.2%	16.2%	28.1%	12.8%	28.7%

Source: Calculated from LFS, 2006-07

Table 5.4 enlists the reasons given by youth who were working less than 35 hours, majority of them normally works for the same number of hours and were not willing to work for additional hours which shows the extent of voluntarily underemployed[5] people.

An important point to note here is that about 29 percent of young people work for more than 56 hours a week which is far more than the upper limit of normal working hours (48 hours per week). It is also clear that employers and self-employed young people usually work for excessive hours (more than 48 hours a week). These results are also consistent with the results of earlier study by Hammermesh (1990) who found that self-employed individuals work on average, an additional 17 hours per week as compared to those who were in the category of employee. As expected, we also find that working for excessive hours is less prevalent in unpaid family helpers.

Table 5.4: Reasons of Working Less Than 35 Hours a Week

Reasons	Percentage of Youth
Normally work for same number of hours	79.7
Holiday, leave of absence	3.0
Educational or training leave	1.1
Maternity or parental leave	0.2
Personal reasons	3.1
Strike or lay off	0.1
Off-season inactivity	6.0
Bad weather	2.4
Electrical breakdown	0.2
Shortage of raw material	0.7
Reduction in economic activity	1.3
Law and order situation	2.4
Total	100.0

Source: Calculated from LFS, 2006-07

[5] Voluntarily underemployed are those who are working for less than 35 hours a week but are not willing to work for additional hours.

5.3.2 Regional and Gender Differences in the Labour Market Activities

There are great variations in the labour market activities of both male and female youth in rural and urban areas of Pakistan. For example, labour force participation rate for male youth is much higher than that of female youth in Pakistan. The difference is 44.6 percentage points at country level (Table 5.5). The highest labour force participation rate (74 percent) is amongst the rural male youth while the lowest (21 percent) is amongst the female youth in urban areas (Table 1 in Annexure A). In general, as age increases, labour force participation rate also increase for both sexes not only in urban areas but also in rural areas.

Female youth are generally less likely to find work in the labour market relative to their male counterparts. About 47.8 percent of females are unemployed while male youth unemployment rate is just 13 percent. This means there is a difference of about 35 percentage points between the unemployment rates of male and female youth in Pakistan. Moreover, about 56.6 percent women are not engaged in any kind of labour market or educational activities while this rate is just 6 percent in case of male youth (inactivity rate in Table 5.5).

Similarly, variations also exist between hours worked by male and female youth in the labour market. About 44 percent of females and 8.4 percent males are working less than 35 hours a week. When we talk about excessive hours (more than 48 hours a week), on average, 40 percent of males and just 6 percent of females supply more than 48 hours a week (Figure 5.5). All these differences show that, in general, male participation in economic activities is much higher than that of their female counterparts.

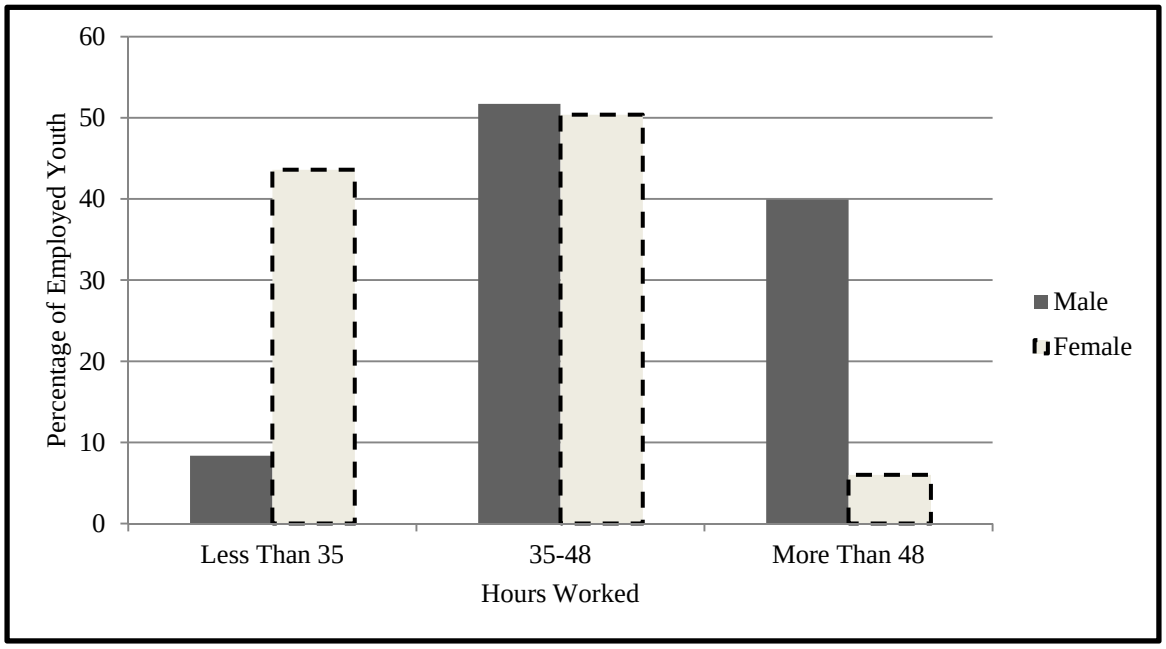
If we compare the employment status, we find that about 55 percent of males and 69 percent of females start working as unpaid family helpers but as they get experienced they move towards self-employment or paid-employment. Female youth are much more likely to work as

unpaid family helpers and less likely to work as an employee or self-employed relative to their male counterparts (Figure 5.6).

Enormous differences also exist between labour market outcomes in rural and urban areas of Pakistan. For example, In rural areas, both labour force participation and inactivity rates are higher than those in urban areas; the difference is about 7.68 percentage points and 6.34 percentage points respectively whereas in urban areas unemployment rate is about 7 percent higher than the unemployment rate in rural areas (Table 5.6).

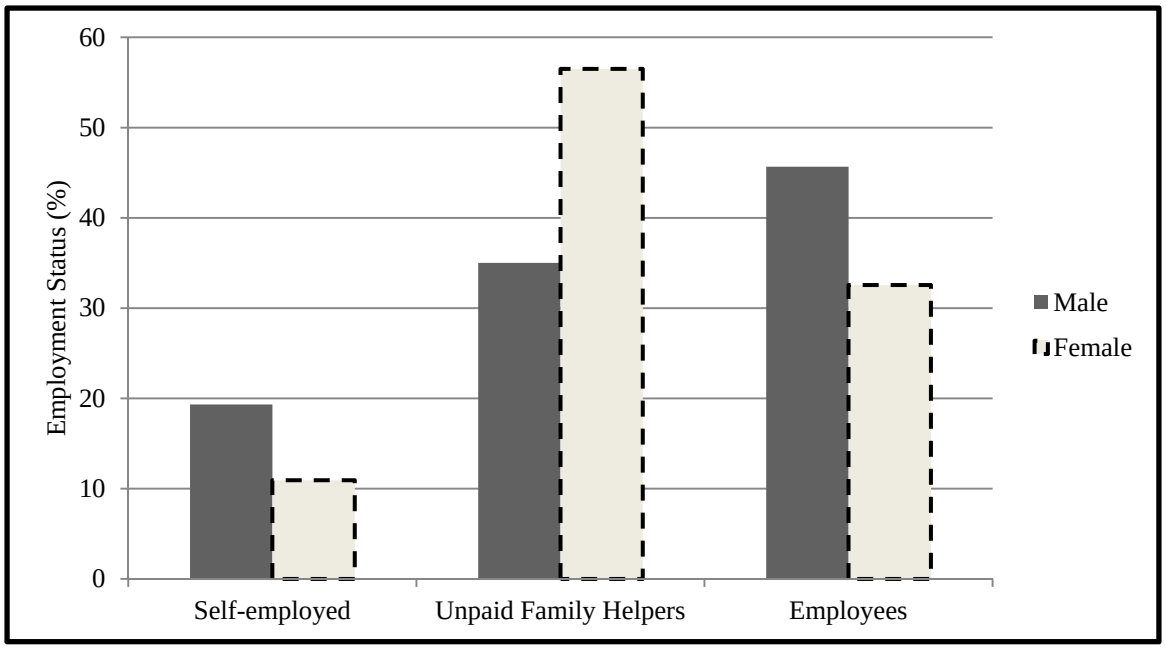
Young people living in rural areas are more likely to supply less working hours and are less likely to work for excessive hours (Figure 5.7). It may be due to the fact that in rural areas there are less work opportunities and most of young people spend their time as unpaid family helpers. In urban areas, about 55 percent of youth work as an employee while in rural areas majority of them work as unpaid family helpers. However, not much regional difference exists between shares of self-employment in total employment of youth (Figure 5.8).

Figure 5.5: Gender Differences in Hours Worked



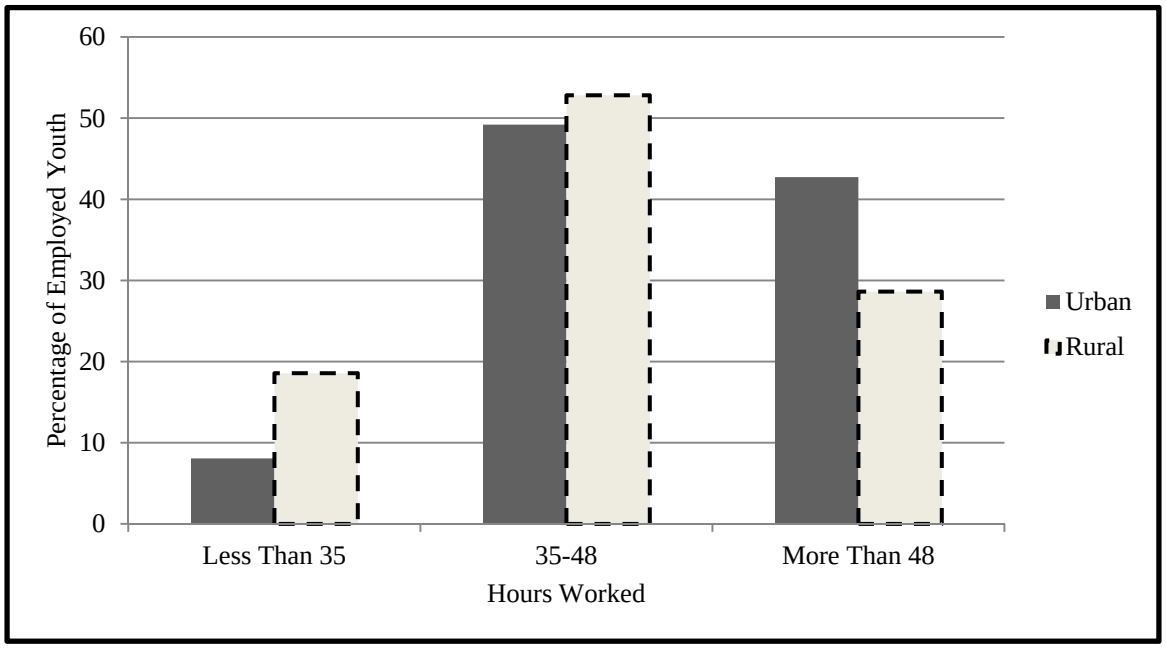
Source: Calculated from LFS, 2006-07

Figure 5.6: Gender Differences in Employment Status



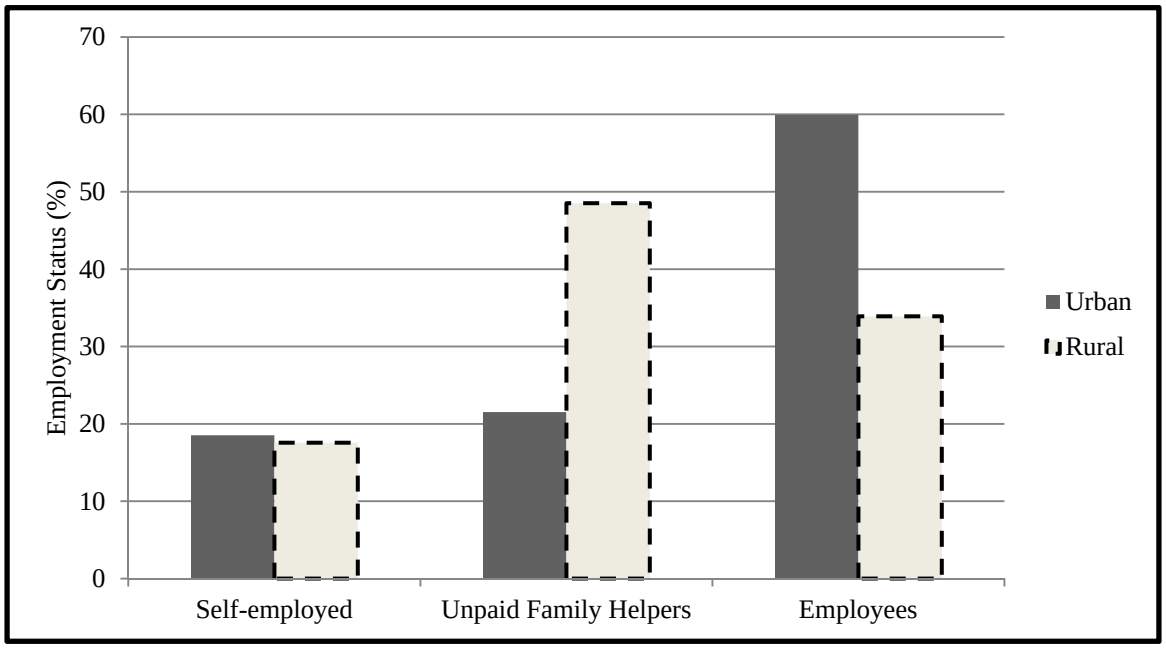
Source: Calculated from LFS, 2006-07

Figure 5.7: Rural/Urban Differences in Supply of Working Hours



Source: Calculated from LFS, 2006-07

Figure 5.8: Rural/Urban Differences in Employment Status



Source: Calculated from LFS, 2006-07

Table 5.5: Gender Difference[6] in Labour Market Activities

Age	Labour Force Participation Rate (%)	Unemployment Rate (%)	Inactivity Rate (%)
15	21.75	-29.63	-32.73
16	31.02	-32.05	-41.11
17	33.96	-34.39	-41.67
18	45.48	-35.47	-49.24
19	47.76	-30.52	-49.14
20	52.87	-37.00	-57.74
21	53.66	-33.29	-55.99
22	59.93	-35.74	-62.69
23	59.57	-33.66	-62.32
24	62.77	-36.84	-64.27
Youth (15-24 years)	44.60	-34.87	-50.60

Source: Calculated from LFS, 2006-07

Table 5.6: Rural/Urban Difference[7] in Labour Market Activities

Age	Labour Force Participation Rate (%)	Unemployment Rate (%)	Inactivity Rate (%)
15	9.18	-19.08	9.85
16	11.86	-16.93	9.81
17	9.03	-11.40	9.92
18	10.84	-9.50	6.81
19	9.42	-8.31	8.16
20	8.41	-8.51	5.12
21	8.97	-1.84	3.32
22	5.40	-3.48	2.56
23	0.31	-2.61	6.57
24	0.73	-0.16	1.82
Youth (15-24 years)	7.68	-7.24	6.34

Source: Calculated from LFS, 2006-07

[6] Difference is calculated by subtracting the respective labour market indicator (labour force participation rate, unemployment rate and inactivity rate) of male youth from that of female youth.

[7] Difference is calculated by subtracting the respective labour market indicator (labour force participation rate, unemployment rate and inactivity rate) in rural areas from that of in urban areas.

5.3.3 Provincial Analysis of Youth Labour Market

In our sample of 44,862 young people taken from the four provinces, the percentage representation of Punjab, Sind, Khyber Pakhtoonkhwa (KPK) and Baluchistan was 48 percent, 23.5 percent, 18.4 percent and 10.1 percent, respectively. We find significant differences in labour market outcomes at provincial level. It could be due to uneven social and economic development in the provinces. Our main findings are as follows.

5.3.3.1 Provincial Differences in Labour Force Participation Rate

It is important to note that in all of the provinces, youth in rural areas enter the labour market relatively earlier than youth in urban areas (Table 2 in Annexure A). It is also worth mentioning that youth in Baluchistan enter the labour market early as compared to youth in other provinces. Labour force participation rate of 15 years old youth in Baluchistan is 73 percent relative to 20 percent in Khyber Pakhtoonkhwa (KPK) and 16.5 percent in urban areas of Sind (Table 2 in Annexure A).

Analysis of the labour force participation rate on the basis of gender shows that the female youth in KPK are late starters of their career as compared to female youth in other provinces. At the tender age of 15, only 6 percent of them join the labour force. This may be due to the fact in the province of KPK, culture against female work is stronger due to Talibanization. Again, Baluchistan is the province where both male and female youth enter the labour market early. The female labour force participation rate in Khyber Pakhtoonkhwa remains lowest throughout the period of youth. In all four provinces; the female labour force participation rate is much lower than the male labour force participation rate (Table 3 in Annexure A).

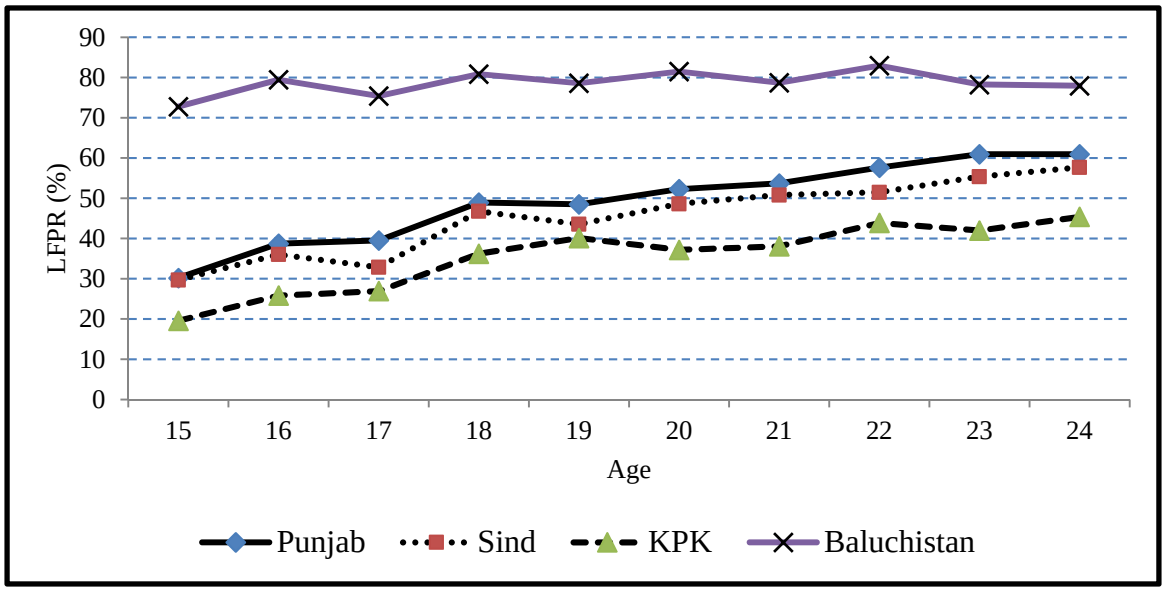
5.3.3.2 Provincial Differences in Unemployment Rate

Baluchistan is the province where unemployment rate is the highest both in urban and rural areas and remains the highest throughout the age bracket under consideration. At the age of 15, about 76 percent of youth are unemployed. An important point here is that even at the age of 24, youth in Baluchistan find it very difficult to get a job. The difficulty level in Baluchistan at the age of 24 is even much higher than the difficulties which youth face in other provinces at the age of 15 (Table 4 & 5 in Annexure A). These figures reflect the anger and sense of injustice prevails in the province of Baluchistan. Sind is the province where youth do not face lot of difficulties to find job. At the age of 15, youth unemployment rate is just 24 percent and 11 percent in urban and rural areas respectively. By the age of 24, unemployment rate in Sind declines substantially as compared to other provinces. The main reason may be the availability of jobs and business opportunities in Sind due to industrial base and operational port at Karachi[8].

Enormous gender differences also exist between male and female unemployment rate within and between the provinces of Pakistan. It was highest among youth of Baluchistan and Khyber Pakhtoonkhwa, being 53 percent and 47 percent respectively (Table 4 in Annexure A). Lowest unemployment rate is amongst the male youth of Sind while female youth of Punjab have a comparatively low unemployment rate than the female youth in other provinces. The reason behind that could be attributed to more job opportunities available in Punjab and Sind than in other provinces.

