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# Trends and patterns of labour supply and unemployment in India

Sandip Sarkar

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Subregional Office for South Asia, New Delhi

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## Executive Summary

This paper discusses various dimensions of labour supply and unemployment in India spanning over the last two decades. It examines the trends in female labour supply during the period 1983-2004, the age demographics of the labour force and education status and their impact on labour supply. The findings of this paper indicate of relevance of different theoretical approaches in labour supply. First, the fluctuation in female subsidiary labour supply over the period gives credence to the theory of collective representation of household behaviour. Second certain life cycle phenomenon, like school work decision, was found to be important in India. Finally, the institutions approach was found to be relevant in explaining stable interstate variation in female labour supply. As a whole, this paper finds that except for school-work decision, the dynamics of labour supply and unemployment in India is largely influenced by changes in women participation. In recent years, there is indication that faster increase in share of educated in youth female labour supply has led to higher female youth unemployment rate and which in turn has raised long-term female unemployment rates.



# Foreword

This paper brings to light some important aspects and intrinsic characteristics of labour supply in India. It examines factors, such as, increase in the share of working age population and the changing character of female labour participation. It identifies changes in labour supply behaviours as the primary factor behind variations in employment growth in different sub-periods. These have significant impact on the labour force and therefore these considerations need to be kept in mind while formulating any policy for employment generation in India.

The objective of this paper is to better understand the behavioral patterns and composition of labour supply and its dynamics in the last two decades. Furthermore, the trends in female labour supply have varied both at national and state level, and require in depth analysis, which this study has carried out. It is also perhaps necessary to study non-conventional explanations of the observed jump in female labour force participation rate and unemployment rate, as the author has attempted.

A study of unemployment rates across different categories showed that, in the last two decades, the long-term unemployment rate of females had gone up substantially in both rural and urban areas. But for males it has remained the same in rural areas and has marginally declined in the urban areas. The major part of increase in female unemployment is contributed by substantial increase in female youth unemployment. The age composition shows that long-term unemployment as measured through the UPS unemployment rate is virtually the unemployment of the 15-34 years age group.

The proportion of youth having secondary education across states is found to be positively correlated to the coefficient of youth unemployment rate, especially for females, which is an indication of the growing phenomenon of higher education leading to higher unemployment rates. Certain life cycle phenomenon like, school work decisions are found to have a significant bearing on the labour supply in India. The findings of the paper also indicate the relevance of the different theoretical approaches in labour supply.

This paper is part of a series of studies that have been launched by the ILO, Delhi Office, coordinated by Sukti Dasgupta, Employment and Labour Market Policies Specialist, to analyze and understand the current employment challenges in India.

**Leyla Tegmo-Reddy**  
Director and ILO Representative in India  
Sub Regional Office for South Asia, New Delhi  
International Labour Organization



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## **Introduction**

The special Group Report of Planning Commission (May 2002) emphasised the slowdown in the growth of demand for labour as the cause for the observed trends in labour force and employment in the 1990s (in between 1993-94 to 1999-2000). It called for special efforts to generate millions of new jobs per year. Interestingly, in September 2007, C. Rangarajan, Chairman of Economic Advisory Council of Prime Minister, asserted on the basis of information available (on growth of employment between 1999-2000 and 2004-05) that at the GDP growth rate of 8 per cent, the workforce would become equal to the labour force, and concluded that the days of jobless growth were over. This paper finds that such pessimism or optimism may be quite premature. This analysis misses some important points. First, the share of working age population in India will go up, at least in the next one decade. Second, female labour participation has been changing quickly. This paper found subsidiary (short term/part time) female labour participation was cyclical in last two decades making substantial contribution to the slowdown and higher rate of growth in labour supply and employment in different sub-periods. Last, the most important aspect is that principal female labour participation rate in India is one of the lowest across countries. In the future more and more females are likely to enter the labour market in larger numbers. The latest employment and unemployment round of National Sample Survey (NSS) gives clear signal in this direction.

In this paper, we broadly discuss various aspects of labour supply and unemployment. We begin with the theoretical framework of labour supply in section 1. Section 2 examines the cause of the substantial decline in employment absorption in the 1990s and acceleration in employment generation in the next sub-period till 2005. Section 3 analyses the composition of the labour force and section 4 analyses the variation in the various aspects of labour supply, whether social, institutional, economic, demographic or regional.

In sections 5 and 6 we discuss the unemployment issue in India. We begin with the nature and extent of the unemployment in section 5. After identifying that unemployment is basically a problem affecting the youth, we discuss unemployment among educated youth, the regional distribution of youth unemployment across various household income/expenditure levels in section 6. Broad findings of this paper are presented in the last section.

The analysis encompasses two decades covering four quinquennial NSS rounds of employment and unemployment. Change in labour supply is broken into male and female and in sub-periods. It looks at other dimensions as well - across region, expenditure quintiles and social categories.

### **1. Theoretical framework of labour supply**

Labour market economics involves analysing the determinants of the various dimensions of labour supply and demand, all of which interact to determine wages, employment and unemployment.

There are many dimensions to labour supply, including demographics (the effects of a population boom or quick decline in population growth, leading to a substantial increase in the working age population), immigration and emigration policies (e.g., brain drain), the labour force participation decision, the hours of work decision (including overtime and additional jobs), education and training (human capital decisions) and the disincentive effects of income maintenance and unemployment insurance policies.

There are various approaches to studying labour markets.

The first is the neoclassical approach, which makes behavioural assumptions about how buyers and sellers of labour respond to wage rates, prices and other factors, and it assumes that the labour market is in equilibrium (the labour market clears where supply equals demand).

Two important features of this kind of competitive labour market are:

- Homogenous quality of labour is paid the same wage rate in different sectors, and
- There is no involuntary unemployment - all individuals who want to work at an equilibrium wage will have jobs.

The second is the institutional approach, which emphasizes the role of institutions, customs and socio-political factors. This approach stresses the descriptive realism of the labour market.

The third approach, the dual labour market approach, views the labour market as a segmented formal market with good, high paying, stable jobs, and a large informal market with bad, low wages and high turnover of jobs.

There are at least three important life-cycle phenomena which affect labour supply. These are:

- The school-work decision - whether to acquire additional education, which delays entry into the labour force. These are also analysed in terms of human capital decisions;
- The fertility decision - having children affects the labour force participation of women, and
- The retirement decision - when to withdraw from the labour force.

Further, in relation to female labour supply there are collective labour supply theories that argue female labour supply is a part of collective representation of household behaviour.

In the forthcoming analysis, our analysis on trends and pattern of labour supply in India is largely based on labour supply information collected at different points of time over the last two decades. The reality could be quite complex. We might find that different approaches and phenomenon discussed in earlier paragraphs affect different segments of labour supply. In the next section we look at the trends of employment generation over the last two decades.

## **2. The differential trends in employment generation**

The deceleration in employment growth in India in recent decades has been the centre of much debate. The employment growth rate based on NSS rounds has shown a substantial decline from 1.78 per cent per annum to 1.17 per cent per annum from the period 1983-1993-94 to 1993-94-1999-2000. In subsequent period 1999-2000 to 2004-05 employment growth rate was higher at 2.46 per cent per annum. Before 2004-05 survey, results brought out the deceleration in employment growth rate in 90s (1993-94 to 1999-2000) created extensive debate among researchers. In the following sub-section the deceleration in employment generation will be analysed in detail followed by acceleration in employment generation for the period from late 90s to early 2000.

## 2.1 The decline in employment generation in 90s

The opposing views are amply described by two reports of the Planning Commission. The first one, popularly known as the Ahluwalia Report (2001), took the stand that the slowdown in employment growth was partly due to the rise in the unemployment rate and largely the consequence of a slowdown in labour force growth. The arguments were largely based on non-economic factors like fall in the work activity status of the younger age groups, age rise in schooling, increase in the population of the aged, etc. On the other hand, the follow-up report 'by the special group of the Planning Commission' (2002) emphasized the slowdown in the growth of demand for labour as the major factor responsible for the substantial decline in the capacity of job creation per unit of output.

A crucial question that needs to be answered is why employment growth declined in the 1990s. Was the decline in the growth of the labour force the main contributing factor? Or, was it due to the compositional change in the labour force between the employed and the unemployed, signifying a substantial increase in the unemployment rate and concurrent decline in the employment growth rate?

**Table 1 : Growth of UPSS<sup>1</sup> labour force (annual compound in %)**

Rounds	Rural		Urban		Rural	Urban	Males	Females	Total
	Males	Females	Males	Females					
38th-50th (1983 to 1993-94)	1.62	1.06	2.70	3.19	1.42	2.80	1.89	1.35	1.71
50th-55th (1993-94 to 1999-2000)	1.15	0.41	2.63	1.35	0.89	2.37	1.55	0.55	1.23
50-55th derived	1.81	1.93	3.06	3.69	1.85	3.19	2.14	2.20	2.16

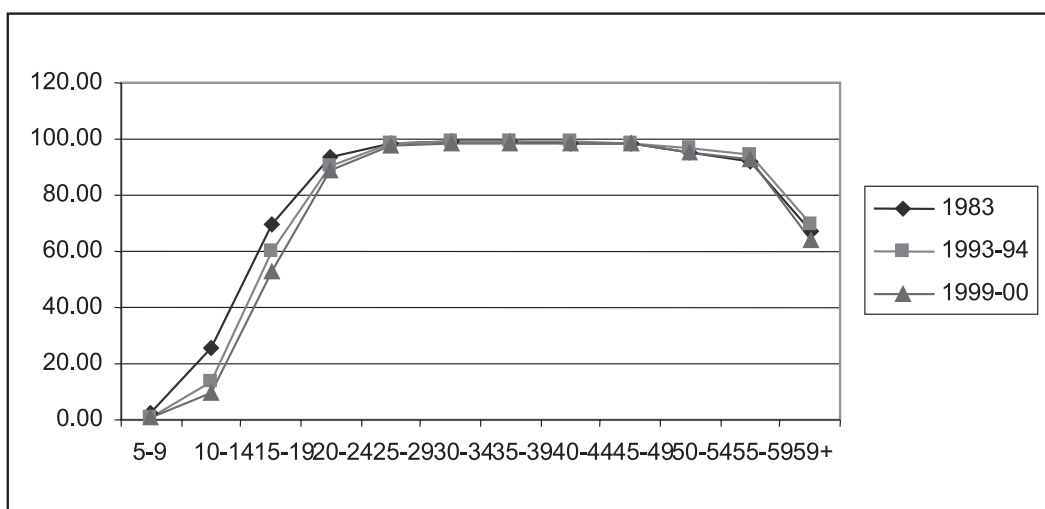
*Note: Derived figures are hypothetical labour supply if there was no change in the labour force participation rates of 12 age groups (five year intervals) during the 50th to 55th NSS rounds.*

Table 1 suggests that there was a substantial decline in the growth of the labour force from the 1980s (38th round to 50th round, or 1983 to 1993-94) to the 1990s (50th round to 55th round, or 1993-94 to 1999-2000), from 1.71 per cent to 1.23 per cent. The decline in growth could be due to decline in the working age population or due to decline in the labour force participation rate (LFPR). Keeping the LFPR of 1999-2000 the same as that for 1993-94 we computed a derived labour force. It is the hypothetical labour supply under the assumption that there was no change in the age specific LFPR of 12 age groups in between 50th and 55th rounds of NSS. We find that the derived labour force growth would have been 2.16 per cent, much higher than even in the 1980s. This possibly signifies that it is the decline in LFPR that is mainly responsible for the slower growth of employment in the 1990s.

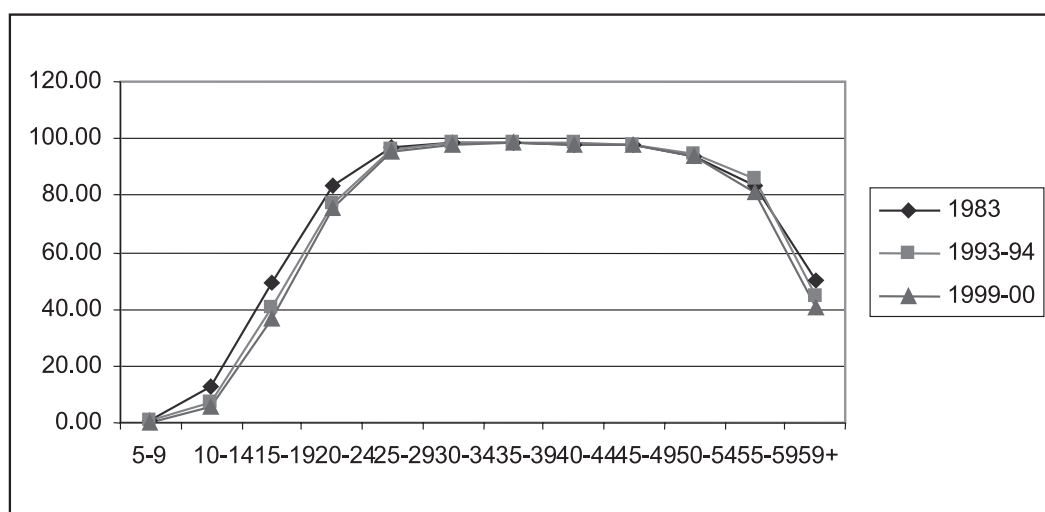
To pinpoint which category experienced a decline in LFPR in the 1990s, we present separate age specific LFPR graphs (Graphs 1A to 1D) for all the three rounds for rural males, rural females, urban males and urban females. The overall (UPSS) LFPR is also provided.

