

## **Demographic Transition and Youth Employment in Pakistan**

G. M. ARIF and NUSRAT CHAUDHRY

There is convincing evidence that Pakistan has entered the demographic bonus phase; child dependency is declining and youth share in the total population is rising. This paper has examined youth employment in the context of demographic transition evidenced since the early 1990s. Changes in the level of educational attainment have also been analysed. The study has used the data from Pakistan Demographic Surveys and Labour Force Surveys carried out between 1990 and 2005. Findings of the study show that the benefits of demographic transition in terms of rising share of youth in the total population has partially been translated through development of their human capital and productive absorption in the local labour market. While the pace of human capital formation seems to be satisfactory in urban Pakistan, it is dismal in rural areas, particularly for females. High levels of both female inactivity across the education categories and unemployment for males as well as females urge a strong youth employment policy in Pakistan to reap the benefits of the ongoing demographic transition. Youth are a source of development, and a high priority may be placed on preparing them with the skills needed for their adjustment in the labour market.

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### **1. INTRODUCTION**

The on-going demographic transition in Pakistan has opened a window of opportunity to invest in young people who will be the next generation of workers, entrepreneurs, and parents. This investment, like in East and South East Asia, will enable the country to grow faster and reduce poverty.

Demographic transition, a change from a situation of high fertility and high mortality to one of low fertility and low mortality, brings sizeable changes in the age distribution of the population; the proportion of children declines, that of the elderly cohort increases modestly and, most importantly, that of adult of working-age (15–64

G. M. Arif <gmarif@pide.org.pk> is Chief of Research and Dean, Faculty of Development Studies, at the Pakistan Institute of Development Economics, Islamabad. Nusrat Chaudhry <nusrat.sultana@gmail.com> is Commercial Manager at the Khushhali Bank, Islamabad.

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years old) increases sharply. A key element in the demographic transition consists of an often substantial but always temporary rise in the growth of the youth population, 15–24, accompanied by its rising share in the total population. Thus, the demographic transition presents the economy with a ‘demographic gift’ in the form of a surge in the relative size of the working-age population and the youth within the working-age population.<sup>1</sup> Countries experiencing demographic transition need to seize the window of opportunity before the ageing process closes it [Jimenez and Murthi (2007)].

Changes in age distribution can have important economic effects. These effects reflect the influence of changes in the number of working-age individuals per capita and of shifts in behaviour—for example, increased savings and greater investment in schooling per child as both desired and completed fertility fall [Bloom, *et al.* (2000)].<sup>2</sup> However, these effects depend on many policies, institutions, and conditions that determine an economy’s capacity to equip its people with human and physical capital and to absorb them into productive employment.

To illustrate the plausible effects of the pace of fertility decline on the size of demographic gift, changes in age distribution are usually examined through changes in the ‘dependency ratios’,<sup>3</sup> which have rapidly declined in many countries of East and Southeast Asia including China, Hong Kong, Korea and Thailand. This decline in dependency ratios has been shown to explain one-third of the economic miracle in East Asia [Bloom, *et al.* (2000); World Bank (2006)].

There is convincing evidence that Pakistan has entered into the demographic bonus phase. Fertility decline in Pakistan which began in the late 1980s or early 1990s proceeded rapidly during the last two decades [Sathar and Casterline (1998); Feeney and Alam (2003)]. Consequently, the share of the working-age population, particularly the youth is rising. Because of the likely declining trends in child dependency during the next two to three decades, there will be relatively low burden on the working-age population. However, after approximately three decades, the expected rapid increase in the elderly population may enhance the old age dependency.

While during the phase of declining child dependency, the share of youth in the total labour force also rises it is imperative to utilise the youth labour force productively to benefit from the ‘demographic gift’. A successful transition to work for today’s many young people can accelerate economic growth [World Bank (2006)].

There is a need to realise that the ‘demographic bonus’, while it is promising to benefit Pakistan, has been greatly delayed compared to many Asian countries because of the delay in entering the fertility decline period. The result is that Pakistan is entering the ‘bonus’ period with a substantially larger population, approximately 110 million in early 1990s, when the fertility transition initiated, and also a larger youth population. Thus, the ‘bonus’ is being realised in a situation of considerable demographic stress. More serious

<sup>1</sup>See, Bloom, *et al.* (2000); Xenox (2005); ILO (2005); World Bank (2006).

<sup>2</sup>Although a considerable controversy exists about whether the demographic bonus really affects economic development [for detail see Lee (2003); Mason (1988)], according to the World Development Report 2007, ‘the potential for enhanced growth through a demographic dividend arises for two reasons. First, the rise in labour supply per capita, reinforced by the increase in female labour supply that often accompanies fertility decline, increases potential output per capita. Second, higher savings and investment per capita could also boost growth’ [World Bank (2006)].

<sup>3</sup>Dependency ratios are defined in the next section.

efforts are required, on the one hand, to reach soon the replacement level fertility and, on the other hand, to utilise the larger youth labour force productivity.

The success in absorption of youth in the labour market has so far been limited in Pakistan. The overall open unemployment rates have fluctuated between 4.8 percent in 1993-94 to 8.1 percent in 2001-02, and then declined to 7.7 percent in 2003-04. Although youth unemployment levels have also fluctuated during this period, they have in general been much higher than the overall unemployment rates. Educated youth has faced relatively more difficulties in finding a suitable job during the last one and half decade, leading to relatively higher levels of unemployment among them.

Given the lack of experience and skill and the fact that youth are more likely to experiment trying out different employment scenarios before settling into their work-life path, the high level of unemployment among youth is not surprising. However, an inability to find employment for long period creates a sense of vulnerability, uselessness and idleness among young people and can heighten the attraction of engaging in illegal activities. There is also a proven link between youth unemployment and social exclusion. In both rural and urban areas, young people who complete education and are from socio-economically advantaged backgrounds are likely to make the transition to work more smoothly, while the economically disadvantaged and socially excluded may face greater difficulties.

Several studies addressing the youth unemployment have been carried out in Pakistan [Irfan (2000)]. However, a systematic attempt to examine the integration of youth in the labour market in the context of on-going demographic transition is missing. The main aim of this research is to fill this gap in our knowledge of youth employment in the context of both demographic and educational transition in order to identify ways in which their situation can be improved. The rest of the paper is organised as follows. The next section describes briefly the data sources used in the study. Changes in the age composition and dependency ratios are analysed in Section 3, followed by an assessment of the educational transition in Section 4. The dynamics of labour force participation are given in Section 5. Sections 6 and 7 explore the nature of unemployment and its determinants. The final section summarises the main findings of the study.

## 2. DATA SOURCES

To see the impact of fertility decline on age composition of the population, this study has used the Pakistan Demographic Survey (PDS), which provides the most important and consistent evidence of fertility decline in Pakistan [Feeney and Alam (2003), covering the 1990–03 period, during which in total ten PDS were completed. This study has also used the population projection data prepared by the National Institute of Population Studies (NIPS) to see changes in the age composition during the next 2-3 decades. The universe of the PDS consists of all urban and rural areas of the four provinces of Pakistan defined as such by 1998 population census<sup>4</sup> excluding FATA, military restricted areas, and protected areas of NWFP. The population of the excluded areas constitutes about 2 percent of the total population. The village list published by the population census organisation is taken as sampling frame for drawing the sample for

<sup>4</sup>The 1998 census data have been used for recent surveys, whereas for the earlier surveys, 1981 census data was used.

rural areas. For urban areas the sampling frame developed by the FBS is used. In this frame each city/town has been divided into enumeration blocks of approximately 200 to 250 households. Large cities are treated as separate stratum, with a further sub-classification according to low, middle and high income groups. The remaining urban population in each division of all the four provinces is grouped together to form a stratum. For rural sample, each district in Punjab, Sindh and NWFP is grouped together to form a stratum. For Balochistan province a division is treated as a stratum. Two stage stratified sample design is adopted for the PDS. Enumeration blocks in urban domain and Mouzas/Dehs/villages in rural domain are taken as primary sampling units (PSUs). Households within the sampled PSUs are taken as secondary sampling units (SSUs). Within a rural as well as urban PSU a sample of 45 households is selected with equal probability using systematic sampling technique. Distribution of the household sample (SSUs) of ten PDS carried out during the 1990–03 period with rural and urban breakdown is reported in Table 1, showing an increase in the sample, from 23,832 in 1990 to 31,491 in 2001. The PDS collects the statistics on births and deaths in order to arrive at various measures of fertility and mortality representative for Pakistan and its four provinces, separately for rural and urban areas.

To examine changes in the level of educational attainment, the dynamics of labour force participation, unemployment and correlates of unemployment, the micro household-level data of eight Labour Force Surveys (LFS) carried out between 1990-91 and 2003-04 has been used. Like the PDS, the universe of the LFS consists of all urban and rural areas of the four provinces of Pakistan defined as such by 1998 population census excluding Azad Jammu and Kashmir, FATA, military restricted areas, and protected areas of NWFP. The population of the excluded areas constitutes about 3 percent of the total population. Two stage stratified sample design is also adopted for the LFS. A specified number of households i.e. 12 from each urban sample PSU, 16 from rural sample PSU are selected with equal probability using systematic sampling (with random start) technique. Number of sample households covered in LFS has declined slightly from 20,400 in 1990-91 to 18,912 in 2003-04 (Table 1), but sufficient to generate data representative at the national and provincial levels as well as for rural and urban areas.

Table 1

*Sample Size of the Pakistan Demographic Surveys and Labour Force Surveys  
by Rural and Urban Areas (Number of the Sampled Households)*

Year	Pakistan Demographic Surveys			Labour Force Surveys		
	Total	Urban	Rural	Total	Urban	Rural
1990	23,876	10481	13395	20,400	9,648	10,752
1992	23,832	10,601	13,231	20,400	9,648	10,752
1993	–	–	–	20,400	9,648	10,752
1995	25,872	11,354	14,518	–	–	–
1996	25,494	11,158	14,336	20,400	9,648	10,752
1997	27,407	12,310	15,097	18,464	8,544	9,920
1999	31,303	13,770	17,533	17,443	7,816	9,627
2000	31,308	13,778	17,530	18,928	7,920	11,008
2001	31,491	13,849	17,642	–	–	–
2003	31585	13775	17810	18,912	7,920	10,992

Source: Relevant surveys.

It is useful to pin down the concepts used in this study. 'Adult' population refers to all persons aged 10 years and above. The labour force consisted of all adult population who were employed or unemployed during the week preceding the survey. The employed labour force included all persons aged 10 years and above who worked either for pay or profit in cash or kind (including family helpers) for at least one hour during the week preceding the survey. Since the 1990-91 LFS, the definition of the unemployed labour force has been changed from 'looking for work' to 'available for work' during the week preceding the survey.<sup>5</sup> A consistent data on unemployment is available since the 1990-91. In the LFS, the measurement of female participation in labour force is fraught with problems. One particular concern is the distinction between a housewife (or a women identified as housekeeper), an unpaid family helper, and a women working in agriculture. Depending upon the classification scheme applied, she would be counted either as part of the labour force or as out of the labour force. According to the LFS methodology, persons 10 years of age and above reporting housekeeping and other related activities are considered out of the labour force.<sup>6</sup> This concept has been used in this study.

The child dependency ratio is defined as the population aged 0-14 divided by the population aged 15-64. The old age dependency ratio is defined as the number of those 65 and older divided by the population aged 15-64. The total dependency ratio takes the sum of the population under 15 and over 64 and divides it by the population in the intermediate range of 15-64 [Lee (2003)].

Perspectives on the relevant age range for the term 'youth' varies across disciplines. Since this study is primary concerned with labour market outcomes, it has used the 15-24 age range for 'youth'. However, the focus of the study is on the 20-24 age range, when a person is likely to have left the educational institutions. The study uses the terms 'youth' and 'young people' interchangeably.

Some important issues related to employment has not been covered in this study. For example, the skill levels of the labour force, which are crucial for seeking employment, have not been included in the analyses. Some young people begin working at very young ages e.g. one-tenth of the Pakistani labour force consists of 10-14 years old; they are active in the labour market too early, but the issue of child labour has not been discussed. Rather, this group, following the FBS definition, has been treated as part of the adult population. Many young people may be combining two activities, education and work; it has not been separated in this study.

### 3. DEMOGRAPHIC TRANSITION AND CHANGES IN AGE STRUCTURE OF POPULATION

Demographic transition starts with a decline in mortality, particularly among infants and young children [Lee (2003); Lam (2007)]. In many low-income countries, the decline in mortality began in the early 20th century and then accelerated dramatically

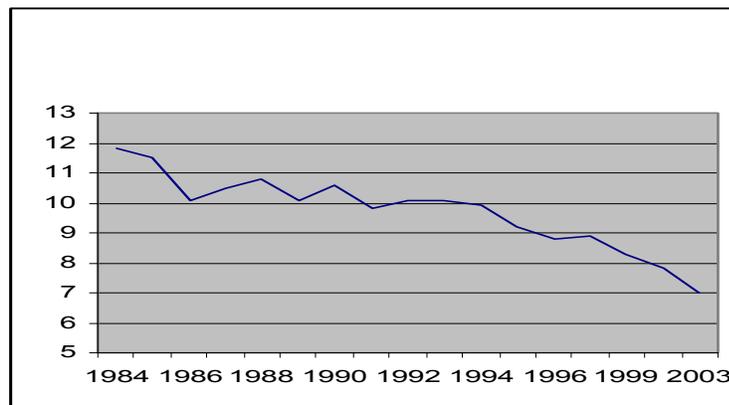
<sup>5</sup>The use of this new definition influenced both the unemployment rates and activity rates particularly of females. The unemployment increased by 3 percentage points, from 3.6 percent in 1987-88 to 6.3 percent in 1990-91.

<sup>6</sup>However, under the improved methodology as introduced in 1990-91 LFS, housewives are identified as employed if they have spent time on specified agricultural and non-agricultural activities. This improved methodology has identified the economic contribution of the females usually counted under the category of 'housekeeping'.