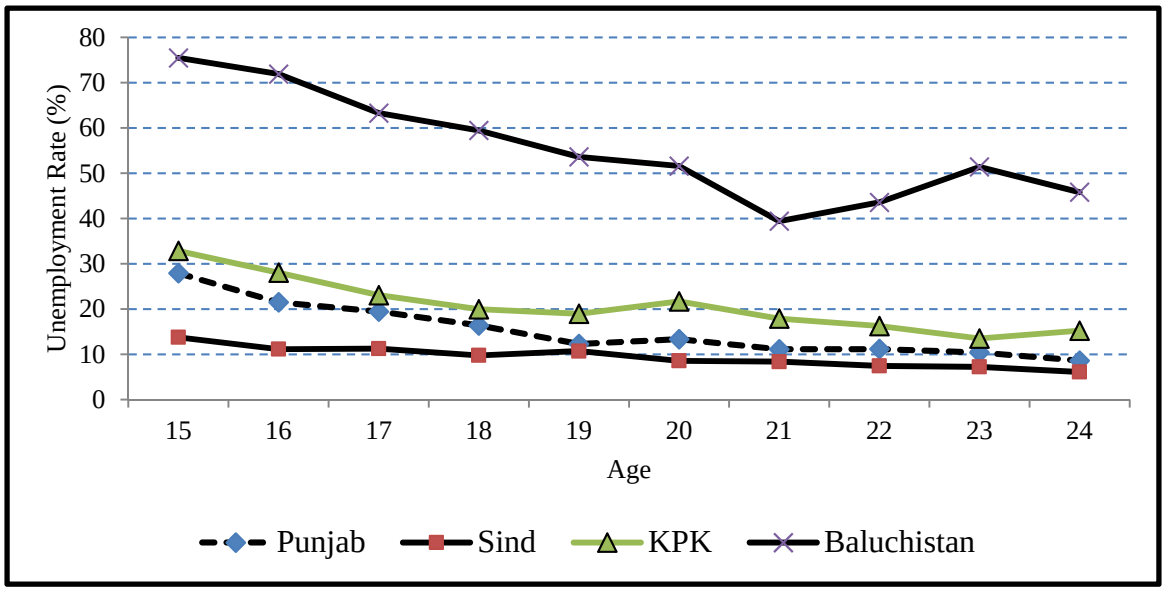
[8] Karachi is considered as the financial and commercial capital of Pakistan. It generates approximately 54 percent of the total revenue collections in Pakistan (FBR,2007).

Figure 5.9: Provincial Labour Force Participation Rate



Source: Calculated from LFS, 2006-07

Figure 5.10: Provincial Unemployment Rate

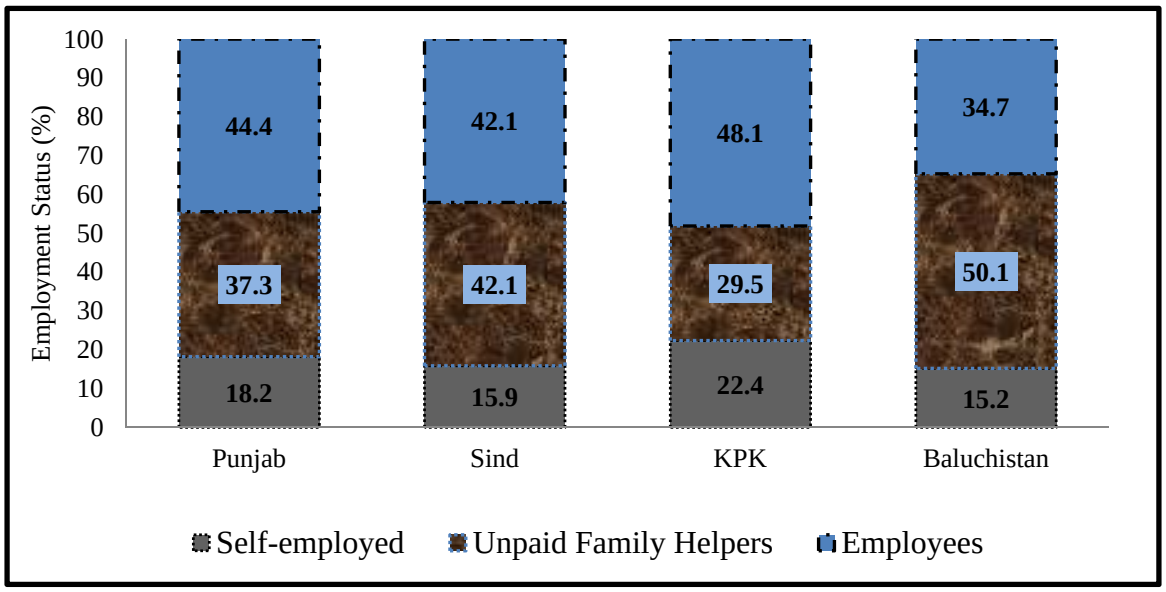


Source: Calculated from LFS, 2006-07

5.3.3.3 Provincial Differences in Employment Status and Hours Worked

Employment status analysis of youth in all four provinces shows that initially at the age of 15, majority of employed youth work primarily as unpaid family helpers and gradually moves towards self-employment and paid-employment. Lowest rate of paid employment is in Baluchistan while the highest is in Khyber Pakhtoonkhwa. Figure 5.11 shows the employment status of employed youth in four provinces of Pakistan.

Figure 5.11: Employment by Status as Percentage of Total Employment (Provincial)



Source: Calculated from LFS, 2006-07

Table 5.7: Hours Worked Per Week (Provincial)

Hours Worked/week	Percentage of Employed Youth			
	Punjab	Sind	KPK	Baluchistan
Less than 35	17.8	7.5	17.8	11.3
35-48	48.3	56.3	51.8	57.2
Greater than 48	34.0	36.2	30.4	31.5

Source: Calculated from LFS, 2006-07

Although, there are not large differences that exist in the average working hours supplied by employed youth in different provinces, Sind seems to be a province where youth supply more working hours on average than any other province. Only 7.5 percent of young people work less than 35 hours a week which is much lower than the same rate in other provinces (Table 5.7).

5.4 Relative Position of Youth in the Labour Market

Youth is just one of the phases of economic life cycle of a worker. To present a clear picture of the youth labour market, it is also important to compare youth with other age groups. For this purpose, we divide the total sample into following categories[9] on the basis of their age.

1) 10-14 years, those who start their career early
2) 15-24 years, when a young person enters the labour market
3) 25-54 years, the prime working age
4) 55-64 years, close to retirement
5) 65 and above, after retirement

5.4.1 Labour Force Participation and Unemployment Rates

Figure 5.12 shows the labour force participation rates of different age groups. Concavity of the curve shows that LFPR peaks during prime working age of 25-54 years and decreases after that. Figure 5.13 is the opposite mirror image of Figure 5.12 which shows the lowest unemployment rate during prime working age. The gender difference in LFPR is lowest in early age and highest in the primary working age when women are mostly engaged in child caring and household work. In general, female labour force participation rate in Pakistan is very low for all age groups due to lack of opportunities, early marriages, and social or religious beliefs. The unemployment rate reveals the difficulty in finding some work, as depicted in Figure 5.13 , the

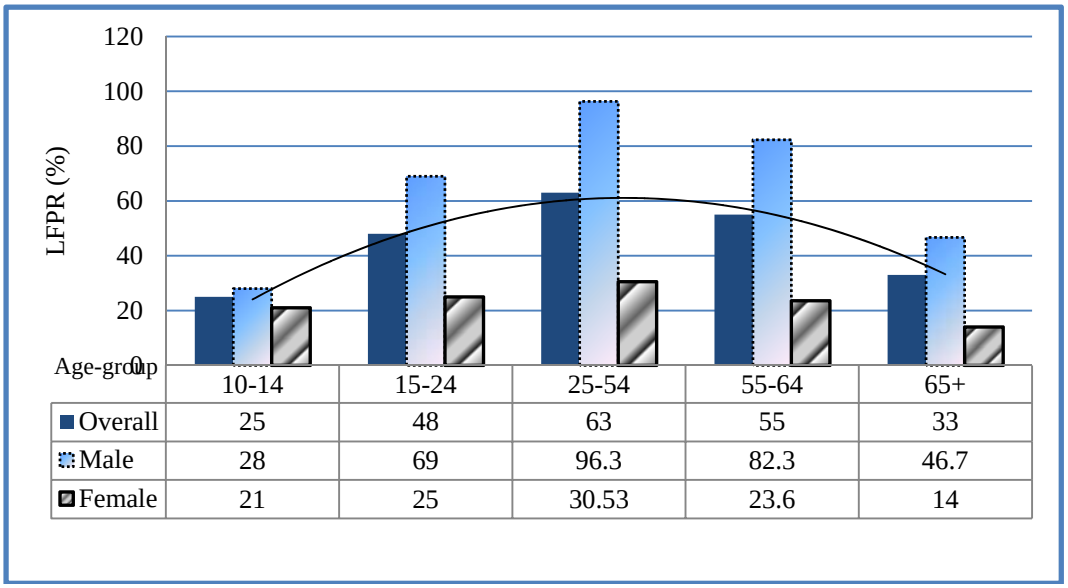
[9] Age group of 25+ is considered as adult, we further divide this group into three categories to make a more comprehensive comparison between youth and different age groups.

highest unemployment rate is in the early ages of 10-14 years when about 55 percent of male and 72 percent of female are willing to work but unable to find work. Contrary to labour force participation rate, unemployment rate depicts U-shape relationship between age and unemployment. It is relatively easy to find work during prime working age and difficult in early and later ages. Figure 5.13 also shows the gap between male and female unemployment rates which rises with age. An important point to note here is that youth and older people in the age bracket of 65 and above face same level of difficulty in finding jobs.

5.4.2 Age versus Type of Employment

It is clear from Figure 5.14 that as age increases; share of self-employed people also increases. The same trend can be observed for employers though very low percentage of people of total employed are in the category of employers even at the age of 65 or above. It could easily be inferred from this that entrepreneurial skills development programme and education must be provided starting from secondary schools to university level. Many countries have already done this. It will reduce the overall unemployment level in the country.

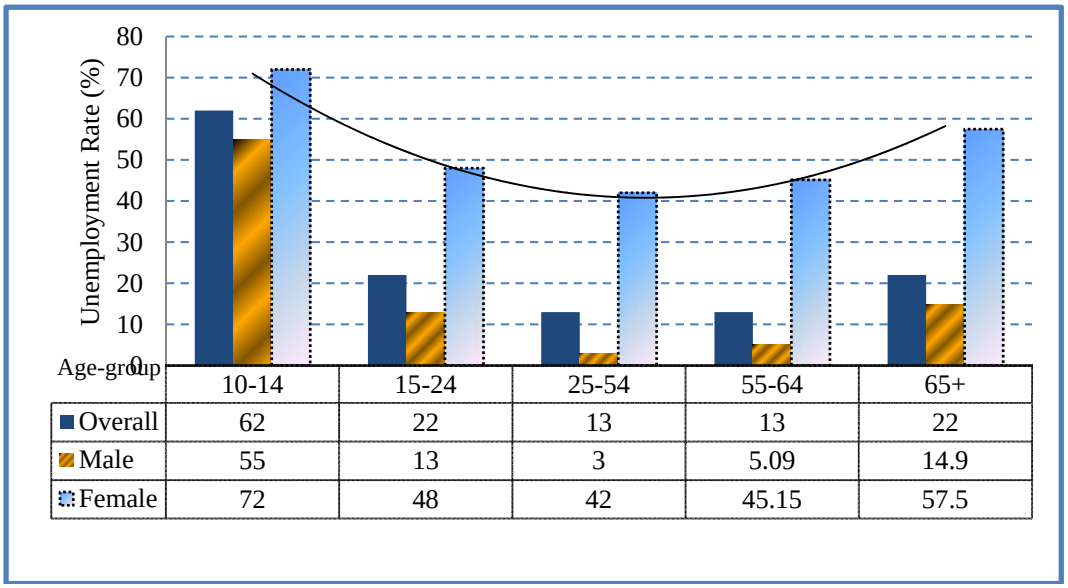
Figure 5.12: Labour Force Participation Rate in Different Age Groups



Age-group	10-14	15-24	25-54	55-64	65+
Overall	25	48	63	55	33
Male	28	69	96.3	82.3	46.7
Female	21	25	30.53	23.6	14

Source: Calculated from LFS, 2006-07

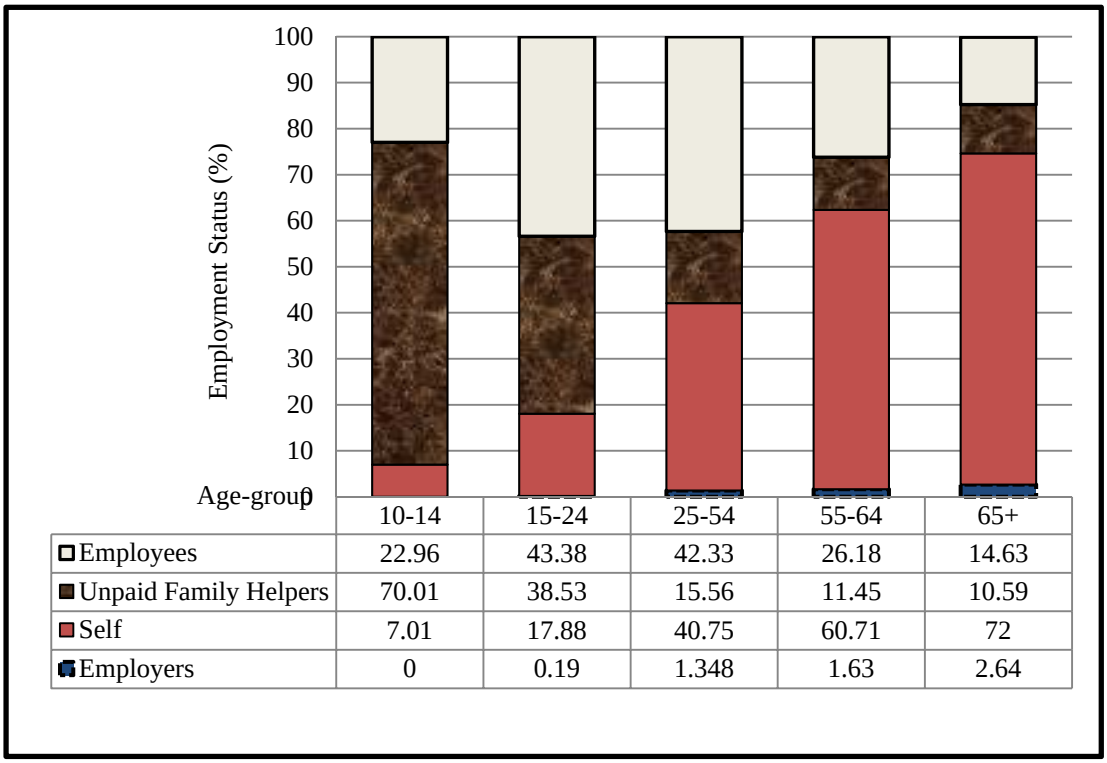
Figure 5.13: Unemployment Rate in Different Age Groups



Age-group	10-14	15-24	25-54	55-64	65+
Overall	62	22	13	13	22
Male	55	13	3	5.09	14.9
Female	72	48	42	45.15	57.5

Source: Calculated from LFS, 2006-07

Figure 5.14: Employment by Status in Different Age Groups



	10-14	15-24	25-54	55-64	65+
Employees	22.96	43.38	42.33	26.18	14.63
Unpaid Family Helpers	70.01	38.53	15.56	11.45	10.59
Self	7.01	17.88	40.75	60.71	72
Employers	0	0.19	1.348	1.63	2.64

Source: Calculated from LFS, 200-07

The majority of people in Pakistan starts their career as unpaid family helpers or paid-employees but as age increases most of them move to self-employment. It is also clear from Figure 5.14 that majority of people are in the categories of paid-employment or self-employment during their age bracket of 25-54 years. However it is also important to note that 15.56 percent people in this prime age group are unpaid family helpers which is quite a high rate. Only 1.348 percent of people in this age group are employer.

The age group of 10-14 years is considered to be the most vulnerable in the labour market, as these are children who just start their career, most of them leave their education and enter the labour market. Leaving school early can be costly for subsequent experience in the labour market [Ilahi *et al.* (2005)]. In Pakistan about 70 percent of employed children of 10-14

years age are unpaid family helpers while 23 percent are regular or casual paid employee. About 7 percent of them are self-employed which are mostly engaged in informal activities (Cross tabulation 2 in Annexure B).

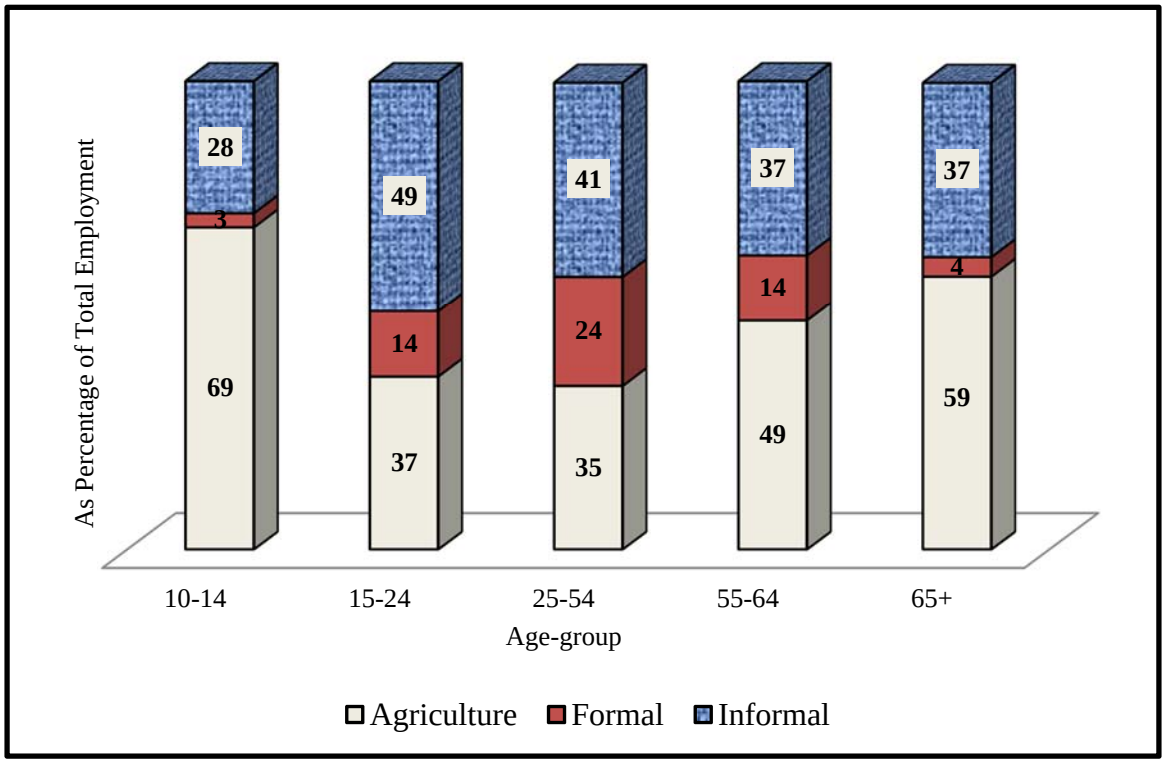
Age group of 15-24 years is considered to be the most important phase in economic life cycle as it defines the future labour market outcomes. From first age group (10-14) to second (15-24) employment status changes quite substantially. Share of employees doubles while that of unpaid family helpers reduces to half. This shows the trend of moving from low employment status to better employment status. In age groups of 15-24 and 25-54, share of paid-employment in total employment is highest; it starts to decline after prime working age. As retirement age comes closer, people start their own work instead of doing job as employees. It also shows that people tend to move to self-employment when they accumulate some savings and learn entrepreneurial and managerial skills [Georgellis and Wall (2005)]

5.4.3 Employment by Sector

In order to compare the employment level of youth between various sectors, the economic activities have been subdivided into three different categories i.e. formal sector, informal sector and agricultural sector[10]. Share of employment in informal sector is very high for all age groups in Pakistan. However, Share of employment in formal sector is relatively higher in prime working age of 25-54 years (Figure 5.15). An important point here is that, in Pakistan, children are mostly engaged in agricultural sector but as age increases they move to informal activities. Moreover, young females (10-14 years) have relatively lowest share in agricultural activities and highest share in informal activities (Cross tabulation 1, Annexure B).