<sup>1</sup> Usual principal and subsidiary status (UPSS): This includes persons in the labour force by both major and minor time criteria. In other words, it includes both principal and subsidiary status categories of people in the labour force.

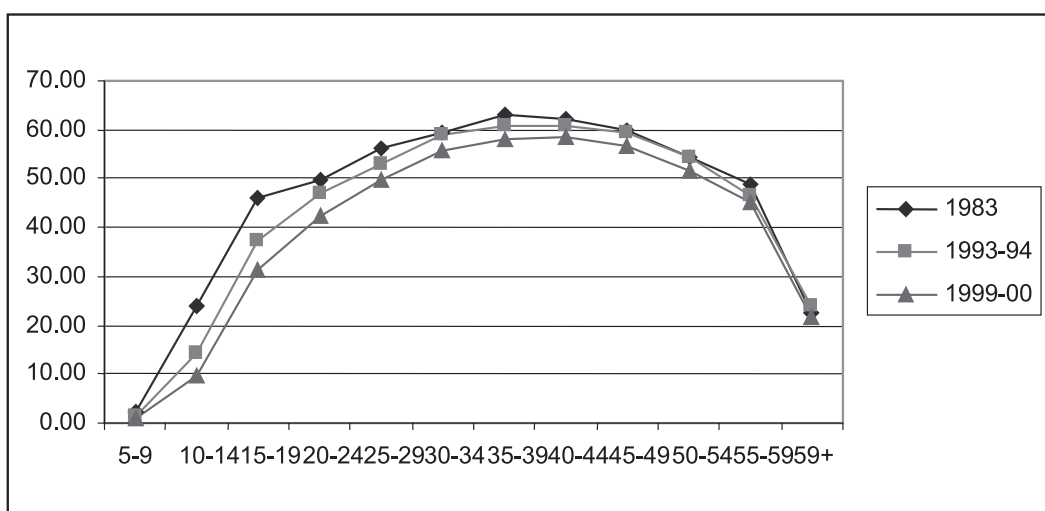
**Graph 1A Rural male UPSS labour force participation rate**



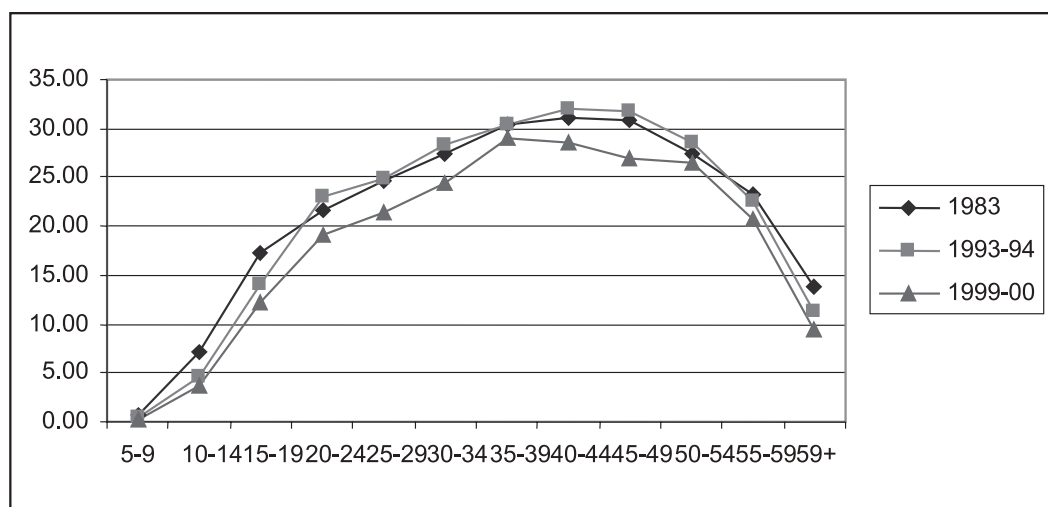
**Graph 1B Urban male UPSS labour force participation rate**



**Graph 1C Rural female UPSS labour force participation rate**



**Graph 1D Urban female UPSS labour force participation rate**



The graphs for males for both rural and urban areas showed a marginal decline in LFPR in the age groups, 5-19 years and 59+, in the 1990s. The decline in male LFPR in the 5-19 years group seems to be more substantial in the 1980s than in the 1990s in both rural and urban areas. In contrast, the female LFPR showed a decline in all age groups between 1993-94 and 1999-2000. Between 1983 and 1993-94, the decline in both rural and urban areas was sharper in the 5-19 years group, but a marginal increase or decline was observed in the other age groups in both rural and urban areas.

As a substantial proportion of females participate in the labour market as subsidiary workers (enter the labour market for a lesser part of the year), it would be worthwhile to observe the female LFPR separately for UPS<sup>2</sup> (principal) and SS<sup>3</sup> (subsidiary) categories. These are depicted in Graphs 2A to 3B.

<sup>2</sup> The UPS labour force contains those persons who are included in the labour force by the major time criterion.

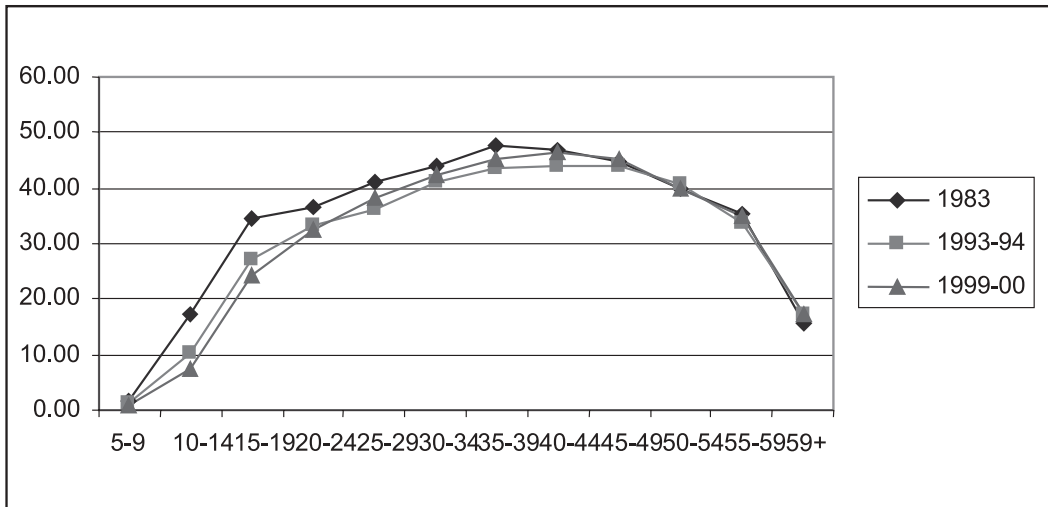
"5.0.15 Usual activity status: The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively longer time (major time criterion) during the 365 days preceding the date of survey is considered the 'principal usual activity status' of the person. To decide the principal usual activity of a person, he/she is first categorized as belonging to the labour force or not, during the reference period, on the basis of major time criterion. ... For the persons belonging to the labour force, the broad activity status of either 'working' or 'not working but seeking and/or available for work' is then ascertained again on the basis of the relatively longer time spent in the labour force during the 365 days preceding the date of survey." (See Instruction manual, 55th round, schedule 10, section 5.0.15)

<sup>3</sup> In this study, the subsidiary status labour force is defined as persons who are pursuing non-economic activities (out of the labour force) by the major time criterion (UPS), but belong to the labour force by the minor time criterion. It excludes persons who are included in the labour force by UPS to avoid double counting. Since unemployment status is determined by the major time criterion, those belonging to the labour force only on the basis of subsidiary status are all workers. We quote from the relevant section from the Instruction manual, 55th round, schedule 10, section 5.0.16:

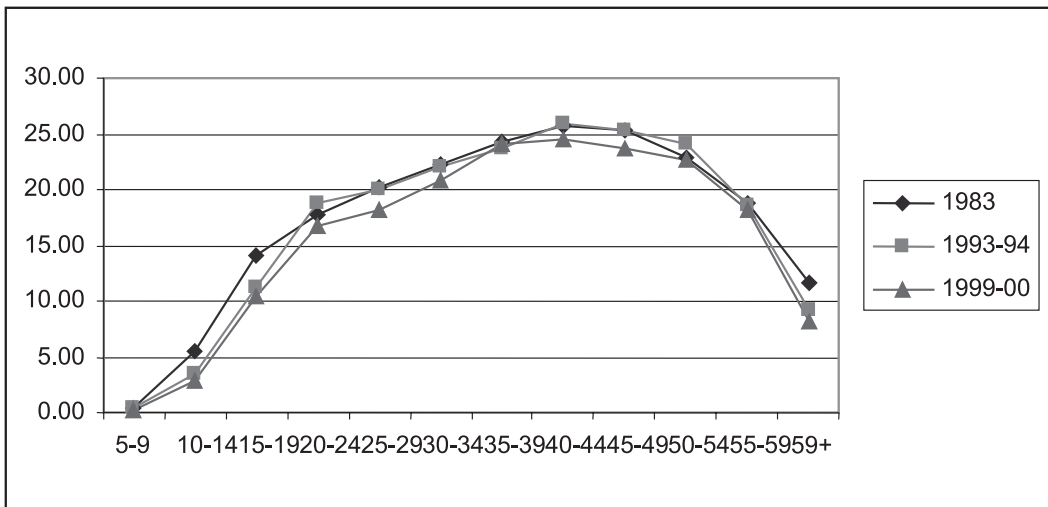
"5.0.16 Subsidiary economic activity status: A person whose principal usual status is determined on the basis of the major time criterion may have pursued some economic activity for a relatively shorter time (minor time) during the reference period of 365 days preceding the date of survey... It may be noted that engagement in work in subsidiary capacity may arise out of the two following situations: (i) a person may be engaged for a relatively longer period during the last 365 days in economic/non-economic activity and for a relatively shorter period in another economic activity; and (ii) a person may be pursuing one economic activity/non-economic activity almost throughout the year in the principal usual activity status and also simultaneously pursuing another economic activity for a relatively shorter period in a subsidiary capacity."

In our definition of subsidiary status labour force, we have only included persons who are engaged in non-economic activity for a 'relatively longer period during the last 365 days', or 'pursued non-economic activity almost throughout the year in principal usual activity status' but pursued another economic activity for a 'relatively shorter period in a subsidiary capacity'. Information regarding subsidiary activity status is collected in block 5.2 in the schedule 10 questionnaire in the 55th round.