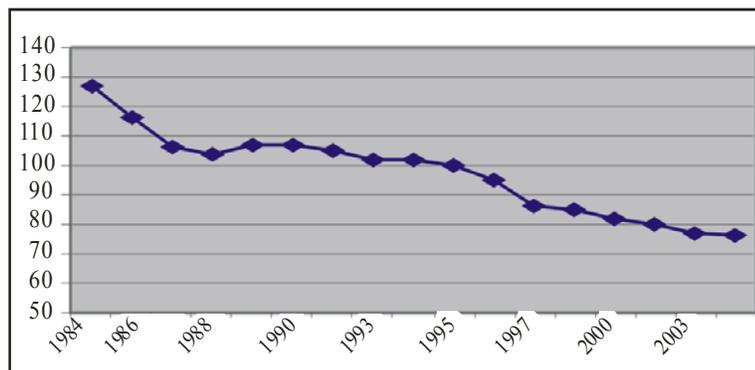
after World War II. The decline in fertility in most developing countries began after World War II and accelerated in the mid-1960s or even later. Regional patterns indicate that East Asia has witnessed an early and rapid demographic transition, while South Asia and Latin America have been much slower [Jones (1990); Casterline (2001); McNicoll (2006)].

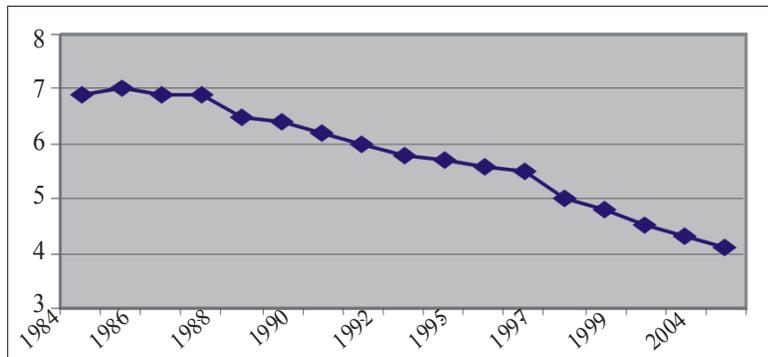
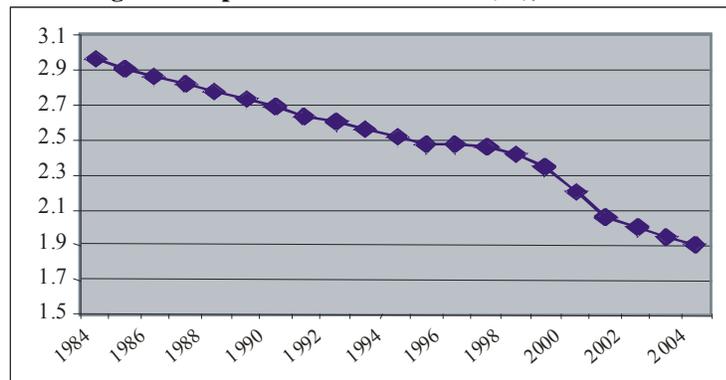
As in other parts of the world, Pakistan's demographic transition started with a decline in mortality; the 1931 census witnessed the initiation of decline in crude death rate (CDR), from 49 per 1000 persons for the 1911-21 period to 36 per 1000 persons for the 1921-31 period [Mahmood (2003)]. The CDR declined gradually to 11 per 1000 persons by the end of 1970s. The PDS-based estimates indicate that these declining trends continued and in 2003 the CDR was approximately 7 per 1000 persons (Figure 1a). The concentration of initial decline in mortality was among infants and young children; resulting a gradual decline in infant mortality rate (IMR) from more than 200 per 1000 live births in early 20th century to 125 per 1000 live births in the late 1970s. The PDS-based estimates show a further decline in IMR to 76 per 1000 live births in 2003 (Figure 1b); though this level of IMR still remains high by all standards compared with an average of both South Asian and low-income countries.

**Fig. 1a. Crude Death Rates (Per 100 Population), 1984–2003**



**Fig. 1b. Infant Mortality Rates (Per 100 Live Births), 1984–2003**



**Fig. 1c. Total Fertility Rates (Children per Woman), 1984–2003****Fig. 1d. Population Growth Rates (%), 1984–2003**

Sources: Pakistan Demographic Surveys (Various Issues); Pakistan (2004); Feeney and Alam (2003); Mahmood (2003).

Fertility decline in Pakistan began in the late 1980s and proceeded rapidly during the last one and half decade [Sathar and Casterline (1998); Feeney and Alam (2003)]. The PDS shows the average level of TFR as 6.9 children per women for the 1984–87 period [Feeney and Alam (2003)]. The PDS estimates for 1988–2000 indicate a decline of nearly 2 children per woman. In 2003, TFR is estimated as 3.91 children per women, according to the 2003 PDS, and the government of Pakistan has set the target of reducing fertility to the replacement level by 2020.<sup>7</sup> The implication of the recent rapid decline in fertility for population growth is clear;<sup>8</sup> it has fallen from more than 3 percent per annum in 1980 to 1.9 percent in 2004 (Figure 1d). It is projected to around 1 percent in the next ten years.

During the successive phases of demographic transition, the age structure is progressively from the traditional shape of triangle (high mortality, high fertility) to the profile of a rectangle (very low level fertility up to advanced ages and replacement-level

<sup>7</sup>Malaysia provides a cautionary warning; fertility declined rapidly for 15 years, as it has in Pakistan, only to level off for 10 years and resume decline at a much slower rate. It is possible that the same could happen in Pakistan.

<sup>8</sup>For the causes of this unprecedented decline in fertility, see Sathar and Casterline (1998).

fertility) [Chesnais (1990)]. The recent rapid decline in fertility in Pakistan has an impact on the age structure of its population; it has moved out of the phase of rising child dependency and entered the bonus phase. According to the census data, the child dependency increased between 1961 and 1981, the period when mortality declined sharply but fertility remained high. The 1998 census observed a decline in child dependency between the 1981 and 1998 period. The PDS has not only substantiated the census data but also shows that the decline in child dependency has been observed since the mid-1990s (Table 2). This decline has been more rapid in urban areas (15 percentage points) as compared to rural areas (9 percentage points). While the old-age dependency remains almost unchanged in the 1990s, around 6, the total age-dependency has declined overall as well as in rural and urban areas of the country. The child dependency ratio is projected to decline steadily for the next 20 years (Figure 2), with an increase in the proportion of working-age population, which is projected to increase from 58 percent in 2003 to 68 percent in 2028 [Hakim (2002); Hashmi (2003)].

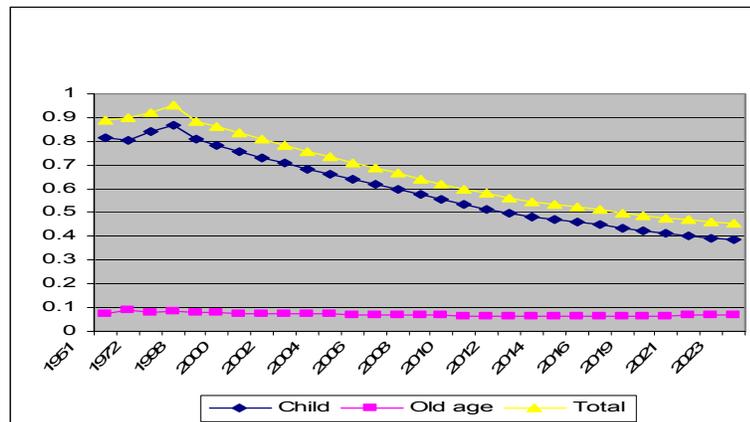
Table 2

*Dependency Ratios in Rural and Urban Areas, 1992–2003*

Areas	1992	1995	1999	2000	2001	2003
<b>All Areas</b>						
Child Dependency	89.6	90.7	82.5	80.2	79.3	77.6
Old-age Dependency	6.7	7.3	5.9	6.2	6.2	6.2
Total Dependency	96.3	98.0	88.4	86.3	85.5	83.8
<b>Urban Areas</b>						
Child Dependency	80.3	82.2	73.2	70.7	69.2	65.6
Old-age Dependency	5.2	5.6	5.0	5.3	5.5	5.5
Total Dependency	85.5	87.8	78.1	76.0	74.6	71.1
<b>Rural Areas</b>						
Child Dependency	94.3	95.7	90.9	88.7	85.5	85.0
Old-age Dependency	7.5	8.3	6.7	6.9	6.7	6.7
Total Dependency	101.8	104.0	97.6	95.7	92.2	91.7

Source: Pakistan Demographic Surveys (Various Issues).

**Fig. 2. Observed and Projected Child and Old-age Dependency Ratios: 1951–2023**



Because of the decline in the proportion of child population (0–9 years old) in the total population, the youth (15–24) share rose from 18.4 to 20.9 percent between 1995 and 2003 (Table 3). Pakistan’s peak youth share is projected for around 2010 (Figure 3). This share is likely to be around 21 percent [Xenos (2005)]. Its peak youth population size is projected by 2015, when Pakistan will witness declining youth numbers.<sup>9</sup> By the time it has peaked, the youth population will have increased by 2.3 times over the course of youth transition. Pakistan with rising youth cohorts as well as labour force will face increasing challenges in absorbing youth in jobs [Bauer (1990); Lam (2007)].

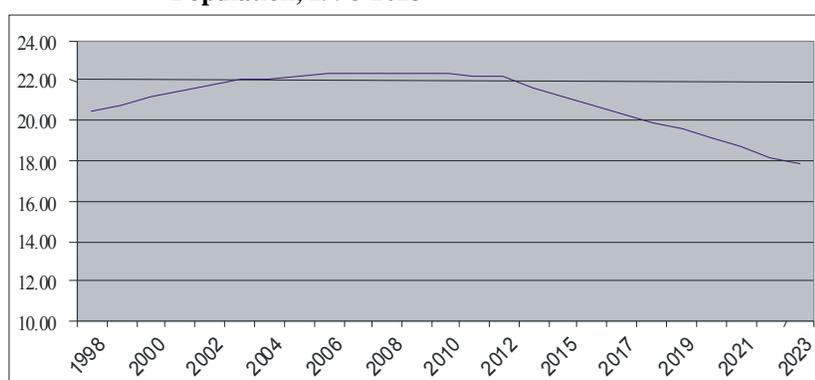
Table 3

*Age Distribution, 1992-2003, All Areas and Both Sexes*

Age Group	1992	1995	1999	2000	2001	2003
0–9	32.22	32.42	29.76	29.10	29.21	28.53
10–14	13.42	13.37	14.03	13.92	13.56	13.70
15–19	10.35	10.27	11.14	11.55	11.28	11.73
20–24	8.47	8.16	8.70	8.91	9.20	9.21
25–29	7.13	6.87	6.79	6.90	6.99	6.98
30–34	5.53	5.84	5.67	5.50	5.67	5.54
35–39	4.57	4.83	5.41	5.32	5.34	5.28
40–44	3.91	3.86	4.23	4.28	4.18	4.38
45–49	3.60	3.50	3.88	3.92	3.96	4.05
50–54	3.06	2.86	3.01	3.07	3.06	3.05
55–59	2.20	2.20	2.24	2.17	2.22	2.23
60–64	2.13	2.10	2.00	2.05	2.00	1.95
65 and Above	3.41	3.70	3.13	3.31	3.34	3.38
All	100.00	100.00	100.00	100.00	100.00	100.00

Source: Pakistan Demographic Surveys.

**Fig. 3. Proportion of Youth (15–24 Years Old) in the Total Population, 1998-2023**



Source: National Institute of Population Studies (2005).

<sup>9</sup>The timing of the peak of youth population differs in different projections [see for example, Xenos (2005); Nayab (2006)].

It appears from all these statistics that the baby boom of the eighties is now adding to the working-age population of Pakistan, particularly to youth [Hashmi (2003)]. The bonus phase of declining child dependency and rising youth share in the total population, which started around the mid-1990s, is likely to continue for the next two to three decades. The rising relative share of youth cohorts could well aggravate difficult employment conditions for young people. Thus, as noted earlier, the benefits of this bonus phase depend on many policies and conditions that determine Pakistan economy's capacity to equip its people with human and physical capital and to absorb them into productive employment.

#### 4. EDUCATIONAL TRANSITION

Has Pakistan made a real progress in improving the human capital of its people, particularly since the onset of fertility decline? This progress is assessed by two indicators; literacy and educational attainment since the early 1990s. The term illiteracy has been used in the analysis; it refers to the percentage of adult population (10 years and above) who were illiterate at the time of survey. For the educational attainment the focus is on the proportion of adult population that has completed matriculation or higher level of education. By using the labour force surveys micro-data (1990-91 to 2003-04), gender and regional (rural-urban) dimensions of these two indicators have been analysed. According to the 1998 census, about one-third of the total population live in urban areas and more than half of the urban population lives in the 10 largest cities. It therefore makes sense to classify the urban sample into two broad categories; 10 largest cities or 'major urban' areas and medium- and small towns or 'other urban' areas.<sup>10</sup>

Data presented in Table 4 shows that the proportion of adult illiterate population has declined overall by 12 percentage points, from 60.2 percent in 1990-91 to 48.4 percent in 2003-04, and it declined further to 47.5 percent according to the three-quarterly year data of the 2005-06 LFS. In urban areas, less than a third of the adult population was illiterate in 2003-04, with no real difference between 'major urban' and 'other urban' areas. In rural areas, the proportion of illiterate adult population has also declined; but the decline was slow and the gap between urban and rural areas could not be narrowed over time. It is worth noting that the overall adult literacy will not change rapidly even if very good progress is being made in educating the youth population because literacy reflects the situation many years—indeed, decades—before. Thus the slow decline in overall adult illiteracy remarked above is not surprising. It can be lowered quickly with mounting massive adult literacy campaign. Pakistan has only recently launched some literacy programmes at large scale.

