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Labour Market Dynamics in Pakistan: Evidence from the Longitudinal Data

G. M. ARIF, M. F. KIANI, and KHALID H. SHEIKH

1. INTRODUCTION

The bulk of research on labour market conditions in Pakistan has concentrated on the economic activity rate, the number of employed persons, or the unemployment rate at a particular point in time. These stock measures of labour market situation are useful from a policy viewpoint as they give a broad indication of the dimension of the problem. For example, the recent labour force surveys show an increase in the level of open unemployment from 5.9 percent in 1997-98 to 7.8 percent in 1999-2000 [Pakistan (2001)]. There is also an emerging consensus that during the 1990s poverty has increased at the national as well as for rural and urban areas of the country [Qureshi and Arif (2001)]. Labour market is considered as the main route for establishing the link between macro policies, the resulting GDP growth and poverty alleviation [Rahman (2002)]. Interim Poverty Reduction Strategy Paper (IPRSP) and other development plans have suggested various targets of employment creation for poverty reduction.

The stock measures of labour market conditions, such as unemployment rate, are considered to be inadequate from the viewpoint of developing appropriate policy responses. There is a need to gain further insights by examining the structure of labour market in terms of its dynamic components: these being the turnover of persons into and out of the labour force and turnover into and out of employment and unemployment pools [Brooks and Volker (1984)]. If unemployment is comprised mainly of high turnover and short duration, then appropriate policies to reduce unemployment would be those designed to improve the information on

G. M. Arif, M. F. Kiani, and Khalid H. Sheikh are Chief of Research and Research Demographers respectively at the Pakistan Institute of Development Economics, Islamabad.

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labour market conditions to job seekers and to facilitate the efficiency of the job search persons. On the other hand, extended spells of unemployment would point to more structural policies such as training schemes, job creation schemes or income support schemes, which are specifically targeted at the long-term unemployed.

Research on employment situation in Pakistan has largely been based on cross-section data generated through the labour force surveys. However, longitudinal data is preferred because it enables one to view the labour force decision of an individual in a life cycle context. Pakistan Institute of Development Economics has generated a panel data set in two rounds of the Pakistan Socio-economic Survey (PSES).[1] This paper has used these two rounds to determine movement of individuals into and out of labour force, employment and unemployment. It has also determined the correlates of these movements. Rest of this paper is organised as follows. Data sources and methods of analyses are discussed in the next section, followed by the reporting of labour force participation and unemployment rates in Section 3. Labour market transitions are examined in Section 4. The next section links age, gender and education with these transitions through a bivariate analysis. Correlates of different labour market transitions are discussed in Section 6 while final section summarises the main findings.

2. DATA SOURCES AND METHOD OF ANALYSIS

2.1. Data Source

As noted above, this study is based on the PSES panel data set generated in two rounds. Round I was carried out in 1998-99 while the Round II was completed in 2000-01. The sampled households covered during the Round I numbered 3564 (2268 rural and 1296 urban). It was representative at the national as well as for rural and urban areas of the country.[2] Households covered during the Round I of the PSES were revisited during the Round II. Table 1 shows that 80 percent of these households (or 2862 households) were successfully interviewed; indicating the attrition rate as 20 percent.[3] To make the PSES Round II data representative at the national as well as for rural and urban areas of the country, more than 1000 new households were included in the sample. However, to see the movement of individuals in different labour markets states, this study has concentrated on households that were covered in both rounds of the PSES.

Table 1

[1]Two rounds of the PSES were completed with the financial assistance from the International Development Research Centre (IDRC), Canada, through the Micro Impact of Macro Adjustment Policies Project based at PIDE, Islamabad.

[2]For more detail on the PSES sample, see Arif, *et al.* (2001).

[3]Reasons for this attrition rate can be found in Arif and Bilquees (forthcoming).

Distribution of the Households Covered During Round II of PSES 2000-01, Urban/Rural and Provincial

	Punjab	Sindh	NWFP	Balochistan	Pakistan
All Areas					
Households Interviewed in Round I (1998-99)	1952	848	508	256	3564
Households Interviewed in Round II (2000-01)	1731	604	341	186	2862
Round II Households as % of Round I Households	88.7	71.2	67.1	72.7	80.3
Rural Areas					
Households Interviewed in Round I (1998-99)	1320	456	324	168	2268
Households Interviewed in Round II (2000-01)	1203	324	207	112	1846
Round II Households as % of Round I Households	91.1	71.1	63.9	66.7	81.4
Urban Areas					
Households Interviewed in Round I (1998-99)	632	392	184	88	1296
Households Interviewed in Round II (2000-01)	528	280	134	74	1016
Round II Households as % of Round I Households	83.5	71.4	72.8	84.1	78.4

Source: Arif and Bilquees (forthcoming).