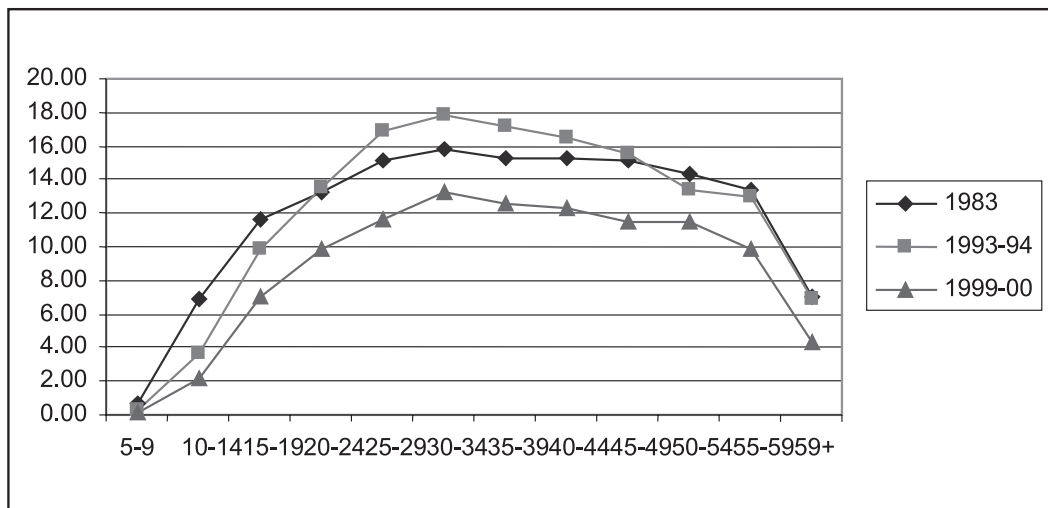
**Graph 2A Rural female UPS labour force participation rate**



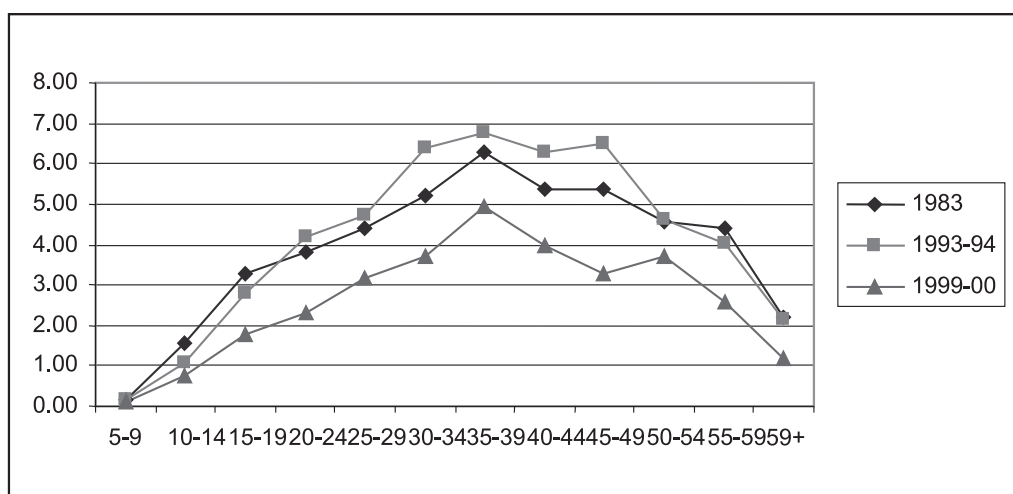
**Graph 2B Urban female UPS labour force participation rate**



**Graph 3A Rural female subsidiary labour force participation rate**



**Graph 3B Urban female subsidiary labour force participation rate**



As in the case of UPSS males, the UPS female LFPR in all areas showed marginal decline only in the 5-19 years group in the 1990s. The decline in LFPR in this age group was substantial in the earlier decade. In urban areas, this decline was observed in the other age groups as well. In the case of the female subsidiary LFPR, substantial changes can be observed. The female LFPR graphs in both rural and urban areas showed a shift inwards - a decline in the LFPR in all age groups. In contrast, in the 1980s, in the adult age groups of 25-49 years, there was substantial increase in the LFPR in both rural and urban areas.

The patterns and the nature of shift of the LFPR graphs intuitively show that there was an upsurge in female subsidiary labour demand between the 38th and 50th NSS rounds, especially among the 25-49 years group. The 55th round observed a substantial decline in labour demand of a subsidiary nature across all age groups and this is reflected by the inward movement of the whole subsidiary labour supply. It is to be remembered that for the subsidiary labour force (in our study), there is no unemployment - all are employed.

Three facts emerge from the above discussion. First, the decline in the 5-19 years group UPS labour supply. Second, the marginal decline in the 59+ years group UPS labour supply. Third, the substantial decline in the female subsidiary labour supply. The question now is how important these factors are in the decline in labour supply in the 1990s. Table 2 presents the actual (A) and hypothetical or derived (D) labour force (if there was no change in the LFPR between the 50th and 55th rounds).

**Table 2 : Actual and derived labour force**

S. No.	Labour force	Derived (D)	Actual (A)	(D-A)	Ratio of (D-A) to UPSS (%)
1	UPSS 55th	425 060 597	402 446 304	22 614 292	100
2	SS 55th female	25 908 883	36 622 565	10 713 682	47.38
3	UPS 5-19	44 194 706	50 877 018	6 682 312	29.55
4	UPS 59+	29 481 191	31 892 790	2 411 599	10.66
2+3+4	Total	99 584 781	119 392 373	19 807 593	87.59

*Note: Derived figures are hypothetical labour supply, when there is no change of age group-wise LFPR from the 50th to the 55th rounds.*



The result showed that the decline in the LFPR actually contributed a decline of 23 million people in the labour force. Out of this, the female subsidiary labour force contributed 47 per cent of the total decline; the 5-19 years group UPS LFPR contributed 30 per cent; and the aged LFPR (59+) contributed 10 per cent. These three factors together contributed 88 per cent of the total hypothetical labour force decline in the 1990s and we will discuss each of these factors in detail in the following sub-sections.

### 2.1.1 Female subsidiary labour force

We have already noted that there was a sudden upsurge of female subsidiary labour demand in the early 1990s and a consequent contraction of labour demand by the end of the 1990s. Tables 3A to 3C present the concentration of subsidiary female employment in a few industries and occupations.

**Table 3A : Share of selected occupation in female subsidiary labour supply**

Occupation	Rural			Urban		
	1983	1993-94	1999-2000	1983	1993-94	1999-2000
Cultivators	34.2	42.0	37.9	14.0	13.2	8.8
Livestock, poultry and dairy farmers	32.1	23.2	28.6	29.5	26.8	23.0
Agricultural labour	14.5	19.7	15.5	5.5	0.8	1.1
<b>Total</b>	<b>80.8</b>	<b>84.9</b>	<b>82.0</b>	<b>49.0</b>	<b>40.8</b>	<b>32.9</b>

**Table 3B : Share of selected industries in female subsidiary labour supply**

Industry	Rural			Urban		
	1983	1993-94	1999-2000	1983	1993-94	1999-2000
Cereal growing	48.1	60.2	53.6	19.0	20.2	13.0
Cattle breeding and production of milk	33.2	21.5	27.0	23.7	15.7	14.2
<b>Total</b>	<b>81.3</b>	<b>81.7</b>	<b>80.6</b>	<b>42.7</b>	<b>35.9</b>	<b>27.2</b>

**Table 3C : Female subsidiary labour supply**

	Rural			Urban		
	1983	1993-94	1999-2000	1983	1993-94	1999-20
Total	23 905 833	28 714 988	23 149 924	2 340 091	3 517 343	2 758 959
Selected occupation	19 315 913	24 379 024	18 982 938	1 146 645	1 435 076	907 698
Selected industries	19 435 442	23 460 145	18 658 839	999 219	1 262 726	750 437

As we can see, a few agricultural and allied sector activities, i.e., the growing of cereals and animal husbandry contributed a substantial portion of female subsidiary employment in the rural areas. In the urban areas also, a sizeable part of urban female subsidiary employment was employed in this sector, but its importance had been declining continuously over the last two decades. As rural subsidiary employment constituted nearly four-fifth of overall subsidiary labour (see table 9), further analysis in this sub-section will be confined to rural areas only as it would largely capture the changes in the overall subsidiary employment.

We, therefore, undertook an analysis of the cereal growing sector in the rural areas since it constituted the largest chunk of female subsidiary labour supply. This sector contributed 4.9 million of the six million additional subsidiary female workers between the 38th and 50th rounds of the NSS. It also contributed 5.8 million of the 6.3 million decline in female subsidiary workers between the 50th and 55th rounds. (See Tables 3C and 4)

**Table 4 : Female subsidiary labour supply in cereal growing in rural areas**

State	Rural			Rural	
	1983	1993-94	1999-2000	Absolute decline, 1993-94 to 2000	Absolute rise, 1983 to 1993-1994
Andhra Pradesh	701 370	906 689	376 761	529 928	205 319
Assam	174 181	487 408	363 339	124 069	313 227
Bihar	1 965 742	1 232 263	1 101 351	130 912	-733 479
Gujarat	486 973	814 237	555 541	258 696	327 264
Haryana	257 023	554 471	315 974	238 497	297 448
Jammu & Kashmir	197 853	153 619	736 520	-582 902	-44 234
Karnataka	617 158	1 071 337	295 691	775 646	454 180
Kerala	69 023	46 044	312 025	-265 981	-22 979
Madhya Pradesh	1 146 821	2 573 873	1 170 414	1 403 460	1 427 053
Maharashtra	570 480	1 176 913	722 305	454 608	606 433
Orissa	593 324	1 176 024	1 024 377	151 647	582 700
Punjab	128 346	241 123	112 131	128 992	112 777
Rajasthan	897 355	1 295 368	1 043 816	251 552	398 013
Tamil Nadu	640 138	825 563	226 008	599 555	185 425
Uttar Pradesh	2 385 647	3 120 622	3 141 995	-21 374	734 975
West Bengal	433 010	1 201 938	466 453	735 485	768 928
Other North Eastern states	36 458	70 122	109 348	-39 225	33 664
Remaining states and Union territories	197 804	338 809	334 310	4 499	141 005
<b>Total</b>	<b>11 498 706</b>	<b>17 286 423</b>	<b>12 408 359</b>	<b>4 878 064</b>	<b>5 787 717</b>
Share of these 4 states	24.07	34.85	21.40	69.07	56.27

However, analysis across states for this sector show that four states, Karnataka, Madhya Pradesh, Maharashtra and West Bengal, played a major role in the incremental absorption of female subsidiary labour in this sector in the 1980s and the subsequent incremental decline in the 1990s. In West Bengal, there is clear evidence of increased absorption of labour in the 1980s as is evident from the workforce data of both the NSS and the Census. The NSS also reports substantial contraction of employment in agriculture in the 1990s in this state. In Madhya Pradesh and Maharashtra, in the 1980s, there was large expansion of oilseed cultivation under the oilseed development programme. In 1994, the government's financial support to the programme was withdrawn and the downturn in oilseed production was further compounded by allowing import of edible oil at low import tariff rates. The alternative crops that farmers in these regions turned to are inferior cereal crops that need comparatively less labour.

As we can see, the share of these four states in female subsidiary employment was considerably less. Perhaps, this gives credence to the argument of spread of labour absorbing green revolution technologies in the 1980s in certain states and the introduction of labour replacing technologies, the hurdles faced by the oilseed development programme and the failures of cotton crops in the 1990s (Ramesh Chand, 2000). Ashish Narayan (2006) found contrary evidence of the income effect dominating all other factors in explaining changes in the probability of participation of subsidiary status workers in the 1990s. Sundaram and Tendulkar (2006) also published similar findings. Their arguments do not clearly delineate why the income effect is disproportionately captured by these four states. Further, how do the income effect arguments support the rise in female subsidiary employment in the 1980s? Agricultural growth was relatively higher in the 1980s than in the 1990s. The distressed farmers issue that is raised nowadays was not talked about in the 1980s. Some income effect may always be present, but there are more compelling reasons as well. Four-fifths of all female subsidiary workers are self-employed and the introduction of labour saving technology and it getting adopted widely by better-off cultivators also led to higher withdrawal of household subsidiary female labour. This effect gets captured by the income effect if the impact of labour-saving technology on labour use is not controlled.

Further, oilseed and cotton cultivation in Madhya Pradesh and Maharashtra is undertaken largely by cultivators with large landholdings. The failure of these crops in the 1990s caused a disproportionately higher withdrawal of self-employed female subsidiary workers from relatively well-to-do cultivator households.

### **2.1.2 5-19 years group UPS labour force participation rate**

The distribution of all persons in this age group in different principal activity patterns is given in Table 5.

**Table 5 : Distribution of UPS persons in the 5-19 years group (UPS)**

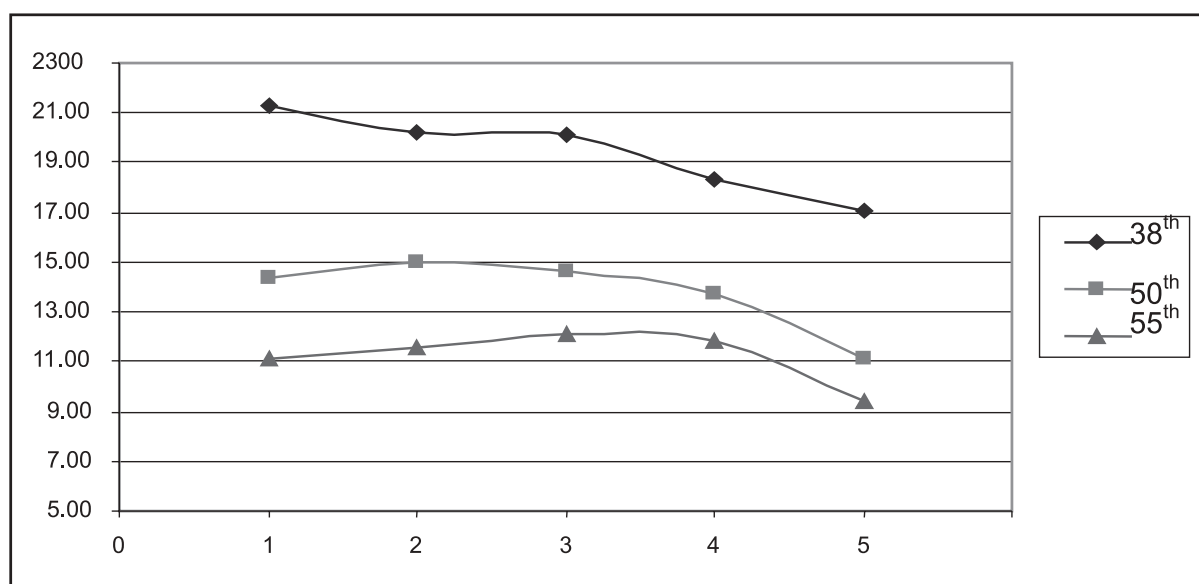
Year	Sector	Principal status				
		UPS workers	students	Domestic work	Doing nothing	Others*
1983	Rural	19.5	38.9	13.5	26.9	1.3
1993-94	Rural	15.6	55.1	10.2	18.3	0.9
1999-2000	Rural	12.7	60.4	8.4	17.6	0.9
1983	Urban	10.6	62.5	10.8	13.9	2.3
1993-94	Urban	9.1	73.8	7.3	8.3	1.5
1999-2000	Urban	8.0	74.8	6.6	9.1	1.5