It is encouraging to see that in urban areas approximately one-third of the total adult population has completed matriculation or higher level of education in 2003-04. Again there is no difference between the two broad categories of urban areas; rather the medium and small cities appear to be slightly ahead of the major cities. This pattern has been observed throughout the 1990s. The proportion of rural adult population with matriculation or higher level of education has also increased from 5.5 percent in 1990-91 to about 10 percent in 2003-04. However, the gap between rural and urban areas has

<sup>10</sup>Karachi, Lahore, Faisalabad, Rawalpindi, Multan, Gujranwala, Hyderabad, Peshawar, Quetta, and Islamabad are considered as large cities due to its population.

Table 4  
Trends in Educational Attainment of Adult Population (10 Years and Above)  
(Both Sexes)

Education	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04	2005-06 <sup>a</sup>
<b>All Areas</b>									
Illiterate	60.2	60.1	58.2	55.2	55.0	53.5	50.0	48.4	47.5
Primary	21.7	22.2	21.8	20.7	21.2	22.3	23.9	24.2	24.8
Middle	7.6	7.1	8.0	9.3	9.2	9.6	10.2	10.1	10.1
Matriculation	6.5	6.4	7.1	8.6	8.6	8.7	9.3	9.7	9.8
Intermediate	2.3	2.4	2.7	3.4	3.1	3.3	3.6	3.9	4.1
BA and Higher	1.7	1.9	2.1	2.8	2.8	2.7	3.1	3.8	3.7
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Major Urban Areas</b>									
Illiterate	43.2	42.6	37.6	34.3	34.4	33.5	30.5	30.7	31.1 <sup>b</sup>
Primary	27.8	30.1	27.0	24.2	25.7	25.9	26.3	25.0	25.1
Middle	12.0	10.8	12.7	13.2	13.8	13.5	13.9	13.6	13.3
Matriculation	10.5	10.4	13.5	15.2	15.7	15.9	16.1	15.9	15.1
Intermediate	3.4	3.7	5.1	6.3	5.7	6.1	6.9	7.0	7.7
BA and Higher	3.1	2.4	4.1	6.8	4.6	5.1	6.3	7.9	7.8
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Other Urban Areas</b>									
Illiterate	40.7	38.8	36.6	34.9	33.0	32.3	32.8	30.1	–
Primary	26.0	26.8	26.4	23.9	25.7	26.5	26.3	25.8	–
Middle	11.8	11.6	12.3	13.1	13.6	13.2	13.5	13.3	–
Matriculation	12.1	12.2	13.1	14.3	14.4	14.4	14.0	15.2	–
Intermediate	5.0	5.4	5.8	7.1	6.6	7.0	6.5	7.4	–
BA and Higher	4.4	5.2	5.7	6.6	6.7	6.7	6.9	8.3	–
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	–
<b>Rural Areas</b>									
Illiterate	69.5	69.7	67.6	65.6	66.8	63.9	59.5	58.4	56.5
Primary	19.5	19.8	19.8	18.9	18.7	20.3	22.6	23.4	24.6
Middle	5.6	5.0	6.1	7.4	6.8	7.7	8.3	8.3	8.4
Matriculation	3.9	3.9	4.4	5.6	5.3	5.6	6.5	6.5	6.9
Intermediate	1.1	1.1	1.4	1.6	1.4	1.6	1.9	2.0	2.2
BA and Higher	0.5	0.5	0.7	0.8	0.9	0.9	1.2	1.3	1.5
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Labour Force Surveys (a) Three-quarters (July 2005-March 2006) data; (b) Figures refer to all urban areas.

Note: Primary=1–5 years of schooling; middle=6–9 years; matriculation=10–11 years; intermediate=12–13 years; and BA and higher or degree-holders=14 or more years.

widened over time. For example, in 1990-91, the proportion of adult population with matriculation or higher level of education in 'other urban' areas was higher than rural areas by 15 percentage points, and it increased to 22 percentage points in 2003-04. The same is the case when rural areas are compared with 'major urban' centres. The 2005-06 three-quarters data has not shown any considerable change in these patterns of educational attainment (Table 4 last column). The other major development is the increasing share of the degree-holders (BA or higher level of education). This share almost doubled in urban areas between 1990-91 and 2003-04. It shows an increasing tendency in urban Pakistan to complete 14 or more years of education.

A rapid increase in female education in urban areas has sharply decreased the gender gap. In both 'major urban' and 'other urban' areas, illiteracy among female in 1990-91 was

higher by more than 20 percentage points as compared to illiteracy among males. This gap has reduced considerably; in 2003-04 as compared to one-quarter of urban male, slightly more than one-third of urban female were illiterate (Appendix Table 1).

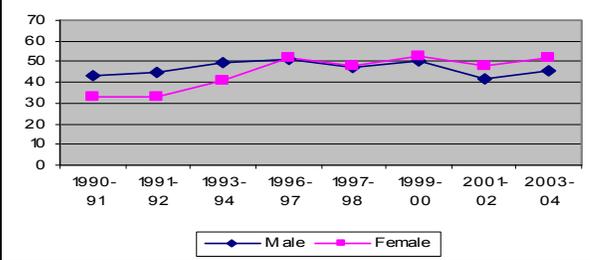
Another positive development is the narrowing of gender gap in the level of educational attainment. In 'major urban' areas, for example, 23 percent of male had in 1990-91 matriculation or higher level of education whereas the corresponding percentage was only 11 for female, a gap of around 12 percentage points. Female has made a remarkable progress; in 2003-04 approximately 28 percent of female had matriculation or higher level of education in the 'major urban' areas as compared to 34 percent for male, thus narrowing the gap to only 6 percentage points. The situation in 'other urban' areas is largely the same. However, in rural areas, the situation is discouraging; still three-quarters of the adult female population is illiterate and only 5 percent of them had matriculation or higher level of education in 2003-04. Rural females are far behind in terms of literacy and educational attainment from both their urban counterparts and rural males (Appendix Table 1). Indeed serious efforts are needed to make rural female population literate.

The more interesting case is the proportion of youth population that has completed matriculation or higher level of education. In large cities, approximately half of them (49 percent) have completed this level of education in 2003-04, with an improvement of 15 percentage points between the 1990-91 and 2003-04 period. In medium and small cities a relatively higher proportion (51 percent) of the youth has completed matriculation or higher level of education. Data shows a growing convergence among urban youth across the provinces except Balochistan in terms of their levels of educational attainment (Figures 4a to 4d).<sup>11</sup> On the other spectrum, the proportion of illiterate adult population has considerably lowered in urban Punjab and Sindh, particularly among female (Appendix Figure 1a and 1b). It is also encouraging to observe that more than one-fifth of the youth population in rural areas across the four provinces has also completed matriculation or above level of education in 2003-04. Secondary and higher education, like in East Asia [McNicoll (2006)], are increasingly seen in Pakistan necessary for modern sector employment.

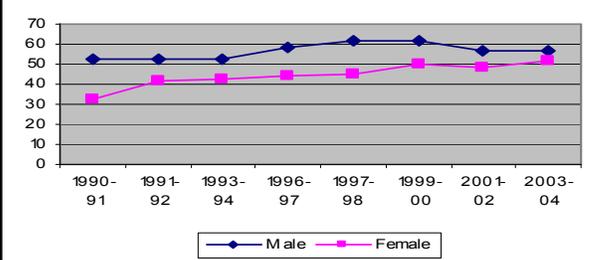
In urban Punjab and Sindh, there is no gender gap among youth who have completed matriculation or higher level of education. In Punjab, in fact, after the mid-1990s, the female curve has crossed the male curve, showing more female with matriculation or higher level of education than male in urban areas (Figure 4a). Gender gap in the level of educational attainment has also narrowed in urban NWFP and urban Balochistan, but with relatively low pace. The decline in illiteracy is also slow in these two provinces (Appendix Figures 1c, 1d, 1g and 1h). Rural Punjab has also shown an impressive improvement in female education and lowering illiteracy among the youth population (Figures 4a, 4e; Appendix Figures 1a and 1e). This improvement in rural areas of other provinces is missing. Female education, like in other parts of the world [Hirshman and Guest (1990)], would account for a major share of the fertility decline in Pakistan, particularly in urban areas. The overall progress in rural areas, where poverty is high and concentrated among landless households and small farmers [Malik (2005); Gazdar (2004)], appears to be particularly slow.

<sup>11</sup>There is one puzzle. Figure 6d shows a decline between 1999-00 and 2003-04 period in the share of youth population in urban Balochistan that has completed matriculation or higher level of education.

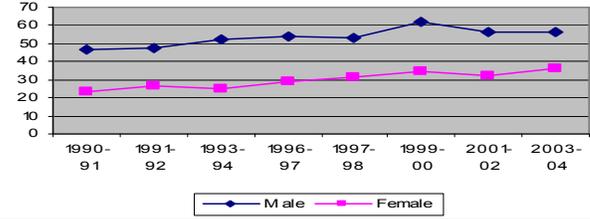
**Fig. 4a. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Urban Punjab, 1990-91 – 2003-04**



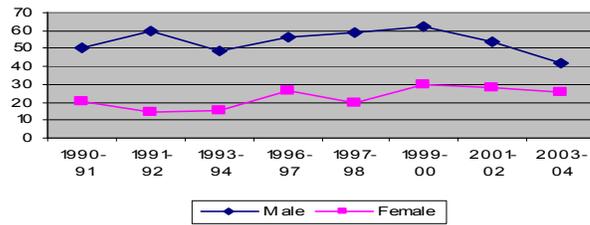
**Fig. 4b. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Urban Sindh, 1990-91 – 2003-04**



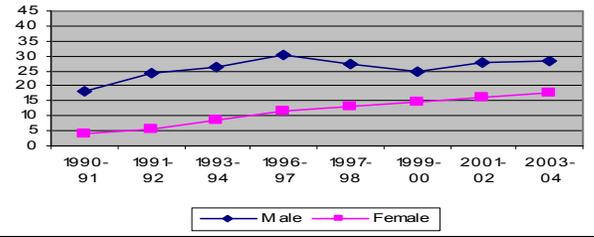
**Fig. 4c. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Urban NWFP, 1990-91 – 2003-04**



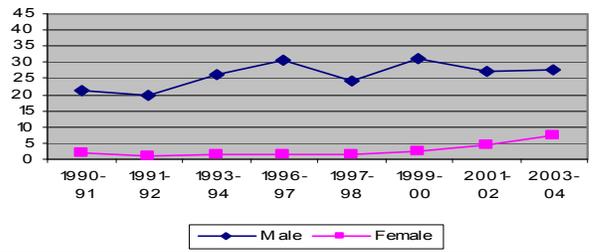
**Fig. 4d. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Urban Balochistan, 1990-91 – 2003-04**



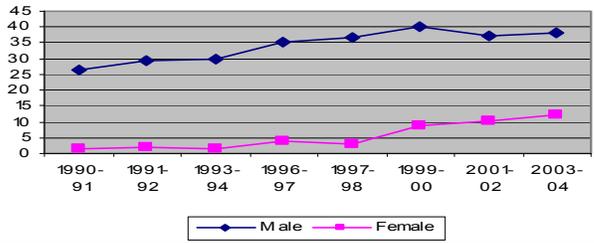
**Fig. 4e. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Rural Punjab, 1990-91 – 2003-04**



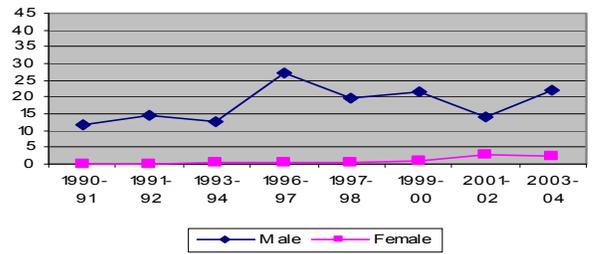
**Fig. 4f. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Rural Sindh, 1990-91 – 2003-04**



**Fig. 4g. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Rural NWFP, 1990-91 – 2003-04**



**Fig. 4h. Proportion (%) of Youth, 20–24, Who had Matric or Above Level of Education in Rural Balochistan, 1990-91 – 2003-04**



## 5. DEMOGRAPHIC TRANSITION AND PARTICIPATION IN LABOUR MARKET

Pakistan has continued experiencing rapid labour force growth, with increasingly large cohorts entering the labour markets. Although no major change has occurred overtime in the overall labour force participation rate, large cohorts of new entrants into the labour market has led to this rapid growth. This section, however, only underscores the changes in the labour force participation patterns of particularly youth population in the context of demographic transition occurring since the early 1990s.

Data presented in Table 5 do not show any major change in the overall labour force participation rate that increased only marginally from 43 percent in 1990-91 to 44 percent in 2003-04,<sup>12</sup> and this increase occurred largely in rural areas of the country. There is no major difference between ‘major urban’ and ‘other urban’ areas in terms of the economic activity rates of the adult population. Male participation in the labour market either remained constant during the 1990s or it declined marginally whereas female participation has shown a steady, though slow, increase during the same period. In 1990-91, for example, 13 percent of the adult females were economically active and their activity rate increased to 16 percent in 2003-04. However, the gender gap of more than 50 percentage points in labour force participation rate in Pakistan is much higher than the average gap of 35 percentage points in South Asia [ADB (2005)].