2.2. Method of Analysis and Data Description

In accordance with the official working age, population aged 10 years and above at the time of Round I was included in the present analysis. Individuals who reached at age 10 in Round II were excluded from the analysis because their employment status in Round I was unknown. Girls who moved out of the original panel households due to marriage, persons who set up new separate households outside the sampled primary sampling units and deceased were not made part of the analysis. The sample (individuals aged 10 years and above) has been divided into three labour market states: employed, unemployed, and not in the labour force.[4] Some of these states are not mutually exclusive as it is possible that for an individual to be now working and simultaneously looking for another job. Movements of persons between the labour market states during the 1998-99 and 2000-01 period comprise labour market flows. The analysis is carried out in two ways. Firstly, using the data from two rounds of PSES, a matrix of these flows is developed to examine transition from one labour market state to other state. Secondly, correlate of these transitions are examined by applying logistic regressions. Three equations are estimated. The Equation I examines the transition from being economically active to

[4]An individual who worked for pay, profit or family gain during the month preceding the survey at least for one hour was defined as employed. Unpaid family helpers were also considered as employed. A person who was not working at the time of survey and was available for work was defined as unemployed. All individuals who were neither employed nor unemployed at the time of survey were given the status of 'not in the labour force'. These definitions were applied in both rounds of the PSES.

being inactive while Equations II and III examines the transition from employment to unemployment and unemployment to employment respectively. Factors considered important in determining these transitions include age, gender, education, marital status, and place of residence. In some equations, work experience, training and occupation were also included as explanatory variables.

Table 2 sets out data on some selected characteristics of the sample. Mean age that was computed as 30.4 years from the Round I data increased to 32.4 years in the Round II of PSES. This increase is expected because the gap between the two rounds was approximately two years. The share of males in the sampled population was slightly higher than the share of females. The proportion of currently married persons increased from 49 percent in 1998-99 to about 51 percent in 2000-01. The sampled households did not change their residence as percentage of population living in urban areas remained unchanged, about 39 percent in two rounds. There was only marginal improvement in the literacy level. The level of educational attainment also improved marginally.

Table 2

Sample Characteristics (Population Aged 10 Years and Above)

Characteristics	Round I (1998-99)	Round II (2000-01)
% Male	52.9	53.0
Mean Age (Years)	30.4	32.4
% Currently Married	49.3	50.6
% Living in Urban Areas	38.7	38.6
% Literate	48.0	48.8
Educational Attainment		
Primary	37.7	36.4
Lower Secondary	19.7	19.2
Secondary (Matric)	19.2	19.7
Higher (College, University)	16.4	17.7

Source: Computed from the PSES Round I and Round II.

3. LABOUR FORCE PARTICIPATION AND UNEMPLOYMENT

Two important stock measures of labour market condition, labour force participation (LFP) and unemployment, computed from the Round I and II of PSES are reported in Table 3. For comparison, the corresponding data from recent labour force surveys are presented in Table 4. The PSES data show that LFP rate for the total adult population increased from about 44 percent in 1998-99 to 50 percent in 2000-01. To make the results more comparable and consistent, LFP rates standardised by age are also reported in column 3 of the table. This standardisation was necessary because the sampled population was about 2 years older in Round II and the new entrants into the labour force were not included in the calculation of the

LFP rates. The standardised rate in 2000-01 was counted as 48 percent, which was about 4 percent higher than the LFP rate in 1998-99. Increase in the LFP is largely due to rise in the female participation in labour force, from 16 percent in Round I to 25 percent in Round II (Table 3). This large increase can primarily be attributed to better data collection techniques used in Round II of PSES. In labour force surveys as well as 1998-99 PSES only male enumerators were used to collect data on economic activity of all household members including females. Male respondents are likely to underreport the economic activity of female members of their households. In Round II of PSES, female enumerators collected information on economic activity directly from the female respondents. This resulted in reporting relatively high level of female participation in the labour force. As expected, female participation is higher in rural areas than in urban areas (Table 3). Women in rural areas are mainly engaged in activities relating to farming and livestock. But even in urban areas, according to Round II PSES, female LFP rate was as high as 19 percent. A comparison of the PSES rates with the rates based on labour force surveys shows no real difference in male participation (Tables 3 and 4). However, female participation was substantially higher in the former than in latter primarily, as noted above, because of better data collection techniques used in Round II of PSES.