*Note: \*Others include those unemployed.*

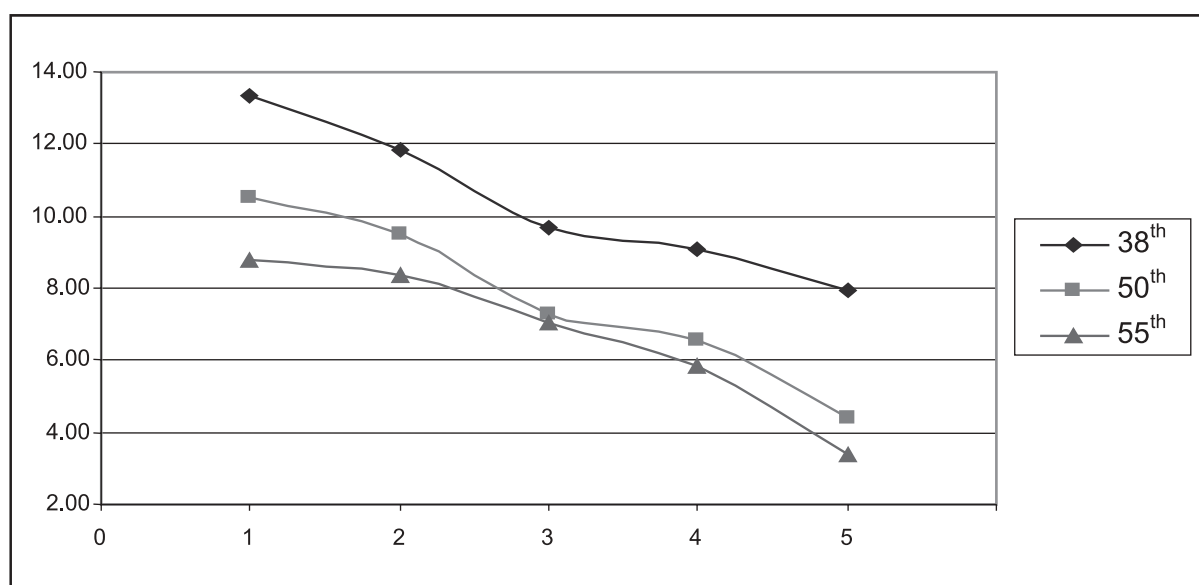
*Row percentages add up to 100.*

One can clearly see that increase in the education participation rate was the main factor responsible for decline in the work participation rate. There is a difference here between 1983 - 1993-94 and 1993-94 - 1999-2000. The earlier period experienced a substantial jump in the category of students, but proportionally, it was from children "doing nothing". In the latter period, the shift was largely from UPS workers and domestic work. Still, withdrawal from work in absolute terms was higher in the early 1990s as compared to the late 1990s. (See Graphs 4A and 4B) The graphs 4A and 4B show that the shift in lower expenditure quintiles over the years was larger for lower quintiles. However, in urban areas the shape of the line continued to be downward sloping implying lower LFPR in higher quintiles. Demand for education and/or better educational facilities seems to be the prime reason for the decline in labour force participation in this age group. However, increase in the students' participation rate in this age group seems to be tapering off in urban areas in the late 1990s. (See Table 5)

**Graph 4A UPS LFPR across expenditure quintiles in the 5-19 years group in rural areas**



**Graph 4B : UPS LFPR across expenditure quintiles in the 5-19 years group in urban areas**



### 2.1.3 Aged, or 59+ years, labour force participation rate

**Table 6 : Principal labour force participation rates in the 59+ years group**

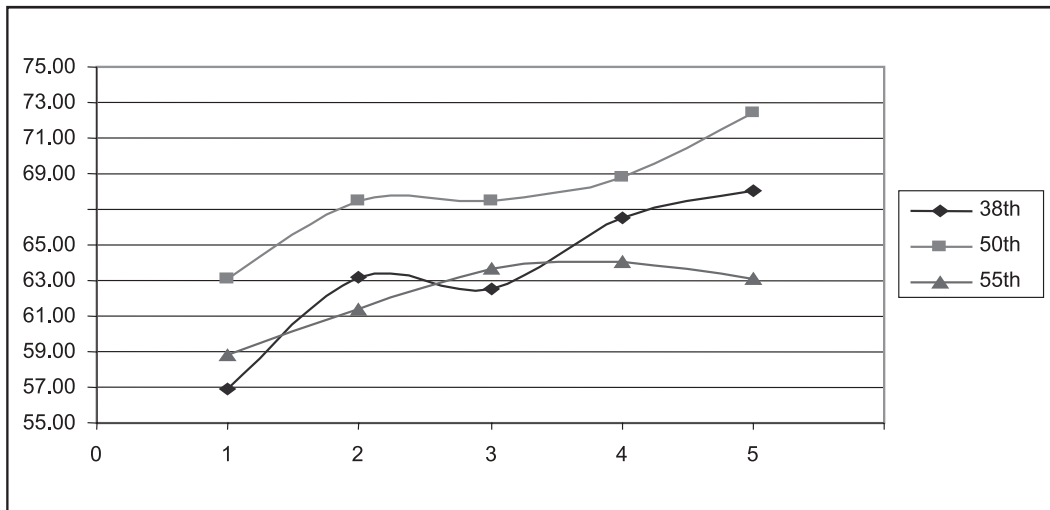
Per capita expenditure quintiles	Rural males			Rural females		
	38th	50th	55th	38th	50th	55th
1	56.9	63.1	57.9	16.5	20.2	18.9
2	63.2	67.5	61.7	17.4	18.3	17.8
3	62.5	67.5	61.8	16.5	16.8	18.4
4	66.5	68.8	63.8	12.8	16.2	16.6
5	68.0	72.4	64.1	15.1	15.4	15.3
<b>Total</b>	<b>64.1</b>	<b>68.4</b>	<b>57.9</b>	<b>15.6</b>	<b>17.2</b>	<b>18.9</b>

Per capita expenditure quintiles	Urban males			Urban females		
	38th	50th	55th	38th	50th	55th
1	44.0	53.3	45.3	16.5	14.8	13.3
2	52.7	49.9	44.4	12.6	10.4	11.0
3	51.3	40.8	39.5	13.0	9.2	8.7
4	47.5	41.4	37.2	10.2	7.5	4.9
5	48.3	34.0	29.8	6.1	4.6	3.7
<b>Total</b>	<b>48.8</b>	<b>43.1</b>	<b>45.3</b>	<b>11.7</b>	<b>9.2</b>	<b>8.1</b>

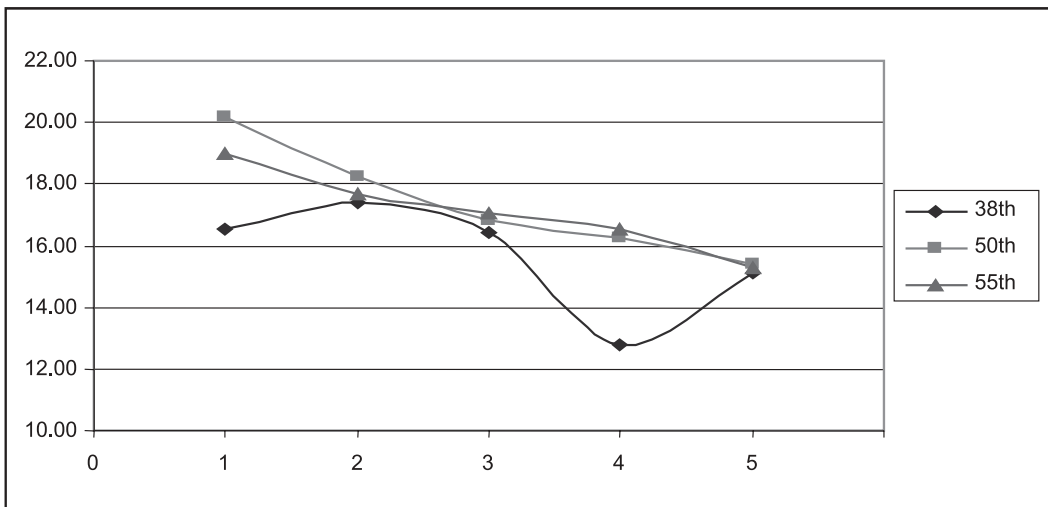
1: lowest 20% of expenditure quintile .... 5: topmost 20% of expenditure quintile

It is generally argued that in the 59+ years group, the income effect predominates when withdrawal from labour force is observed over time. Only in the case of urban females and for the top three quintiles in the 1990s (See Table 6) does it show a consistent decline over the three rounds as a whole. Again, the income effect over the years would be stronger in the upper quintiles as compared to the lower quintiles. On the basis of Graphs 5A to 5D, we cannot arrive at any such conclusion straight off. Interestingly, the aged rural male LFPR sloped upward in the 38th and 50th rounds of the NSS and only in the 55th round can we observe a substantial decline in the highest quintile. In the 1980s, the LFPR of this age group actually went up in all quintile groups for rural males.

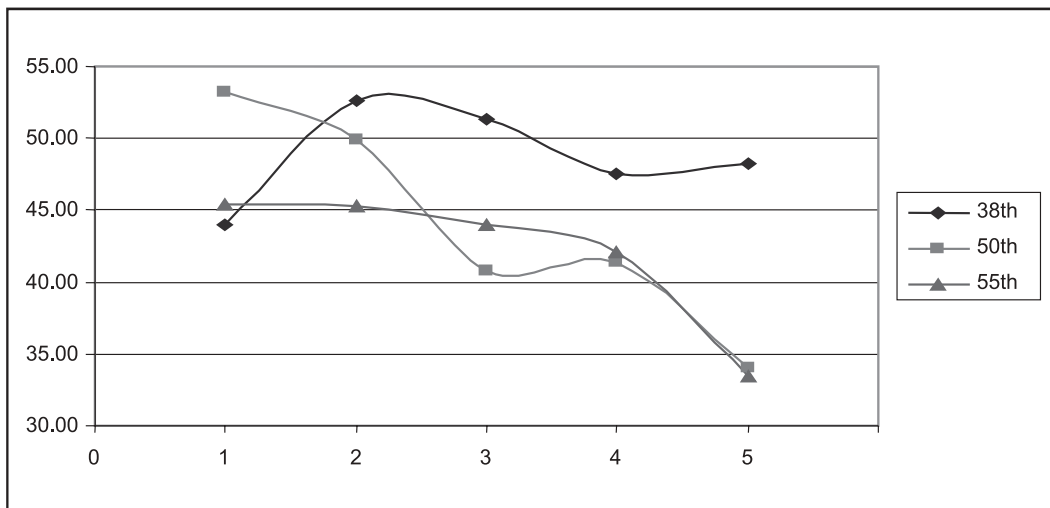
**Graph 5A Male rural labour force participation rate, 59+ years, across expenditure quintiles**



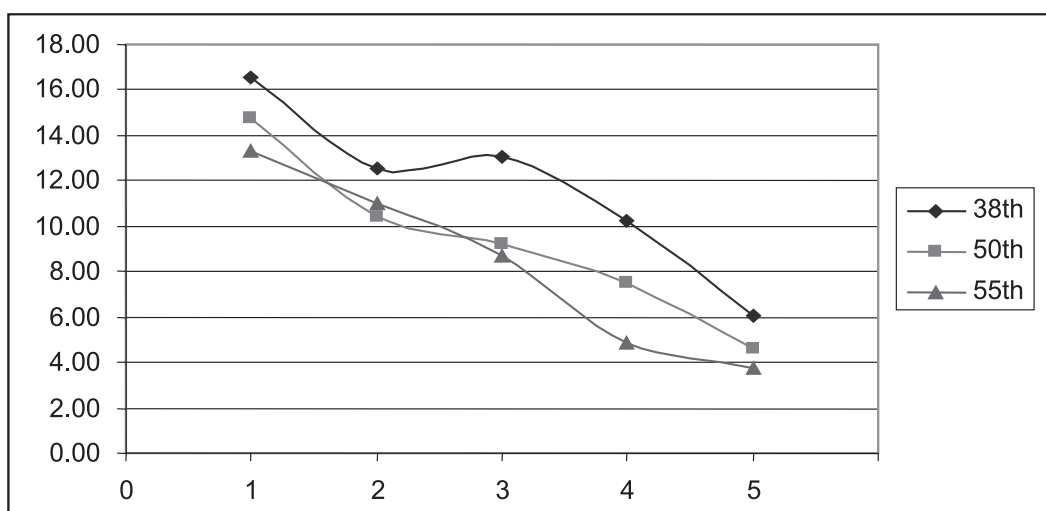
**Graph 5B Female rural labour force participation rate, 59+ years, across expenditure quintiles**