Table 5

### *Labour Participation Rates by Urban/Rural and Gender, 1990-91 to 2003-04*

Region/Gender	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04	2005-06
<b>All Areas</b>	43.2	42.9	42.0	43.0	43.3	42.8	43.3	43.7	46.3
Male	71.3	70.3	69.1	70.0	70.5	70.4	70.3	70.6	72.2
Female	12.8	14.0	13.3	13.6	13.9	13.7	14.4	15.9	19.3
<b>Rural Areas</b>	45.2	45.3	44.2	45.1	46.4	45.1	45.1	46.2	49.2
Male	73.7	72.6	71.1	71.8	73.4	73.1	72.1	72.6	74.1
Female	14.8	16.7	16.0	16.3	17.4	16.1	16.8	19.5	23.6 <sup>a</sup>
<b>All Urban</b>	39.1	37.9	37.1	38.9	37.7	38.1	39.9	39.2	41.0
Male	66.6	65.5	64.7	66.5	65.2	65.0	66.9	67.1	68.9
Female	8.6	8.0	7.2	8.4	7.4	8.8	10.0	9.4	11.1
<b>Major Urban</b>	39.3	38.1	36.9	39.6	37.9	40.5	40.7	40.6	–
Male	67.5	64.8	64.2	67.4	65.5	67.5	68.3	68.5	–
Female	9.4	9.3	8.3	9.5	8.3	11.4	11.4	11.2	–
<b>Other Urban</b>	39.0	37.9	37.1	38.6	37.6	37.3	39.6	38.8	–
Male	66.5	65.6	64.8	66.2	65.0	64.2	66.4	66.6	–
Female	8.4	7.8	6.9	8.0	7.1	7.9	9.5	8.9	–

Source: Labour Force Surveys; <sup>a</sup> Data refer to all urban areas.

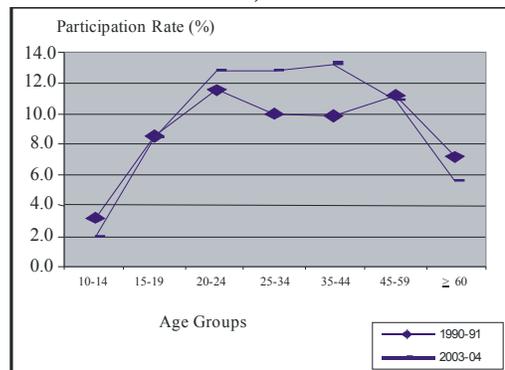
Age-gender-specific data show that the activity rate of male aged 10–14 declined slightly between the 1990-91 and 2003-04 period in urban as well as rural areas, as rising enrolment rates in this age group probably keep them out of the labour force (Appendix Table 2). However, between the 2001-02 and 2003-04 period, an increase has been witnessed in the participation of this young group, primarily in rural areas. There is an

<sup>12</sup>The 2005-06 LFS shows further increase in their activity rate to 46 percent (Table 5 last column), although it could be due to seasonal factors since it represents the three-quarters data.

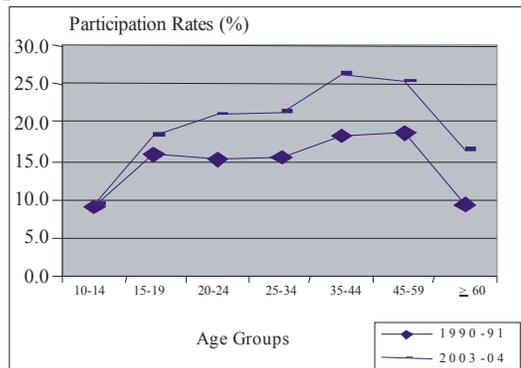
increase in the labour force participation rate of male aged 15–19 in both rural and urban areas, probably at the cost of more schooling. Participation of male aged 20–59 in the labour market is universal and remained constant in the 1990s.

Trends and levels in participation of female in labour force are rather diverse. In urban areas, for example, participation of female teenagers and youth in the labour market has remained low and almost constant over time, reflecting the rise in their school enrolment. However, the participation of 25–44 years old urban female in labour market has increased e.g. in the case of 25–34 age cohort it has increased from 10 percent in 1990-91 to 13 percent in 2003-04, and this increase is even higher for the next age cohort, 35–44 years (Figure 5a). In rural areas, during the same period, the overall participation of adult female in labour market has increased by 5 percentage points; and more importantly, this increase has been observed in all age groups except the teenagers. Among 20–34 years old rural female, one in five is economically active, and among the 35–59 years old, one in four is active in the labour market (Figure 5b). The participation of rural older women (60 years and above) has almost doubled, from 9 percent in 1990-91 to 16 percent in 2003-04. The increased participation of rural female in labour market has widened rural-urban differentials; rural females are now more economically active than their urban counterparts.

**Fig. 5a. Age-specific Labour Force Participation Rates of Adult Female Population in Urban Areas, 1990-91 to 2003-04**



**Fig. 5b. Age-specific Labour Force Participation Rates of Adult Female Population in Rural Areas, 1990-91 to 2003-04**



Labour force participation rates by the level of educational attainment are presented in Table 6 separately for male and female covering both the rural and urban areas. In addition to overall education specific labour force participation rates, data for two age cohorts, 20–24 and 25–34, have also been reported. For all age groups, there is a U shape relationship between the levels of educational attainment and labour force participation for both male and female. However, for male youth (20–24), the activity rates decline with the rise in the level of educational attainment, suggesting their relatively longer stay in the educational institutions. This longer stay indicates social transformation of youth in the context of on-going demographic transition [Xenos (2005)]. For the 25–34 male cohorts, there is no real difference in participation rates across the levels of educational attainment; it is rather universal. The pattern of rural male participation in labour market across the educational categories is similar to their urban counterparts.

Table 6

*Labour Force Participation Rates by Age, Education, Region and Gender*

Region/ Gender	Year	Age	Illiterate	<Primary	Primary	Middle	Matric	Inter	BA+
Urban/Male	1990-91	All Ages	83.0	47.1	49.2	57.2	68.6	68.4	84.8
		20–24	97.5	98.0	98.0	97.1	71.4	51.4	58.8
		25–34	98.0	99.1	98.6	98.9	98.3	97.0	93.4
	2003-04	All Ages	80.6	35.9	54.0	62.3	72.6	67.6	83.0
		20–24	93.2	99.7	96.7	96.9	80.7	48.6	57.1
		25–34	93.4	96.6	97.8	98.7	98.5	94.9	91.9
Urban/ Female	1990/91	All Ages	9.5	4.6	3.5	5.2	10.9	13.4	33.2
		20–24	8.2	11.8	7.0	11.2	17.0	12.6	28.2
		25–34	8.1	13.1	3.8	6.2	11.3	18.4	36.0
	2003-04	All Ages	10.3	2.9	4.4	5.6	10.1	11.9	28.4
		20–24	9.8	4.2	9.8	12.6	13.6	11.5	22.3
		25–34	9.6	8.5	4.4	9.0	11.1	16.6	31.4
Rural/Male	1990-91	All Ages	86.3	46.3	56.6	57.0	73.4	68.3	88.7
		20–24	97.5	97.8	97.4	96.5	75.1	51.1	69.4
		25–34	97.8	99.1	98.3	98.2	96.1	95.9	97.4
	2003-04	All Ages	82.7	41.2	62.9	68.9	79.9	78.1	86.6
		20–24	96.1	93.8	98.0	97.1	81.6	60.7	59.5
		25–34	96.3	98.8	97.4	97.1	98.5	96.8	89.1
Rural/Female	1990-91	All Ages	15.4	9.7	9.0	7.2	32.6	30.7	45.5
		20–24	14.4	13.3	16.6	14.9	33.8	35.5	45.5
		25–34	15.0	10.1	16.4	10.8	40.9	53.0	36.8
	2003-04	All Ages	21.7	6.6	12.5	9.8	21.0	23.8	45.2
		20–24	21.8	15.0	17.9	15.8	23.0	20.0	35.4
		25–34	21.4	10.4	17.4	13.9	26.3	30.8	45.8

Source: Computed from the LFS micro datasets.

The case of female is different. First, in both rural and urban areas, education has a positive relationship with labour force participation; higher the level of education the more likely the women to be economically active. In urban areas, for example, compared to 10 percent participation rate for illiterate female aged 25–34, 31 percent of degree-holder females were active in 2003-04. Second, the participation of female degree-holders in the labour

market is much higher than their counterparts either with matriculation or with intermediate levels of education. Third, after controlling for age, rural female are more active in all categories of education than their urban counterparts. In 2003-04, 46 percent of female aged 25–34 years having BA or higher level of education were economically active in rural areas while the corresponding percentage was 31 in urban areas. In the case of matriculation, rural female were 2.5 time more active than urban females. This difference is also considerable in the case of 12 years of education (intermediate). Fourth and more importantly, in both rural and urban areas, the participation of female with matriculation or higher level of education in labour market has declined over time. This decline is substantial among female degree-holders in urban areas and rural female with matriculation and intermediate levels of education. In other words, the increase in female participation in labour market was observed primarily among the illiterates.

It appears from the forgoing analysis that both the demographic changes and improvements in the level of educational attainment since the 1990s have a positive impact on the participation of adult population in the labour market, but not as expected, particularly in the case of female. The increase in female education particularly in urban areas has not yet shown strong linkages with their economic activity rates, rather a decline has been observed. It is also worth noting that overall participation of female in the labour market in Pakistan is considerably lower as compared to the participation in other countries of the South Asian region e.g. two-thirds of Bangladesh women are economically active (Table 7). The female economic activity rate is well above 75 percent in many countries in East and Southeast Asia. The gender gap in labour force participation is highest in Pakistan (Table 7). Low female economic activity rates indicate the loss in potential productivity in the economy. One reason for the low labour force participation rate of women in Pakistan could be cultural—inhabiting employment of young women. However, it seems to be more a case of lack of appropriate opportunities as women do want to work given the right conditions. Bangladesh is a good example, where job opportunities have even led to some independent movements of women to cities.

Table 7

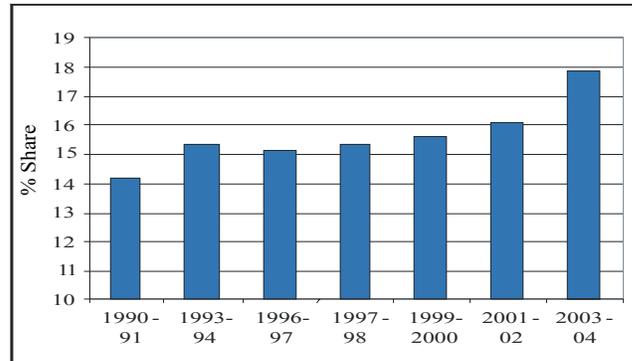
*Labour Force Participation Rates (Aged 15–64), Male and Female, 2003*

Region/Countries	Male (%)	Female (%)	Gap
<b>East Asia</b>			
China, People's Rep. of	88.8	79.2	9.6
Hong Kong, China	85.6	57.7	27.9
Korea, Rep. of	79.9	59.7	20.0
<b>Southeast Asia</b>			
Indonesia	84.7	59.5	25.2
Malaysia	81.4	51.9	29.5
Philippines	82.6	52.0	30.6
Singapore	81.7	54.5	27.2
Thailand	89.7	77.7	12.0
Viet Nam	83.5	77.3	6.2
<b>South Asia</b>			
Bangladesh	88.6	68.4	20.2
India	86.6	45.2	41.4
Nepal	86.5	58.4	28.1
Pakistan	85.6	39.3	46.3
Sri Lanka	82.6	47.8	34.8

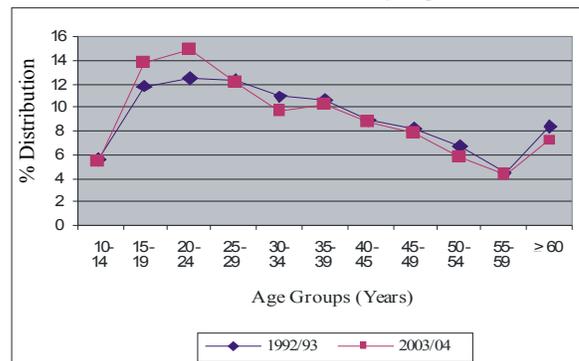
Source: Asian Development Bank (2005), (Box Table 2.2a).

The change in age structure of the population and improvement in education, as discussed earlier, have considerably affected the composition of labour force. The overall increase in female economic activity rate (from 13 percent in 1990-91 to 16 percent in 2003-04) has resulted in increasing their share in the total labour force; as compared to 14 percent in 1990-91, 18 percent of the total labour force in 2003-04 consisted of female (Figure 6a). Similarly, the overall share of young population (15–24 years) in the total labour force has also increased considerably (Figure 6b). This increase has been observed in urban as well rural areas. In 2003-04, about 15 percent of the labour force consists of youth (20–24 years) while the corresponding share in 1992-93 was 12 percent.

**Fig. 6a. Trends in the Share of Female in the Total Labour Force (%)**



**Fig. 6b. Distribution (%) of Labour Force by Age in 1992-93 and 2003-04**



Because of the education transition, labour force in 2003-04 was more literate and educated than in 1990-91; approximately 40 percent of the total urban labour force had matriculation or higher level of education in 2003-04. Improvement in the level of education of urban female labour force is remarkable. In 1990-91, around 9 percent of them had BA or higher level of education, and this percentage has doubled in 2003-04 (Appendix Table 3). In terms of education, the overall progress of urban male labour force was less impressive in the 1990s than female labour force, resulting in a substantial reduction in gender gap in educational composition of the labour force. It is the result of both spread of female education in urban areas, as discussed earlier, and a positive

association between the levels of educational attainment and female participation in the labour market. However, had the participation of female with matriculation and higher level of education in the labour market not declined over time, female labour force would have been more educated.

In view of the larger size of the rural labour force (31 million in 2003-04), in absolute terms, rural labour force has a growing number of educated persons. For example, 4.9 million of urban labour force has completed matriculation and higher level of education; the corresponding figure in rural areas is 3.9 million. Similarly compared to 1.6 million labour force with BA or higher level in urban areas, 0.9 million are graduates in the rural labour force. Interestingly, there is more matriculate labour force in rural areas (2.6 million) than in urban areas (2.4 million). A very clear message from these statistics is that provision of decent work to educated labour force is not only the issue in urban areas; it is a serious problem in rural areas as well. It also indicates that a simultaneous movement of youth toward urban areas and especially to the large cities during the course of demographic transition, which occurred in East Asia [Xenos (2005); McNical (2006)], has not so far been witnessed in Pakistan.