Table 3

Labour Force Participation and Unemployment Rates in Two Panel Data Sets, by Gender and Rural-Urban Area

	Labour Force Participate Rate			Unemployment Rate	
Area/Gender	1998-99	2000-01	2000-01 (Standardised)	1998-99	2000-01
Pakistan					
Both Sexes	43.7	50.3	48.0	6.1	11.5
Male	68.8	72.2	68.4	4.9	7.1
Female	15.6	25.9	25.3	12.0	25.1
Urban Areas					
Both Sexes	39.5	47.1	44.7	9.8	13.5
Male	66.9	71.3	67.6	7.4	8.1
Female	8.8	19.9	19.1	31.1	35.4
Rural Areas					
Both Sexes	46.3	52.3	50.2	4.11	10.3
Male	69.9	72.8	68.9	3.5	6.5
Female	19.9	29.7	29.2	6.7	20.7

Source: Computed from PSES Round I and II.

Table 3 also present data on unemployment rates computed from the two Rounds of PSES, while rates based on recent labour force surveys are reported in Table 4. According to the 1999-2000 labour force survey, the total unemployment rate was 7.8 percent. It was 6.2 percent for male and 7.3 percent for female labour force. Between the 1997-98 and 1999-2000 period the level of overall unemployment increased from 5.9 percent to 7.8 percent (Table 4). This increase of about 2-percentage point in open unemployment in three years seems to be substantial. The increase in the level of unemployment was even higher according to the PSES panel data sets: from 6.4 percent in 1998-99 to 11.5 percent in 2000-01. This jump in unemployment is largely due to sharp rise in female unemployment, from 12 percent in 1998-99 to 25 percent in 2000-01. It can partly be attributed to better reporting of female economic status in the 2000-01 PSES where female enumerators were deployed. It appears that more women in the country are available for job than the number reported by the labour force surveys, which should collect information about female participation in the labour market through female enumerators to get the real situation.

Table 4

Labour Force Participation and Unemployment Rates as Reported by Recent Labour Force Surveys, by Gender and Rural Urban Area

	Labour Force Participation Rates			Unemployment Rates		
Area/Gender	1996–97	1997–98	1999–00	1996-97	1997–98	1999–00
Pakistan						
Both Sexes	43.0	43.3	42.8	6.1	5.9	7.8
Male	70.0	70.5	70.4	4.2	4.0	6.1
Female	13.6	13.9	13.7	16.8	15.0	17.3
Urban Areas						
Both Sexes	38.9	37.7	38.1	–	–	–
Male	66.5	65.2	65.0	5.1	5.8	7.5
Female	8.4	7.4	8.8	25.2	28.6	29.3
Rural Areas						
Both Sexes	45.1	46.4	45.1	–	–	–
Male	71.8	73.4	73.1	3.8	8.5	5.4
Female	16.3	17.4	16.1	14.6	11.9	14.1

Source: Labour Force Surveys, 1996-97, 1997-98, 1999-2000.

4. MAGNITUDE OF FLOWS IN LABOUR MARKET

The gross flows into and out of the three labour market states—employed, unemployed and not in the labour force—are shown in Table 5. Data on these flows for rural and uzrban areas controlling for gender are given in Appendix Tables 1 and 2.

Table 5

Change in Labour Market States between the 1998-99 and 2000-01 Period

Labour Market States in 2000-01	Labour Market States in 1998-99			All	N (Male)
	Employed	Unemployed	Not in Labour Force		
Employed	79.3	41.4	19.4	44.6	5309
	(90.7)	(84.1)	(46.8)	(79.5)	(4220)
Unemployed	3.7	32.6	6.0	5.8	688
	(79.0)	(60.6)	(29.0)	(47.0)	(323)
Not in Labour Force	17.0	26.0	74.6	49.7	5918
	(55.8)	(48.2)	(25.1)	(29.7)	(1758)
All	100	100	100	100	
	(84.2)	(67.1)	(29.4)	(52.9)	–
N	4891	319	6705	11915	
(Male)	(4119)	(214)	(1968)	(6301)	–

Source: Computed from the PSES Round I and II.

Note: In parenthesis is percentage of males in each cell.