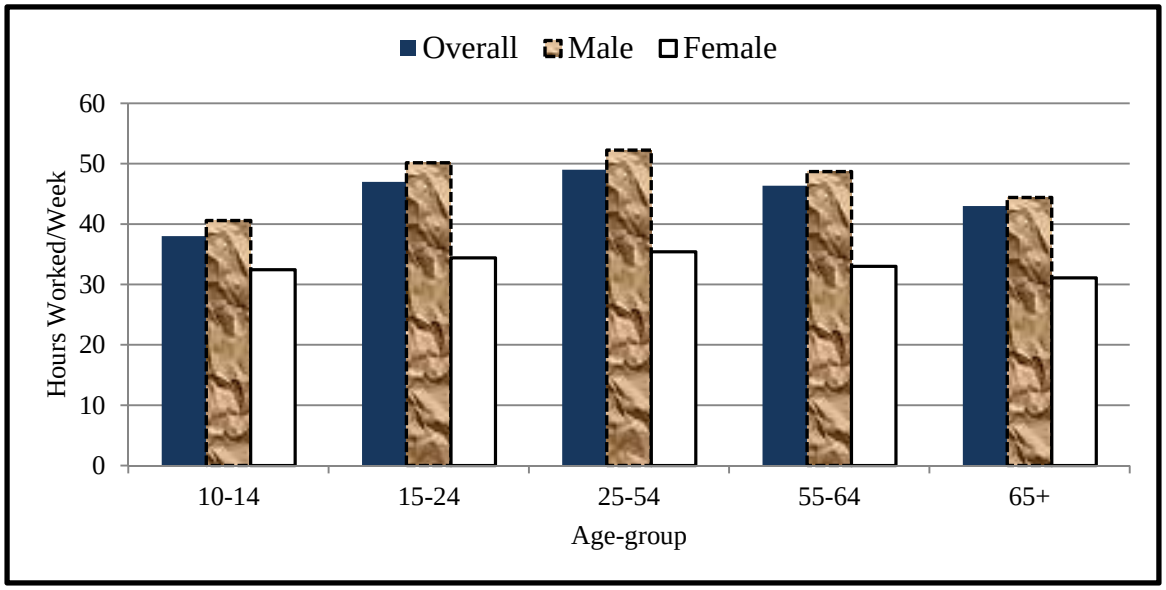
[10] For definitions of formal, informal and agricultural sectors, see Definitions and Concepts on page XIX and XX

Figure 5.15: Employment by Sector



Source: Calculated from LFS, 2006-07

Figure 5.16: Average Hours Worked/Week



Source: Calculated from LFS, 2006-07

5.4.4 Supply of Working Hours

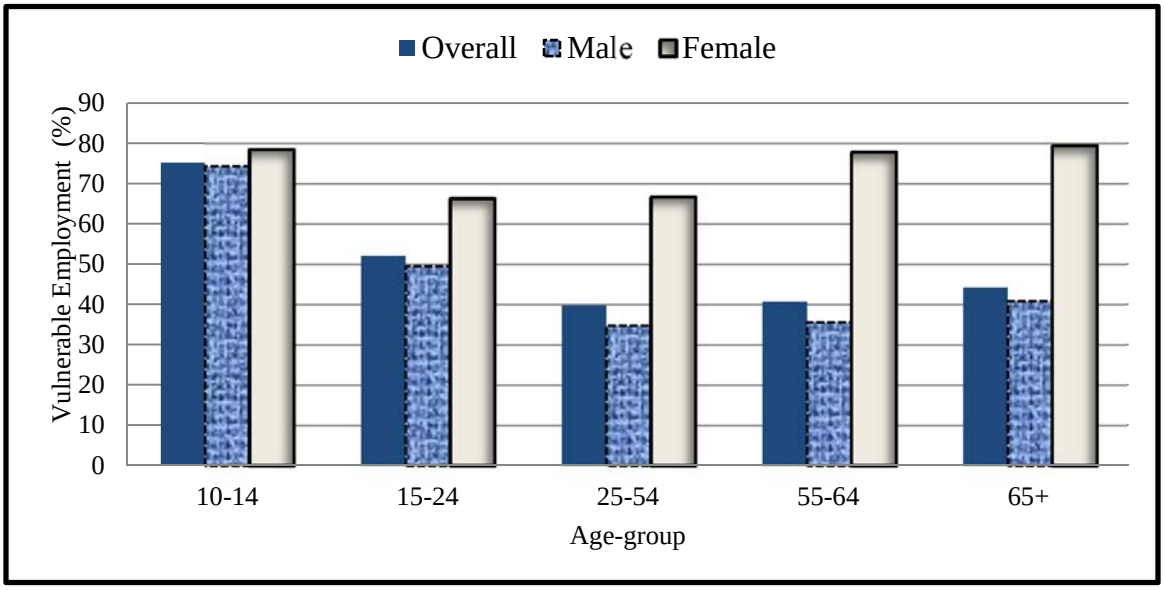
It is clear from Figure 5.16 that in all age groups, average working hours for males are greater than average working hours for females in Pakistan. Moreover, youth and people in prime working age work more hours than people in other age groups. It is important to note that about 22 percent of children and 42 percent of young people work for more than 48 hours a week. Working for excessive hours may have serious consequences on the health and working capacity of children later in life. Females in age group of 15-24 are more likely to provide excessive working hours than females in any other age group. It is also important to note that females in all age groups are less likely to work for excessive hours and more likely to work less than 35 hours a week. It is also clear from Figure 5.16 that youth in comparison with all other age groups (other than prime working age) are more likely to work more hours and are less likely to work for less than 35 hours. Moreover, people in prime working age are in the best position as far as employment rate is concerned and are more likely to work more hours than people in other age groups.

5.4.5 Vulnerable Employment

Figure 5.17 shows the share of vulnerable employment[11] in total employment. As expected, in early age, children (10-14 years) are most vulnerable in the labour market, 75 percent of all employed are either unpaid family helpers or own-account workers which can be an indication of widespread poverty in this age group. This vulnerability goes even in next phase of life, i.e. youth in which 52 percent of employed youth are in vulnerable employment. Interesting points to note here is that, females in age group of 15-24 are least vulnerable as compared with females in different age groups.

[11] For definition of vulnerable employment, see Definitions and Concepts on Page XXII.

Figure 5.17: Share of Vulnerable Employment as Percentage of Total Employment



Source: Calculated from LFS, 2006-07

Own-account workers and unpaid family helpers are considered as most vulnerable in the labour markets as they lack social protection and safety nets to guard themselves against low demand period. They are often incapable to generate sufficient savings and take higher economic risks. They are less likely to have formal work arrangements and often depend upon their family members to protect their rights. Those who start their career early are about 35 percent more vulnerable in the labour market than those in the primary working age. Throughout the working life, women are more likely to engage in vulnerable employment than their male counterparts. The above analysis shows that as far as the criterion of vulnerable employment is concerned, people on average, are less vulnerable in their prime working age.

Chapter 6

Results of Empirical Analyses

This chapter provides the results of econometric analyses of youth labour market in Pakistan. Based on the methodology described in Chapter 4, we estimate the following six models to analyze the determinants of youth labour market outcomes. Results of these models are used to test our hypotheses presented in Chapter 4.

1. First model deals with the determinants of youth activities in Pakistan.
2. Second model analyzes the determinants of employment probabilities.
3. Third model is about the determinants of wage of employed youth in the labour market.
4. Fourth model analyzes the determinants of employment status of youth labour in Pakistan.
5. Fifth and sixth models describe the factors that affect supply of working hours by youth in Pakistan.

6.1 Determinants of Youth Activities in Pakistan

Table 6.1 presents the results of multinomial logit estimates for youth activities in Pakistan. For this purpose, we divide activities of youth in four mutually exclusive categories, i.e. full-time students, those who combine work with school, full-time workers and those who neither work nor go to school. The sample consists of 44,902 individuals, after dropping the 4,682 individuals with missing values we are left with a sample of 40,220. Using fourth category (neither work nor school) as our reference category we estimate multinomial logistic coefficients with maximum likelihood estimation. Results suggest that age has an important impact on the decision about schooling and employment for youth in Pakistan. For example, in case of full-

time student, the estimated parameters of age and age squared show that the probability of being a full-time student decreases at an increasing rate and reached at its minimum point at the age of 26.59 years. Probability derivative of age also indicates that a one year increase in age decreases the probability of being a full-time student by 6.6 percentage points. Similarly, the probability of combining work with school also decreases along with increase in age while the probability of being a full-time worker increases by 11 percentage points. The main reason of this may be the increase in the cost of education and opportunity cost of staying at school which rises with age.

Similar kind of results are reported by different researchers in Pakistan. For example, studies by Naqvi and Shehnaz (2000) and Arif *et al.* (2002) found that participation in economic activities increase with age for both male and female youth in Pakistan. However, In Kuwait, Aly and Quisi (1996) found that age is inversely related to women economic participation. Descriptive analysis related to age and enrolment rate in cross tabulation 12 (Annexure A) also shows that by the age of 24, almost 97 percent of youth are not enrolled as students.

The results on the probabilities of female youth show that females are 0.2 percent less likely to be full-time student, 0.9 percent less likely to combine work with school and 71 percent less likely to be full-time workers than their male counterparts. These results depict a traditional bias of society towards females which are mainly considered to do household work instead of going to work or school. Moreover, the probabilities of being a full-time student or full-time worker also decrease if the young person is married. This may be due to high rate of inactivity among female youth which are not expected to work or get education after marriage. These results also confirm the results of earlier studies of Durrant (2000) and Sathar (2005) which show that mostly females in Pakistan are not economically active and their work is largely unpaid and hidden.

As expected, migration, training and being the head of household have positive impact on the probabilities of being a full-time worker. For example, probability of full-time work increases by 17 percentage points if the respondent is the head of household, by 9 percentage points if have some technical training and by 37 percentage points if migrates to earn his or her living. Generally, in society like Pakistan, head of the household is considered to take the responsibility of financial matters of family. Therefore, one can expect an increase in economic participation and chances of full-time work by young people as a head of household. Similarly, a person who gets some training or migrates to earn living may also be expected to fully participate in economic activities in order to maximize benefits of migration or technical training.

To find the impact of education on youth activities we divide it in different categories and take 'below primary' as our reference category. Coefficients of this variable show some interesting results, along with increase in the level of education, the probabilities of being full-time student or combine work with school increase while that of full-time work decreases. This may be so as youth with low level of education start their career early (due to limited availability of options) and with higher level of education prefer to get higher education instead of getting involved in low paid economic activities. These results can be confirmed from our descriptive analysis as well. For example, if we analyze the cross tabulation 12 (Annexure B) of current school enrolment and education level, we find that all young people (15-24 years) whose education level is below primary are currently not enrolled as students. It means they have left their studies. While on the other hand, all those who have education level of primary or above are more likely to enroll for further education. The highest enrolment rate is among those who have intermediate or degree level education.

Household size and number of siblings present in the household do not affect the first two outcomes (full-time student and combine work with school). One can expect the household size to reduce the school enrolment rate especially for female as concluded by Rosati and Rossi (2003). However, in our results, only number of siblings present in the household increases the probability of full-time work by 2 percentage points.

Activity of head by sector of employment does not have much impact on the decision of schooling or combining work with school but it does affect the probability of being a full-time worker significantly. Our results suggest that the probability of being full-time work increases by 17 percentage points if the head is working in agricultural sector and by 6 percentage point if the head is working in informal sector. It may be due to the fact that informal sector in Pakistan is considered as the major source of employment in the economy. It consists of households enterprises owned and operated by own-account workers or an enterprise owned and operated by an employer with less than ten persons involved in the business. Therefore, our results are not surprising in the sense that youth living with the head who is either working in informal or agriculture sector may be more likely to get involve in work with their families in fields or in household enterprises.

In countries like Pakistan, one can expect that young people in female-headed households may start their career early. However, this variable does not seem to have any impact on youth activities. It may be due to the limited number of data points of this variable as only 0.1 percent of the households are headed by female in our data set.

As expected, the education level of the head of household has strong impact on youth activities in Pakistan. Our results confirm the hypothesis that along with increase in the level of education of head of the household, the probability of being full-time student increases and that of full-time work decreases. A young person with the head's qualification of degree or above is

about 7 percentage points more likely to be full-time student and 22 percentage points less likely to work as compared to a young man who lives in house where head is illiterate or below primary. As far as regional variables are concerned, our results show that young people living in rural areas are 2.6 percentage points more likely to work full-time; however, this variable does not have much impact on other two outcomes (being full-time student or combine work with school). Earlier study by Rosati and Rossi (2003) has also shown that youth living in rural areas are less likely to be enrolled and more likely to work. Provincial difference does not have much impact on the probabilities of full-time student or combine work with school. However, Punjab is the province where young people are more likely to work full-time as compared to the youth in other three provinces.

Table 6.1

Multinomial Logit Estimates of Youth Activities in Pakistan

Covariates	Subgroups	Full-time Student			Combine work			Work only		
		Coefficients	Odds Ratios	Marginal Effects	Coefficients	Odds Ratios	Marginal Effects	Coefficients	Odds Ratios	Marginal Effects
Personal Characteristics										
Age		-2.638*	0.07	-0.066	-1.469*	0.23	-0.015	0.271*	1.31	0.111
Age squared		0.050*	1.05	0.001	0.028*	1.03	0.000	-0.004**	1.00	-0.002
Gender	Male (Reference category)	---	---	---	---	---	---	---	---	---
	Female	-2.214*	0.11	-0.002	-3.473*	0.03	-0.009	-3.830*	0.02	-0.714
Married	No (Ref)	---	---	---	---	---	---	---	---	---
	Yes	-2.618*	0.07	-0.034	-1.646*	0.19	-0.009	-0.575*	0.56	-0.114
Migrated	No (Ref)	---	---	---	---	---	---	---	---	---
	Yes	0.942	2.56	-0.018	2.928*	18.69	0.008	2.817*	16.72	0.374
Training	No (Ref)	---	---	---	---	---	---	---	---	---
	Yes	-0.281	0.75	-0.010	0.505	1.66	0.003	0.404*	1.50	0.095
Head of the household	No (Ref)	---	---	---	---	---	---	---	---	---
	Yes	-0.007	0.99	-0.010	0.566	1.76	0.001	0.778*	2.18	0.171
Educational level	Below primary(Ref)	---	---	---	---	---	---	---	---	---
	Primary	4.692*	109.07	0.530	0.917*	2.50	0.001	-0.019	0.98	-0.314
	Middle	7.058*	1161.64	0.870	2.875*	17.72	0.006	-0.074	0.93	-0.519
	Matric	7.493*	1795.08	0.916	3.144*	23.19	0.004	-0.187*	0.83	-0.549
	Inter	9.413*	12245.21	0.976	4.850*	127.77	-0.001	-0.099	0.91	-0.573
	Degree or above	9.315*	11100.68	0.972	4.769*	117.75	-0.003	0.226*	1.25	-0.565
Household Characteristics										
Household size		-0.003	1.00	0.001	-0.034	0.97	0.000	-0.048*	0.95	-0.012
Number of siblings		-0.001	1.00	-0.001	0.064**	1.07	0.000	0.086*	1.09	0.021
Head activity	Unemployed (Ref)	---	---	---	---	---	---	---	---	---
	Formal	0.113	1.12	0.001	0.385*	1.47	0.003	0.142*	1.15	0.031
	Agricultural	0.186*	0.91	-0.007	1.285*	1.79	0.009	0.262*	1.30	0.174
	Informal	-0.089	1.20	-0.006	0.582*	3.62	0.004	0.784*	2.19	0.062

Table 6.1 (continue)

Covariates	Subgroups	Full-time Student			Combine work			Work only		
		Coefficients	Odds Ratios	Marginal Effects	Coefficients	Odds Ratios	Marginal Effects	Coefficients	Odds Ratios	Marginal Effects
Head education	Below primary (Ref)	---	---	---	---	---	---	---	---	---
	Primary	0.014*	1.01	0.004	0.006	1.01	0.002	-0.289*	0.75	-0.072
	Middle	0.296*	1.34	0.013	-0.068	0.93	0.001	-0.307*	0.74	-0.080
	Matric	0.336*	1.40	0.017	-0.083	0.92	0.001	-0.448*	0.64	-0.116
	Inter	0.823*	2.28	0.045	-0.234	0.79	0.000	-0.615*	0.54	-0.168
	Degree or above	1.105*	3.02	0.069	-0.250	0.78	0.001	-0.782*	0.46	-0.215
Regional Characteristics										
Region	Urban (Ref)	---	---	---	---	---	---	---	---	---
	Rural	-0.176*	0.84	-0.006	0.262*	1.30	0.002	0.104*	1.11	0.027
Province	Punjab (Ref)	---	---	---	---	---	---	---	---	---
	Sind	-0.434*	0.65	-0.005	-0.282*	0.75	-0.001	-0.385*	0.68	-0.088
	KPK	-0.085	0.92	0.012	-0.026	0.97	0.005	-1.053*	0.35	-0.256
	Baluchistan	-0.654*	0.52	-0.010	-0.060	0.94	0.001	-0.184*	0.83	-0.038
	Constant	25.904*			13.326*			-1.034		
Log Likelihood		-23012.35								
LR Chi^2		45198.5								
Pseudo R^2		0.4955								
Observations		40220								

Note: * indicates significant at five percent level and ** indicates significant at ten percent level.
Omitted category is neither work nor school.

6.2 Determinants of Employment Probabilities

Table 6.2 summarizes the results of logistic regression analysis that identify personal, demographic and household factors associated with the probability of being employed among youth in Pakistan. To model the employment probabilities of youth we select a sample of 21,362 individuals who were part of the labour force (either employed or unemployed). On this sample, we run a logistic regression analysis by taking unemployed as reference category.

Our results suggest that age has an important impact on the employment probabilities of youth in Pakistan. Estimated coefficients of age and age squared show a concave profile peaking at 26 years of age. More specifically, along with increase in age, the probability of being employed increases at a decreasing rate. This is also evident in our descriptive analysis which shows that young people face higher unemployment at the start of their career.

As expected, results show a higher incidence of unemployment among female youth in Pakistan. For example, a young female is about 38 percent less likely to be employed than their male counterparts in labour market. The main reason may be the higher job quit rates due to child care and other household responsibilities.

Two other significant variables in our analysis are being the head of household and married. These two variables are expected to increase the responsibilities among young people within household as a head or married person. The coefficient of head shows that being the head of household increases the chances of employment by 9 percent. These results are also coinciding with our earlier finding that shows the increase in the probability of full-time work if the person is the head of household. On the other hand, coefficient of married shows that in case of married, the probabilities of being employed among youth decreases. These results however show incomplete picture of relationship between marital status and employment probabilities.

One can expect that in Pakistani culture, after marriage, women are usually supposed to stay at home and leave school or economic activities while young males are supposed to take the responsibility of financial arrangements of household. Therefore, results could have been different if we analyze them for separate samples of male and female youth. Earlier study by Lynch (1986) also found that being married reduces the probability of re-employment in case of female youth and not for male youth. However, by comparing these results with our descriptive analysis we may be able to understand the relationship in a better way. Cross tabulation 4 of marital status, gender and employment (Annexure B) also confirms that married women are almost half as likely to be employed as compared their male counterparts.

Probability of being employed is also significantly affected by migration of young person to earn his or her living. A young person who migrates to earn his or her living is about two times more likely (as shown by odds ratio of migration) to be employed as compared to a person who does not migrate to earn his or her living. One reason of this could be the fact that reservation wage of migrants could be much lower which increases their chances of employment.

Having technical training also affects the economic participation and employment probabilities of youth in labour market. For example, technical training[1] improves the chances of being employed by 5.3 percentage points. These results are coincide with earlier study by Arif *et al.* (2002) which found positive and statistically significant impact of training on the probability of making transition from unemployment to employment. However, the result from other

[1] Labour Force Survey collects information about 42 types of training, such as auto or engine mechanics, carpentry, typing, computer literacy etc. It should be noted however, that only 0.8 percent of youth have some sort of technical training; due to this limitation (limited data points), we could not differentiate the training on the basis of different types which could be very useful for policy recommendations.

researchers like Freeman and David (1982) found that vocational training at high school is unrelated to employment probabilities later in the career.