**Graph 5C Male urban labour force participation rate, 59+ years, across expenditure quintiles**



**Graph 5D Female urban labour force participation rate, 59+ years, across expenditure quintiles**



## 2.2 The acceleration in employment generation

**Table 7 : Growth of UPSS Labour Force (annual compound in percentages)**

Rounds	Rural		Urban		Rural	Urban	Male	Female	Total
	Male	Female	Male	Female					
38th-50th (1983 to 93-94)	1.62	1.06	2.70	3.19	1.42	2.80	1.89	1.35	1.71
50th-55th (1993-94 to 99-00)	1.15	0.41	2.63	1.35	0.89	2.37	1.55	0.55	1.23
55th-61st (99-00 to 04-05)	1.56	2.95	3.25	5.93	2.05	3.80	2.05	3.44	2.48
55th-61st derived (99-00 to 04-05)	1.62	1.68	3.16	2.86	1.64	3.10	2.06	1.87	2.00

Table 7 suggests that there is substantial acceleration in the growth of labour force from 1990s (50th to 55th round) to late 90s-early 2000 (55th to 61st round) from 1.23 per cent to 2.48 per cent. To ascertain whether the increase in growth could be due to increase in the working age population or due to increase in the LFPR we kept LFPR of 2004-5 same as that for 1999-2000. We find that hypothetical labour force growth would have been 2 per cent, much lower than 2.48 per cent actually happened during the same period. This hints that the increase in the LFPR played an important role for the higher growth of employment from late 90s to early 2000 period. It is interesting to observe that there is hardly any difference in actual and hypothetical growth of labour supply in case of male. Virtually all the difference of growth of actual and hypothetical labour supply has been accounted by females.

This intuitively leads us to incorporate one additional component in our actual and derived labour force analysis compared to earlier period, i.e. UPS female labour supply. The table 8 makes it clear.

**Table 8 : Actual and derived labour force (1999-2000 to 2004-05)**

S. No.	Employment	Actual (A)	Derived (D)	(A-D)	Ratio of (A-D) to UPSS (%)
1	UPSS 61st	454,893,045	444,367,955	10,525,089	100
2	UPS 20-59 61st Female	91,437,837	86,356,870	5,080,967	48.27
3	Subsidiary Status 61st Female	38,911,384	31,638,447	7,272,937	69.10
4	UPS 5-19	42,535,458	46,112,291	-3,576,833	-33.98
5	UPS 59+	30,543,741	29,811,966	731,775	6.95
2+3+4+5	Total	203,428,420	193,919,575	9,508,846	90.34

The result showed that the increase in the LFPR actually contributed an increase of 10.5 million people in the labour force. The substantial difference can be compared to the earlier sub-period. The female subsidiary labour force contributed 69 per cent of total increment. Further, 20-59 age group female LFPR contributed another 48 per cent. There was marginal positive contribution by the 59+ age group. However, hypothetical decline in the 5-19 years age group UPS labour supply continued in the same fashion as in the earlier sub-period. All these factors together contributed 90 per cent of hypothetical decline in this sub-period. We undertook further analysis of female subsidiary labour force as in section 2.1.1. A phenomenon similar to the upsurge of female subsidiary labour supply in 80s was observed along with similar findings on cereal growing across states in rural areas.

### **3. Composition of the labour force**

The labour force is discussed here in its various compositions and to ascertain any interesting changes in the last two decades. With the increasing rate of urbanization, the share of urban areas in the total labour force was consistently going up till late 90s; nevertheless, the share of urban workers is less than the urbanization rate. The reason lies in the relatively smaller LFPR among urban females as compared to rural females, which had led to a much lower share of females in the urban labour supply in the last two decades.



**Table 9 : Distribution of UPSS labour force across areas and sex**

Age group (years)			Rural		Urban			
	Rural	Urban	Males	Females	Males	Females	Males	Females
<b>38th round (1983)</b>								
10-19	85.1	14.9	59.8	40.2	73.9	26.1	61.9	38.1
20-44	77.3	22.7	63.0	37.0	81.1	18.9	67.1	32.9
45-59	80.4	19.6	65.5	34.5	80.8	19.2	68.5	31.5
59+	85.1	14.9	75.6	24.4	78.7	21.3	76.1	23.9
Total	79.8	20.2	63.7	36.3	80.0	20.1	67.0	33.0
<b>50th round (1993-94)</b>								
10-19	83.0	17.0	61.5	38.5	73.8	26.2	63.6	36.4
20-44	75.2	24.8	64.2	35.8	79.5	20.5	68.0	32.0
45-59	77.6	22.5	65.6	34.4	80.2	19.8	68.9	31.1
59+	85.6	14.4	76.0	24.0	80.0	20.0	76.6	23.4
Total	77.4	22.6	65.0	35.0	79.1	20.9	68.2	31.8
<b>55th round (1999-2000)</b>								
10-19	81.5	18.5	61.6	38.4	75.2	24.8	64.1	35.9
20-44	74.3	25.7	65.3	34.7	80.8	19.2	69.3	30.8
45-59	74.1	25.9	66.2	33.9	80.7	19.3	69.9	30.1
59+	83.9	16.1	77.0	23.0	81.8	18.2	77.8	22.2
Total	75.9	24.1	66.0	34.0	80.3	19.7	69.4	30.6
<b>61st round (2004-5)</b>								
10-19	81.8	18.3	62.8	37.2	74.1	25.9	64.9	35.2
20-44	75.7	24.3	62.2	37.8	77.4	22.6	65.9	34.1
45-59	77.4	22.6	64.4	35.6	80.3	19.7	68.0	32.0
59+	85.7	14.3	71.4	28.6	77.2	22.8	72.2	27.8
Total	77.3	22.7	63.4	36.6	77.7	22.3	66.6	33.4

The gender composition of the UPSS labour force had been slowly moving against females from 1983 to 1999-2000 and the share of females in labour force fell by 2.5 per cent during this period and it reached 30.6 per cent in 1999-2000 (Table 9). It is only in 2004-05, this defeminisation process got reversed and the share of females in total labour force reached the level of early eighties. In the 1980s, a 'defeminization' of the labour force was observed in rural areas; in the 1990s, the share of the female labour force declined in equal proportion in both rural and urban areas. The reason lies in the pattern of female labour withdrawal. In the eighties, most of the withdrawal in rural areas took place in the younger age group for reasons of educational participation, which is basically a supply side factor. In the nineties, most of the withdrawal took place from adult subsidiary employment, which is more dominated by the demand side factor. In the early 2000s, feminisation of labour force was observed in both rural and urban areas. In some of the age groups, the share of female labour vis-à-vis male had increased considerably. As we have seen in our analysis of hypothetical and actual labour supply, the bulk of the increase was accounted for by adult subsidiary female employment which can be considered as demand side factor. It points to the phenomenon of cyclical nature of agricultural production and

its consequent labour demand adjustment, which is largely borne by the female subsidiary employment. But a lesser significant part of the increase had occurred in the UPS female labour supply hinting to the rising job aspiration of females in the rural areas and more prominently in the urban areas.

The share of subsidiary labour force in UPSS makes it clear. The subsidiary labour force was predominantly female. Hardly 2 per cent of the male labour force were engaged in subsidiary labour and that too was halved in nearly two decades until 1999-2000. In 2004-05, it showed marginal increase and that too in younger age group (10-19 years). In contrast, one fourth and one sixth of female labour force in rural and urban areas, respectively, were subsidiary in nature. As we have seen earlier, the subsidiary labour force moved in cyclical fashion. It went up in 1980s, declined in 1990s and again increased in early 2000s.

Across age groups, for males in both rural and urban areas, the share of the subsidiary labour force was comparatively large in the 10-19 years group (Table 10). It got halved in both rural and urban areas in the 1990s but it increased by about 50 per cent in early 2000. For females, the share of the subsidiary labour force in the UPSS labour force was more evenly spread across age groups, but a somewhat larger decline can be observed in the 1990s in the 59+ years group. In early 2000s, the 10-19 age group showed substantial increase and that too relatively more in the urban areas.

**Table 10 : Share of subsidiary (SS) labour force in UPSS labour force in different rounds**

Age group (years)	Rural		Urban		All areas	
	Males	Females	Males	Females	Males	Females
<b>38th round</b>						
10-19	10.3	26.8	8.2	19.7	9.9	26.0
20-44	0.5	25.8	0.4	18.5	0.5	24.9
45-59	0.4	26.0	0.3	17.5	0.4	25.0
59+	3.9	31.1	3.2	15.9	3.8	29.1
Total	2.5	26.3	1.5	18.4	2.3	25.3
<b>50th round</b>						
10-19	10.5	26.4	4.8	20.7	9.4	25.7
20-44	0.6	29.5	0.4	20.2	0.6	28.0
45-59	0.4	26.0	0.3	18.4	0.4	25.0
59+	2.3	28.4	2.9	18.8	2.4	27.2
Total	2.1	28.3	0.9	19.9	1.8	27.1
<b>55th round</b>						
10-19	5.4	22.4	2.6	16.2	4.8	21.6
20-44	0.5	22.7	0.3	14.7	0.4	21.4
45-59	0.5	21.4	0.3	12.9	0.4	20.0
59+	2.5	20.2	4.0	12.6	2.8	19.2
Total	1.3	22.3	0.7	14.4	1.1	21.1
<b>61st round (2004-5)</b>						
10-19	8.8	28.9	4.4	24.3	7.8	28.2
20-44	0.6	25.8	0.4	16.6	0.5	24.1
45-59	0.3	21.6	0.4	13.6	0.3	20.3
59+	2.2	21.8	2.6	13.9	2.3	20.8
Total	1.6	25.1	0.8	16.8	1.4	23.7

The UPS (usual principal status, which excludes subsidiary status) labour force was dominated by the prime age group (20-44 years) in both rural and urban areas and across both genders. (See Table 11) But in urban areas, the share of this age group is higher than in rural areas, and the share of females is comparatively higher than that of males. The share of the younger 10-19 years group in the UPS labour force fell over the years in all cases. The share of 59+ years group rose or remained the same in all cases in the 1990s and fell thereafter, thus leading to increase in the mean age of the Indian labour force till 1990s. Again, in the urban areas, in the 1990s, the share of the prime age group (20-44 years) fell and that of the 45-59 years group rose, which has further aged the principal labour force of urban India during that period. In early 2000s, the share of prime age group in urban areas actually went up.

**Table 11 : Distribution of UPS labour force across age groups**

**Rural males**

Age group (years)	38th round	50th round	55th round	61st round
10-19	16.7	12.2	12.2	10.4
20-44	56.0	59.6	59.6	60.3
45-59	19.3	19.1	19.1	21.1
59+	8.0	9.1	9.1	8.2
All	100.0	100.0	100.0	100.0

**Rural females**

Age group (years)	38th round	50th round	55th round	61st round
10-19	21.3	15.9	14.7	10.9
20-44	56.9	59.9	61.2	62.2
45-59	17.5	18.8	18.1	20.9
59+	4.3	5.3	6.0	6.0
All	100.0	100.0	100.0	100.0

**Urban males**

Age group (years)	38th round	50th round	55th round	61st round
10-19	11.5	8.9	8.6	7.9
20-44	65.9	67.9	66.3	66.8
45-59	18.1	18.8	20.0	21.2
59+	4.6	4.5	5.2	4.1
All	100.0	100.0	100.0	100.0

## Urban females

Age group (years)	38th round	50th round	55th round	61st round
10-19	17.1	12.3	11.5	9.1
20-44	60.6	65.6	63.9	67.7
45-59	17.1	17.8	19.7	18.8
59+	5.2	4.4	5.0	4.4
All	100.0	100.0	100.0	100.0

## 4. Social, institutional, economic, demographic and regional variations in labour supply

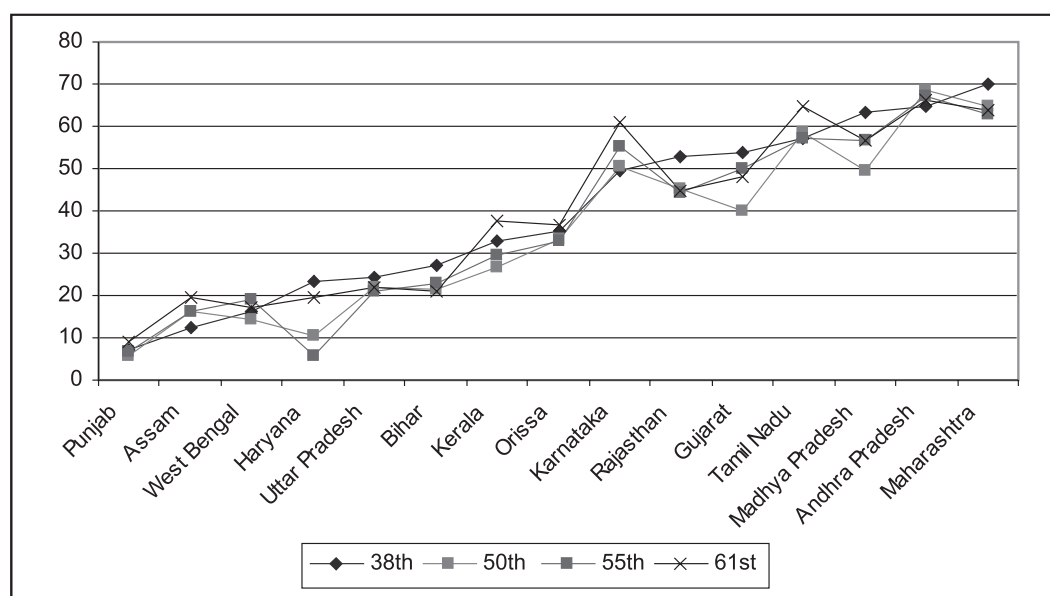
In this section, the variations in the various aspects of labour supply, whether regional, educational, social and consumption expenditure quintiles are discussed.