## **6. UNEMPLOYMENT IN PAKISTAN: AN ANALYSIS OF THE 1990–06 PERIOD<sup>13</sup>**

### **6.1. Limitation of Unemployment Rate as the Labour Market Outcome Indicator**

This study has used the unemployment rate as the labour market outcome indicator in the context of on-going demographic transition in Pakistan. It is analysed in three ways. First, to differentiate regional variations (rural/urban), changes in unemployment levels (or rates) over the 1990–06 periods have been examined. Second, an analysis of the trends in age, gender and education specific unemployment rates has been carried out to see the effects of both demographic and education transitions on the level of unemployment. Third, in the next section, multivariate techniques have been used to determine the independent effect of individual, household and geographical factors on the probability of being unemployed. However, open unemployment rate, as has been used in this study, is not complete or perfect indicator of labour market outcomes. Ideally it may be combined with other indicators such as underemployment and productivity of employment. Low to modest unemployment in most developing countries including Pakistan reflects the fact that a high proportion of labour force is poor. The poor cannot afford not to be engaged in economic activities. Open unemployment is in a sense the luxury of those from better off families, who can afford to wait for better opportunities. However, despite these limitations, unemployment rates are among the most frequently cited indicators of the difficulty the young face in making a transition from schooling to employment [Adams (2007)].

### **6.2. Changes in Unemployment Levels: A Regional Perspective**

Unemployment trends by region (rural/urban) covering the 1990–2004 period are presented in Table 8, which also shows the results of three-quarters data from the 2005-06

<sup>13</sup>Results of the three-quarters data of the 2005-06 LFS have also discussed.

LFS. Unemployment rates are reported in this table for 'major urban' and 'other urban' areas separately, except for the 2005-06 period. The last three columns (5-7) of the table show the differences in unemployment rates between the regions in percentage points.

The overall unemployment rate declined from 8.3 percent in 2001-02 to 7.7 percent in 2003-04; the LFS 2005-06 three-quarters data points towards a further reduction in the level of overall unemployment. Despite this reduction, the overall unemployment level in 2003-04 (or even in 2005-06) was higher than unemployment rates observed during the 1990-98 period. The decline in unemployment between 2001-02 and 2003-04 period was not even across the regions; it was observed in large cities and rural areas while in small-medium cities it remained almost unchanged. Historically, the unemployment levels have been higher in large cities than either in small-medium cities or in rural areas. With a steady increase in unemployment in the latter since 1996-97, the difference between large and small-medium cities in unemployment rate has gradually disappeared (column 5 of Table 8). The gap between large cities and rural areas in the level of unemployment has also narrowed down because of a rise in rural unemployment after 1997-98. It shows limited additional job opportunities in small-medium towns and rural areas to match the demographic and educational changes occurred during the last one and half decade.

Table 8

*Trends in Unemployment Rate by Region*

Year	All (1)	Major urban (2)	Other urban (3)	Rural (4)	(2)-(3) (5)	(2)-(4) (6)	(3)-(4) (7)
1990-91	6.1	8.0	8.0	5.2	0.0	2.8	2.8
1992-93	5.7	9.4	6.4	5.3	3.0	4.1	1.1
1993-94	4.8	9.1	5.9	4.2	3.2	4.9	1.7
1996-97	6.1	8.9	6.5	5.7	2.4	3.2	0.9
1997-98	5.9	10.1	7.2	5.0	2.9	5.0	2.2
1999-00	7.8	12.1	9.0	6.9	3.1	5.2	2.1
2001-02	8.3	10.3	9.6	7.6	0.7	2.7	2.0
2003-04	7.7	9.6	9.7	6.7	-0.1	2.9	3.0
2005-06	6.5	8.5*	-	5.5	-	-	-

Source: Labour Force Surveys; \* Refers to all urban areas.

Table 9 adds the gender dimension in the region-wise unemployment rates and shows some interesting statistics. Between 2001-02 and 2003-04, male unemployment declined only in rural areas whereas it increased in large cities as well as in small-medium cities. Male unemployment rates in urban areas (both large and small-medium cities) in 2003-04 were highest during the last one and half decade. The level of unemployment in rural areas in 2003-04 was also higher compared to the entire 1990-91-1999-00 period. Female unemployment declined in all three regions, but it was substantial only in large cities, where 16 percent of female were recorded as unemployed in 2003-04 and this rate was the lowest during the last one and half decade. Between 1999-00 and 2003-04 period, female unemployment declined by approximately two and half times in the large cities. It appears from this simple statistics that the decline in unemployment between 2001-02 and 2003-04 period was witnessed primarily among female in large cities and male in rural areas. Although the partial results of the 2005-06 LFS show a decline in male as well as female unemployment, it is more pronounced among the latter, reducing the gender gap in

unemployment level from more than 10 percentage points in 1990-91 to 6.1 percentage points in 2003-04 and to 4.3 points in 2005-06. However, the decline in female unemployment must be seen in the context of overall low female participation in the labour market, as discussed in the previous section. Unemployment can only be measured for those who declare themselves to be in the labour force. Therefore rises or falls in unemployment may be affected by any changes in the propensity for women to report themselves to be in the labour force.

Table 9

*Trends in Unemployment Rate by Gender and Region*

Year	Male				Female			
	All Areas	Major Urban	Other Urban	Rural Areas	All Areas	Major Urban	Other Urban	Rural Areas
1990-91	4.3	5.6	5.8	3.7	16.7	26.1	28.2	13.6
1992-93	4.2	7.0	5.0	3.7	14.1	28.2	19.3	12.7
1993-94	3.8	7.3	4.9	3.3	10.1	24.3	16.6	8.5
1996-97	4.2	6.6	4.6	3.8	16.8	26.8	24.4	14.6
1997-98	4.2	7.5	5.2	3.5	15.0	31.6	27.3	11.9
1999-00	6.1	8.2	7.2	5.4	17.3	37.5	25.4	14.0
2001-02	6.7	7.8	7.9	6.1	16.5	26.2	23.4	14.1
2003-04	6.6	8.6	8.3	5.6	12.7	15.9	21.4	10.9
2005-06	5.6	7.2*	–	4.7	9.9	16.9	–	8.2

Source: Labour Force Surveys; \* Refers to all urban areas.

### 6.3. Exploring Age and Gender Dimensions of Unemployment

It has been shown in Sections 3 and 4 that because of the changes in fertility since the late 1980s, the share of youth in the total labour force has increased over time and they are more educated than older cohorts. Youth unemployment rates are generally much higher than overall unemployment rate in all regions of the world [ILO (2005)]. A similar situation is found in Pakistan throughout the 1990s as well as during the more recent periods (Table 9). However, youth unemployment in Pakistan is below the global average.<sup>14</sup> In 1990-91, 11.6 percent of the labour force aged 15–19 was unemployed and it increased gradually to 16.2 percent in 2001-02, after which declining trends have been witnessed. The level of unemployment among 15–19 years old was almost double of the overall unemployment rate during the 1990s. For age group 20–24, unemployment rate increased from 9 percent in 1990-91 to 11.6 percent in 1999-00, while steady declining trends have been observed in 2001-02, 2003-04 and 2005-06. Although the unemployment level among 25–34 year old (5.94) was lower than the overall unemployment level in 2003-04 it has jumped by more than one and half time between 1990-91 and 2003-04 period (Table 10). The levels of unemployment among aged people, 60 years and above, are very high. Both poverty and high dependency burden on working age population have probably compelled the elderly population to remain active in the labour market. However, it could also be a statistical artifact. In the labour force surveys, male enumerators collect information from an adult male about the economic activity of each household member. Availability of the elderly female population for work could be a reporting problem.

<sup>14</sup>Global unemployment rate for youth increased from 11.7 percent in 1992-93 to 14.4 percent in 2003 [World Bank (2006)].

Table 10

*Overall Unemployment Rates (%) by Age (Years)*

Age Groups	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04	2005-06
10-14	9.2	11.8	10.5	12.4	10.5	20.5	16.5	12.8	8.2
15-19	11.6	10.6	9.0	11.2	12.0	15.2	16.2	13.2	10.1
20-24	9.0	8.5	6.7	8.6	8.7	11.6	10.9	10.3	7.8
25-34	3.8	3.2	2.7	4.1	3.2	4.7	5.4	5.9	—*
35-44	2.3	2.2	1.7	2.2	2.0	2.3	2.9	2.9	—*
45-59	4.3	4.3	3.4	4.1	3.6	4.4	5.3	4.9	—*
≥60	9.8	9.0	8.6	10.4	11.0	13.9	13.6	12.8	—*
All Ages	6.1	5.7	4.8	6.1	5.9	7.8	8.3	7.7	6.5

*Source:* Computed from the respective *Labour Force Surveys*; \* While unemployment rates available from the 2005-06 LFS published data are for different age groups, they have not been reported in this Table.

Trends in age-specific unemployment rates differ considerably for male and female labour force. Male unemployment increased considerably during the 1990-04 period for 10-14, 15-19, 20-24 and 25-34 age groups whereas female unemployment declined for all age groups during the same period. Although unemployment among female has historically been higher than male, gender gap has considerably narrowed over time. There is also a clear indication of the worsening of labour market conditions for 25-34 year old labour force, which usually have more economic obligations compared to the youth. According to the 2003-04 Labour Force Survey, in urban Pakistan, approximately one-third of 25-34 year unemployed labour force was previously employed for some time, mostly in manufacturing, construction and trade sectors. Many of them may have lost their jobs by closure of sick units, privatisation and redundancies declared by national commercial banks and public corporation. Probably permanent employment is being more and more substituted by temporary/contract jobs in Pakistan. In rural areas these could be the seasonal agriculture workers. Work experience is perceived as an important way into employment by both employers and young people. However, the data show that many unemployed with some work experience could not make transition from such work to permanent employment. Experience in the less secure segments of the labour market did not translate very easily into more secure employment.

#### 6.4. Education, Youth and Unemployment

Overall, the highest unemployment rates were found among those who had matriculation or intermediate level of education (Table 11). This phenomenon persisted for all years when the labour force survey was carried out between 1990-91 and 2003-04. Levels of unemployment among the degree-holders (BA and more) were also high. However, relatively lower levels of unemployment among degree holders compared to those who had either matriculation or intermediate level of education throughout the 1990-04 period indicate relatively better employment opportunities for more qualified labour force. Trends in education-gender specific rates for youth, 20-24, are presented in Figures 7a-f by gender and regions while the corresponding data for other two age groups, 15-19 and 25-34 is not shown here.

Table 11

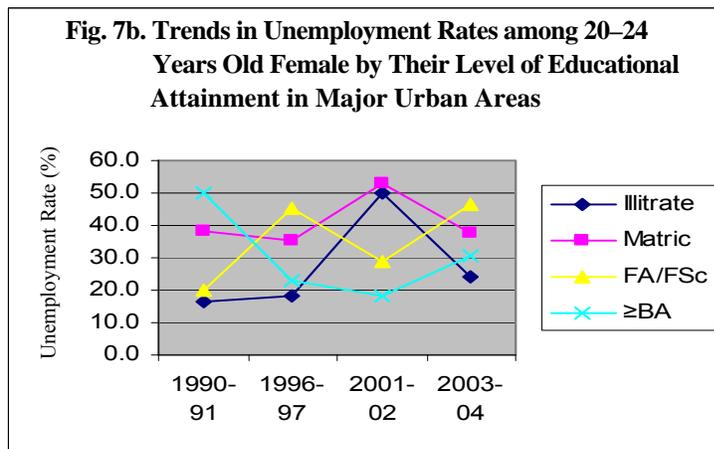
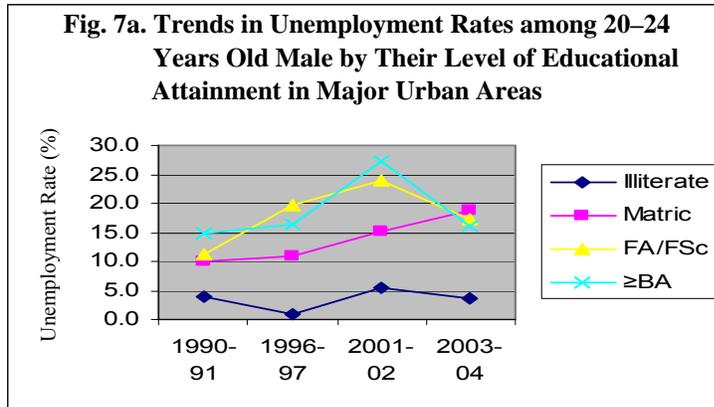
*Unemployment Rate by the Level of Educational Attainment*

Educational	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04
Illiterate	5.6	5.3	4.1	5.9	5.4	7.2	7.6	6.6
< Primary	6.3	6.3	5.6	4.8	4.1	6.3	7.6	7.6
Primary	5.5	5.2	4.5	5.5	5.6	8.1	8.1	6.8
Middle	6.6	4.6	5.0	5.8	7.1	10.1	9.4	9.0
Matriculation	8.8	8.7	8.0	8.1	7.1	9.0	9.7	10.4
Intermediate	8.4	10.3	6.9	7.5	8.0	8.7	10.0	11.2
BA +	6.3	6.4	5.8	5.9	6.7	6.7	8.5	8.8
Total	6.1	5.7	4.8	6.1	5.9	7.8	8.3	7.7

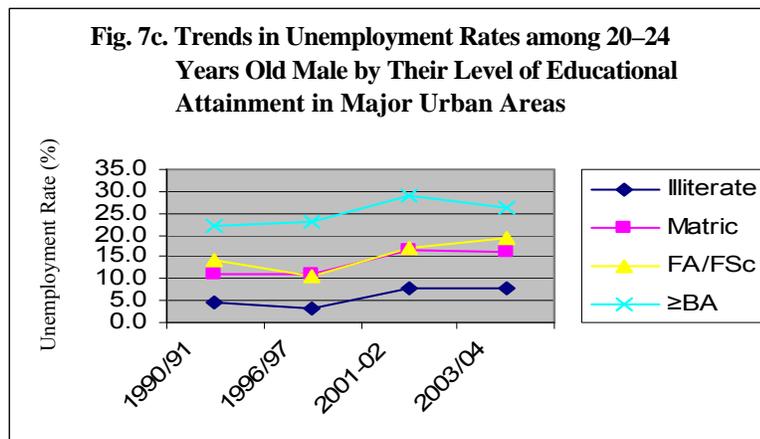
Source: Labour Force Surveys.