A general observation is that transition from unemployment to employment is quite slow; only 41 percent of the unemployed stock was able to obtain a job between the 1998-99 and 2000-01 period. One-third of them could not get a job even after two years; they remained in the state of unemployment. Sixty-one percent of these unemployed were males. Ironically, more than a quarter of the unemployed stock moved out of the labour force between the 1998-99 and 2000-01 period. More than half of this group consisted of females. Although this exit could be due to female marriage or other family responsibilities, the element of discouragement cannot be ruled out for females as well as males.

One important aspect of the flow data presented in Table 5 is that approximately 3.7 percent of the total employed stock in 1998-99 changed their labour market status and became unemployed in 2000-01. However, there is one conceptual problem in this magnitude of flows out of employment (column 1 Table 5). As reported earlier (footnote 5), unpaid family helpers are part of the employed labour force. After a gap of two years, there is possibility that they have reported themselves in a different category of labour market state e.g. looking for work or out of the labour force. Since a substantial proportion of the employed stock consists of unpaid family helpers, 28 percent (see Appendix Table 3), this reporting can affect the movement pattern of employed persons into other states of labour market. However, the exclusion of unpaid family helpers from column 1 of Table 5 did not change substantially the movement pattern of the employed labour force; still 3.5 percent of them made transition to unemployment (Appendix Table 4).

By combining the flow data presented in Table 5 it is possible to make a distinction between the transitory and chronic unemployed. Chronic unemployed are those who remained unemployed in both rounds of the PSES.[5] Transitory unemployed are those who made transition from being employed in 1998-99 to being unemployed in 2000-01. Persons who were outside the labour force in 1998-99 but reported themselves as unemployed in 2000-01 can be called short-term unemployed, as they are likely to be new entrants into the labour force. Based on this classification, it is estimated in Table 6 that more than half of the total current stock of unemployment consisted of short-term unemployed. More than a quarter of this stock was in the category of transitory unemployed while 15 percent were chronic unemployed. Column 2 of Table 6 shows one more dimension of this classification. Female dominated in the short-term category of unemployment while four-fifth of transitory unemployed were males. Majority of the chronic unemployed also consisted of males.

Table 6

Classification of the Current Stock of Unemployed

Classification	% (Distribution)	% Male
Short-term Unemployed	58.6	29.0
Transitory Unemployed	26.3	79.0
Chronic Unemployed	15.1	60.6
All	100	47.0

Source: Computed from the 1998-99 and 2000-01 PSES.

5. CORRELATES OF LABOUR MARKET TRANSITIONS: A BIVARIATE ANALYSIS

Among others, age, gender and education are the factors considered important in determining an individual's labour market status. Before moving to a multivariate analysis, it seems useful to examine the relationship of these factors with different labour market transitions. Table 7 presents data on age and educational distribution of individuals according to the nature of transition made between the 1998-99 and 2000-01 period. First, take the case of workers who moved from employment to unemployment (column 2, Table 7). More than 60 percent of this group was below the age of 30 years in 1998-99 and they were predominantly males. However, in the next age group (30–39 years), 50 percent were females. It appears that workers who lost their jobs and joined the unemployed pool between 1998-99 and 2000-01 were primarily young males. Although 40 percent of these workers were illiterate, a substantial proportion, 24 percent, had in their accounts 10 or more years of education (Table 7, panel 2).

[5]However, the possibility of being employed for some time between these two period cannot be ruled out.

Table 7

Age and Educational Distribution of Labour Force, by Nature of Transition Made between the 1998-99 and 2000-01 Period

Age Groups/ Educational Level	No Transition: Employed in Two-periods	Transition from Employed to Unemployed	Transition from Employed to out of Labour Force	No Transition: Unemployed in Two-periods	Transition from Unemployed to Employed	Transition from Unemployed to not in Labour Force
Age Groups (Years) in 1998-99						
< 20	11.4	23.2	21.3	17.3	31.1	25.3
	(85.7)	(73.8)	(59.9)	(77.8)	(82.9)	(66.7)
20 – 29	31.2	37.6	17.9	25.3	37.2	39.8
	(92.1)	(92.6)	(53.7)	(55.6)	(95.9)	(36.4)
30 – 39	20.1	12.1	13.1	9.6	12.9	9.6
	(88.9)	(50.0)	(36.7)	(60.0)	(82.4)	(75.0)
40 – 49	17.1	11.1	12.0	9.7	9.9	10.8
	(90.4)	(70.0)	(32.0)	(30.0)	(64.3)	(11.0)
50 – 59	13.6	8.9	15.5	9.6	6.5	9.6
	(53.4)	(68.8)	(50.4)	(50.0)	(50.0)	(62.5)
60 +	6.6	7.2	20.1	27.9	4.5	4.8
	(97.3)	(100)	(84.4)	(67.0)	(66.7)	(5.0)
Education						
Illiterate	46.9	40.3	74.3	54.0	32.6	50.0
	(84.6)	(64.8)	(42.5)	(48.2)	(67.4)	(27.3)
Primary	16.9	21.0	7.7	16.0	17.4	13.6
	(95.7)	(75.7)	(69.6)	(75.0)	(78.3)	(55.6)
Middle	15.4	14.8	8.3	12.0	17.4	9.1
	(98.3)	(88.5)	(78.3)	(75.0)	(95.7)	(83.3)
Matriculation	10.7	12.5	6.8	10.0	9.1	7.6
	(96.1)	(100)	(85.7)	(70.0)	(100)	(40.0)
Higher	10.9	11.4	2.9	8.0	23.5	19.7
	(91.7)	(100)	(85.7)	(87.5)	(96.8)	(46.2)
All	100	100	100	100	100	100
	(90.5)	(79.0)	(51.7)	(61.0)	(84.1)	(40.9)