### 4.1 Regional variation in female labour supply

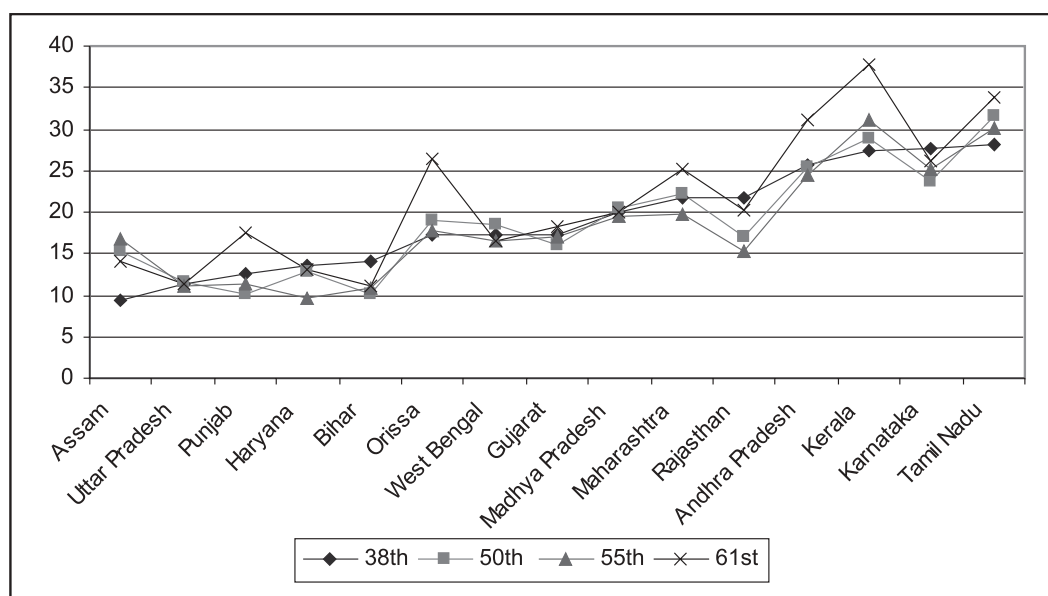
Given the traditional view that the adult able-bodied male has to work, it is unlikely that there would be substantial variation in the adult male labour supply in its various social and institutional setups. However, Ahsan and Page (2006) found some variation in the adult male labour participation rate across NSS regions. They also found that even with much lower LFPRs, the variations in the female labour participation rate were considerably more.

However, the female LFPR has shown substantial variations. As we have already discussed the female subsidiary labour supply, let us now examine the regional variations in the female UPS labour supply, i.e., the LFPRs and the changes in them over the years. Graphs 6A and 6B present the female LFPR in the major states of India from the 38th NSS round to the 61st NSS round.

**Graph 6A Rural female UPS LFPR (15-59 years) across major states**



**Graph 6B Urban female UPS LFPR (15-59 years) across major states**



The graphs indicate that the female labour supply varied substantially across states and more so in rural areas. But the relative positions of the different states had not changed noticeably in the last two decades - they show remarkable stability. Haryana in the rural areas and Rajasthan in the urban areas showed a substantial decline in the eighties, and a marginal decline in the nineties. In the urban areas, only Assam showed an increase in LFPRs in the 1980s. In early 2000s, some increase in LFPR was observed in rural areas of Southern states of Kerala, Karnataka and Tamil Nadu. In urban areas, the substantial growth of female labour supply (see table 7) observed at all-India level can be noticed in rise in LFPR of few number of states. These states are Punjab, Orissa and Kerala (see Graph 6B). In these states in early 2000s (61st round), the UPS unemployment rates had also gone up phenomenally in between span of five years (55th to 61st round). In Kerala it is from 26.4 per cent to 42.9 per cent; in Orissa from 6.7 per cent to 30.4 per cent and in Punjab from 3.5 per cent to 20 per cent. It reflects the unmet labour supply that cannot be considered only in terms of increased work opportunities in these set of states. This quick jump in LFPR and unemployment may be a pointer to the future LFPR in other states.

Looking at the level of LFPR, In both rural and urban areas, the southern states of Andhra Pradesh, Karnataka, Tamil Nadu and Kerala showed higher LFPRs for women. Among the other states, a comparatively higher LFPR was observed in Madhya Pradesh and Rajasthan. At the other extreme, almost all the northern states - Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal and Assam - show low LFPR rates for women. There seems to be a clear regional pattern in female LFPRs and it is largely stable except for urban areas of few states in most recent years. The reasons for this stable but substantial variation in labour force participation is explained in various sociological studies in terms of inverse relationship with patriarchal values, positive effects of various social movements, and higher female educational status, particularly in urban areas.<sup>4</sup>

<sup>4</sup> To cite an example, see Bidyut Mohanty in T. Chung (ed.): *Across the Himalayan gap - An Indian quest for understanding China*.

## 4.2 Labour force participation across various educational levels

As we have already covered the aspects of education and labour supply up to 19 years, here we will deal with the age groups of 19 years and above.

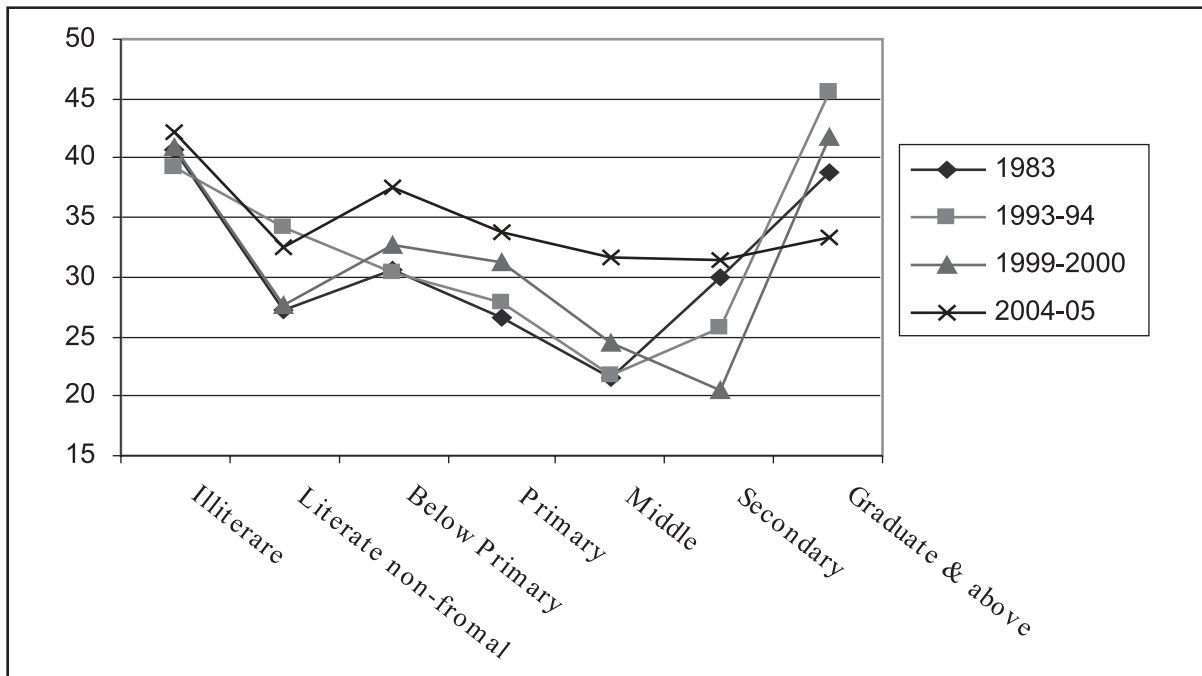
The rural female LFPR declined from a high level at the illiterate to middle education level, went up somewhat at the secondary level and then rose substantially at the graduate and above level in the 38th and 50th NSS rounds. In the 55th round, however, the decline was sharper up to the secondary education level. But the LFPR of the graduate and above group was not substantially higher than that of the illiterates. (See Graph 7A). In early 2000s, this had flattened out to a large extent.

In urban areas, from 38th to 55th round, the female LFPR across educational levels showed much less shift over the different rounds as compared with their rural counterparts and they were more stable. However, the shape of the LFPR in the urban areas was much more pronouncedly U-shaped with the LFPR of the graduate and above group being substantially higher than that of all other educational groups and the LFPR of the literate to less than graduation group being somewhat flat. This shows greater inclination to work or more job opportunities for highly educated females. (Graph 7B), Ajit K Ghose (2004) also discussed the elongated U-shaped relationship between participation rate and level of education. Maitreyi Bordia Das (2006) concluded that the husband's income has a significant negative effect on married women's labour force participation. When income effect is not offset by the possibility of a high-status job and wage equality for educated women, they remain out of the labour force. Das further argued that wage discrimination is probably an important factor in discouraging entry into the low paid casual labour market for females. But, as happened in rural areas by early 2000s, the female LFPR had become flatter with upward shift in LFPR from literate to middle level and shift downward at graduate level.

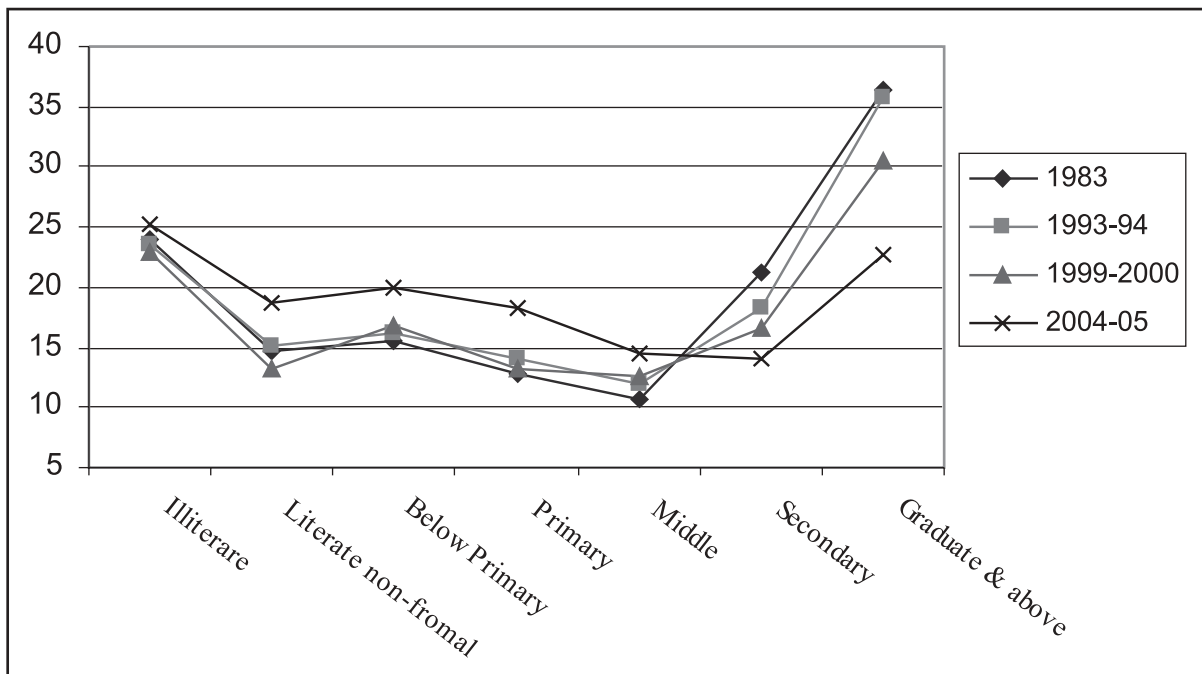
From 38th to 55th rounds, for males in both rural and urban areas, the LFPR rose slowly at the illiterate to middle school level, declined substantially at the secondary level and then rose somewhat at the graduate and above level. The decline in LFPR for the secondary educated group was sharper in the 55th round than in the earlier rounds. This perhaps indicates that a sizeable portion of secondary educated males in both rural and urban areas were increasingly going for full-time higher studies. (See Graphs 7C and 7D)

In early 2000s (61st round) LFPR for males fell even further at graduate & above level from secondary education level. Whether it is the consequence of newly formed category of diploma holders below graduate level who were categorised by us upto secondary education level would require further investigation.