Education plays an important role in defining the youth activities. Surprisingly, our results do not confirm the hypothesis that 'increase in the level of education increases the chances employment in labour market'. Instead, direct interpretations of coefficients of different level of education rather give misleading results that increase in the level of education (from primary or no education to middle, matric or intermediate level) reduces the probability of being employed in the labour market. The justification of these results can be traced out from an earlier study by Akhtar and Shahnaz (2006). They found that majority of young educated people in Pakistan, have degree in social sciences or arts with no practical application of knowledge usually wait for employment opportunities in public sector. Due to tough competition with professional degree holders and inadequate jobs they face higher unemployment as compared to those with low level of education. Similarly, Kingdon and Soderbon (2008) also found that along with increase in education, the likelihood of involving in agricultural production reduces for young men rather they prefer to quite labour force.

These results show the incidence of higher unemployment among educated youth in Pakistan[2]. It also implies that youth with lower level of education are more likely to engage in economic activities and with higher education are more likely to wait for better jobs. On one hand, the young people with low level of education try to learn some skills through apprenticeship system which eventually increases their chances of employment. While on the

[2] Similar kind of figures can be traced in other countries of South Asia. For example, UNDP's report on Human Development in South Asia (2003) mentioned that unemployment rate among those with secondary and higher secondary education was 17.9 percent as compared to just 1.9 percent for those with primary education. Similarly, in India, it was found that among those with higher secondary education, 41 percent were unemployed.

other hand, most of young people who are engaged in educational activities lack proper skills, experience and training required for job.

Results of these studies, however, do not match with similar kind of studies in developed countries. For example, Teulings and Koopmanschap (1989) investigated the impact of education level on employment opportunities in Netherland. They concluded that high unemployment rate of less educated workers is mainly caused by excess supply of qualified labour. Similarly, in U.S.A, studies by Bloch and Smith (1977) and Jones and James (1979) found that employment probabilities rise with greater level of education. Results of these studies in advanced and developing countries like Pakistan not only highlight the difference in labour markets structures but also show the relevance and effectiveness of respective education systems.

Another important point which is shown by the results of first model (determinants of youth activities) is that youth with higher level of education are more likely to enroll as a student as compare to youth with below primary or no education. These results show us the attitude of educated and uneducated youth towards education and work. Those who are less educated are engaged in economic activities while those who are more educated are looking for better jobs and for further education.

We include two variables, household size and number of siblings (under the age of 15 years) present in the household, to capture the affect of dependency on employment probabilities of youth. These two variables are either insignificant or do not have much effect on youth activities as shown by their odds ratios which are close to one. These results however, do not agree with earlier study in Pakistan by Akhtar and Shahnaz (2005) which found that youth unemployment chances decreases in case of large family size. It may be due to the fact number of siblings present in the household or size of household may affect economic participation of

youth depending on their gender. One can expect the increase in economic participation by male youth to support large family and dependent children. On the other hand, one might expect that it become more difficult to participate in economic activities for young females in case of large families and greater number of siblings in household. Estimating separate models for male and female could give different results.

Characteristics of the head of household can affect the youth activities in labour market. For this purpose, we include three variables related to the head of the household, the education level of household head, employment of head by sector (formal, informal, or agricultural) and whether the head is female or not .Our results suggest that youth with higher level of education of the head of household are less likely to be employed. These results also need to interpret keeping in view of the results of first model (determinants of youth activities) which shows that youth living with educated head is more likely to enroll as a student instead of being involved in economic activities. It also shows the difference in attitude of educated and uneducated parents towards the schooling and work of their children. Earlier study by Rees and Gray (1982) explained that expectations of families can influence the decisions of young about work. They argued that young people whose families expect their children to go for work are much more likely to be employed than those young people whose families do not have this kind of expectation.

Employment of head by sector also affects the employment probabilities of youth. Working in informal or agricultural sectors provides less protection and social security benefits than formal sector. However, these two sectors provide more employment opportunities than formal sector in Pakistan. Robinson and Nasreen (1979) also noted that informal sector in Pakistan consists of households enterprises which usually absorb person which do not find work

anywhere. Selecting unemployed or out of labour force head as a comparison group with other three categories, we found that having employed head increases the probability of employment for youth in labour market. However, the probability of being employed rises more if the head is working in informal or agriculture sector. These results are comparable with results of earlier studies, for example a study by Rees and Gray (1984) found that youth living in families where adult are less likely to have jobs may themselves be less likely to seek employment, or may have fewer job opportunities. It may be due to the fact that employed head may help their young children to secure jobs or join them in fields or household enterprises.

Another variable related to the head of household is the gender of the head. Taking male head as reference category, our result indicates that in case of female-headed households, the chances of being employed by a young person increase by 2.6 percentage points. This may be due to the fact that in our culture, male members are usually the head of household and in the absence of male head, young men in the household may need to take the responsibilities of financial obligations.

To capture the geographical effect on economic activities of youth, we included two categorical variables, province and region in our models. Youth living in rural areas are more likely to be employed but result is not statistically significant at ten percent level of significance. It may be due to the fact that in rural areas, a substantial percentage of youth works as unpaid family helpers. Moreover, they have less enrollment rate as compared to their urban counterparts which may increase their economic participation. Akhtar and Shahnaz (2005) also found that unemployment rate in rural areas of Pakistan is less due to disguised unemployment.

Our analysis also reveals significant difference at provincial level. We select Punjab as a reference category to compare with other provinces. Results suggest that Baluchistan is the

province where youth are 43.7 percentage points less likely to get employment. It may be due to the poor law and order conditions and economic injustice that people of Baluchistan are blaming for. Results also suggest that in Sind, unemployment rate is less than that of Punjab. It may be due to the fact that capital of Sind, Karachi is considered as the major city which generates revenue and employment opportunities in Pakistan. Having operational port at Karachi also creates business and employment opportunities for people of Pakistan.

Table 6.2

Logit Estimates of Being Employed

Covariates	Subgroups	Coefficients	Odds Ratios	Marginal Effects
Personal Characteristics				
Age		0.847*	2.33	0.096
Age squared		-0.016*	0.98	-0.002
Sex	Male (Ref)	---	---	---
	Female	-2.290*	0.10	-0.376
Married	No (Ref)	---	---	---
	Yes	-0.690*	0.50	-0.091
Migrated	No (Ref)	---	---	---
	Yes	0.827*	2.29	0.069
Training	No (Ref)	---	---	---
	Yes	0.579*	1.78	0.053
Head of the household	No (Ref)	---	---	---
	Yes	1.112*	3.04	0.086
Educational level	Below primary (Ref)	---	---	---
	Primary	-0.083	0.92	-0.01
	Middle	-1.057*	0.35	-0.153
	Matric	-0.855*	0.43	-0.12
	Inter	-1.220*	0.30	-0.199
	Degree or above	-0.356*	0.70	-0.046
Household Characteristics				
Household Size		0.004	1.00	0
Number of siblings		0.016	1.02	0.002
Head activity	Unemployed (Ref)	---	---	---
	Formal	0.242*	1.27	0.026
	Agricultural	1.112*	3.04	0.112
	Informal	0.580*	1.79	0.062
Female Head	No (Ref)	---	---	---
	Yes	0.247*	1.28	0.026
Head education	Below primary (Ref)	---	---	---
	Primary	-0.343*	0.71	-0.042
	Middle	-0.513*	0.60	-0.068
	Matric	-0.584*	0.56	-0.078
	Inter	-0.792*	0.45	-0.116
	Degree or above	-1.275*	0.28	-0.213
Regional Characteristics				
Region	Urban (Ref)	---	---	---
	Rural	0.081	1.08	0.009
Province	Punjab (Ref)	---	---	---
	Sind	0.172*	1.19	0.019
	KPK	-0.857*	0.42	-0.122
	Baluchistan	-2.416*	0.09	-0.437
Constant		-7.433*		
Log Likelihood		-7317.63		
LR Chi^2		7723.43		
Pseudo R-Squared		0.3454		
No. of Observations		21360		

Note: * indicates significant at five percent level and ** indicates significant at ten percent level. Omitted category is unemployed.

6.3 Impact of Human Capital Indictors on Wage of Youth

In previous section, we test the hypothesis that human capital indicators such as education and training positively impact the chances of employment. We find positive relationship between employment and training but surprisingly, our results show higher probabilities of unemployment at higher level of education. Why such a pattern exists in Pakistan? Does education really reduces the chances of employment or there are other reasons which need to be explained. The answer of this phenomenon may lie in the education-earning relationship for youth in Pakistan.

To find out the impact of education level on earnings in the labour market, we estimate wage equation for youth in Pakistan. For this purpose, we select a sample of those youth who were in the category of employee. The main reason of this is the non-availability of earnings data for other employed categories of youth (self-employed and employers) as LFS provides data about wage for only those who are in the category of paid-employment. With this limited data set, we cannot generalize our results to entire youth. However, it will give us an idea about the education-earning relationship for youth. Results when combined with results of other models can be helpful in distinguishing the labour market outcomes for educated and uneducated youth.

Table 6.3 presents the results of wage equations for youth in pakistan. Taking log of wage as dependent variable, we run three regression lines (for both sexes and also separately for male and female) by OLS method on number of independent variables. The first model here explains the output for both sexes. Coefficient of gender indicates that holding all other variables constant, on average, wage of female youth is almost half than that of male youth in Pakistan. The results show the gender discrimination that exists in the labour market of youth. It may be due to the fact that female youth generally have less education and limited bargaining power as compared to male youth. We used age squared as proxy variable of experience. Coefficients of

age and age squared also show expected signs of relationship between and age and earnings of youth. Wage of youth increases at a decreasing rate along with increase in age. The results are also coinciding with earlier findings of age earning relationship by different researcher[3].

As we stated earlier that basic purpose of estimating this wage equation is to test the hypothesis that human capital increases the earnings of youth in the labour market. For this purpose, we include different levels of education to analyze the education-earning relationship for youth in Pakistan. Taking 'below primary' as reference category, we find a positive and increasing relationship between level of education and wage of youth. At each higher level of education, the earning of youth increases for both sexes. A degree holder earns 72 percent more wage than those who are either illiterate or with education level of below primary. This confirms our hypothesis that educated people in Pakistan demand higher wages that may result in higher unemployment for them due to prevalence of informal economy.

Total hours worked per week is also an important determinant of wage. The impact of hours worked is stronger for female youth as compared to male youth. It may be due to the fact about 19.3 percent of females are involved in activities where payment depend upon piece rate or work performed (Cross tabulation 15, Annexure B).

Occupational category is also an important factor that can affect the wage of youth. Those who are clerks, professionals and machine operators usually earn higher than those who are in unskilled elementary occupations. As expected, youth living in rural areas earn 3 percent less than youth living in urban areas. The impact is also much stronger for female youth in rural areas who earn 9 percent less than those female youth living in urban areas. Results of provincial differences highlight that youth living in Baluchistan earn more on average as compared to youth

[3] See for example, studies by Bloch and Smith (1977), Jones and James (1979).

living in other provinces. These results may also be used to interpret the higher unemployment rate of youth in Baluchistan.

Table 6.3 Determinants of Monthly Wage for Youth

Variables	Bothe Sexes		Male		Female	
	Coefficient	**t-ratio**	**Coefficient**	**t-ratio**	**Coefficient**	**t-ratio**
(Constant)	6.530*	15.687	5.922*	13.565	9.547*	7.854
Age	0.068	1.590	0.148*	3.300	0.354*	2.854
Age squared	-0.001	-0.509	-0.003*	-2.231	-0.010*	-3.150
Male (Ref)						
Female	-0.542*	-21.665				
Married	0.019	0.861	0.031	1.337	-0.002	-0.035
Training	0.027	0.449	0.028	0.429	0.100	0.724
Below primary (Ref)						
Primary but below middle	0.032**	1.619	0.024	1.211	0.153*	2.074
Middle but below matric	0.111*	4.791	0.103*	4.426	0.056	0.533
Matric but below intermediate	0.144*	6.004	0.123*	5.042	0.228*	2.341
Inter but below degree	0.303*	7.766	0.265*	6.371	0.374*	3.067
Degree or above	0.721*	15.471	0.716*	13.072	0.686*	5.436
Elementary occupation (Ref)						
Legislator, senior official and manager	0.049	0.862	0.025	0.450	0.954*	3.207
Professional	0.156*	2.236	-0.006	-0.086	0.783*	4.179
Technician	0.114*	3.130	0.099*	-2.312	-0.136	-1.288
Clerks	0.294*	5.211	0.247*	4.285	0.633*	3.084
Service worker	-0.124*	-4.996	-0.099*	-3.974	-0.057	-0.354
Skilled agricultural worker	-0.103	-1.483	-0.087	-1.238	-0.160	-0.583
Craftsman	0.032**	1.747	0.017	0.905	0.033	0.532
Plant and machine operator	0.165*	4.752	0.187*	5.445	-0.249	-1.003
Hours worked	0.008*	11.853	0.005*	6.725	0.022*	11.125
Urban (Ref)						
Rural	-0.032*	-2.023	-0.017	-1.059	-0.093**	-1.831
Punjab (Ref)						
Sind	-0.012	-0.628	-0.052*	-2.788	0.375*	5.061
KPK	-0.039*	-1.816	-0.102*	-4.594	0.333*	4.337
Baluchistan	0.120*	4.088	0.074*	2.526	0.614*	4.432
No. of observations	7,269.000		6,342.000		927.000	
F-Ratio	84.000		42.400		24.300	
R-square	21		12.6		35.8	

Note: * indicates significant at five percent level and ** indicates significant at ten percent level.

6.4 Determinants of Employment Status

In this model, we select only employed youth who reported their employment status as 'employed'. We divide the employment status into four mutually exclusive categories, i.e. self-employed, unpaid family helpers, employees and employers. The fourth category employer constitutes only 0.2 percent of total employed youth, we omit this category and left with a sample of 16,689 employed youth.

Choosing unpaid family helpers as the reference category, we estimate the multinomial logit model to identify the factors that can affect the status of employed youth in labour market. Our results (Table 6.4) suggest that along with an increase in the age by one unit, probability of moving from unpaid family helpers to self-employment increase by 6 percentage points and that of being an employee by 5 percentage points. Results are expected in the sense that as age increases, young people may accumulate some savings to start their own business or may get paid employment after some experience of working as unpaid family helpers.

The probability derivative of gender suggests that being female reduces the chances of self-employment by 7 percentage points and that of being an employee by 12 percentage points relative to men. These results are consistent with the results of earlier studies. For example, study by Matthews & Moser (1995) shows that male have higher preferences for self-employment than their female counterparts. It may be due to the fact females face higher impediments and barriers regarding their career decisions [Aldrich (1989)].

Being married increases the probability of self-employment by 3.8 percent and that of being an employee decreases by 6.5 percentage points. Georgellis and Wall (2005) also found that probability of moving into self-employment from salaried employment rises in case of being married for men and not for women. One possible explanation is the availability of financial support for male members in the household which may facilitate them in setting up their own

business. We also find that migration has strong positive and statistically significant impact on the chances of being an employee while being the head of household increases the chance of self-employment by 26 percentage points. Moreover, having technical training also significantly improves the chances of being an employee in labour market. The results are not surprising in the context that a migrant or skillful trained person is not expected to work as unpaid family helper. Similarly, one is expected to work as an employee or self-employed (instead of working as unpaid family helper) in case of taking the responsibility of head of household.

An important finding about education is that if education is below graduation, young people are more likely to engage in self-employment while educational qualifications at the level of undergraduate degree or above improve the probability of being employee by 17 percentage points. These results also confirm our hypothesis that individuals at higher level of education prefer to be in the category of employee. The results are not surprising as educated people prefers to work for organizations which may provide them further chances of career development and knowledge. Rissman (2003) also found that individuals with advance degree find self-employment as less attractive option than a high paying job. He further argued that self-employment is more likely to be an option for those people who have limited options in labour market. These results are also consistent with our earlier finding (determinants of being employed) that highest unemployment is among undergraduate degree holders.

Characteristics of household are also assumed to have an impact on the decisions about employment status of youth. Our results suggest that the probability of young people to be in the category of employee increases substantially if the household is headed by a female or the head is working in the formal sector. On the other hand, if the head is working in the agriculture or informal sectors, the chances of young person to work as unpaid family helper will increase. It may be due to the fact that young people generally find more chances to work as unpaid family

helpers in agriculture or informal sectors as compared to formal sector. Researchers like Georgellis and Wall (2005) also claimed that parents' occupation affect the employment status of young people. They argued that the probability to self-employment rises in young man if the father is also self-employed. Similarly, Matthews and Moser (1995) also reported that parents serve as a role model for young people in the process of occupational choices.

An important finding about the education of the head of the household is that the head having higher education, i.e. degree or above improves the chances of youth to work as an employee while the chances of self-employment of youth increases if the head's education is above primary but below degree. It may be due to the fact that educated parents (relative to the parents with low level of education) may better help young people in finding and searching for jobs as suggested by Rees and Gray (1982). These results also confirm our hypothesis that education of head improves the chances of youth to be in the category of employee. However, we find positive impact on the probability of being an employee only for undergraduate degree while education of less than degree improves the chance of self-employment instead of being an unpaid family helper.

As expected, youth living in rural areas are more likely to be self-employed or unpaid family helpers than their counterparts in urban areas. Substantial differences also exist between different provinces in Pakistan regarding the employment status of youth. For example, in Punjab, young people are more likely to be engaged in self-employment or in the employee category than the youth in Sind and Baluchistan.

Table 6.4
Multinomial Logit Estimates of Employment Status

Covariates	Subgroups	Self-employed			Employee		
Personal Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Age		0.637*	1.89	0.059	0.439*	1.55	0.05
Age squared		-0.013*	0.99	-0.001	-0.009*	0.99	-0.001
Gender	Male (Ref)	---	---	---	---	---	---
	Female	-0.918*	0.40	-0.071	-0.776*	0.46	-0.12
Married	No (Ref)	---	---	---	---	---	---
	Yes	0.102	1.11	0.038	-0.222*	0.80	-0.065
Migrated	No (Ref)	---	---	---	---	---	---
	Yes	0.679	1.97	-0.107	2.026*	7.58	0.36
Training	No (Ref)	---	---	---	---	---	---
	Yes	0.721*	2.06	0.019	0.878*	2.41	0.134
Head of the household	No (Ref)	---	---	---	---	---	---
	Yes	5.239*	188.50	0.259	4.560*	95.60	0.111
Educational level	Below Primary(Ref)	---	---	---	---	---	---
	Primary	0.195*	1.22	0.036	-0.045	0.96	-0.03
	Middle	0.136**	1.15	0.054	-0.325*	0.72	-0.093
	Matric	0.276*	1.32	0.055	-0.084	0.92	-0.048
	Inter	0.172*	1.19	0.032	-0.033	0.97	-0.025
	Degree or above	-0.142	0.87	-0.076	0.649*	1.91	0.171
Household Characteristics							
Household size		-0.082*	0.92	-0.006	-0.070*	0.93	-0.01
Number of siblings		0.089*	1.09	0.01	0.040*	1.04	0.002
Head activity	Unemployed (Ref)	---	---	---	---	---	---
	Formal	-0.045	0.96	-0.076	0.771*	2.16	0.192
	Agricultural	-2.034*	0.13	-0.133	-2.000*	0.14	-0.312
	Informal	-0.792*	0.45	-0.077	-0.481*	0.62	-0.051
Female head	No (Ref)	---	---	---	---	---	---
	Yes	0.287*	1.33	0.009	0.368*	1.44	0.063
Head education	Below Primary (Ref)	---	---	---	---	---	---
	Primary	-0.173*	0.84	0.001	-0.316*	0.73	-0.063
	Middle	0.019	1.02	0.024	-0.222*	0.80	-0.057
	Matric	-0.215*	0.81	0.015	-0.567*	0.57	-0.12
	Inter	-0.307**	0.74	0.011	-0.743*	0.48	-0.153
	Degree or above	0.168	1.18	0.071	-0.430*	0.65	-0.12

Table 6.4 (Continue)

Covariates	Subgroups	Self-employed			Employee		
Regional Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Region	Urban (Ref)	---	---	---	---	0.56	---
	Rural	-0.201*	0.82	0.024	-0.577*		-0.124
Province	Punjab (Ref)	---	---	---	---	---	---
	Sind	-0.429*	0.65	-0.037	-0.323*	0.72	-0.043
	KPK	0.083	1.09	0.006	0.076	1.08	0.011
	Baluchistan	-0.833*	0.43	-0.054	-0.896*	0.41	-0.155
Constant		-6.238*			-2.672*		
Log Likelihood		-14692.894					
LR Chi^2		5246.79					
Pseudo R-Squared		0.1515					
No. of Observations		16687					

Note: * indicates significant at five percent level and ** indicates significant at ten percent level. Omitted category is unpaid family helpers.