Source: Computed from the 1998-99 and 2000-01 PSES.

Note: In parenthesis is the percentage of males in each cell.

Table 7 further shows that 36 percent of those who made transition from being employed to being out of the labour force were 50 or more years old in 1998-99. Interestingly, slightly less than 40 percent of those who made this transition were young, below 30 years. Labour market situation is likely to have discouraged some of them and they moved outside the labour force. An overwhelming majority of those who left the labour force in 30–49 age groups consisted of females. In addition to labour market conditions, family responsibilities are likely to have contributed in this transition. In terms of education, 74 percent of persons who moved outside the labour force were illiterate and 57 percent of them were females. Only a small proportion of the qualified persons made a transition from employment to out of the labour force. It shows that those with higher qualifications are likely to stay in the workforce relatively longer to recoup their investment in human capital.

Last two columns of Table 7 show age and educational distribution of those who moved from unemployment either to employment or out of the labour force. Take the case of moving outside the labour force where 59 percent were females. Discouragement as well family formation (for females) probably prevailed in this movement since it contained persons who were young and educated. Data show that education appears to have played the major role in making transition from unemployment to employment. A large proportion of those who made this movement had matriculation or higher level of education. Among the chronic unemployed, who remained unemployed between 1998-99 and 2000-01 period, 28 percent were in the highest age group (60 years and above). However, 40 percent of these chronic unemployed were young, below 30 years of age. This is the group who deserves to be targeted for self-employment.

6. CORRELATES OF LABOUR MARKET TRANSITIONS: MULTIVARIATE ANALYSES

To determine the factors that can influence different labour market transitions, three equations have been estimated. It has been discussed earlier that 17 percent of the employed sample and 26 percent of the unemployed sample left the labour force between the 1998-99 and 2000-01 period. Equation 1 deals with the transition from being in labour force to moving outside the labour force. Dependent variable takes the value one if an individual moved out of the labour force and it takes the value zero if an individual remained in labour force (employed or unemployed) in two rounds of PSES. Six explanatory variables included in Equation I are: age, age^2, marital status, being head of household, place of residence and education. Equation II is about making transition from employment to unemployment, where dependent variable takes the value one if this transition took place and zero otherwise (chronic poor). Age, age^2, marital status, being head of household, place of residence, experience of previous work and the nature of previous occupation are entered in Equation II as explanatory variables. Correlates of making transition from unemployment to employment are examined in Equation III, where age, sex, marital status, education and training are included as the explanatory variables.

6.1. Moving Outside of the Labour Force

Table 8 shows results of logistic regression effects of predictors on moving out of the labour force. Results for male and female samples are reported separately. In the male sample, all explanatory variables turned out to be statistically significant. Age had a significantly negative influence on making transition from being in labour force to moving outside the labour force. The positive sign of age^2 indicates that participation in labour force is likely to decrease with age. It is reasonable to expect that for males there will be large changes in the numbers participating when they

Table 8

Logistic Regression Effects of Predictors on Moving Out of the Labour Force between the 1998-99 and 2000-2001 Period

Variables	Male	Female
Age (Computed Years)	–0.141***	–0.079***
Age^2	0.002***	0.001***
Marital Status (Currently Married =1)	–0.742***	0.255
Being Head of Household (Head=1)	1.261**	–0.477
Place of Residence (Urban=1)	0.184*	0.358*
Education (Illiterate is Omitted Category)		
Primary	–1.143***	–0.867***
Middle	–0.739***	–0.304
Matriculation	–0.415**	–0.762*
Higher Education	–0.813***	–1.378***
–2 Log Likelihood	27223	1176
N	4337	877