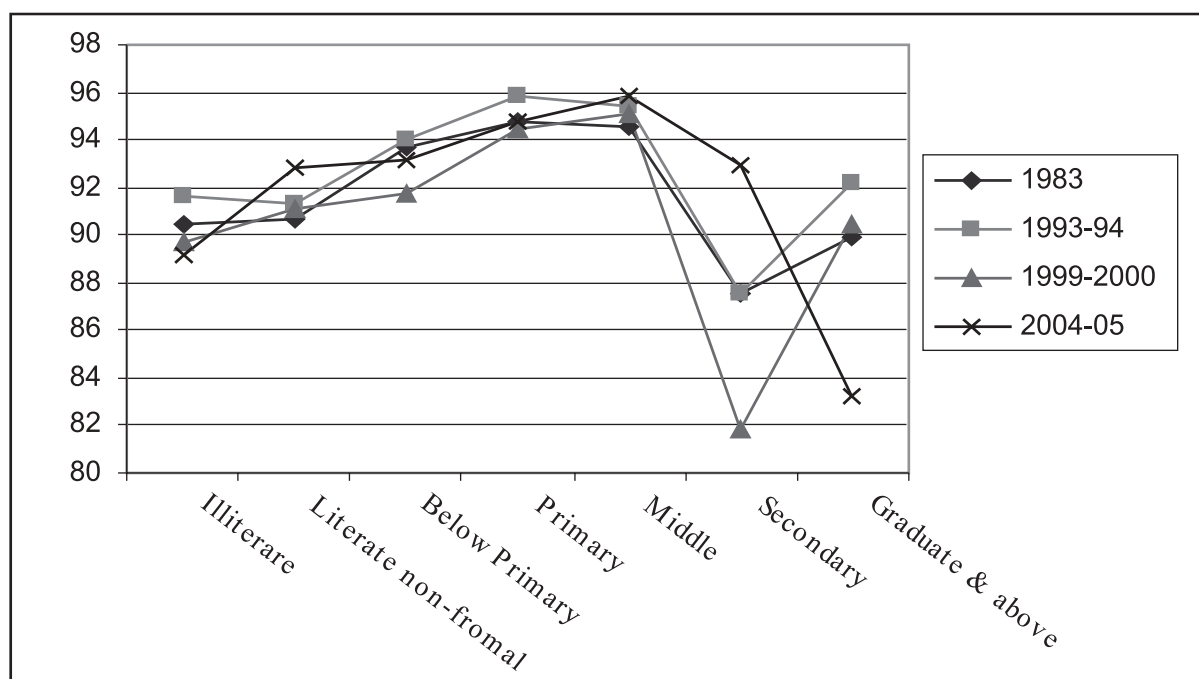
**Graph 7A Rural female LFPR (UPS) across educational levels (19+ years)**



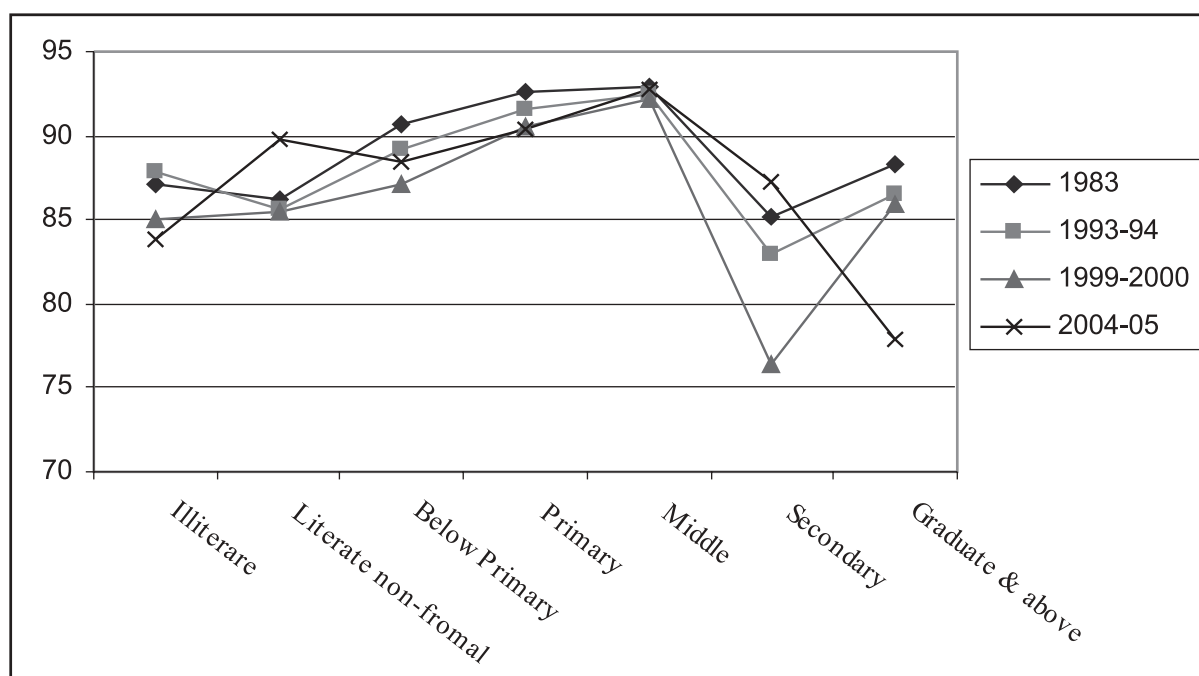
**Graph 7B Urban female LFPR (UPS) across educational levels (19+ years)**



**Graph 7C Rural male LFPR (UPS) across educational levels (19+ years)**



**Graph 7D Urban male LFPR (UPS) across educational level (19+ years)**



### 4.3 Labour force participation across social groups (castes)

In keeping with the general overall trend of declining LFPR, the LFPR for all social groups also showed a decline in the 1990s and an increase in early 2000s. In rural areas, the LFPR of scheduled



tribes (STs) was higher than that of scheduled castes (SCs) and others in the case of males, and substantially higher in the case of females, for all the four years. The LFPR of SC females was higher than that of the others, but that of SC males was very close to the others.

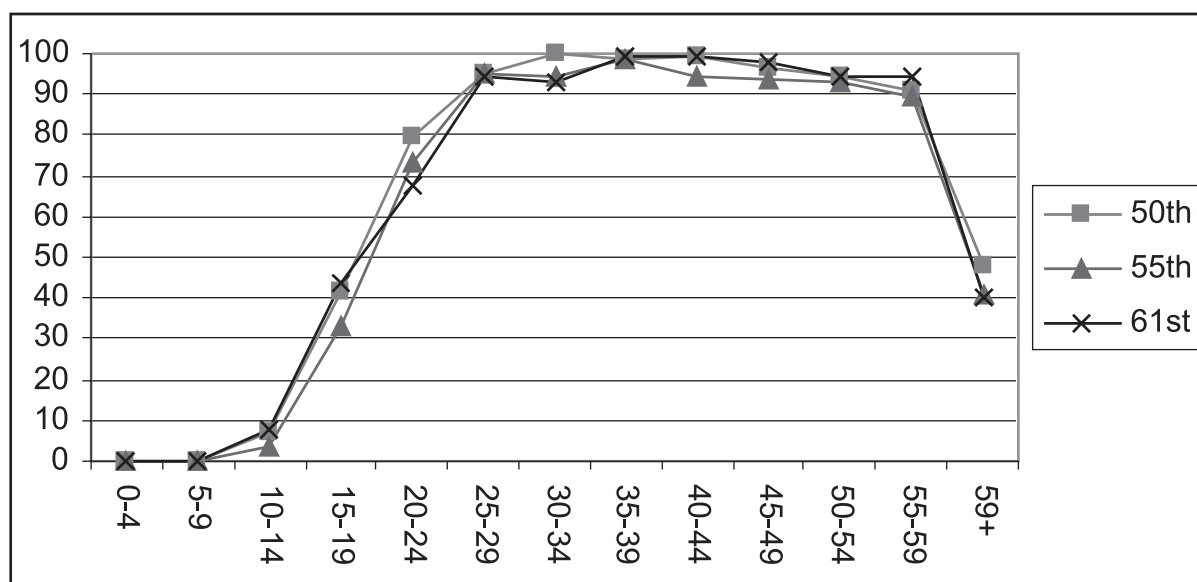
In urban areas, the LFPRs of females across social groups are similar to their rural counterparts, but the levels of LFPR are almost half of those observed in rural areas. For urban males, both SC and others, the LFPR rose over the different rounds. In the case of STs, it declined marginally in the eighties, but fell substantially in the late 1990s. (See Table 12) and again rose in early 2000s.

The age group-wise LFPR for urban ST males shows a downward shift in the 1990s for all age groups. (See Graph 8) This inward shift does not seem to be the result of a simple withdrawal from the labour force, for in that case, it would not affect all age groups in an almost uniform fashion. Has it happened because of shrinkage of job opportunities for urban ST males? In early 2000s, the rise in LFPR for ST males had occurred in the older age group of 35-59.

**Table 12 : Labour force participation rate (UPSS) across social groups**

Social Group	38th	50th	55th	61st
<b>Rural Male</b>				
ST	59.1	59.6	56.4	56.8
SC	55.8	55.5	54.1	55.4
Others	54.9	55.6	53.7	55.4
<b>Rural Female</b>				
ST	47.9	48.4	44.0	46.6
SC	38.3	35.6	32.7	33.8
Others	31.3	30.0	27.0	31.2
<b>Urban Male</b>				
ST	55.5	54.6	50.2	53.8
SC	51.6	52.9	53.0	56.8
Others	54.2	54.4	54.7	57.2
<b>Urban Female</b>				
ST	25.9	22.9	21.0	25.4
SC	21.1	22.2	19.1	21.0
Others	14.7	15.1	13.7	16.9

**Graph 8 : Urban male LFPR (UPSS) for scheduled tribes (STs) across age groups**



#### 4.4 Labour force participation across per capita consumption quintiles<sup>5</sup>

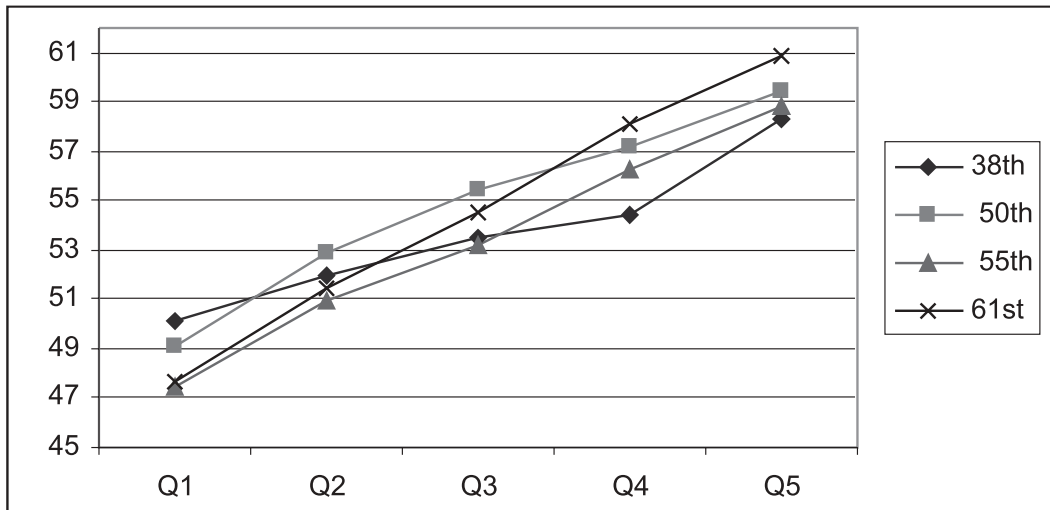
The general perception is that the labour participation rate of the poor is higher than that of better off persons, but Graphs 9A and 9C show that the male LFPR rose from lowest to highest average per capita expenditure (APCE) quintiles for males in both rural and urban areas - both sloped upward. However, in the late 1990s, the rural male LFPR shifted downward across all quintiles. In contrast, the rural female UPS LFPR sloped downward till late 1990s, indicating that at the higher APCE level, females withdraw from the labour market (Graph 9B) reflecting lack of quality job opportunities in rural areas. In early 2000s rural male LFPR had become steeper but female LFPR had completely flattened out. It does not indicate availability of substantial number of better job opportunities rather changes in the aspiration of females in higher consumption quintiles. It can also be apparent in the doubling of rural female unemployment rate in a short span of five years for 55th to 61st round.