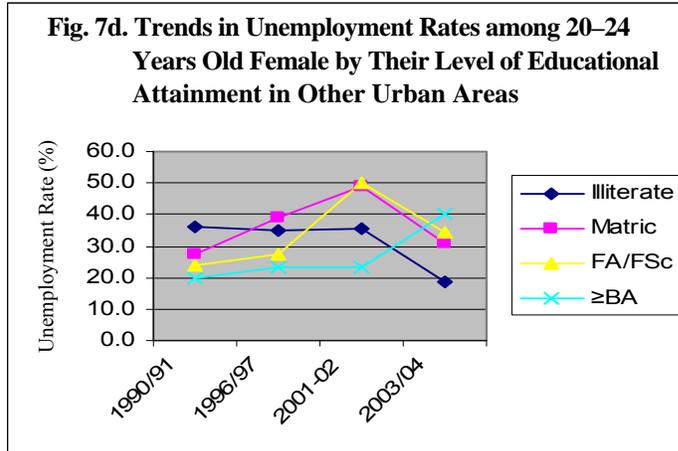
First take the case of large cities, the unemployment rate for male youth (20–24) with intermediate or higher level of education has declined between 2001–2002 and 2003–04 period. However, male youth with matriculation has experienced a sharp rise in unemployment rate from 10 percent in 1996–97 to approximately 20 percent in 2003–04. In large cities, a rise in the unemployment levels has been observed for youth female with intermediate or higher levels of education (Figures 7a and 7b). Among the 25–34 years old male labour force, unemployment level declined for degree holders while it increased for those with matriculation or intermediate levels of education. However, both illiterates and matriculate females aged 15–24 experienced a rapid decline in their level of unemployment between 2001–02 and 2003–04 period (Figures 7b and A3). In short, in large cities, male labour force aged 20–34 with matriculation or intermediate level of education may be targeted for special assistance to integrate them into the domestic labour markets. Female aged 20–34 with intermediate or higher level of education also need assistance for their economic adjustment. In small-medium cities, employment situation for youth male (20–24) has deteriorated or remained stagnant for those who had 10 to 12 years of education (matriculation and intermediate) while this deterioration, in the case of female youth, is witnessed for graduates (Figures 7c and 7d). Employment situation for educated female with matriculates or intermediate level of education in small-medium cities has improved between the 2001–02 and 2003–04 period. Since employment opportunities in small and medium cities are relatively small, this improvement could be partially due to withdrawal of female from the labour market as discussed in the previous section.

In rural areas youth male labour force (20–24) with matriculation level of education experienced a rise in unemployment between the 2001–02 and 2003–04 period while those with intermediate- or degree-level of education were relatively more able to adjust themselves in the labour market. The possibility that the latter have replaced the former in labour market cannot be ruled out. It suggests on the one hand to make the secondary education (9–10 years schooling) more relevant to job market. On the other hand it points toward creation of more employment opportunities for the youth unemployed stock of matriculates in both rural and urban areas. Overall, it appears from the above analysis that expansion in education since the 1990s could not be matched with an increase in employment opportunities, particularly for youth to reap the benefits of demographic transition.

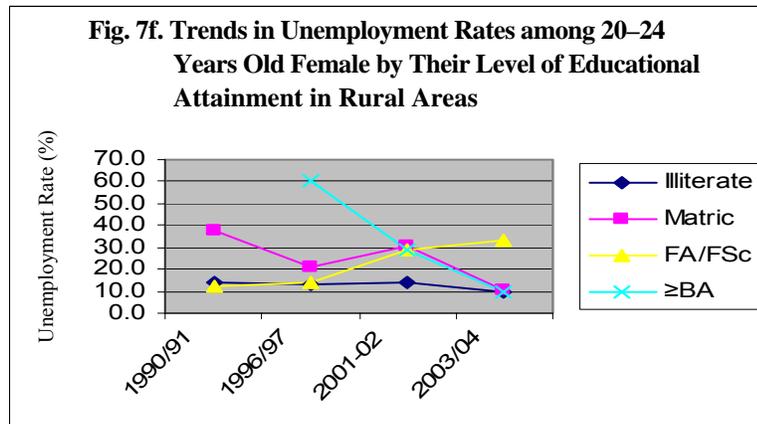
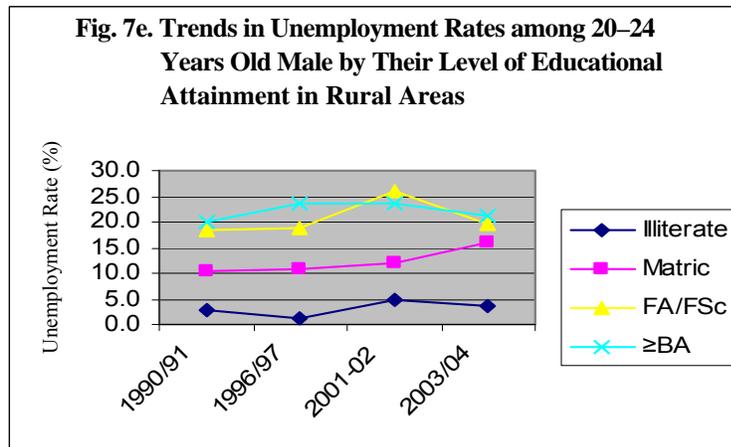


Source: Labour Force Surveys.





Source: Labour Force Surveys.



Source: Labour Force Surveys.

## **7. CORRELATES OF UNEMPLOYMENT: MULTIVARIATE ANALYSES**

The bivariate analyses presented in the previous section have clearly demonstrated the age-specific dimension of the unemployment in Pakistan. Age has therefore been the main focus in the multivariate analyses. Two age-specific sets of equations have been estimated. The first set includes the total labour force aged 10 years and more while the focus of second set is on the youth labour force aged 15–24 years. To see changes, if any, in the correlates of unemployment, the analyses presented in this section are based on micro-data of four labour force surveys: 1990-91, 1996-97, 1999-00 and 2003-04.

In all models, the dependent variable, employment outcome, takes the value one if the respondent was unemployed at the time of survey and zero if employed. Four sets of explanatory variables have been used in each model. The first set consists of individual characteristics of potential workers including age, education, marital status, and their relationship to the head of household. Characteristics of the head of household including sex, education, and their occupational and migration status are in the second set of variables. Two household-level factors, family size and number of earners, are included in the third set. To see the impact of geographical variations on employment outcome, two variables, place of residence or region (rural/urban) and provincial dummies—are included in the fourth set.

As the dependent variable is a binary variable, logistic regression was used. The results (odds ratios) and definition of variables are shown in Tables 12 and 13. A logit estimate was considered to be significant if it was at least double the associated standard error value. At the bottom of each column of all these tables are the relevant number of cases and Likelihood Ratio of Chi-squares (LRX<sup>2</sup>) values. Results are discussed below by age-specific models.

### **7.1. Total Labour Force—10 Years and More**

Results of the four models based on the total sample (all labour force aged 10 years and above) are presented in Table 12. Age of the respondent has been negatively related to the likelihood of being unemployed; as age increases the probability of being unemployed declines. However, the significance of the square term age<sup>2</sup> shows a curvilinear relationship between age and unemployment; labour force in older age groups is likely to face relatively more difficulties in finding employment. This age and employment relationship persisted for all years (models) included in Table 12.

Males were less likely than females to be unemployed in all models; indicating relatively high levels of unemployment among the latter. However, the decline in odds ratios over time shows an improvement in female employment e.g. female were 4.5 times more likely than males to be unemployed in 1990-91 and this likelihood reduced to 2.5 times in 2003-04. Marital status is negatively associated with unemployment; in other words, married labour force is relatively more likely to be employed. Unmarried can probably afford to wait for better employment opportunities. Education of the respondents, as expected, has shown a positive relationship with the probability of being unemployed. The adult labour force with matriculation or intermediate level of education is more likely to be unemployed than either those who are less educated or those who are more educated e.g. degree-holders. The head of households are less likely to be unemployed compared to other household members, particularly their sons/daughters.

Table 12

*Logistic Regression Effects on Unemployment—Odds Ratios (Age 10+)*

Correlates	1990-91	1996-97	1999-00	2003-04
<b>Individual Characteristics</b>				
Age (Years)	0.924*	0.908*	0.869*	0.91*
Age <sup>2</sup>	1.001*	1.001*	1.002*	1.001*
Sex (Male=1)	0.220*	0.225*	0.232*	0.389*
Educational Attainment				
Illiterate (Reference)	—	—	—	—
<Matriculation (1–9 Years of Schooling)	1.188*	1.085	1.194*	1.042
Matriculation or Intermediate (10–13 Years)	1.389*	1.368*	1.298*	1.463*
BA and More (14 and More Years)	1.401*	1.126	1.369*	1.196***
Relationship to Head of Household				
Self	0.462	0.282	0.404*	.408*
Son/Daughter	1.088	1.01	1.132	1.238*
Others (Reference)	—	—	—	—
Marital Status (Married=1)	0.522*	0.543*	0.438*	0.489*
<b>Head of Household Characteristics</b>				
Education of the Head of Household				
Illiterate (Reference)	—	—	—	—
<Matriculation	1.051	0.985	1.190*	1.135**
Matriculation or Intermediate	1.103	1.422*	1.271*	1.394*
BA and Higher Education	0.944	1.074	1.634*	1.565*
Occupational of the Head of Household				
Professional and Managerial Workers	0.416*	0.600*	0.397*	0.387*
Agricultural Workers	0.203*	0.232*	0.171*	0.189*
Service Workers	0.557*	0.658*	0.664*	0.737*
Other Workers (Reference)	—	—	—	—
Female Headed Household (Female=1)	1.04	1.043	0.640***	0.952
Migration Status of the Head (Non-migrant=1)	<sup>a</sup>	1.109***	1.004	1.114**
<b>Household Characteristics</b>				
Household Size	1.030*	1.040*	1.047*	1.027*
Total Number of Earners in the Family	0.628*	0.660*	0.617*	0.657*
<b>Locational Variables</b>				
Punjab (Reference)	—	—	—	—
Sindh	0.600*	0.673*	0.488*	1.02
NWFP	1.009	1.396*	1.461*	1.998*
Balochistan	0.501*	1.014	1.047	1.566*
Major Urban	1.142	1.385*	1.316*	1.194*
Other Urban	1.416*	1.173*	1.058	1.253*
Rural Areas (Reference)	—	—	—	—
Constant	2.025*	1.804*	6.347*	1.347**
–2 Loglikelihood	13196.08	12399.38	13774.76	18093.31
N	34514	33415	30593	37119

Source: Labour Force Surveys.

Note: a: Data not available.

Parental factors have in general an influence on the labour market outcome of their children. In the absence of such data, characteristics of the head of households have been included in the analyses. Table 11 shows that gender of the head of household is not significantly related with the probability of being unemployed. Education of the head of household has no positive impact on the adjustment of family members into the domestic labour market. Rather its impact is significantly negative on finding employment.

However, the occupational status of the head of household has a strong impact on the adjustment of family members in the market. As expected, the probability of being unemployed was relatively lower for members of those households where heads are engaged in the agriculture activities. The same is the case for professional and service workers. It is likely that the head of households working in these sectors develop good links at their work place to get placement of other family member. Regarding the household characteristics, family size has significant and positive impact on the probability of being unemployed while the number of earners has the opposite impact. Fertility transition can lead to improvement in household-level indicators related to labour market. It also reinforces the importance of an employed person in a household for the adjustment of other family members in the labour market.

In the analyses, Punjab has been dealt with as the reference category. Employment opportunities in Sindh have in general been higher than in Punjab or in other two provinces—NWFP and Balochistan. The probability of being unemployed in all models have been higher in NWFP than in other provinces. Employment situation in Balochistan has worsened over time e.g. in 1990-91 the probability of being unemployed was significantly lower in Balochistan than in Punjab, but in 2003-04 the situation reversed; the labour force in Balochistan was 1.6 times more likely to be unemployed than the Punjab labour force. Labour force in both large and small-medium cities is more likely to be unemployed than their rural counterparts. It appears that an interplay of demographic and socio-economic influence the labour market outcomes of the adult labour force. The positive association between unemployment and level of educational attainment, deterioration of employment situation over time in Balochistan and persistence of high-levels of unemployment in NWFP seem to be the major policy concerns. How all these factors behave when the sample (total labour force) is limited to youth?

## **7.2. Youth (15–24) Unemployment**

Table 13 presents the odds ratios for the youth (15–24) sub-sample. Most of the variables which were significant in the total labour force models have also been significant in youth models. Some differences are noteworthy, however. Although the youth male, as in the total labour force sample, are less likely to be unemployed than female, gender differences among youth in finding employment have narrowed over time. It reflects the persistent decline in female unemployment, as observed in the previous section. Similarly, the odds ratios for the sub-sample of youth are higher for each category of education compared to the ratios for the total labour force sample, showing that educated youth face relatively more problems in their adjustment in the labour market. For example, the degree-holder youth labour force was 3.3 times more likely to be unemployed than the illiterate youth labour force. It is worth repeating that in the total labour force model the category of degree-holders was significant at 10 percent level only, and persons with matriculation or intermediate level of education were more likely to be unemployed than others. Youth in Sindh is less likely to be unemployed than youth of other provinces. The case of Balochistan is very interesting. Between the 1990-91 and 1999-00 period, youth labour force of this province was less likely than Punjab and NWFP to be unemployed. However, 2003-04 witnessed the highest odds ratios for youth unemployment in Balochistan; they were more than 2 times likely to be

unemployed than their counterparts in Punjab. Employment situation in Balochistan has particularly deteriorated for youth after 1999-00. Youth employment situation in NWFP is not good either. These two small provinces of the country deserve some serious policy interventions to reduce their relative disadvantages in providing employment to the youth population. There is no significant difference between rural and urban areas (large and other cities alike) in the probability of youth unemployment for the 2003-04 period while for the total labour force sample this difference was statistically significant. It suggests limited employment opportunities for youth in rural as well as urban areas of the country. Agriculture sector has not the capacity to absorb particularly the educated youth.