6.5 Determinants of Supply of Working Hours

The main objective of this exercise is to model the supply behavior of young people in labour market. It will help us to understand the causes of underutilization or overutilization of youth's supply of labour in Pakistan. We analyze the supply behavior of working hours by youth in two steps. At first step, we select a sample of 14,420 individuals who reported their working hours irrespective of their employment status. In second step, we select a sample of only those who are either self-employed or employer (2444 individuals) and dropped the categories of unpaid family helpers and employees. The main purpose of this exercise is to differentiate the supply behavior of those who have more control over their working hours (self-employed and employer) relative to paid employees. We divide our sample in three mutually exclusive categories for the purpose of our dependent variable, 'working hour'.

1. Those who work for less than 35 hours a week
2. Those who work between 35-48 hours per week
3. Those who work for more than 48 hours per week

Taking second category (35-48 hours) as reference category we apply multinomial logit model on set of explanatory variables related to personal, household and regional characteristics of youth. Table 6.5 gives results of multinomial estimates of supply of working hours by employed youth (irrespective of their employment status) while Table 6.6 shows the results of those who belong to the categories of self-employed or employer in Pakistan.

As far as personal characteristics are concerned, age, sex, employment status and sector of activities significantly affect the decision of hours worked by youth in Pakistan. Along with an increase in age by one unit, the probability of supplying more than 48 hours a week increases and that of less than 35 hours per week decreases. As expected, results suggest that female youth are 27 percent more likely to work for less than 35 hours and 32 percentage points less likely to

work for excessive hours (more than 48 hours) as compared to men. These results are consistent with earlier studies on this topic in Pakistan. For example, Shahnaz (2006) found that, female youth on average, supply 11 hours less as compared to their male counterparts. Rosati and Rossi (2003) also concluded that female children in larger household size work fewer hours in market. Coefficient related to marital status shows that married people are less likely to work for normal hours. They have higher probabilities of working either fewer hours or excessive hours. Results could have been clearer if we had estimated the model separately for both sexes.

Another important variable that increases the probability of working more than normal hours is migration. A migrant worker is 10.6 percent more likely to work for more than 48 hours per week. Result is consistent with our earlier finding related to migrant worker who wants to maximize his or her benefits of migration.

Similar to our pervious findings, this model further adds to our knowledge about the relationships between level of education and youth labour market outcomes in Pakistan. Results suggest that degree holders are 25 percent more likely to work fewer hours and 14 percent less likely to work for more hours than the youth with education level of below primary or no education.[4] This may be due to the reason that youth with higher education usually work in formal sector with definite working hours and youth with less education are more likely to work in informal sectors.

Employment in informal sector seems to have positive impact on the probabilities of working for excessive hours relative to agriculture sector. The main reason for this may be that in informal sector, people are usually engaged in household enterprises where they are not supposed to follow any specific time limit. We also include employment status of youth as a

[4] Shahnaz (2006) also found a negative relationship between hours worked and level of education. She found that graduate young people supply on average six fewer hours per week than illiterates.

categorical variable. Taking unpaid family helpers as our reference category, our results suggest that being an employer or self-employed increases the probability of working for more than 48 hours by 27 percentage points and 16.4 percentage points respectively. These results are also consistent with the results of earlier study by Hammermesh (1990) who found that self-employed individuals work on average, an additional 17 hours per week as compared to those who were in the category of employee. We also found that in general, unpaid family helpers are more likely to work fewer hours relative to those who are in better employment status. These results confirm the findings of earlier study by Robinson and Nasreen (1979) which found that underemployment in Pakistan is largely concentrated in family-organized production units in agriculture sector. Similarly, Shehnaz (2006) concluded that youth belonging to lower occupation categories are more likely to work for fewer hours.

Although it was expected that household size and number of siblings present in the house will exert pressure on youth to work more but these variables do not have any significant impact on supply of working hours of youth. The main reason may be the different impact of these variables on supply behavior of male and female youth. Estimating separate model for male and female could give different results.

The characteristics of head of household seem to have significant impact on the hours worked by youth. Our results suggest that the probability of youth working more than 48 hours a week decreases substantially if the head is employed or female. It shows that when head is employed there will be less pressure on young people in the household to work more. Similarly, in case of female-headed household, young people are less likely to work for more than normal hours as females usually do not want to see their children to work for excessive hours. While other variables like education level of head do not have any significant impact on supply of working hours.

There also exist substantial differences in supply of working hours on the basis of location. For example, youth living in rural areas are 3 percent more likely to work less than 35 hour per week and 7 percent less likely to supply excess hours. KPK is the province where youth are about 8 percent more likely to supply fewer hours and 11 percent less likely to supply excess hours than their counterparts in Punjab. It shows the fact that youth living in rural areas and in KPK are less likely to work for normal hours. These findings are also consistent with the fact that youth living in rural areas and in the province of KPK have relatively higher inactivity rate in Pakistan.

6.5.1 Determinants of Hours Worked (For Self-employed and Employers)

Table 6.6 shows the determinants of hours worked by those young people who are either in the category of employer or self-employed. Not much difference exists between the results of first model of hours worked (for all employed youth irrespective of their employment status) and in this model. The main reason is that in general, working hours are fixed in case of regular paid employees. In our sample, about 43 percent of employed youth are in the category of paid employment. Moreover, a large share (55 percent) of employees includes casual paid employees and paid workers by piece rate or work performed. One can expect their working hours more flexible as compared to the regular paid employees with fixed wage.

Similar to previous model of hours worked, results suggest that being female reduces the chances of working excessive hours and increase the chances of working for fewer hours. It shows the fact female usually prefers to work part time as it provides better balance between family and working life [Morris (2006)]. Similarly, those who work in informal sector have more chances to work for excessive hours as compared to those who work in agricultural sector. It sheds light on working hours in informal sector by those youth who are not working under any employer. Coefficients of being married and migration also show significant and positive impact

on working for excessive hours in labour market. However, the impact is much stronger for migration in this model of hours worked as compared to previous model.

Contrary to previous model of hours worked, education of head seems to have significant impact on the supply behavior of youth. Results show that youth living in the households where head is either illiterate or below primary are less likely to work for normal hours. They either work for less than 35 hours a week or more than 48 hour a week. On the other hand, youth is more likely to work for fewer hours if the education level of head is primary or above. In short, having educated head in the household increase the probability of working for less than 35 hours a week. These results are also consistent with our earlier findings in model of youth activities (Section 6.1) which shows that having educated head increase the chances of being a full-time student and reduces the chance of work only. Another important point here is that why education level of head could not significantly affect supply of hours worked in the first model? The answer is simple; parents may not be able to set the limit for working hours for those who are in the category of employees. While in this case, they may be in position to influence the working hours of their self-employed children.

Similar to previous model of hours worked, our results suggest that youth working in informal sector are 8 percent less likely to work fewer hours (less than 35 hours a week) and 31 percent more likely to work for excessive hours as compared to those who work in agriculture sector. However, impact is again much stronger in this model than the previous one.

As far as regional differences are concerned, again we find that youth in KPK are much more likely to work for fewer hours and less likely to work for excessive hours than the youth in Punjab. In case of Baluchistan, youth are also less likely to work for excessive hours as compared to youth in Punjab. This could be attributed to the mental approach towards work by

youth in different provinces of Pakistan. A time-use survey of youth activities could be helpful in future to find out the exact reasons of such phenomenon.

Table 6.5

Multinomial Logit Estimates of Supply of Working Hours

Covariates	Subgroups	Less than 35 hours a week			More than 48 hours a week		
Personal Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Age		-0.435*	0.65	-0.047	0.250*	1.29	0.067
Age squared		0.010*	1.01	0.001	-0.005**	0.99	-0.001
Gender	Male (Reference category)	---	---	---	---		---
	Female	1.486*	4.42	0.272	-1.855*	0.16	-0.323
Married	No	---	---	---	---	---	---
	Yes	0.151**	1.16	0.011	0.101**	1.11	0.017
Migrated	No (Ref)	---	---	---	---	---	---
	Yes	0.324	1.38	0.011	0.518*	1.68	0.106
Training	No (Ref)	---	---	---	---	---	---
	Yes	0.053	1.05	0.009	-0.116	0.89	-0.026
Head of the household	No (Ref)	---	---	---	---	---	---
	Yes	0.315**	1.37	0.036	-0.099	0.90	-0.031
Educational level	Below Primary (Ref)	---	---	---	---	---	---
	Primary	-0.013	0.99	-0.004	0.082	1.09	0.018
	Middle	0.151**	1.16	0.012	0.062	1.06	0.008
	Matric	0.202*	1.22	0.019	0.011	1.01	-0.004
	Inter	0.581*	1.79	0.07	-0.11	0.90	-0.044
	Degree or above	1.472*	4.36	0.251	-0.427*	0.65	-0.144
Employment by sector	Agricultural (Ref)	---	---			---	
	Formal	1.399*	0.25	0.083	-0.379*	0.69	-0.049
	Informal	-0.515*	0.60	-0.066	0.627	1.87	0.149
Employment status	Unpaid family helper (Ref)	---	---	---	---	---	---
	Employer	0.397	1.49	-0.015	1.177*	3.25	0.266
	Self	-0.288*	0.75	-0.044	0.681*	1.97	0.164
	Employee	-0.672*	0.51	-0.061	0.045	1.05	0.03

Table 6.5 (Continue)

Covariates	Subgroups	Less than 35 hours a week			More than 48 hours a week		
Household Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Household size		-0.013	0.99	-0.001	-0.009	0.99	-0.001
Number of siblings		0.002	1.00	0	0.004	1.00	0
Head activity	Unemployed (Ref)	---	---	---	---	---	---
	Formal	0.234**	1.26	0.029	-0.187*	0.83	-0.046
	Informal	0.226*	1.25	0.027	-0.193*	0.82	-0.047
	Agricultural	0.009	1.01	0.003	-0.064	0.94	-0.014
Female head	No (Ref)	---	---	---	---	---	---
	Yes	-0.09	0.91	-0.002	-0.219*	0.80	-0.042
Head education	Primary	-0.074	0.93	-0.006	-0.009	0.99	0
	Middle	0.184**	1.20	0.015	0.085	1.09	
	Matric	0.1	1.10	0.007	0.07	1.07	0.012
	Inter	0.014	1.01	-0.001	0.058	1.06	0.012
	Degree or above	-0.33	0.72	-0.028	0.068	1.07	0.024
Regional Characteristics							
Region	Urban (Ref)	---	---	---	---	---	---
	Rural	0.288*	1.33	0.033	-0.269*	0.76	-0.067
Province	Punjab (Ref)	---	---	---	---	---	---
	Sind	-0.789*	0.45	-0.058	-0.164*	0.85	-0.014
	KPK	0.571*	1.77	0.079	-0.453*	0.64	-0.107
	Baluchistan	-0.08	0.92	0	-0.250*	0.78	-0.049
Constant		3.305*			-3.127*		
Log Likelihood	1217.16						
LR Chi^2	4219.5						
Pseudo R^2	0.1477						
Observations	14420						

Note: * indicates significant at five percent level and ** indicates significant at ten percent level. Omitted category is 35-48 hours

Table 6.6

Multinomial Logit Estimates of Supply of Working Hours (For Self-employed and Employer Youth)

Covariates	Subgroups	Less than 35 hours a week			More than 48 hours a week		
Personal Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Age		-0.953*	0.385	-0.069	0.210	1.260	0.091
Age squared		0.021*	1.02	0.001	-0.005	0.995	-0.001
Gender	Male (Reference category)	---	---	---	---		---
	Female	1.813*	6.131	0.369	-2.41*	0.089	-0.513
Married	No	---	---	---	---	---	---
	Yes	0.177	1.19	0.002	0.252**	1.28	0.056
Migrated	No (Ref)	---	---	---	---	---	---
	Yes	2.39**	11.00	0.011	1.79**	5.99	0.212
Training	No (Ref)	---	---	---	---	---	---
	Yes	-0.45	0.633	-0.02	0.021	1.02	-0.018
Head of the household	No (Ref)	---	---	---	---	---	---
	Yes	0.025**	1.02	0.015	-0.374	0.68	-0.094
Educational level	Below Primary (Ref)	---	---	---	---	---	---
	Primary	-0.269	0.763	-0.01	0.010	1.01	0.011
	Middle	-0.045	0.955	-0.005	0.062	1.06	0.017
	Matric	-0.037	0.963	-0.000	0.045	0.95	-0.010
	Inter	0.323	1.38	0.07	0.619*	1.86	0.137
	Degree or above	1.48*	4.40	0.141	0.313	1.36	-0.018
Employment by sector	Agricultural (Ref)	---	---			---	
	Formal	-0.724	0.484	-0.033	-0.053	0.94	-0.005
	Informal	-0.481*	0.618	-0.084	1.249*	3.48	0.315

Table 6.6 (Continue)

Covariates	Subgroups	Less than 35 hours a week			More than 48 hours a week		
Household Characteristics		**Coefficients**	**Odds Ratios**	**Marginal Effects**	**Coefficients**	**Odds Ratios**	**Marginal Effects**
Household Size		-0.000	0.999	0.000	-0.006	0.99	-0.001
Number of siblings		-0.084	0.919	-0.005	-0.004	0.99	-0.001
Head activity	Unemployed (Ref)						
	Formal	-0.69	0.932	-0.003	-0.034	0.96	-0.006
	Informal	0.301	1.352	0.002	-0.075	0.92	-0.029
	Agricultural	0.256	1.292	0.009	0.206	1.22	0.041
Female head	No (Ref)						
	Yes	0.144	0.865	-0.003	-0.177	0.83	0.039
Head education	Primary	13.68*	875567	0.974	-0.316	0.72	0.580
	Middle	13.79*	978775	0.991	-0.216	0.77	-0.557
	Matric	13.88*	1071891	0.984	-0.157	0.85	-0.547
	Inter	14.21*	1487222	0.985	-0.028	0.97	-0.530
	Degree or above	14.20*	1469842	0.956	-0.407	0.66	-0.540
Regional Characteristics							
Region	Urban (Ref)						
	Rural	0.127	1.13	0.013	-0.148	0.86	0.041
Province	Punjab (Ref)						
	Sind	-0.273	0.760	-0.020	-0.146	1.15	0.045
	KPK	0.818*	2.267	0.904	-0.426*	0.65	-0.141
	Baluchistan	-0.176	0.838	0.007	-0.597*	0.55	-0.141
Constant		-0.530			-0.281		
Log Likelihood	-1957.03						
LR Chi^2	704.84						
Pseudo R^2	0.156						
Observations	2444						

Note: * indicates significant at five percent level and ** indicates significant at ten percent level. Omitted category is 35-48 hours

Chapter 7

Conclusions

This study is an attempt to analyze the youth labour market outcomes and challenges. Based on micro data of LFS (2006-07), it describes the absolute and relative position of youth in the labour market of Pakistan. To portrait a comprehensive picture of youth, it tries to cover not only the personal characteristics of young people but also explores, in detail, the composition and characteristics of household in different regions of Pakistan. The Study shows that youth in Pakistan, have different opportunities and attitudes towards their decision to work as well as schooling on the basis of gender, education, age, marital status, family conditions and location. The formulation of policies thus requires a clear understanding of factors that affect their very employment needs specific to the different areas of Pakistan. Some important lesson and findings emerging from the study are as under:

7.1 Usual Status of Youth in the Labour Market

One of the main contributions of this study is to analyze the usual status (status during most of the last year) of youth in the labour market of Pakistan. Huge differences exist in usual status and weekly status unemployment rate in the country. Usual status unemployment raises the question on methodology to calculate unemployment in the country. Exclusion of an individual from the definition of unemployed on the basis of even one hour work during the reference period of last one week greatly undermines the extent of unemployment in the country. It also shows that reference period of one week may be too short for many people especially for young females who often need to make personal arrangement before available for work. Figures of usual status unemployment show that majority of people who are officially not in the pool of

unemployed (due to non-availability of work during last week) remain unemployed during most of the last twelve months.

7.2 Theory of Human Capital and Labour Market Outcomes in Pakistan

One of the main objectives of the study is to analyze how human capital indicators like education and training affect labour market outcomes. More specifically, we analyze the impact of different levels of education on employment probabilities, earnings, employment status and hours of worked by youth in Pakistan. Our results show the attitude of educated and uneducated youth towards education and work. Some important finings related to education and its impact on youth activities and labour market outcomes are given below.

a) Youth with higher level of education are more likely to continue their education as compared to youth with below primary or no education. For example, youth with education level of matric are 39 percent and with intermediate level are 45 percent more likely to continue their education as compared to those with below primary or no education.

b) Youth with higher education usually work for definite normal working hours while youth with less education are more likely to work for either excessive hours or less than normal hours.

c) An important finding about education is that if education is less than graduation, young people are more likely to engage in self- employment while education of degree or above substantially improves the probability of being an ‘employee’ in the labour market.

d) Technical training also positively affects the economic participation and employment probability of youth in the labour market. However, only 0.8 percent of young people have any sort of formal training.

e) Individuals with higher level of human capital get higher prices for the rental of their services, i.e. wages.

7.2.1 Link between Education and Labour Market Success in Pakistan

In this study, we tested different hypotheses related to the human capital theory and labour market outcomes in Pakistan. Surprisingly, our results do not confirm the hypothesis that 'increase in the level of education improves the chances of employment in labour market'. However, results of wage equation confirm the very hypothesis that 'along with increase in education, wage of worker also increases'. Increase in the probability of unemployment due to increased level of education however, does not mean that government should not provide education as it reduces employment; rather it shows the attitude of educated and uneducated people towards expectations about their work and the reservation wage. By combining the results of employment and wage equations along with descriptive analysis presented in chapter 2 and 5; the following justification is arrived at for the higher probabilities of unemployment amongst the educated youth in Pakistan.

In Pakistan, education system does not provide required skills and training needed in the labour market[1]. Lack of proper skills in educated people, higher expectations about jobs and the earnings, predominance of informal economy (which is highly biased towards unskilled low wage labour) are the main factors that may contribute to the higher unemployment amongst the educated people in Pakistan. These results are not surprising in the socio-economic context of countries like Pakistan. However, these results do not match with the studies conducted in advanced countries. For example, studies by Bloch and Smith (1977, 1979); Jones and James (1979) and Teulings and Koopmanschap (1989) concluded that increase in the level of human

[1] As Shahnaz (2006) noted that majority of young educated people in Pakistan have degree in arts or social sciences without any practical knowledge or experience.

capital indicators increase the chances of employment in the labour market. From policy point of view, these results show us that significance of link between education and labour market. Importance of education in the process of development is well established, however, quality and relevance of education may be the sufficient conditions for the labour market success.

7.3 Age and Labour Market Outcomes

Results show that age is one of the important determinants of labour market outcomes. Young people face lot of difficulties at the beginning of their career. Higher unemployment rate, poor working conditions, predominance of informal economy, low literacy, and poor levels of skills and education are the main problems of youth at this early stage. Their attitude, status and opportunities in the labour market vary with age. Some important findings about the relationship of age and labour market outcomes are described below.

A significant percentage of youth in Pakistan start their career early. Along with increase in age, the probabilities of labour force participation, employment and further movement to better employment status (from unpaid family helpers to self-employed and employees) increase and that of enrollment as a student decreases. Our descriptive analysis however, shows that this increase is not uniform on the basis of gender and regions. From policy point of view, however, we cannot infer any policy intervention from the results of age and labour market outcomes. The main reason of this is the lack of longitudinal data to analyze how timings of entry in the labour market can affect future earnings and employment potentials. Results rather show only the magnitude and extent of unemployment, inactivity and vulnerabilities in the labour market.

7.4 Gender Differences in the Labour Market Outcomes

The results show that there are great variations in labour market activities of male and female youth both in rural and urban areas of Pakistan. Following points explain the main findings of youth labour market on the basis of gender.

a) In general, male labour force participation rate is higher than female's, the difference goes up to the 63 percentage points at the age of 24 years.

b) Female youth also suffers more in getting employment than their male counterparts, for example, female unemployment rate is 35 percentages higher than that of male unemployment rate.

c) Being a female reduces the chances of self-employment or becoming an employee as compared to their male counterparts. This is so as most of the women work in agricultural sector or prefer to stay at home. Moreover, female youth are more likely to work less than 35 hours a week.

d) The results on the probabilities of female youth show that female youth are less likely to be full-time student, or full-time workers than their male counterparts. These results depict a traditional biasness of the society towards females which are mainly supposed to perform household work and supposed to help their parents in looking after the children instead of going to work or school.

e) Throughout the life, women are more likely to engage in vulnerable employment than their male counterparts.

f) There exists a gender difference in the unemployment rate on the basis of marital status. For example, married males are more likely to be employed and less likely to be unemployed while married females are more likely to be unemployed and less likely to be employed. This may be due to high rate of inactivity among female youth which are not expected to work or get education after marriage. Another important point to note here is that married youth are mostly engaged in self-employment as compared to unmarried youth.