Source: Computed from the PSES Round I and II.

reach the age of 60, when eligibility for the age service pension occurs. Marital status had a significant negative influence on leaving the labour force, showing that currently married men are more likely than unmarried or widowed to stay in the labour force to earn livelihood for their dependents. Being head of the household is positively related with moving out of the labour force. These aged heads are likely to have other earners particularly sons in their households. All four categories of education, primary, middle, matriculation and high, had significantly negative impact on moving outside the labour force. It indicates the importance of human capital for labour market participation.

Workers living in urban areas are more likely than their rural counterparts to leave the labour force. Urban workforce is likely to be retired when they reach the age of 60 while there is no such obligation for rural workers engaged particularly in agriculture. Table 8 shows that results of the female sample are similar to that of the male sample with two exceptions. First, marital status and being head of household did not turned out to be statistically significant in the female sample. Second, the sign of these two variables are in the opposite direction of signs observed in the male sample. It appears that the effects of demographic variables on female participation in the labour force are different from their influence on male participation.

6.2. Making Transition from Employment to Unemployment

Table 9 shows results of logistic regression effects of predictors on making transition from employment to unemployment. Results for male and female samples are reported separately. In the male sample, age, age^2, education, work experience and occupation (only one category of machine operators) turned out to be statistically significant. Age had a significantly negative influence on making transition from employment to unemployment. But the significant and positive sign of age^2 indicates that this transition is likely to occur as men get older. Being currently married is negatively associated with men's movement from employment to unemployment. Education below the college level also had a positive impact on the probability of loosing the job. It raises the issue of quality as well as employability of school level education.

Table 9

Logistic Regression Effects of Predictors on Making Transition from Employment to Unemployment between the 1998-99 and 2000-01 Period

Variables	Male	Female
Age (Computed Years)	–0.090***	0.178*
Age^2	0.001***	–0.003**
Marital Status (Currently Married =1)	–0.409*	–0.430
Place of Residence (Urban=1)	–0.239	0.219
Education (Illiterate is Category)		
Primary	0.430*	1.410***
Middle	0.230	0.771
Matriculation	0.679**	–0.6351
Higher Education	0.971	–0.6307
Work Experience (Years)	–0.027**	0.011
Occupation in Previous Job		
(Elementary Occupation Omitted Category)		
Professional Workers	–0.426	1.863
Clerical Workers	–0.026	–3.053
Service Workers	–0.006	2.338*
Agricultural Workers	–0.321	1.613
Craft Workers	–0.389	3.142***
Machine Operators	0.948*	–6.989
–2 Log Likelihood	1181	263
N	4119	722

Source: Computed from the PSES Round I and II.

Work experience had a negative impact on loosing the job. Only one category of occupation, machine operators had a positive relationship with making transition from being employed to being unemployed. It may largely be due to deterioration in Pakistan's growth performance during the 1990s. The real GDP growth slowed down to an average of 4.9 percent in the first half of this decade; it declined further to an average of 4 percent in the second half of the 1990s. The large-scale manufacturing sector contributed largely to the deceleration process in the 1990s. It grew by an average annual rate of 8.2 percent in the 1980s, slowed down to an average of 4.7 percent in the first and further to 2.4 percent in the second half of the 1990s [Pakistan (2001a)].

Results of the female sample are to some extent different from the results of the male sample. Age had a positive relationship with making transition from employment to unemployment. Service and craft female workers were more likely than elementary workers to move from being employed to being unemployed. There appears to be a complex interplay of factors in throwing female workers out of their jobs. It needs further research.

6.3. Making Transition from Unemployment to Employment

The process by which an unemployed person obtains employment is the results of two events: the offering of employment to the unemployed person, and the accepting of this offer [Brooks (1986)]. Two different forces are thus at work: the probability of receiving a job offer and the probability of accepting a job offer. This sub-section examines the influence of age, gender, marital status, education, training and place of residence on the probability of transition from unemployment to employment. These factors were chosen as they provide some indication of labour market behaviour and have some application for policy formulation. Table 10 shows results of logistic regression effects of these predictors on making transition from unemployment to employment.[6]

Five variables, age, gender, marital status, education and training turned out to be statistically significant. The negative sign of age indicates that older persons are relatively less likely to be absorbed in the labour market. Males are more likely than females to leave the unemployed pool. Being currently married is positively associated with making transition from being unemployed to being employed. Only college and higher level of education had a positive influence on being employed. Training also had a positive and statistically significant impact on making transition from being unemployed to being employed. It appears that variables related to human capital of individuals such as age, education and training have greater influence on the probability of making transition from unemployment to employment.