Table 13

<i>Logistic Regression Effects on Unemployment— Odds Ratios (Age 15–24)</i>				
Correlates	1990-91	1996-97	1999-00	2003-04
<b>Individual Characteristics</b>				
Age (Years)	1.042	1.111	0.937*	0.801
Age <sup>2</sup>	0.997	0.995	1.001*	1.003
Sex (Male=1)	0.250*	0.275*	0.227*	0.455*
<b>Educational attainment</b>				
Illiterate (Reference)	—	—	—	—
<Matriculation (1–9 Years of Schooling)	1.425*	1.415*	1.087	1.46*
Matriculation or Intermediate (10–13 Years)	2.431*	2.666*	0.921	2.524*
BA and More (14 and More Years)	3.652*	4.163*	0.817	3.309*
<b>Relationship to Head of Household</b>				
Self	0.542*	0.449*	0.386*	0.673**
Son/Daughter	0.97	1.053	1.122	1.244**
Others (Reference)	—	—	—	—
Marital Status (Married=1)	0.673*	1.093	0.438	0.766**
<b>Head of Household Characteristics</b>				
<b>Education of the Head of Household</b>				
Illiterate (Reference)	—	—	—	—
<Matriculation	0.993	0.969	1.024	1.103
Matriculation to Intermediate	1.251	1.595*	1.341**	1.530*
BA and Higher Education	1.277	1.333	1.950*	1.943*
<b>Occupational of the Head of Household</b>				
Professional and Managerial Workers	0.649*	0.885	0.199*	0.504*
Agricultural Workers	0.377*	0.302*	0.104*	0.262*
Service Workers	1.085	0.79	0.348*	1.119
Other Workers (Reference)	—	—	—	—
Female Headed Household (Female=1)	2.713	0	0.524**	1.624
Migration Status of the Head (Non-migrant=1)	<sup>a</sup>	1.158	0.951	1.181**
<b>Household Characteristics</b>				
Household Size	1.029*	1.054*	1.049*	1.020**
Total Number of Earners in the Family	0.654*	0.673*	0.634*	0.675*
<b>Locational Variables</b>				
Punjab (Reference)	—	—	—	—
Sindh	0.517*	0.419*	0.671*	0.973
NWFP	0.945	1.155	2.049*	1.794*
Balochistan	0.544	0.719	0.810*	2.051*
Major Urban	0.996	1.161	2*	1.181
Other Urban	1.326*	1.101	1.253**	1.092
Rural Areas (Reference)	—	—	—	—
Constant	0.64	0.258	1	4.427
–2 Loglikelihood	5076.445	4515.924	6092.325	7380.788
N	8700	7946	20202	10622

Source: Labour Force Survey.

a: Data not available.

The findings of the models for the 25–34 year sub-sample are similar to those discussed for the youth (15–24) labour force [for detail see, Arif (2007)]. However, the results of models for older labour force, aged 35 and above, are different from either the youth sub-sample or the total labour force sample. In previous models education had a positive relationship with unemployment. For the older sample this relationship turned out to be negative and statistically significant: higher the level of education less is the probability of being unemployed (Appendix Table 4). Degree-holders aged 35 and more years were 3.3 times less likely to be unemployed than the illiterate sample in this age group. On the one hand, it shows the concentration of illiterates in the older unemployed sample. On the other hand, it indicates the ultimate absorption of educated labour force in the labour market compared to illiterate as well as less educated labour force. Despite wide-spread dissatisfaction about the education standard, irrelevance of curriculum with labour market requirements, and high-levels of unemployment among the educated youth, education seems to be an effective tool for permanent adjustment in the labour market. However, to reap the benefits of demographic transition, educated youth must not wait long for their adjustment in the labour market.

## 8. CONCLUSIONS

There is convincing evidence that because of demographic change primarily in terms of rapid decline in fertility since the early 1990s, the share of the working-age population, particularly the youth is rising and child dependency is on a decline as well. This bonus phase is likely to continue for the next two to three decades when old age dependency will start rising. However, because of delay in fertility transition compared with many Asian countries, Pakistan is entering the bonus phase with a considerable demographic stress, in terms of larger overall population as well as youth population.

The benefits of the demographic bonus phase for a country are associated with the development of human capital and placement of youth in productive employment. In these two measures, Pakistan's experience during the last one and half decade is mix and differs considerably in urban and rural areas across the four provinces and by gender. For example, the adult population of urban areas has been able to reduce illiteracy and increase their levels of educational attainment by staying at school for longer period. There is a need to have massive adult literacy campaigns particularly for rural areas. Already launched programmes by the National Commission for Human Development and provincial literacy departments may be made more effective in terms of their coverage, and course contents.

There is no real difference between the populations of 10 largest cities and medium and small cities in terms of both literacy and educational attainment. The youth population of urban Pakistan is by and large literate, more educated than older cohorts and more balanced in gender dimension. Unfortunately, this commendable progress in urban Pakistan has widened the rural-urban gap in literacy and educational attainment. Although rural youth population is better in literacy indicators than older cohorts, rural populations are still largely illiterate in Pakistan. Rural population in fact has left behind in improving human capital.

Labour market implications for changes in both age structure of the population and levels of educational attainment were examined in the forgoing analysis by two outcomes:

labour force participation and unemployment. The overall increase in female labour force participation rate by three percentage points between 1990-91 and 2003-04 period has resulted in increasing their share in the total labour force. Fertility decline has probably started contributing in female labour supply. Male participation in the labour market remained constant. Because of both changes in the age structure linked with recent demographic transition and labour force participation patterns, the share of youth (15–24 years) in the total labour force has increased considerably. This increase has been observed in urban as well rural areas. In rural areas female participation increased for all age groups while in urban areas this increase was largely in 25–44 age groups. However, the increase in female participation in the labour market was almost entirely among the illiterates. Education-specific rates for female in fact have declined overall as well as for the youth indicating that attitudinal change towards female education as witnessed in urban areas during the last one and half decade has not led necessarily to a change towards enhanced female participation in the economic activities. Social norms, lack of employment opportunities and familial responsibilities associated with marriages could be the major explanatory factors for the decline in labour market participation of educated female over time.

Lack of employment opportunities are evident from the higher levels of unemployment among female compared to male throughout the 1990s as well as for more recent periods; though the gender gap has considerably narrowed because of rapid recent decline in female unemployment, which could, at least partially, be attributed to the withdrawal of educated female from the labour market. One common concern is about the quality of female employment. In urban areas, about two-thirds of the employed females are ‘employees’ whereas in rural areas only one-quarter or less are in this category being the majority, two-third, in the ‘unpaid family helper’ category. Percentage of female reported in these categories fluctuated during the last one and half decade but without any major shift. However, female education appears to have contributed in improving the occupational composition of urban female work force. In 1990-91 about one-quarter of them was professional workers; the ratio has increased to 37 percent in 2003-04. Education and health seem to be the main sectors for providing employment opportunities to female.

Integration of unemployed male youth (15–24), which constitutes one-third of the total 3.5 million unemployed stock in 2003-04, into the domestic labour market is a serious concern. Majority of them had matriculation or higher level of education and many of them have been unemployed for a long period. The seriousness of their employment prevails in all regions: large cities, small/medium towns and rural areas. While the youth employment situation in Sindh and, to some extent, Punjab has not deteriorated, it has worsened over time in the two other small provinces, NWFP and Balochistan. In addition to providing employment opportunities to youth as well as older unemployed stock in rural and urban areas particularly in two small provinces, rural-urban movement of labour, inter-province migration, movements between large, medium and small cities and overseas migration may be used as policy instruments to correct regional imbalances in unemployment.

It can be concluded that the benefits of demographic transition in terms of rising shares of youth in the total population has been partially translated to the development of

their human capital and productive absorption in the local labour market. While the pace of human capital formation seems to be satisfactory in urban Pakistan, it is dismal in rural areas, particularly for female. High-levels of both female inactivity across the education categories and unemployment for male as well as female suggest for a strong youth employment policy in Pakistan to reap the benefits of ongoing demographic transition. Youth are sources of development [McDowell (2007)]; and a high priority may be placed on preparing them with the skills needed for their adjustment in the labour market.

Appendix Table 1

*Trends in Educational Attainment of Adult Population (10 Years and Above) by Region, 1990-91 to 2003-04*

Region/Gender	Education	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04
Major Urban—Both Sexes	Illiterate	43.2	42.6	37.6	34.3	34.4	33.5	30.5	30.7
	Primary	27.8	30.1	27.0	24.2	25.7	25.9	26.3	25.0
	Middle	12.0	10.8	12.7	13.2	13.8	13.5	13.9	13.6
	Matriculation	10.5	10.4	13.5	15.2	15.7	15.9	16.1	15.9
	Intermediate	3.4	3.7	5.1	6.3	5.7	6.1	6.9	7.0
	BA and Higher	3.1	2.4	4.1	6.8	4.6	5.1	6.3	7.9
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Other Urban—Both Sexes	Illiterate	40.7	38.8	36.6	34.9	33.0	32.3	32.8	30.1
	Primary	26.0	26.8	26.4	23.9	25.7	26.5	26.3	25.8
	Middle	11.8	11.6	12.3	13.1	13.6	13.2	13.5	13.3
	Matriculation	12.1	12.2	13.1	14.3	14.4	14.4	14.0	15.2
	Intermediate	5.0	5.4	5.8	7.1	6.6	7.0	6.5	7.4
	BA and Higher	4.4	5.2	5.7	6.6	6.7	6.7	6.9	8.3
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rural—Both Sexes	Illiterate	69.5	69.7	67.6	65.6	66.8	63.9	59.5	58.4
	Primary	19.5	19.8	19.8	18.9	18.7	20.3	22.6	23.4
	Middle	5.6	5.0	6.1	7.4	6.8	7.7	8.3	8.3
	Matriculation	3.9	3.9	4.4	5.6	5.3	5.6	6.5	6.5
	Intermediate	1.1	1.1	1.4	1.6	1.4	1.6	1.9	2.0
	BA and Higher	0.5	0.5	0.7	0.8	0.9	0.9	1.2	1.3

*Continued—*

Appendix Table 1—(Continued)

Major Urban—Male	Illiterate	30.6	29.7	25.4	24.6	26.4	27.0	24.0	25.0
	Primary	31.3	34.0	30.8	26.4	27.3	27.0	28.0	26.3
	Middle	15.4	14.2	15.4	14.9	16.1	15.3	15.1	14.9
	Matriculation	13.7	13.8	16.2	18.0	17.9	17.4	18.4	17.1
	Intermediate	4.4	5.0	6.5	7.1	6.7	6.6	7.0	7.3
	BA and higher	4.6	3.4	5.7	9.0	5.6	6.6	7.4	9.4
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Major Urban—Female	Illiterate	56.5	56.7	50.5	44.9	42.9	40.5	37.5	36.7
	Primary	24.2	25.8	23.0	21.8	24.1	24.7	24.4	23.5
	Middle	8.4	7.2	9.9	11.3	11.2	11.5	12.6	12.1
	Matriculation	7.1	6.8	10.6	12.2	13.3	14.3	13.7	14.5
	Intermediate	2.3	2.2	3.6	5.5	4.7	5.6	6.8	6.8
	BA and Higher	1.4	1.4	2.4	4.3	3.6	3.5	5.0	6.4
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Other Urban—Male	Illiterate	30.9	30.0	27.4	26.1	24.9	24.9	24.7	23.1
	Primary	28.2	28.4	28.5	26.2	27.1	27.5	28.1	27.1
	Middle	14.0	13.3	14.1	14.5	15.0	15.0	15.4	14.7
	Matriculation	14.3	14.8	15.3	16.1	16.1	16.2	15.8	17.0
	Intermediate	6.3	6.5	6.9	8.4	7.9	7.8	7.4	8.0
	BA and Higher	6.2	7.0	7.7	8.7	8.9	8.6	8.7	10.1
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Other Urban—Female	Illiterate	51.6	48.4	46.7	44.8	42.1	40.4	41.9	37.7
	Primary	23.5	25.1	24.0	21.3	24.2	25.2	24.4	24.4
	Middle	9.3	9.7	10.4	11.6	12.0	11.4	11.3	11.7
	Matriculation	9.7	9.3	10.8	12.4	12.4	12.5	11.9	13.2
	Intermediate	3.5	4.2	4.6	5.7	5.2	6.0	5.6	6.7
	BA and higher	2.5	3.2	3.5	4.2	4.1	4.5	4.9	6.3
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Continued—

Appendix Table 1—(Continued)

Region/Gender	Education	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04
Rural–Male	Illiterate	55.2	55.4	52.4	51.4	52.9	48.9	45.0	43.7
	Primary	27.0	27.4	27.4	25.1	25.1	26.9	28.5	29.9
	Middle	8.7	8.0	9.7	11.1	10.3	11.5	12.1	12.0
	Matriculation	6.4	6.4	7.0	8.4	8.1	8.6	9.5	9.5
	Intermediate	1.8	1.8	2.4	2.6	2.1	2.6	2.9	2.9
	BA and higher	0.8	0.9	1.2	1.4	1.5	1.6	1.9	2.0
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rural–Female	Illiterate	84.9	84.7	83.6	80.9	81.8	79.4	74.6	73.4
	Primary	6.8	6.6	7.3	9.1	8.4	9.8	11.0	11.6
	Middle	2.2	1.9	2.4	3.4	3.0	3.8	4.3	4.5
	Matriculation	1.1	1.3	1.6	2.5	2.3	2.6	3.4	3.5
	Intermediate	0.3	0.3	0.4	0.6	0.5	0.7	0.9	1.1
	BA and Higher	0.1	0.1	0.1	0.2	0.3	0.2	0.4	0.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from *Labour Force Surveys, 1990-91 to 2003-04*.