7.5 Regional Differences in Youth Labour Market

The study indicates that there exists a great variation in youth labour market activities in different regions of Pakistan because of uneven social and economic developments. Some main points regarding the regional differences in labour market outcomes of the youth are described as under:

a) Labour force participation in rural areas is higher as compared to urban areas. This difference goes up to 7.68 percentage points at country level. Moreover, this difference is not uniform across the provinces in Pakistan, for example, rural-urban difference in labour force participation is highest in Sind (about 17 percentage points) and lowest in KPK (about 2 percentage points).

b) Youth living in rural areas start their career early, they are more likely to participate in economic activities, less likely to be unemployed or enrolled as a student and more likely to work in informal or agricultural sector as compared to their urban counterparts.

c) Youth living in rural areas are more likely to work less than 35 hours a week and less likely to supply excess hours. They are usually self-employed or unpaid family helpers.

d) Baluchistan is the province where the unemployment rate is highest both in urban and rural areas and remains the highest throughout the age bracket of youth (15-24) when compared with other provinces.

e) In Baluchistan, youth are more likely to participate in labour force, more likely to be unemployed and least likely to be inactive.

f) Young people in Punjab are more likely to engaged in self-employment or be in the employee category than the youth in Sind and Baluchistan.

g) Sind is the province where probability of being unemployed is lowest among youth. By the age of 24, unemployment rate in Sind declines substantially as compared to other provinces.

h) Enormous gender differences also exist between male and female unemployment rates across and within the provinces of Pakistan. For example, the highest gender differences in unemployment rate is amongst the males and females of Baluchistan and KPK, where difference between unemployment of male and female is 53 and 47 percentage points respectively.

i) The lowest unemployment rate is amongst the male youth of Sind while the female youth of Punjab have comparatively low unemployment rate relative to the female youth in other provinces.

j) In KPK, inactivity rate of youth is highest while probability of participation in labour force is least.

k) Female youth living in KPK has highest inactivity rate, lowest labour force participation rate and second highest unemployment rate among the female in other provinces.

7.6 Comparison between Youth, Child and Adult Labour Markets

Youth is just one of the phases of economic life cycle of a worker. To present a clear picture of youth labour market it is also important to analyze the age groups before and after the youth. For this purpose, the study also makes a comparison of youth with different age groups in labour market and highlights following important findings.

a) A high percentage of young people start their career before the age of 15. Most of these children are engaged in informal or agricultural activities and work as unpaid family helpers. It shows the extent of child labour and their vulnerability in labour

market. There is need a to see the issues of child labour and youth labour market challenges together as these two issues are linked together.

b) Further analysis shows that people are in best position in their prime working age , i.e. 25 -54 years, when economic participation is highest, unemployment rate is lowest, and in general, labour are in least vulnerable conditions of their lives.

c) People of different age groups in Pakistan have different employment status. Majority of people in Pakistan start their career as an unpaid family helpers or as an employee but as age increases most of them move to self-employment. This shows the trend of moving from low employment status to better employment status along with increase in age and as the retirement age come close, people start their own work instead of doing job. People tend to move to self-employment when they accumulate some savings. These findings however, may not be applicable to formal sector in Pakistan.

d) In Pakistan, share of employer in total employment is very low in all age groups.

7.7 Head's characteristics and Youth Labour Market

a) Characteristics of household head significantly affect the youth labour market outcomes. For example, youth with higher level of education of the head of household and employment status are more likely to enroll as a student and less likely to engage in informal economic activities.

b) Our results suggest that the probability of being a full-time worker increases substantially if the household head is working in agriculture or informal sector. This may be due to fact that in agricultural sector, young people usually work in fields with their parents and in informal sector, they work with family in household enterprise.

c) We also find that probability of youth to be unemployed rises if the head of the household is unemployed or out of labour force. In other words, having employed head improves the chances of employment for youth in the labour market.

d) Another variable related to the head of household is the gender of the head, taking male head as our reference category, our results indicate that in case of female-headed household, the chances of being employed for young person increases but they will be less likely to work for excessive hours and more likely to work for normal hours. This may be due to the fact that in our culture, male members are usually the head of household and in the absence of male head, young men in the household may need to take the responsibilities of financial obligations. Working for normal hours in case of female-headed household may be due to the fact that females especially mothers in our society do not want to see their young children working for excessive hours.

e) The chances of youth to work for excessive hours decrease if the head is employed which shows that in case of employed head there will be less pressure on young ones in the household to work more.

f) Increase in the responsibilities of youth (being the head or married) within household increase their economic participation.

7.8 Supply of Working Hours by Youth in the Labour Market

Analyzing the total working hours supplied by the youth is important in order to assess their working conditions and extent of under or over utilization of their productive capacities. The main findings of the study related to working hours are given below.

a) As age increases, share of youth supplying less than 35 hours a week decreases and that of more than 48 hours a week increases. It is important to note that about 22 percent of children (10-14 years) and 32 percent of young workers (15-17 years)

supply more than 48 hours a week which is against the employment rules that prevails in the country.

b) Youth working in informal sector work more hours than agriculture sector while those who are working in formal sector are more likely to work for normal working hours than those who are working in agriculture or informal sectors.

c) Those who are employer or self-employed are more likely to work for more than 48 hours a week. While those who are unpaid family helpers works fewer than normal working hours.

d) Youth living in the households where head is either illiterate or below primary are less likely to work normal hours.

7.9 Limitations and Future Research

a) The basic purpose of the study is to analyze youth labour market in Pakistan. For this purpose, we used micro data from LFS (2006-07). The data is a rich cross-sectional data with 224,280 respondents from 32,744 households. It does provide an opportunity to study the impact of regional, personal and household characteristics on youth labour market outcomes. However, there are several limitations related to data. It does not provide information related to some important variables that can affect youth labour market outcomes. For example, level of economic activities, industrial structure of residents and level of personal and household income are important factors that influence youth activities in the labour market. Similarly, school performance of young people, existing facilities of schools in the area are also some important determinants of work or schooling which we could not incorporate in our study.

b) A vast literature stresses upon the impact of early start of career on subsequent educational achievement, productivity and finally earnings in life. However, without

having panel or longitudinal data we cannot predict about the impact of early or late start of career on productivity and the earnings later in life.

c) To test the hypothesis that 'increase in the level of education increase the earnings of individuals' we used the sample of only those young people who were in the category of employees. It is so as Labour Force Survey does not provide information related to the earnings of self-employed and employers.

d) It would be beneficial to examine the labour market outcomes in different economic phases and parameters that might change over time. For example, many demographic factors such as employment-to-population ratio, sex ratio, share of young people in total population etc. also affect the youth labour market outcomes. However, it also requires time-series data instead of cross-sectional data. The impact of demographic factors on youth employment and unemployment can therefore be an important area of future research. It is also necessary as Pakistan is one of the countries where age structure of population is changing. Using time-series data will be helpful in order to see the impact of demographic changes on a particular group (for example youth) and to understand and formulate the policies.

e) A separate research is needed to analyze the behavior of vulnerable youth in labour market. For this purpose, a separate questionnaire can be designed in order to analyze their working routines and status.

f) Pakistan is a multicultural society where people belong to different races are living in different regions. It would be a good future research to analyze the labour market behavior of people based on their race, caste and mother language. It could also be helpful to analyze and find out any racial or ethnical discrimination in labour market. For

this purpose, separate questions related to caste, ethnic backgrounds and mother language of respondents could be included in LFS.

g) There is a need of further research to analyze why unemployment is higher among educated young people in Pakistan. How higher education affects the employment probabilities, choice of profession, and decision of hours worked need to be explored further. It would be helpful to find out the exact behavior, preferences and expectations of educated people in Pakistan. In future, it is also required to analyze the impact of different disciplines of education on labour market outcomes.

h) There are huge differences between weekly status and usual status unemployment and labour force participation rates amongst the youth in Baluchistan. There is still a need to research why these huge differences exist and what are the reasons of this phenomenon. There may be possibilities of biasness by respondents to earn sympathies as an unemployed. To find out the exact situation of unemployment, more questions based on usual status should also be incorporated in questionnaire.

i) Though we include different levels of education to analyze the impact of education on labour market outcomes, however, another important factor of human capital accumulation is the quality of education. How quality of education is related to employment probabilities and other labour market outcomes can be a question of future research.

j) Due to time constraints to handle the micro data, we could not estimate the empirical models (other than wage equation) separately for male and female youth. It would be better in future to analyze the youth labour market outcomes for both sexes to see the impact of those variables (like household size and number of siblings) which may affect labour market outcomes differently for male and female youth.

k) Two important areas of research questions should ask 1) How youth unemployment or underemployment are related to other social problems and delinquency 2) How social factors such as living with single parent, peer pressure in joint family system, unmarried daughters affect youth labour market decisions

Chapter 8

Policy Recommendations

The analysis presented in the study shows that youth is a diverse social group with different characteristics and attitudes about work in different regions of Pakistan. Diversifications in youth labour market outcomes within different regions of Pakistan show the difference in needs of young people to provide them better employment opportunities. Youth policies cannot be truly effective if youth is not considered as an asset to the society. The needs of youth must be addressed in a comprehensive manner keeping in view the educational, social and labour market requirements in different regions of the country. Based on this study, we find following important issues related to the youth labour market activities in Pakistan that need to be addressed by concerned authorities.

a) Being a labour abundant country, it would be fair to say that well-being of Pakistan, in future, will heavily depend upon the willingness of its people to work. Unfortunately, the study highlights that a substantial percentage of young people are inactive, neither they work nor they study. One can expect high rate of inactivity among females due to household responsibilities but higher inactivity rate among male youth shows the wastage of human resources in the society. Current labour force survey provides very little information about the activities of youth who are neither in school nor in labour force. It is recommended that FBS (Federal Bureau of Statistics) should set a questionnaire that evaluates what young people do in their spare time. How much time they spend in family work, in schooling, loafing and so forth? For this purpose, a time-use survey of youth can also be initiated. The survey must provide information in much more comprehensive way about youth time usage and activities instead of asking just few basic questions. It would

also be helpful to differentiate between those who are discouraged workers from those who do not want to work or show any commitment in finding work.

b) Study also highlights the fact that current method to calculate unemployment based on one-week reference period may greatly undercount the extent of unemployed people in the country. Figures of usual status unemployment show that majority of people who are officially not in the pool of unemployed remain unemployed during most of the last year. To present a comprehensive picture of situation of unemployment, it is recommended that FBS should calculate labour statistics based on usual status of people along with weekly status. It would help to analyze labour market issues in more details and will cover the shortcomings of weekly status unemployment.

c) The study highlights that a substantial percentage of young children are engaged in economic activities. Most of them are in vulnerable employment. However, due to lack of longitudinal data we cannot predict about the impact of child labour on their subsequent career development. It is recommended that FBS, in future, should include questions related to past histories of employment in order to analyze the link between child labour and youth labour market outcomes.

d) As we have shown that there exists a great disparity between the labour force status of different regions of the country. Such a disparity may have implications for regional inequality that may extend beyond youth status in the labour market. Reducing regional and gender differences should therefore, be a policy priority for youth. For example, young people in Baluchistan are particularly facing lack of jobs; unemployment rate among youth in Baluchistan is much higher than that in other provinces. Similarly, economic participation among the youth of KPK is lowest in all four provinces. Moreover, about 41 percent of youth in KPK are neither in labour force nor enrolled as a

student. They can be engaged in socio-economic activities by providing them employment and business opportunities. Facilitating youth employment and access to decent work in Baluchistan and KPK can be one of the most effective ways to combat terrorism and lawlessness in these two provinces.

e) To reduce gender difference in labour market, a motivational campaign is required to educate the society to change their attitude about women work. Providing equal opportunities to young women in education and labour market should be the focus of this campaign. Income generating projects like handicrafts and other home based activities need to be identified for young females in the informal sector. For this purpose, training and educational programs should be launched. Government should also provide a minimum social protection package to vulnerable youth especially for young females in rural areas.

f) The study also highlights the fact that more than half of the youth labour force (62.2 per cent) has either less than one year or just primary education. Moreover, those who are educated face higher unemployment as compared to those with low level or no education. It shows the need to address the issues of relevance and practical application of education in Pakistan. In order to identify the market requirements and needs, link between educational institutions and industry should be developed. We also observe that parent's education significantly affect the activities of youth. Having educated parents improves the chances of youth to get higher education, achieve better employment status and work for normal working hours. Any motivational campaign to educate the parents regarding the education and work of their children could improve their economic participation and enrollment in educational institutions.

g) The study also finds the positive impact of training on employment of youth. However, only 0.8 percent of youth have any form of technical training. Enrollment in Technical and Vocational institutions in Pakistan is also very low. Only 1.6 percent of young people in Pakistan are enrolled in Technical and Vocational training institutions as compared to 8 percent in developing countries and 18 percent in developed countries. Policy makers should focus to improve the quality and quantity of technical and vocational education in Pakistan. For this purpose, program like technical training stipend can be helpful, it is observed that about 88 percent of the beneficiaries of this scholarship got employment or engaged in self-employment.

h) Given the small share of youth working as an employer, it is important for policy makers to help young people to start their own business. This will require the generation of job opportunities through small and medium enterprises. As we discussed in chapter 2 that different non-farm sectors such as floriculture, dairy, fisheries, fruits and vegetables processing, livestock, meat and poultry farm are absorbing youth labour force in economy for past few years. An integrated project to promote these activities in rural areas can generate employment and business opportunities for young people in Pakistan. It will ensure non-farm income for rural youth and their families in Pakistan. It is imperative to assist young people to create their own employment opportunities instead of looking for job.

i) Given the large share of youth working as unpaid family helpers in agriculture sector, it is important to work with local communities to help young people to develop skills that are required in manufacturing and construction sectors. These two sectors are providing

major share of youth employment in the country[2]. Moreover, development of services sectors (like financial and business services, restaurant and hotel services and social and personal services) can also be very helpful to absorb huge youth labour force in the country.

j) The study also highlights the fact that labour laws are not fully being observed in Pakistan. For example, a substantial percentage of children and young workers are engaged in economic activities and work more than standard limit of working hours set for them. Moreover, the average wage reported by many young people is below the minimum wage set by the government. Indicators of labour market efficiency presented in chapter 2 also highlight the lowest relative position of Pakistan not only in South Asia but also in the world. Moreover, in Pakistan, labour laws are more pervasive than those of its neighbors, overall indicators of restrictiveness of employment laws in Pakistan are highest in South Asia. As a consequences, employers tend to evade labour laws on books by relying more on temporary workers. For example, in Pakistan, the share of temporary workers in Pakistani businesses was about 36 percent in year 2006 compared with 15 percent in India and 3 percent in Bangladesh. This shows the fact that in Pakistan, Government should strengthen the labour market institutions such as labour unions, social security regulations, and minimum wage laws to protect the poor and vulnerable young people in the labour market.

k) A growing labour force (youth population) produced by a rapidly growing population of the country can produce higher per capital income if the capital stock grows fast enough. Thus a caveat is in order, to make use of the youth population to improve the overall welfare of Pakistan, we have to accumulate sufficient amounts of capital to shift

[2] See Table 2.3 in chapter 2

up the demand for labour (youth population of the country). It will help to reduce the youth unemployment in the country.

References

Akhtar, S., & Shahnaz, L., 2005. “Understanding the Youth Unemployment Conundrum in Pakistan: Preliminary Empirical Macro-Micro Analysis,” *Discussion Paper Series No.4*, Center for Research on Poverty Reduction and Income Distribution, Islamabad.

Aldrich, H., 1989. “Networking Among Women Entrepreneurs,” In Hagan, O., Rivchun, C., & Sexton, D. (Eds.), Pages 103-132. *Women-owned Businesses*. New York: Praeger.

Altonji, J. G., & Dunn, T. A., 1996. "The Effects of Family Characteristics on the Return to Education," *The Review of Economics and Statistics*, MIT Press, vol. 78(4), pages 692-704.

Aly, Y.H. & Quisi, I. A., 1996. “Determinants of Women Labor Force Participation in Kuwait: A Logit Analyses,” *The Middle East Business and Economic Review*, vol. 8(2), pages 25-55.

Amjad, R., 2005. “Pakistan’s Poverty Reduction Strategy: Why Employment Matters,” *The Lahore Journal of Economics*, Special Edition, Lahore School of Economics.

Anh, D.N., Duong, L., & Hai, V., 2005. “Youth Employment in Viet Nam: Characteristics, Determinants and Policy Responses,” *Employment Strategy Papers*, ILO, Available at http://www.ilo.org/public/english/employment/strat/download/esp2005-9.pdf

Arif, G. M., Muhammad, F. K., & Khalid, H. S., 2002. "Labour Market Dynamics in Pakistan: Evidence from the Longitudinal Data," *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. 41(4), pages 701-720.

Arif, G. M., & Nusrat, C., 2008. “Demographic Transition and Youth Employment in Pakistan,” *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. 47 (1).

Ashenfelter, O. & Krueger, A. B., 1994. “Estimates of the Economic Return to Schooling from a New Sample of Twins," *Quarterly Journal of Economics*, vol. 84 (5), pages, 1157-73.

Audas, R., Eva, B., & Peter, D., 2005. "Youth Unemployment and Labour Market Transitions in Hungary," *Education Economics*, vol. 13(1), pages 1-25.

Azmat, G., Maia, G., & Alan, M., 2006. "Gender Gaps in Unemployment Rates in OECD Countries," *Journal of Labour Economics*, University of Chicago Press, vol. 24(1), pages 1-38.

Ballen, J., & Richard, B. F., 1986. "Transitions between Employment and Non-Employment," NBER Chapters, in: *The Black Youth Employment Crisis*, pages 75-114. National Bureau of Economic Research, Inc.

Bartel, A. P., & S, N., 1998. "Technological Change and the Skill Acquisition of Young Workers," *Journal of Labour Economics*, University of Chicago Press, vol. 16 (4), pages 718-55.

Becker, G. S., 1964. "*Human Capital*," New York: Columbia University Press for the National Bureau of Economic Research.

Becker, G. S., 1975. "*Human Capital: A Theoretical and Empirical Analysis*," Chicago: University of Chicago Press.

Becker ,B. E., & Stephen, M. H. , 1980. "Teenage Unemployment: Some Evidence of the Long-Run Effects on Wages," *Journal of Human Resources*, University of Wisconsin Press, vol. 15 (3), pages 354-372.

Beegle ,K., R, D., & Roberta, G., 2004. "Why should we Care about Child Labour? The Education, Labour Market, and Health Consequences of Child Labour," *NBER Working Papers10980*, National Bureau of Economic Research, Inc.

Beegle, K., Dehejia, R. H., Gatti, R., & Krutikova, S., 2008. "The Consequences of Child Labour: Evidence from Longitudinal Data in Rural Tanzania," *Policy Research Working Paper Series 4677*, The World Bank.

Blau, F. D., & Lawrence M, K., 2003. "Understanding International Differences in the Gender Pay Gap," *Journal of Labour Economics*, University of Chicago Press, vol. 21(1), pages 106-144.

Bloch, F., & Smith, P., 1977. "Human Capital and Labour Market Employment," *Journal of Human Resources*, vol. 12, pages 550-60.

Bloch, F., & Smith, P., 1979. "Human Capital and Labour Market Employment: Errata and Extension." *Journal of Human Resources*, vol. 14, pages 267-69.

Bloom , D. E., & Richard B, F., 1989. "The "Youth Problem": Age or Generational Crowding?," *NBER Working Papers 1829*, National Bureau of Economic Research, Inc.

Bloom, D.E., David, C., & Jaypee, S., 2001. "Economic Growth and Demographic Transition," *NBER Working Paper No. 8685*, National Bureau of Economic Research, Inc.

Bloom, D. E., David C., & Jaypee, S., 2003. "*Demographic Dividend: New Perspective on Economic Consequences*," Santa Monica, RAND Corporation.

Blunch, N., 2008. "Multidimensional Human Capital, Wages and Endogenous Employment Status in Ghana," *IZA Discussion Papers 3906*, Institute for the Study of Labour (IZA).