[6]If data on duration of different unemployment spells are available, then the hazard function model is considered better than logistic regressions. In the subsequent analysis, unemployment duration will be used in the hazard function model.

Table 10

Logistic Regression Effects of Predictors on Making Transition from Unemployment to Employment between the 1998-99 and 2000-01 Period

Variables	β	S.E
Age (Computed Years)	–0.048***	0.011
Sex (Male=1)	0.954***	0.355
Marital Status (Currently Married =1)	0.781**	0.395
Place of Residence (Urban=1)	0.206	0.300
Education (Illiterate is Omitted Category)		
Primary	0.032	0.429
Middle	0.256	0.462
Matric	–0.267	0.518
Higher	1.018**	0.486
Training (Got some Training =1)	0.677*	0.376
–2 Log Likelihood	270	
N	236	

Source: Computed from the PSES Round I and II.

7. CONCLUSIONS

Research on employment situation in Pakistan has largely been based on cross-section data generated through the labour force surveys. However, longitudinal data is preferred because it enables one to view the labour force decision of an individual in a life cycle context. This paper has used two rounds of the PSES to determine movement of individuals into and out of labour force, employment and unemployment. Round I was carried out in 1998-99 while its second round was completed in 2000-01. The study divided the sample (individuals aged 10 years and above) into three labour market status: employed, unemployed, and not in the labour force. The LFP rate for the total adult population increased from about 44 percent in 1998-99 to 48 percent (age standardised) in 2000-01. This increase in the LFP is largely due to rise in the female participation in labour force, attributed partly to better data collection techniques used in Round II of PSES. According to the PSES panel data sets, the level of unemployment jumped from 6.4 percent in 1998-99 to 11.5 percent in 2000-01.

Data on the gross flows into and out of the three labour market states—employed, unemployed and not in the labour force—show that transition from unemployment to employment is quite slow. Less than half of the unemployed stock was able to obtain a job between the 1998-99 and 2000-01 period, and more than a quarter of this stock moved out of the labour force. Based on the flow data, the study

has estimated that more than half of the total current stock of unemployment consisted of short-term unemployed. More than a quarter of this stock was in the category of transitory unemployed while 15 percent were chronic unemployed. More than 60 percent of those who moved from employment to unemployment were below the age of 30 years in 1998-99 and they were predominantly males. Although 40 percent of these workers were illiterate, a substantial proportion, 24 percent, had in their accounts 10 or more years of education. A considerable proportion of those who left the labour force consisted of aged persons. Only a small proportion of the qualified persons made a transition from employment to out of the labour force.

To examine the influence of socio-demographic factors on different labour market transitions, three equations were also estimated. For the male sample, age and marital status had significantly negative influence on making transition from being in labour force to moving out of the labour force. Being head of the household was positively related with movement out of the labour force. Education had significantly negative impact on moving outside the labour force. Results of the female sample are similar to that of the male sample. For making transition from employment to unemployment, age and marital status had significantly negative influence on this transition. But education below the college level also had a positive impact on loosing the job. Work experience had a negative impact on loosing the job. Variables related to human capital of individuals such as age, education and training appear to have greater influence on the probability of making transition from unemployment to employment.

It appears from the present analysis that labour absorptive capacity of the economy has declined over time. The most formidable challenge confronting the policy-makers is to create conditions conducive for generating employment opportunities in the country. Government policies could be made more meaningful by improving the information flow about the job opportunities. Education and training play key role in finding employment. Quality of education needs to be improved and training opportunities may also be provided. Chronic unemployed may particularly be targeted for their adjustment in the domestic labour market.

Appendices

Appendix Table 1

Change in Labour Market States between the 1998-99 and 2000-01 Period, by Gender

Labour Market States in 2000-01	Labour Market States in 1998-99			All
	Employed	Unemployed	Not in Labour Force	
Males				
Employed	85.3	51.9	30.3	67.0
Unemployed	3.5	29.4	5.9	5.1
Not in Labour Force	11.3	18.7	63.7	27.9
All	100	100	100	100
Females				
Employed	47.5	20.0	14.8	19.4
Unemployed	4.9	39.0	6.0	6.5
Not in Labour Force	47.5	41.0	79.2	74.1
All	100	100	100	100

Source: Computed from the PSES Round I and II.