Appendix Table 2

*Male Labour Participation Rate by Urban-Rural Areas*

Age Group (Years)	1990-91	1991-92	1993-94	1996-97	1997-98	1999-00	2001-02	2003-04
<b>Urban Areas</b>								
10-14	12.3	12.5	10.6	11.4	10.2	11.6	11.3	11.1
15-19	44.5	42.7	42.2	43.1	41.6	48.1	48.8	47.8
20-24	81.0	77.1	77.7	78.0	78.7	77.7	81.5	79.9
25-34	97.7	96.2	96.6	96.6	96.4	95.6	96.3	95.7
35-44	98.3	98.5	97.9	98.4	97.8	97.6	97.9	96.7
45-59	94.0	93.8	93.9	93.7	92.9	92.4	91.7	92.0
≥60	56.4	51.1	51.3	51.0	53.0	46.0	45.3	47.5
Total	66.6	65.5	64.7	66.5	65.2	65.0	66.9	67.1
<b>Rural Areas</b>								
10-14	22.8	23.6	19.3	19.9	22.3	21.7	20.1	22.0
15-19	61.5	59.2	57.4	58.3	59.1	64.2	62.8	65.7
20-24	91.5	89.2	88.7	89.3	88.8	89.7	90.7	89.9
25-34	97.8	97.3	98.0	97.6	97.2	96.8	96.7	96.7
35-44	97.9	97.9	98.4	98.5	97.7	97.5	97.1	97.8
45-59	95.3	95.4	95.6	95.6	95.9	95.6	94.6	95.2
≥60	64.2	64.2	65.6	67.9	67.8	65.9	61.1	63.0
Total	73.7	72.6	71.1	71.8	73.4	73.1	72.1	72.6

Appendix Table 3

*Percentage Distribution of the Labour Force by the Levels of Educational Attainment, 1990-91 and 2003-04*

Level of Educational Attainment	1990-91			2003-04		
	Both Sexes	Male	Female	Both Sexes	Male	Female
<b>Rural Areas</b>						
<i>Illiterate</i>	68.44	64.67	88.52	56.45	49.73	81.97
<i>Literate</i>	31.58	35.33	11.48	43.55	50.27	18.03
No Formal Education	1.42	1.42	1.40	0.67	0.77	0.31
Pre-matriculation	21.98	24.82	6.86	28.82	33.47	11.19
Matriculation	5.80	6.41	2.52	9.10	10.49	3.73
Intermediate	1.51	1.68	0.56	2.75	3.11	1.35
BA and Higher	0.89	1.00	0.14	2.23	2.43	1.45
<b>Urban Areas</b>						
<i>Illiterate</i>	40.43	38.36	58.02	29.77	28.29	41.01
<i>Literate</i>	59.57	61.61	41.98	70.23	71.74	58.99
No Formal Education	1.92	1.89	2.22	0.79	0.84	0.66
Pre-matriculation	29.52	31.30	14.07	30.48	32.32	16.45
Matriculation	14.32	14.64	11.60	17.99	18.45	14.47
Intermediate	6.10	6.20	5.19	7.93	7.84	8.55
BA and Higher	7.71	7.60	8.89	13.05	12.28	18.86

Source: Computed from the *Labour Force Surveys*.

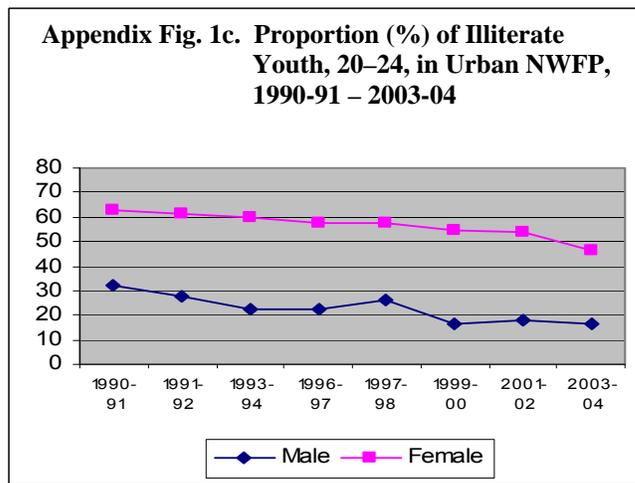
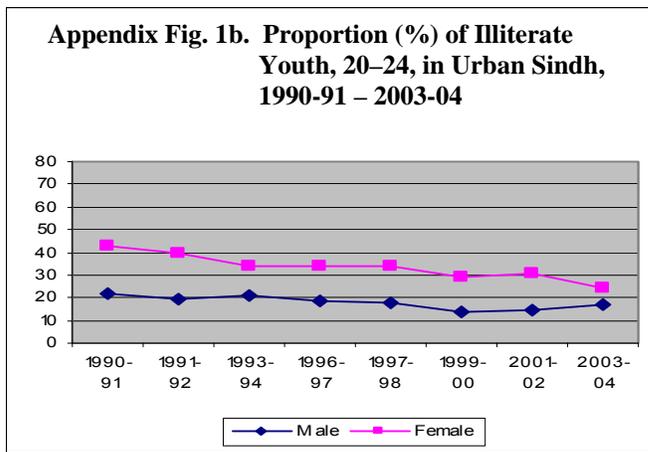
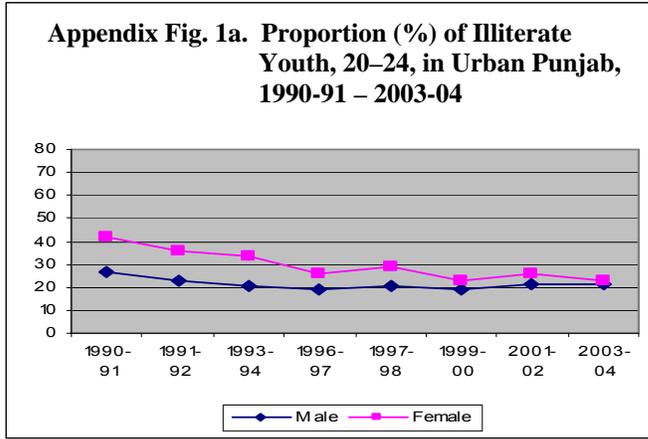
Appendix Table 4

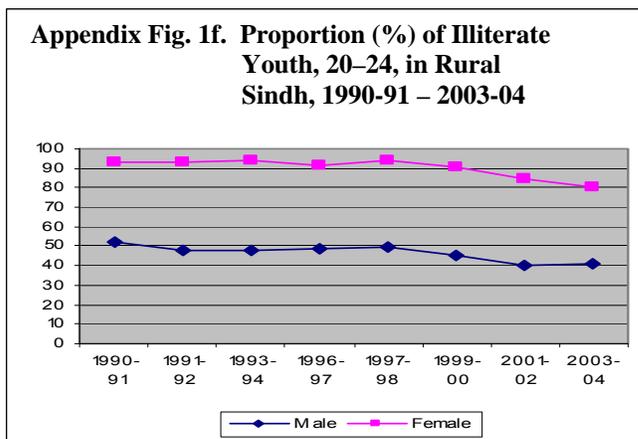
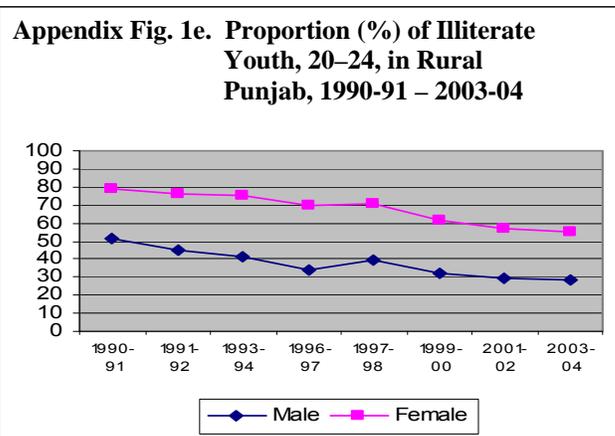
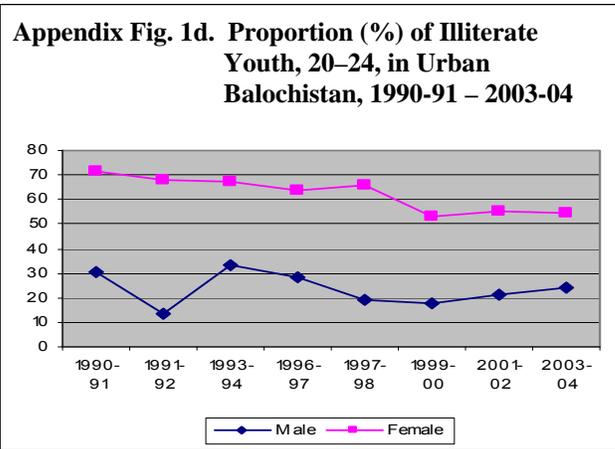
*Logistic Regression Effects on Unemployment— Odds Ratios (Age 35+)*

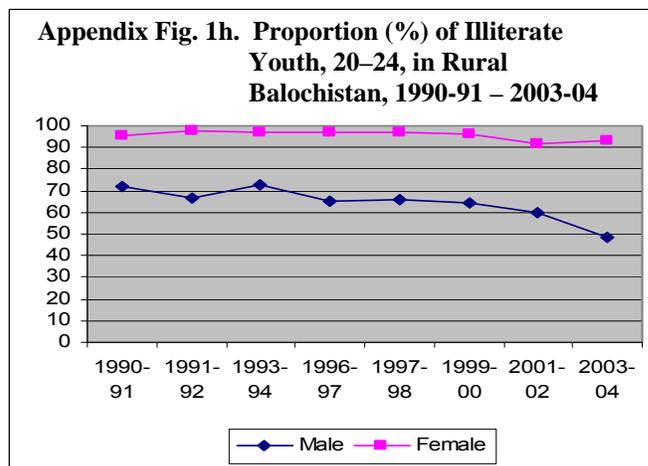
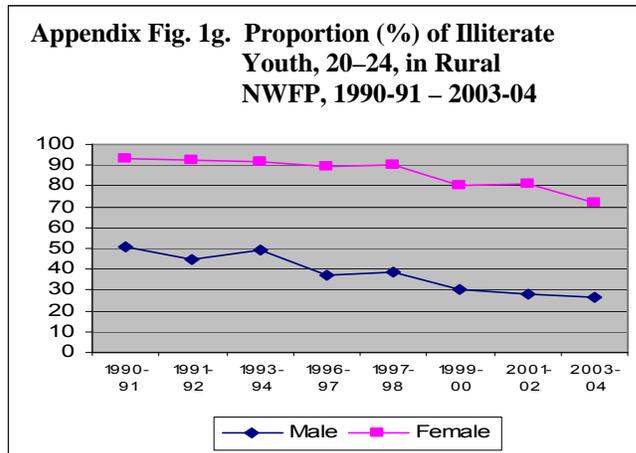
Correlates	1990-91	1996-97	1999-00	2003-04
<b>Individual Characteristics</b>				
Age (Years)	1.193*	1.131*	1.102*	1.051**
Age <sup>2</sup>	0.999*	1***	1	1
Sex (Male=1)	0.132*	0.114*	0.190*	0.188*
Educational Attainment				
Illiterate (Reference)	—	—	—	—
<Matriculation (1–9 Years of Schooling)	0.975	0.907	1.196	0.806***
Matriculation or Intermediate (10–13 Years)	0.647***	0.436*	0.658**	0.626*
BA and More (14 and More Years)	0.491***	0.243*	0.374*	0.303*
Relationship to Head of Household				
Self	0.676*	0.498*	0.412*	0.736**
Son/Daughter	1.001	0.568	1.611	2.750**
Others (Reference)	—	—	—	—
Marital Status (Married=1)	0.617*	0.563*	0.560*	0.573*
<b>Head of Household Characteristics</b>				
Education of the Head of Household				
Illiterate (Reference)	—	—	—	—
<Matriculation	0.973	1.054	0.849	1.134
Matriculation or Intermediate	1.386	1.97*	1.588*	1.658*
BA and Higher Education	1.238	1.781	2.539*	1.929**
Occupational of the Head of Household				
Professional and Managerial Workers	0.128*	0.243*	0.131*	0.148*
Agricultural Workers	0.065*	0.125*	0.086*	0.087*
Service Workers	0.135*	0.238*	0.272*	0.144*
Other Workers (Reference)	—	—	—	—
Female Headed Household (Female=1)	0.567***	0.507**	0.410**	0.425*
Migration Status of the Head (Non-migrant=1)	<sup>a</sup>	1.061	1.007	1.103
<b>Household Characteristics</b>				
Household Size	1.033*	1.043*	1.047*	1.049*
Total Number of Earners in the Family	0.547*	0.618*	0.637*	0.632*
<b>Locational Variables</b>				
Punjab (Reference)	—	—	—	—
Sindh	0.785**	1.409*	0.78***	1.149
NWFP	1.269**	2.228*	2.168*	2.586*
Balochistan	0.431*	0.956	0.615**	1.098
Major Urban	1.017	1.531*	2.144*	1.322**
Other Urban	1.285**	1.615*	1.420*	1.586*
Rural Areas (Reference)	—	—	—	—
Constant	0.003*	0.005*	0.009*	0.029*
–2 Loglikelihood	4183.878	4151.885	4058.887	5322.447
N	15648	16310	14276	16330

Source: Labour Force Survey.

a: Data not available.







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