Bound, J., & Holzer, H.J., 2000. "Demand Shifts, Population Adjustments, and Labour Market Outcomes during the 1980s," *Journal of Labour Economics*, University of Chicago Press, vol. 18(1), pages 20-54.

Brian, E. B., & Stephen, 1980. "Teenage Unemployment: Some Evidence of the Long-Run Effects on Wages," *Journal of Human Resources*, vol. 15 (3), pages 354-372.

Brueckner , Jan. K., & Yves., 2003. "Space and Unemployment: The Labour Market Effects of Spatial Mismatch," *Journal of Labour Economics*, University of Chicago Press, vol. 21(1), pages 242-241.

Burki, A.A., & Tazeen, F., 1999. "Households' Non-leisure Time Allocation for Children and Determinants of Child labour in Punjab, Pakistan," Paper presented at fourteenth annual general meeting of Pakistan Society of Development Economists, January 28-31, 1999. Pakistan Institute of Development Economics, Islamabad.

Clark, K., & Summers, L., 1982. "The Dynamics of Youth Unemployment," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Cohn, E., 1997. "The Rate of Return to Schooling in Canada." *Journal of Education Finance*, vol. 23(2), pages 193-206.

Crosa, B., Howard E., Aldrich, & Lisa A. K., 2002. "Is There a Wealth Effect? Financial and Human Capital as Determinants of Business Startups," Presented at the 2002 Babson-Kauffman Entrepreneurship Research Conference.

Cutler, D.M., Edward, G., & Karen, N., 2001. "Explaining the Rise in Youth Suicide," *Discussion Paper Number 1917*, Harvard Institute of Economic Research, Harvard University.

Denu.B., Tekeste, A., & Deijl. H.,2005. "Characteristics and Determinants of Youth Unemployment, Underemployment and Inadequate Employment in Ethiopia," *Employment Strategy Papers*, Employment Policies Unit, Employment Strategy Department, ILO.

Dougherty, C., 2005. "Why are the Returns to Schooling Higher for Women than for Men?" *Journal of Human Resources*, vol. XL(4), pages 969-988 .

Dunn, T., & Holtz, D., 2000. "Financial Capital, Human Capital, and the Transition to Self-employment: Evidence from Intergenerational links," *Journal of Labour Economics*, vol. 18, Pages 282-305.

Durrant, V.L., 2000. "Adolescent Girls and Boys in Pakistan: Opportunities and Constraints in the Transition to Adulthood," *Research Report No. 12*, Population Council, Islamabad.

Emerson, P. M., & Andre, P.S., 2006. "Is Child Labour Harmful? The Impact of Working Earlier in Life on Adult Earnings," University of Colorado at Denver and Cornell University. Denver, C.O. and Cornel, N.Y.

Fafchamps, M., & Wahba, J., 2004. "Child Labour, Urban Proximity, and Household Composition," *Economics Series Working Papers 213*, University of Oxford, Department of Economics.

Faizunnisa, A., 2005. "The Poverty Trap: Leveling the Playing Field for Young People," Brief based on *Adolescents and Youth in Pakistan 2001–02: A Nationally Representative Survey*. Islamabad: Population Council.

Fares, J., Claudio E, M., & Peter F, O., 2006. "How are Youth Faring in the Labour Market? Evidence from around the World," Background paper for the *WDR* 2007.

Fares, J., & Dhushyanth, R., 2006. "Child Labour across the Developing World: Patterns, Correlations and Determinants," Background paper for the *WDR* 2007.

Fares, J., & Erwin, T., 2006. "Entering the Labour Market and Early Mobility of Youth: Evidence from Panel Estimates in Bosnia and Herzegovina," Background paper for the *WDR* 2007.

Fasih, T., 2007. "Analyzing the Impact of Legislation on Child Labour in Pakistan," *Policy Research Working Paper Series 4399*, The World Bank.

FBR, 2007. "*FBR Year Book, 2006-07,*" Federal Board of Revenue, Directorate of Research and Statistics, Islamabad.

Feldstein, N.,1973. "*Lowering the Permanent Rate of Unemployment,*" U.S. Congress Joint Economic Committee, Washington D.C., GPO.

Feldstein, M., & Ellwood, T., 1982. "Teenage Unemployment: What is the Problem?" in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Flanagan, R. J., 1978. "Discrimination Theory, Labour Turnover, and Racial Unemployment Differentials," *Journal of Human Resources*, vol. 13(2), pages 187-207, University of Wisconsin Press.

Freeman, R.,1982. "Economic Determinants of Geographic and Individual Variation in the Labour Market Position of Young Persons," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Freeman, R., & David, W.,1982. "The Youth Labour Market Problem: Its Nature, Causes and Consequences," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Georgellis, Y., & Wall, H., 2005. "Gender Differences in Self-employment," *International Review of Applied Economics, Taylor and Francis Journals*, vol. 19 (3), pages 321-342.

Glen, C., & Ross, F., 1990. "The Black-White Difference in Youth Employment: Evidence for Demand-Side Factors," *Journal of Labour Economics*, University of Chicago Press, vol. 8(1), pages 364-95.

GOP, 2008a. "*Economic Survey of Pakistan, 2008-09*" Ministry of Finance, Islamabad.

GOP, 2008b. "*National Youth Policy*," Ministry of Youth Affairs, Islamabad. Available at: http://www.moya.gov.pk/national_youth_policy.html

GOP, 2008c. "*Pakistan Employment Trends"*. Ministry of Labour, Manpower and Overseas Pakistanis, Labour Market Information and Analysis Unit. Islamabad, Pakistan.

Green, H. W., 2008. "*Econometric Analysis*," Pearson Education, Inc.

Griffin, L.J., Arne L. K., & Karl L. A., 1981. "Determinants of Early Labour Market Entry and Attainment: A Study of Labour Market Segmentation," *Sociology of Education*, vol. 54(3), pages 206-221, American Sociological Association.

Gunnarson, V., Peter F. O., & Mario A. S., 2005. "*Child Labour and School Achievement in Latin America*," World Bank. Washington, D.C.

Hammermesh, D. S., 1990. "Shirking or Productive Schmoozing: Wages and the Allocation of Time at Work". *Industrial and Labour Relations Review*, vol.43, page 121-133.

HDR, 2007. "*Human Development in South Asia: A Ten-year Perspective*" The Mahbub ul Haq Human Development Centre, Oxford University Press. Karachi.

Heady, C., 2000. "What is the Effect of Child Labour on Learning Achievement? Evidence from Ghana," *Innocenti Working Papers No.79* UNICEF, Innocenti Research Institute, Italy.

Heckman, J. J., & Borjas, G.J., 1980. "Does Unemployment Cause Future Unemployment? Definitions, Questions and Answers from a Continuous Time Model of Heterogeneity and State Dependence," *Economica*, London School of Economics and Political Science, vol. 47(187), pages 247-83.

Heckman, J.J, Jora S., & Sergio, U., 2006. "The Effects of Cognitive and Non-cognitive Abilities on Labour Market Outcomes and Social Behavior," *Journal of Labour Economics*, vol. 24(3), pages 411-482.

Hout, M. &. Rosen, H. S., 2000. "Self-employment, Family Background, and Race," *Journal of Human Resources*, vol.35, pages 670-692.

Ilahi, N., Peter F, O., & Guilherme, S., 2005. "How Does Working as a Child Affect Wages, Income and Poverty as an Adult?" *Social Protection Discussion Series No.0514*, World Bank, Washington, D.C.

ILO, 2005. “World Employment Report 2004-05: Employment, Productivity and Poverty Reduction,” ILO, Geneva.

ILO, 2006. “Global Employment Trends for Youth,” ILO, Geneva.

ILO, 2008a.“Pakistan Decent Work Country Programme.” ILO, available at: http://www.ilo.org/public/english/bureau/program/dwcp/download/pakistan

ILO, 2008b. “Global Employment Trends,” ILO, Geneva.

Jones, B., & James, E., 1979. “Human Capital and Labour Market Employment: Additional Evidence for Women,” Journal of Human Resources, vol. 14(2), pages 270-279.

Kalachek, E., 1969. “Determinants of Teen Age Unemployment,” *Journal of Human Resources* vol.4, pages 13-21.

Kingdon, G., & Soderbon, M., 2008. “Education, Skills and Labour Market Outcomes: Evidence from Pakistan,” *Education Working Paper Series Number 11*, World Bank. Available at www.worldbank.org/education

Kurosaki,T., & Khan, H., 2004. "Effects of Human Capital on Farm and Non-Farm Productivity and Occupational Stratification in Rural Pakistan," *Hi-Stat Discussion Paper Series d04-46*, Institute of Economic Research, Hitotsubashi University.

Lauerová., Jana, S., & Terrell, K., 2002. "Explaining Gender Differences in Unemployment with Micro Data on Flows in Post-Communist Economies," *IZA Discussion Papers 600*, Institute for the Study of Labour (IZA).

Lee, R., Sang-Hyop, L., & Andrew, M., 2006. "Charting the Economic Life Cycle," *NBER Working Papers 12379*, National Bureau of Economic Research, Inc.

Leighton, L., & Mincer, J.,1982. "Labour Turnover and Youth Unemployment," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

LFS, 2006-07. “*Labour Force Survey of Pakistan*: Micro Data,” Federal Bureau of Statistics, Government of Pakistan, Islamabad.

Lin, 2008. "Does Unemployment Increase Crime? Evidence from U.S. Data 1974-2000," *Journal of Human Resources*, University of Wisconsin Press, vol. 43(2), pages 413-436.

Lloyd, C. B., & Monica J. G., 2004. "Growing up in Pakistan: The Separate Experiences of Males and Females," Policy Research Division, *Working Paper no. 188*. New York: Population Council.

Lynch, L., 1986. "The Youth Labour Market in the 80s: Determinants of Re-Employment Probabilities for Young Men and Women," *NBER Working Papers 2021*, National Bureau of Economic Research, Inc.

Mason, A., 2001. "*Population Change and Economic Development in Eastern and South-Eastern Asia: Challenges met, Opportunities Seized*," Stanford: Stanford University Press.

Matthews, C. H., & Moser, S.B. (1996). "A longitudinal Investigation of the Impact of Family Background on Gender on Interest in Small Firm Ownership", *Journal of Small Business Management*, vol. 34 (2), pages 29-43.

Mercedes, G., 1989. "Compositional Changes of the Labour Force and the Increase of the Unemployment Rate: An Estimate for the United States," *Journal of Business & Economic Statistics*, American Statistical Association, vol. 7 (2), pages 237-243.

Meyer, R., & Wise, D., 1982. "High School Preparation and Early Labour Force Experience," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Michael., & Nancy, B. T., 1984. "Youth Employment: Does Life Begin at 16?" *Journal of Labour Economics*, vol. 2(4), pages 464-476, The University of Chicago Press.

Mincer, J., 1974. "*Schooling, Experience, and Earnings*," New York: National Bureau of Economic Research, Inc.

Morris, E., 2006. "Globalization and its Effects on Youth Employment Trends in Asia," Paper presented to the Regional Expert Group Meeting on Development Challenges for Young People, Bangkok, 28-30 March 2006. ILO Sub regional Office for East Asia.

Moutray, C., 2007. " Educational Attainment and Other Characteristics of the Self-employed: An Examination Using Data from the Panel Study of Income Dynamics," Working Paper No. 313. Washington, DC: Office of Economic Research, U.S. Small Business Administration, Office of Advocacy.

Mroz, T. A., & Timothy H. S., 2006. "The Long-Term Effects of Youth Unemployment," *Journal of Human Resources*, vo. XLI (2), Pages 259-293.

Nasir, Z. M., & H. Nazli., 2005. "Education and Earnings in Pakistan," *The Pakistan Development Review*, Pakistan Institute of Development Economics. Available at http://www. pide.org.pk/Research/Report177.pdf

Naqvi, Z. F., & Shahnaz, L., 2002. "How Do Women Decide to Work in Pakistan?" *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. 41(4), pages 495-513.

Nayab, D., 2008. "Demographic Dividend or Demographic Threat in Pakistan," *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. 47(1), pages 1-27.

Neumark, D., & William, W., 2004. "Minimum Wages, Labour Market Institutions, And Youth Employment: A Cross-National Analysis," *Industrial and Labour Relations Review*, vol.57 (2), pages 223-248.

Oettinger, G.S., 1996. "Statistical Discrimination and the Early Career Evolution of the Black-White Wage Gap," *Journal of Labour Economics*, University of Chicago Press, vol. 14(1), pages 52-78.

Pandey, R. N., 1999. *Status of Employment and Unemployment Statistics in India*. Joint Director CSO Ministry of Statistics and Program Implementation, New Delhi. Available at: http://www.unescap.org/stat/ meet/keyindic/india current manpower.pdf

Parent ,D., 1999. "Wages and Mobility: The Impact of Employer-Provided Training," *Journal of Labour Economics*, vol. 17(2).

Parnes, H.S., & Andrew I. K., 1975. "Occupational Information and Labour Market Status: The Case of Young Men," *Journal of Human Resources*, vol. 10 (1), Pages 44-55, University of Wisconsin Press.

Patrinos, H.A, & Psacharopoulos , G., 1997. "Family Size, Schooling and Child Labour in Peru: An Empirical Analysis," *Journal of Population Economics*, vol. 10(4), pages 387-405.

Paz, J.A., 2004. "Education, Gender and Youth in the labour market in Argentina," *CEMA Working Papers*: Serie Documentos de Trabajo. 272, Universidad del CEMA.

Post, D., & Suet-ling, P., 2000. "Employment During Middle School: The Effects on Academic Achievement in the U.S. and Abroad," *Educational Evaluation and Policy Analysis* 22: pages 273–298.

Psacharopoulos, G., 1973. "*Returns to Education: An International Comparison*." Amsterdam: Elsevier.

Psacharopoulos, G., 1985. "Returns to Education: A Further International Update and Implications." *Journal of Human Resources* vol. 20(4), pages 583-604.

Qayyum,W., 2007. "Causes of Youth Unemployment in Pakistan," *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. 46(4), Part II.

Rakhra, K., 2008. "*An Inquiry into the Suicide Terrorism: Psychological Perspectives*," Institute of Peace and Conflict Studies, New Delhi, India.

Rees, A. & Gray, W., 1982. "Family Effects in Youth Unemployment," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Rissman, E. R., 2003. "Self-Employment as an Alternative to Unemployment," Working Paper No.34. Federal Reserve Bank of Chicago.

Robinson, W. C., & Nasreen, A., 1979. “Underemployment in Pakistan,” *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. XVIII (4).

Rosati, F. C., & Rossi, M., 2003. "Children's Working Hours and School Enrollment: Evidence from Pakistan and Nicaragua," *World Bank Economic Review,* vol. 17, pages 283-295.

Ross J., 2004. “Understanding the Demographic Dividend,” *Policy Project*, Future Group, Washington , DC. United States Agency for International Development.

Rothstein, D.S., 2007. “High School Employment and Youths' Academic Achievement,” *Journal of Human Resources*, vol. XLII(1), Pages 194-213.

Ruhm, C. J., 1997. "Is High School Employment Consumption or Investment?" *Journal of Labour Economics*, University of Chicago Press, vol. 15(4), pages 735-76.

Sackey ,H. A., 2005. "Female Labour Force Participation in Ghana: The Effects of Education," *Research Papers RP_150*, African Economic Research Consortium.

Sathar, A. Z., 2005. “Documenting the Gender Gap in Opportunities among Pakistani Youth,” A brief based on *Adolescents and Youth in Pakistan 2001-02: A Nationally Representative Survey*. Islamabad: Population Council.

Schultz, T. W., 1966. “Investment in Human Capital.” *American Economic Review*, vol. 51(1), Pages, 1-17.

Seguino, S., 2003. "Why are Women in the Caribbean so much more Likely than Men to be Unemployed?" *MPRA Paper 6507,* University Library of Munich, Germany.

Shahnaz, L., 2006. “Underemployment and Voluntary Part Time Work among Youth in Pakistan. (An Econometric Analysis of Micro Data),” *Discussion Paper Series No. 10*, Center for Research on Poverty and Income Distribution, Islamabad.

Smyth, E., 2008. “Just a phase? Youth unemployment in the Republic of Ireland,” *Journal of Youth Studies*, vol. 11 (3), Routledge.

Spence, M., 1973 “Job Market Signaling,” *Quarterly Journal of Economics*, vol. 87, pages, 296-332.

Sultana, N., Hina, N., & Sohail J, M., 1994, “Determinants of Female Time Allocation in Selected Districts of Rural Pakistan,” *The Pakistan Development Review*, Pakistan Institute of Development Economics, vol. II (winter 1994), pages 1141-1153.

Sultana, M., 2005. “*Two Worlds Under the Same Roof: A Brief on Gender Differences in Transition to Adulthood*,” Population Council, Islamabad.

Teulings, C., & Koopmanschap, M., 1989. "An Econometric Model of Crowding out of Lower Education Levels," *European Economic Review*, Elsevier, vol. 33(8), pages 1653-1664.

Thurow, Lesley. 1976. *Generating Inequality*. New York: Basic Books. Ultee, W. C., 1980. "Is Education a Positional Good? An Empirical Examination of Alternative Hypotheses on the Connection Between Education and Occupational Level." *Netherlands' Journal of Sociology*, vol. 16, pages 135-153.

UNDP, 2003. " *Human Development in South Asia 2003: The Employment Challenge*. Oxford University Press. Karachi, Pakistan.

UNESCO, 2006. *EFA Global Monitoring Report 2007: Education for All: Strong Foundations, Early Childhood Care and Education*. UNESCO, Paris:

United Nations, 2002. "*World Population Ageing: 1950-2050*," Department of Economics and Social Affairs, Population Division, New York.

United Nations, 2003. "*World Youth Report: The Global Situation of Young People*," Economic and Social Affairs Division, United Nation.

United Nations, 2004. "*World Population Prospects: The 2004 Revision*, Volume III, Analytical Report," Department of Economics and Social Affairs, Population Division, New York.

United Nations, 2006. "World Population Prospects: The 2006 Revision, Dataset on CD-ROM," New York: United Nations.

Visaria, P., 1998. "Unemployment among Youth in India: Level, Nature and Policy Implications," *Employment and Training Paper No. 36*, Institute of Economic Growth, University of Delhi.

Wachter, M., & Kim, C., 1982. "Time Series Changes in Youth Joblessness," in *The Youth Labour Market Problem: Its Nature, Causes and Consequences*, edited by R. Freeman and D. Wise, University of Chicago Press.

Weaver, M., Pat, D., & George S., 2006. "Entrepreneurship and Education: What is Known and Not Known about the Links between Education and Entrepreneurial Activity." *The Small Business Economy: A Report to the President, 2006.* Chapter 5. Washington, DC: U.S. Small Business Administration, Office of Advocacy.

Willis, R. J., 1986. "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions," in Handbook of Labour Economics, ed. Orley Ashenfelter and Richard Layard.

World Bank, 2007. "*World Development Report: Development and the Next Generation*," World Bank, Washington, DC.

World Bank, 2008. “World Development Indicators: CD-ROM,” World Bank, Washington, DC.

World Economic Forum, 2009. “*The Global Competitiveness Report: 2008-09*,” World Economic Forum, Geneva

Yuen, T., 2003. “The Effect of Minimum Wages on Youth Employment in Canada: A Panel Study,” *Journal of Human Resources*, vol. XXXVIII(3), pages 647-672.