Appendix Table 2

Change in Labour Market States between the 1998-99 and 2000-01 Period, by Gender and Rural-Urban Area

Labour Market States in 2000-01	Labour Market States in 1998-99					
	Employed		Unemployed		Not in Labour Force	
	Urban	Rural	Urban	Rural	Urban	Rural
Both Sexes						
Employed	83.0	77.7	41.9	41.0	15.7	22.0
Unemployed	3.8	3.7	26.3	41.0	6.6	5.6
Not in Labour Force	13.2	18.7	31.8	18.0	77.7	72.4
All	100	100	100	100	100	100
Males						
Employed	85.8	85.2	55.0	48.4	29.1	31.3
Unemployed	3.5	3.5	25.8	34.4	7.0	5.3
Not in Labour Force	10.7	11.3	19.2	17.2	64.0	63.5
All	100	100	100	100	100	100
Females						
Employed	51.1	46.9	15.3	26.1	10.3	15.1
Unemployed	6.9	4.5	27.1	54.3	6.5	5.7
Not in Labour Force	42.0	48.6	57.6	19.6	83.3	76.2
All	100	100	100	100	100	100

Source: Computed from the 1998-99 and 2000-01 PSES.

Appendix Table 3

Employment Status of the Employed Labour Force in Round I, 1998-99

Employment Status	Both Sexes	Male	Females
Employees	41.6	44.4	26.2
Employers	0.8	0.9	0.4
Self-employed	30.1	34.0	9.0
Unpaid Family Helpers	27.5	20.7	64.4
All	100	100	100

Source: Computed from the 1998-99 PSES.

Appendix Table 4

Change in Labour Market State of the Employed Sample Excluding Unpaid Family Helpers

Labour Market State in 2000-01	Employed in 1998-99	% Male
Employed	83.2	95.2
Unemployed	3.5	86.3
Not in Labour Force	13.4	72.6
All	100	91.8

Source: Computed from the 1998-99 and 2000-01 PSES.

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Comments

The authors touch upon a vital area of research, labour market dynamics in Pakistan, which is often ignored by the policy-makers in Pakistan. The paper highlights that the static labour market is inadequate for appropriate policy measures, thus the authors choose to examine the dynamic labour market in Pakistan. The paper uses two-period panel data for 1998-99 and 2000-2001 (the longitudinal data), which is preferred to cross-section, as the longitudinal data enable one to view the labour force decision of an individual in a life-cycle context. Using the two-period data, the study examines transitions in the labour market through the matrix approach and logistic regressions. The results show that human capital indicators of individuals such as age, education, and training are the key determinants of making the transition from unemployment to employment. The general thrust of the study and its objectives are useful. I wish to point out a few limitations, however, mainly for the purpose of improving the contents of the analysis.

First, the study uses two-period panel data (1998-99 and 2000-2001) with a gap of two years to examine the dynamics of labour market in Pakistan. Keeping in view the availability of limited data, the dynamic analysis with a gap of two years seems to be limited in nature. The extent of dynamic in particular in the labour market needs relatively a longer gap period data.

Second, with regard to educational attainment reported in Table 2, the study shows almost similar trends in the cases of primary, secondary, and higher education levels in both the years 1998-99 and 2000-2001. Looking at these trends, one must expects significant shifts in educational attainments from primary to secondary and secondary to higher education after a gap of two years. In either case, the authors must give sound reasons that why the trends in educational attainments remained almost stagnant even after a two years gap.

Third, the numbers with regard to labour force participation rates and unemployment rates are somewhat significantly different from the same official data series published in various official documents (i.e. *Labour Force Surveys, Pakistan Economic Surveys*). It appears that the authors use different methodology (i.e. using female interviewers) and get results which seems to be more realistic and are consistent with other independent studies. The framework of the survey developed in the study can also be used by the official data collecting agencies in order to get relatively accurate socio-demographic characteristics of individuals in Pakistan.

Fourth, the authors estimates the regression equations separately for male and female, which sometimes do not provide consistent results. Such results may be partially useful for the policy-makers but the estimate of aggregate labour force (i.e. both male and female) can provide a more clearer guideline to policy-makers while

designing the national labour force policy in Pakistan. I, therefore, urge the authors to include regression results of the aggregate labour force into the analysis.

Finally, in order to provide credibility of the regression results, the authors should include appropriate statistical performance indicators along the estimated equations.

Zafar Iqbal

International Monetary Fund,
Islamabad.