Annexure A: (Age Wise Analyses of Youth Labour Market)

Table1: Principal Activities of Youth

Age	Labour Force Participation Rate (%)				Unemployment Rate (%)				Inactivity Rate (%)			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15	49.2	24.1	36.3	19.7	24.4	47.3	37.3	79.2	5.1	46.0	5.3	26.2
16	62.3	26.5	45.2	21.1	19.7	44.4	30.1	73.9	6.5	56.0	6.7	34.8
17	61.1	25.2	50.2	18.3	15.5	42.4	22.2	68.0	7.5	55.0	4.6	38.3
18	74.1	27.2	62.2	20.4	13.5	42.2	18.2	66.0	7.3	62.4	6.2	46.5
19	79.1	27.3	64.9	21.4	11.4	32.2	15.7	59.5	7.1	64.4	9.2	49.4
20	84.2	28.4	71.0	21.5	8.2	37.1	12.4	65.5	6.3	67.3	7.3	59.2
21	84.4	30.3	74.0	20.5	8.1	35.5	7.4	51.5	6.2	65.2	7.3	60.2
22	89.0	29.4	81.5	21.3	6.1	35.3	8.6	59.3	6.2	68.2	6.4	69.2
23	90.0	29.4	85.3	26.5	8.2	36.6	9.2	51.2	5.3	69.1	4.3	64.1
24	94.3	32.2	90.1	24.1	4.0	35.0	5.3	53.7	4.4	67.4	6.2	73.0
Youth (15-24 Years)	74.2	28.2	64.1	21.1	12.0	39.0	15.5	64.5	6.6	61.7	6.2	50.3

Source: Calculated from LFS, 2006-07

Table2: Regional Differences in Labour Force Participation Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
15	25.1	33.7	16.5	40.9	18.5	20.1	71.8	73.5
16	31.8	43.5	21.7	48.8	23.3	27.0	81.4	78.1
17	33.2	44.4	24.4	43.1	24.9	27.9	77.3	73.8
18	41.4	53.7	34.8	57.6	33.3	37.7	83.8	78.6
19	42.1	53.9	37.6	51.9	35.2	43.0	80.3	77.0
20	46.4	56.4	40.7	56.0	33.6	39.2	83.6	79.7
21	46.8	59.8	47.0	58.3	33.5	40.6	81.1	77.0
22	52.8	61.0	47.1	56.1	45.0	43.2	86.7	80.3
23	57.2	63.9	53.8	57.5	47.0	39.1	86.5	71.3
24	58.1	63.2	55.6	60.6	48.9	43.8	86.5	72.0
Youth (15-24 Years)	42.3	52.0	35.9	52.3	33.2	34.9	81.3	76.6

Source: Calculated from LFS, 2006-07

Table 3: Gender Differences in Labour Force Participation Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Male	Female	Male	Female	Male	Female	Male	Female
15	36.0	24.3	44.3	11.6	33.0	6.4	81.5	60.3
16	49.3	27.4	56.6	11.4	41.9	9.5	88.4	66.8
17	53.4	26.0	54.2	10.7	46.0	8.2	87.8	59.3
18	66.5	28.9	71.8	13.1	60.4	9.7	89.3	64.3
19	69.9	26.7	69.6	12.4	66.9	13.5	92.1	59.0
20	76.8	30.7	79.4	14.0	68.9	12.2	94.6	63.7
21	80.9	28.7	77.6	14.0	66.4	12.9	95.2	56.5
22	86.0	31.0	86.6	13.1	78.1	12.4	94.7	65.5
23	89.0	33.2	86.6	16.6	77.4	8.7	97.9	56.2
24	91.7	33.0	92.9	16.9	84.4	13.0	100.0	59.4
Youth (15-24 Years)	67.2	28.8	69.9	13.0	59.5	10.4	90.6	61.9

Source: Calculated from LFS, 2006-07

Table 4: Gender Difference in Unemployment Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Male	Female	Male	Female	Male	Female	Male	Female
15	19.8	40.1	6.9	46.2	25.6	69.7	65.0	95.6
16	15.6	32.7	6.8	36.8	18.1	72.9	58.7	96.7
17	12.6	33.2	4.7	45.8	16.5	59.3	45.6	97.2
18	10.1	32.8	4.3	50.0	14.1	59.6	45.6	97.2
19	8.3	22.7	4.2	54.2	12.6	50.0	36.8	91.6
20	5.5	30.4	4.3	35.1	11.5	67.1	31.7	91.6
21	5.1	26.5	4.2	40.0	10.3	52.9	18.6	86.5
22	4.5	28.3	4.0	32.0	8.9	58.6	21.6	90.5
23	3.7	28.2	4.5	24.3	10.4	39.1	29.3	94.5
24	2.3	24.4	2.1	31.0	7.8	55.0	15.6	88.4
Youth (15-24 Years)	8.2	30.5	4.6	39.5	13.1	60.0	41.0	93.8

Source: Calculated from LFS, 2006-07

Table 5: Regional Differences in Unemployment Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
15	38.5	22.5	23.5	10.5	22.6	37.4	87.6	66.5
16	31.9	16.2	16.0	9.2	14.9	33.2	86.1	61.7
17	25.0	16.3	13.8	9.5	19.0	24.8	74.0	53.6
18	21.6	13.9	9.4	10.0	18.4	20.6	69.8	50.8
19	18.8	8.0	8.8	12.7	16.3	20.2	61.9	45.3
20	18.4	10.4	10.9	7.0	19.9	22.6	59.8	44.1
21	13.5	9.5	9.2	7.1	16.9	18.3	41.1	38.1
22	15.4	8.6	8.7	6.3	13.3	18.0	43.9	43.3
23	12.5	9.0	8.4	5.7	18.4	10.2	45.0	57.9
24	9.9	7.6	6.7	5.3	12.5	16.7	44.3	47.1
Youth (15-24 Years)	19.65	12.15	10.58	8.43	17.0	22.1	65.4	52.5

Source: Calculated from LFS, 2006-07

Table 6: Gender Difference in Inactivity Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Male	Female	Male	Female	Male	Female	Male	Female
15	6.9	27.9	4.2	47.8	5.1	55.8	1.4	30.7
16	9.5	39.2	3.5	58.0	4.7	62.1	0.4	27.1
17	8.6	36.7	1.5	60.2	7.6	65.8	1.0	37.4
18	9.1	48.4	3.3	63.8	8.1	73.1	1.4	33.5
19	10.4	51.4	5.0	65.7	8.1	71.3	0.7	36.1
20	8.6	55.9	3.5	75.8	8.5	79.6	1.9	35.5
21	7.1	58.9	4.9	71.3	11.1	74.6	1.1	40.2
22	6.9	62.8	4.0	81.5	9.1	81.8	2.8	33.9
23	5.0	61.1	2.2	75.3	8.9	87.1	0.8	43.8
24	5.3	65.2	4.3	80.8	9.0	85.1	0.0	40.6
Youth (15-24 Years)	7.8	49.6	3.6	67.0	7.7	72.6	1.2	34.7

Source: Calculated from LFS, 2006-07

Table 7: Regional Difference in Inactivity Rate (%)

Age	Punjab		Sind		KPK		Baluchistan	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
15	14.6	19.1	15.8	30.2	20.0	35.8	7.9	17.3
16	18.7	27.4	23.2	32.9	24.9	36.7	5.8	15.1
17	18.5	26.1	24.6	37.1	27.3	41.6	14.4	18.7
18	23.7	29.9	27.5	30.6	32.5	42.3	7.8	15.1
19	27.6	33.4	28.3	38.8	33.9	43.2	10.9	19.1
20	31.7	35.3	35.4	39.4	44.0	50.8	13.1	18.4
21	32.9	35.3	32.3	34.0	43.8	45.2	13.3	20.6
22	36.2	35.5	39.4	42.7	40.5	50.8	12.2	16.6
23	32.8	33.5	31.8	38.8	40.5	54.1	12.7	28.0
24	38.0	35.8	40.7	38.4	44.4	53.4	13.5	28.0
Youth (15-24 Years)	26.7	30.4	29.5	35.5	34.0	44.4	10.5	18.5

Source: Calculated from LFS, 2006-07

Table 8: Working Hours/ Week

Age	Punjab			Sind			KPK			Baluchistan		
	<35	35-48	>48	<35	35-48	>48	<35	35-48	>48	<35	35-48	>48
15	24.9	49.6	25.5	9.2	68.7	22.1	30.1	50.4	19.5	20.0	58.1	21.9
16	22.9	50.7	26.3	8.3	63.4	28.3	29.5	48.8	21.7	23.7	53.4	22.9
17	19.7	48.1	32.1	8.0	55.6	36.4	28.5	47.4	24.1	16.5	50.5	33.0
18	18.5	47.9	33.7	6.6	58.9	34.5	19.6	50.7	29.7	15.1	55.9	29.1
19	15.5	49.4	35.1	3.9	51.5	44.7	19.8	48.6	31.6	3.4	67.0	29.5
20	16.8	50.1	33.0	7.4	54.7	38.0	13.4	57.2	29.3	5.1	56.4	38.5
21	15.2	46.2	38.5	7.4	53.1	39.5	11.0	57.5	31.5	6.4	61.5	32.1
22	15.7	47.1	37.2	6.4	52.2	41.4	10.1	52.7	37.2	6.3	57.1	36.6
23	15.6	46.5	37.9	8.8	55.3	35.8	13.3	50.6	36.1	3.4	55.2	41.4
24	15.8	47.0	37.2	10.0	46.1	43.9	12.8	51.1	36.2	12.6	60.5	26.9
Youth (15-24 Years)	17.8	48.3	34.0	7.5	56.3	36.2	17.8	51.8	30.4	11.3	57.2	31.5

Source: Calculated from LFS, 2006-07

Table 9: Employment by Status (Provincial)

Age	Punjab			Sind			KPK			Baluchistan		
	Self-Employed	Unpaid Family Helpers	Paid Employee	Self Employed	Unpaid Family Helpers	Paid Employee	Self Employed	Unpaid Family Helpers	Paid Employee	Self Employed	Unpaid Family Helpers	Paid Employee
15	10.8	52.4	36.8	8.1	66.3	25.6	12.6	47.4	40.0	6.9	72.4	20.7
16	12.4	45.2	42.4	8.3	59.0	32.7	17.4	38.4	44.2	10.0	66.0	24.0
17	14.2	41.4	44.4	12.7	50.2	37.1	15.6	37.5	46.9	14.7	59.5	25.9
18	15.1	39.1	45.8	15.8	44.6	39.6	18.2	31.4	50.4	10.5	56.8	32.7
19	17.0	36.5	46.5	13.2	30.2	56.6	19.5	35.0	45.5	17.4	43.1	39.4
20	18.8	38.1	43.2	16.3	43.2	40.5	20.3	28.6	51.1	14.9	50.0	35.1
21	23.4	31.8	44.8	17.3	27.4	55.3	24.4	26.9	48.7	18.4	39.8	41.7
22	22.6	34.0	43.5	21.6	30.9	47.5	30.3	22.6	47.1	19.0	40.0	41.0
23	23.5	27.9	48.6	18.0	31.3	50.8	28.5	21.0	50.5	21.0	37.1	41.9
24	21.5	31.8	46.8	23.9	27.4	48.6	31.8	17.5	50.7	22.1	33.8	44.1
Youth (15-24 Years)	18.2	37.3	44.4	15.9	42.1	42.1	22.4	29.5	48.1	15.2	50.1	34.7

Source: Calculated from LFS, 2006-07

Table 10: (Current Enrollment, Age and Gender)

Age	Enrolled		Not Enrolled	
	Male	Female	Male	Female
15	64.0%	47.2%	36.0%	52.8%
16	50.6%	34.3%	49.4%	65.7%
17	47.6%	34.6%	52.4%	65.4%
18	31.7%	23.6%	68.3%	76.4%
19	27.3%	21.4%	72.7%	78.6%
20	19.7%	12.6%	80.3%	87.4%
21	19.6%	13.8%	80.4%	86.2%
22	10.3%	6.6%	89.7%	93.4%
23	10.2%	6.4%	89.8%	93.6%
24	4.3%	2.2%	95.7%	97.8%
Youth (15-24)	31.7%	21.9%	68.3%	78.1%

Source: Calculated from LFS, 2006-07

Annexure B: (Cross Tabulation)

Cross tabulation 1: (Age Groups, Sector of Activity, Gender)

Employment by Sector as Percentage of Total Employment		Age Groups				
		10-14	15-24	25-54	55-64	65+
Agricultural	Both Sexes	69	37	35	49	58.5
	Male	65	33	29	45	57
	Female	78	59	67	78	73
Formal	Both Sexes	3	14	23	14	4.15
	Male	4	14	25	15	5
	Female	3	9	14	6.1	0
Informal	Both Sexes	28	49	41	37	37
	Male	31	53	46	40	38
	Female	19	32	19	15	26

Source: Calculated from LFS, 2006-07

Cross tabulation 2: (Age Groups, Employment Status and Gender)

Employment Status as percentage of Total Employment		Age Groups				
		10-14	15-24	25-54	55-64	65+
Employers	Both Sexes	0	0.19	1.34	1.63	2.64
	Male	0	0.2	1.59	1.84	2.92
	Female	0	0.18	0.22	0.17	0
Self Employed	Both Sexes	7.01	17.88	40.75	60.71	72
	Male	8.37	19.28	45.36	66.74	77.06
	Female	3.67	10.91	17.2	18.89	24.07
Unpaid family helpers	Both Sexes	70.01	38.53	15.56	11.45	10.59
	Male	67.88	34.94	8.14	3.82	5.65
	Female	75.27	56.4	53.54	64.47	58.64
Employees	Both Sexes	22.96	43.38	42.33	26.18	14.63
	Male	23.73	45.57	44.92	27.59	14.35
	Female	21.05	32.49	29.05	16.46	17.28

Source: Calculated from LFS, 2006-07

Cross tabulation 3: (Education Level, Employed and Gender)

Education Level	Employed as percentage of Labour Force		Unemployed as percentage of Labour Force	
	Male	Female	Male	Female
Below Primary	94.3%	56.5%	5.7%	43.5%
Primary	90.6%	54.6%	9.4%	45.4%
Middle	77.8%	31.0%	22.2%	69.0%
Matric	82.5%	43.9%	17.5%	56.1%
Inter	75.1%	46.5%	24.9%	53.5%
Degree or above	80.4%	73.9%	19.6%	26.1%

Source: Calculated from LFS, 2006-07

Cross Tabulation 4: (Marital Status, Employed and Gender)

Marital Status	Employed as percentage of Labour Force		Unemployed as percentage of Labour Force	
	Male	Female	Male	Female
Unmarried	85.7%	53.8%	14.3%	46.2%
Married	94.7%	48.7%	5.3%	51.3%
Total	87.0%	52.2%	13.0%	47.8%

Source: Calculated from LFS, 2006-07

Cross tabulation 5: (Labour Force Participation Rate, Marital Status and Gender)

Marital Status	Not in Labour Force as Percentage of Total Population		Labour Force Participation Rate	
	Male	Female	Male	Female
Unmarried	33.6%	75.7%	66.4%	24.3%
Married	7.3%	74.7%	92.7%	25.3%

Source: Calculated from LFS, 2006-07

Cross tabulation 6: (Working Hours, Employment by Activity and Gender)

Sector of Activity	Working Hours Per Week					
	<35 hours		35-48 hours		>48 hours	
	Male	Female	Male	Female	Male	Female
Agriculture	15.0%	51.5%	56.2%	44.1%	28.8%	4.4%
Formal	3.7%	20.3%	69.5%	74.1%	26.8%	5.6%
Informal	5.6%	36.0%	43.9%	54.9%	50.5%	9.1%
Total	8.4%	43.6%	51.7%	50.4%	39.9%	6.0%

Source: Calculated from LFS, 2006-07

Cross tabulation 7: (Working Hours, Education Level and Employment by Activity)

Education Level	Working Hours								
	<35			35-48			>48		
	Agriculture	Formal	Informal	Agriculture	Formal	Informal	Agriculture	Formal	Informal
Below Primary	27.4%	3.7%	10.9%	53.0%	68.2%	48.4%	19.6%	28.1%	40.6%
Primary	21.5%	2.3%	6.9%	52.4%	69.8%	45.8%	26.1%	27.9%	47.4%
Middle	25.9%	2.3%	6.2%	51.1%	67.1%	42.9%	23.0%	30.6%	50.8%
Matric	21.6%	4.6%	8.9%	54.6%	73.0%	41.1%	23.8%	22.3%	49.9%
Inter	30.0%	10.7%	9.1%	48.0%	72.0%	44.9%	22.0%	17.3%	46.0%
Degree or above	36.4%	17.9%	33.6%	54.5%	70.9%	34.2%	9.1%	11.2%	32.2%
Total	25.5%	5.8%	9.2%	52.7%	70.0%	45.1%	21.8%	24.2%	45.7%

Source: Calculated from LFS, 2006-07

Cross tabulation 8: (Working Hours, Education Level and Area)

Education Level	Working Hours					
	<35		35-48		>48	
	Urban	Rural	Urban	Rural	Urban	Rural
Below Primary	8.2%	22.3%	50.2%	53.3%	41.6%	24.4%
Primary	6.3%	14.4%	46.1%	53.1%	47.6%	32.5%
Middle	5.9%	15.7%	46.6%	50.3%	47.5%	34.0%
Matric	7.4%	14.4%	48.1%	54.0%	44.5%	31.6%
Inter	8.0%	18.5%	57.6%	49.8%	34.3%	31.7%
Degree or above	22.9%	31.8%	56.9%	53.4%	20.3%	14.8%
Total	8.1%	18.6%	49.2%	52.8%	42.7%	28.6%

Source: Calculated from LFS, 2006-07

Cross tabulation 9: (Working Hours, Education Level and Gender)

Education Level	Working Hours					
	<35		35-48		>48	
	Male	Female	Male	Female	Male	Female
Below Primary	9.0%	45.0%	53.7%	49.0%	37.3%	6.0%
Primary	7.0%	46.4%	51.1%	47.4%	41.9%	6.2%
Middle	9.4%	36.6%	48.1%	56.0%	42.5%	7.4%
Matric	7.0%	42.1%	51.2%	51.4%	41.8%	6.5%
Inter	9.5%	28.4%	52.2%	62.9%	38.3%	8.6%
Degree or above	12.1%	44.5%	57.3%	54.2%	30.5%	1.3%
Total	8.4%	43.6%	51.7%	50.4%	39.9%	6.0%

Source: Calculated from LFS, 2006-07

Cross tabulation 10: (Working Hours, Employment Status and Gender)

Employment Status	Working Hours					
	<35		35-48		>48	
	Male	Female	Male	Female	Male	Female
Employers	7.7%	50.0%	23.1%	50.0%	69.2%	
Self	6.4%	42.2%	36.6%	48.1%	56.9%	9.6%
Unpaid family	13.7%	53.3%	54.6%	43.7%	31.7%	2.9%
Employees	5.2%	26.3%	55.5%	63.2%	39.3%	10.4%
Total	8.4%	43.6%	51.7%	50.4%	39.9%	6.0%

Source: Calculated from LFS, 2006-07

Cross tabulation 11: (Working Hours, Employment Status and Area)

Employment Status	Working Hours					
	<35		35-48		>48	
	Urban	Rural	Urban	Rural	Urban	Rural
Employers	11.8%	15.4%	35.3%	15.4%	52.9%	69.2%
Self	8.2%	11.8%	32.2%	41.4%	59.6%	46.8%
Unpaid family	12.0%	27.5%	48.5%	52.5%	39.5%	20.0%
Employees	6.6%	9.2%	54.3%	58.8%	39.0%	32.0%
Total	8.1%	18.6%	49.2%	52.8%	42.7%	28.6%

Source: Calculated from LFS, 2006-07

Cross tabulation 12: (Current Enrollment and Education Level[1])

Youth with Education Level of	Current Enrollment		Total
	Enrolled	Not Enrolled	
Illiterate	0%	100.0%	100.0%
KG Nursery	0%	100.0%	100.0%
Primary	19.6%	80.4%	100.0%
Middle	54.5%	45.5%	100.0%
Matric	42.3%	57.7%	100.0%
Intermediate	58.5%	41.5%	100.0%
Degree in Engineering	35.3%	64.7%	100.0%
Degree in medicine	44.4%	55.6%	100.0%
Degree in computer	17.1%	82.9%	100.0%
Degree in agriculture	54.5%	45.5%	100.0%
Degree in other subjects	41.2%	58.8%	100.0%
MA / MSc.	8.1%	91.9%	100.0%
M.Phil / Ph.D.	0%	100.0%	100.0%

Source: Calculated from LFS, 2006-07

Cross tabulation 13: (Pay period and Gender)

Periodicity of Payment	SEX		Total
	Male	Female	
Daily	25.8%	17.2%	24.7%
Weekly	18.6%	11.9%	17.7%
Fortnightly	1.8%	4.0%	2.1%
Monthly	48.8%	47.3%	48.6%
Other Periodicity	0.1%	0.2%	0.1%
Piece Rate basis for Services Performed	4.7%	19.3%	6.6%
Others	0.2%	0.0%	0.1%
Total	100.0%	100.0%	100.0%

Source: Calculated from LFS, 2006-07

Cross tabulation 14 (Average Monthly Wage, Region and Gender) of Youth

Region	Both Sexes	Male	Female
Pakistan	4069	4234	2939
Urban	4285	4344	3810
Rural	3846	4117	2278
Punjab	4016	4342	2512
Sind	4199	4192	4155
KPK	3800	3754	4248
Baluchistan	4613	4620	4485

Source: Calculated from LFS, 2006-07

[1] This table answer the question like "what percentage of youth with education level of degree in computer sciences are still currently enrolled?"