In urban areas, female LFPR declined until the fourth quintile, but then it shot up in the highest quintile. This indicates that in urban areas, female labour participation at the higher remuneration level enhances households' APCE, thus overcoming the dominance of the substitution effect prevalent at the lower quintiles (See Graph 9D). From 38th to 55th rounds, the shape of graph did not change much but in early 2000s it shifted up showing substantial increase in LFPR in all quintiles except for the first. To some extent it reflects job opportunities as unemployment rate rose only by 30 per cent in between 55th and 61st round. But at the same time it also led to substantial increase in unemployment rates in few states as observed earlier.

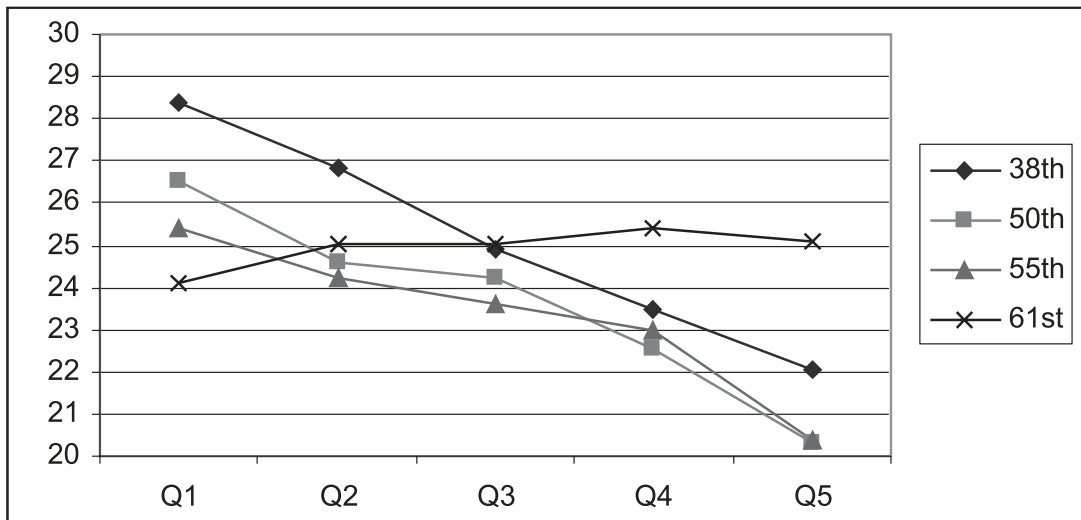
In the late nineties, one disturbing fact is that, both in rural and urban areas the largest withdrawal of the female labour force was observed in the lowest APCE quintiles. This perhaps indicates lack of job opportunities for women belonging to the poorest households as the income effect argument is unlikely to hold here. (Graphs 9B and 9D)

<sup>5</sup> There is an endogeneity problem in the analysis in this section since the earnings of the participants in economic activity could not be taken out from household earnings.

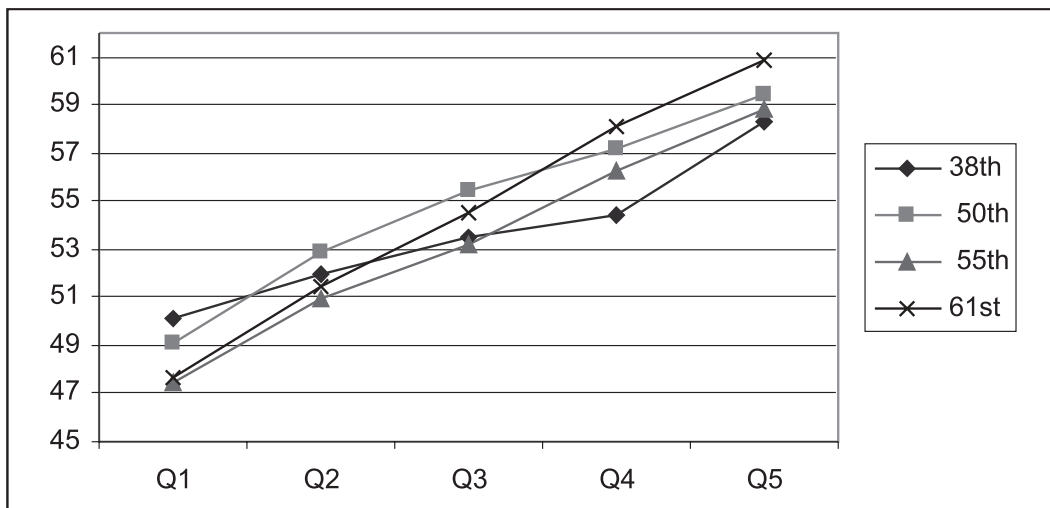
**Graph 9A Male UPS LFPR across average per capita expenditure quintiles in rural areas**



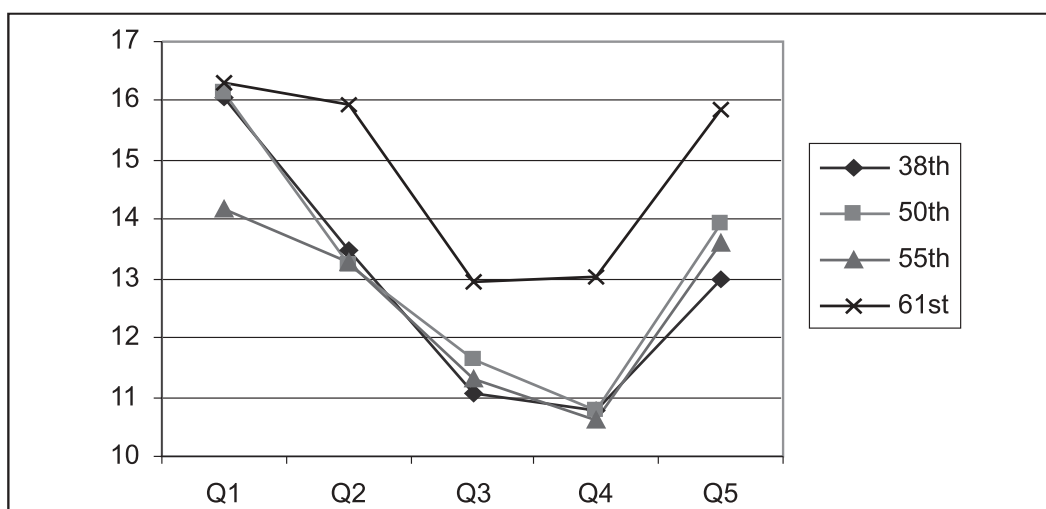
**Graph 9B Female UPS LFPR across average per capita expenditure quintiles in rural areas**



**Graph 9C Male UPS LFPR across average per capita expenditure quintiles in urban areas**



**Graph 9D Female UPS LFPR across average per capita expenditure quintiles in urban areas**



The male LFPR, in both rural and urban areas, as found earlier, sloped upward across expenditure quintiles. This is in spite of the fact that males in the first quintile get into the labour market in larger proportions even in their teens. The explanation is found in the age composition of the population in the top and bottom expenditure quintiles. (See Table 13) One can see the working age (20-59 years) population is much larger in the top quintile as compared to the one at the bottom. Given the much higher LFPR in this age group as compared to the other age groups, the higher share of population in the working age group translates into a higher LFPR in the top quintile as compared to the one at the bottom. It is clear that households in the top quintile are passing through a demographic transition which has barely touched households belonging to the bottom quintile.

**Table 13 : Age composition of male population in different quintiles**

Age group (years)	Males				
	Q1	Q2	Q3	Q4	Q5
<b>Rural males</b>					
0-19	55.2	51.3	47.8	42.8	36.4
20-59	39.7	42.6	45.6	49.3	54.0
59+	5.2	6.1	6.6	7.8	9.6
<b>Urban males</b>					
0-19	51.8	44.7	40.0	34.8	27.8
20-59	43.3	49.5	54.1	58.8	63.2
59+	4.9	5.8	5.9	6.4	9.0

Q<sub>1</sub>: lowest 20% of expenditure quintile ... Q<sub>5</sub>: topmost 20% of expenditure quintile.

## 5. Nature and extent of unemployment

In this study, the unemployment rate in general is defined as the number of persons unemployed per 100 persons in the labour force (which includes both employed and unemployed people) unless mentioned as per 1,000 persons. It denotes the unutilized portion of the labour force. The bottom row of Tables 14A and 14B depict the overall (taking all age groups) unemployment rates over four quinquennial rounds spread over the last two decades. The unemployment rate is the mirror image of employment/labour supply so that the UPSS unemployment rates are smaller than the UPS unemployment. Both these unemployment rates measure long term unemployment.

**Table 14A : Unemployment rates per 1,000 persons in the rural labour force, principal, and principal and subsidiary status**

Rural	38th round				50th round				55th round				61st round			
	UPS		UPSS		UPS		UPSS		UPS		UPSS		UPS		UPSS	
Age group (years)	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15-19	59	34	42	19	47	32	34	19	64	42	54	31	79	66	59	36
20-24	59	36	38	20	66	46	48	28	62	49	51	36	61	93	47	57
25-29	25	14	15	6	31	20	23	10	31	23	26	15	24	52	17	32
15-29	47	28	32	15	48	32	35	19	51	37	42	26	52	70	39	42
30-34	8	6	4	2	8	7	6	4	10	7	8	4	10	27	7	15
35-39	4	6	2	1	2	6	2	2	4	3	2	1	4	14	2	6
40-44	4	4	3	0	2	0	1	0	2	1	1	1	4	10	2	4
45-49	2	4	1	1	1	2	0	1	1	1	0	0	3	7	1	2
50-54	2	4	1	1	0	2	0	0	0	3	0	0	2	5	0	2
55-59	2	2	1	0	1	0	0	0	1	0	1	0	2	4	1	1
59+	2	7	1	1	0	2	0	0	2	0	1	0	2	7	1	3
<b>Total</b>	<b>21</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>20</b>	<b>14</b>	<b>14</b>	<b>8</b>	<b>21</b>	<b>15</b>	<b>17</b>	<b>10</b>	<b>21</b>	<b>31</b>	<b>16</b>	<b>18</b>

**Table 14B : Unemployment rates per 1,000 persons in the urban labour force, principal, and principal and subsidiary status**

Urban	38th round				50th round				55th round				61st round			
	UPS		UPSS		UPS		UPSS		UPS		UPSS		UPS		UPSS	
Age group (years)	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15-19	188	147	160	109	133	165	118	125	153	156	143	129	140	155	120	110
20-24	147	221	124	154	139	274	126	217	139	228	128	191	126	260	111	194
25-29	59	100	53	71	67	130	57	97	75	118	71	94	57	158	49	125
15-29	123	156	106	111	108	194	96	150	115	168	107	138	100	199	88	149
30-34	23	38	20	27	22	53	19	39	23	50	21	40	21	76	18	58
35-39	9	13	7	8	6	17	5	13	12	22	11	16	9	49	7	35
40-44	7	9	5	4	4	6	3	4	7	12	6	8	6	21	4	16
45-49	7	9	6	3	4	4	3	3	5	9	5	7	10	9	8	7
50-54	5	7	4	2	4	2	4	2	5	6	5	5	13	9	9	4
55-59	10	2	7	2	2	5	1	4	3	2	2	2	5	3	4	0
59+	6	2	4	0	3	3	2	1	1	2	1	1	4	3	0	0
<b>Total</b>	<b>59</b>	<b>69</b>	<b>51</b>	<b>49</b>	<b>45</b>	<b>82</b>	<b>40</b>	<b>62</b>	<b>48</b>	<b>71</b>	<b>45</b>	<b>57</b>	<b>43</b>	<b>91</b>	<b>38</b>	<b>69</b>

Third, in the period late 1990s-early2000s, for the first time substantial increase in female unemployment can be observed in both UPS and UPSS variant, overshadowing the decline in female unemployment rate observed only in the urban areas during 1990s. Taking the whole two decade period, the female unemployment rate had doubled in rural areas from a low base and increased by about a half in the urban areas. In contrast, the long-term unemployment rate of males remained stagnant in the rural areas and declined in the urban areas. Last, the major portion of rise in the female unemployment was accounted for by the youth (15-29 age group) female unemployed. In the urban areas, one-fifth of the total female labour supply is contributed by unemployed.

**Table 15A : Current daily status unemployment rates in rural areas per 1,000 persons**

Age group	38th Round		50th Round		55th Round		61st Round	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	112	126	90	82	128	130	149	127
20-24	118	124	103	83	118	125	129	148
25-29	84	92	77	66	92	77	89	107
15-29	104	113	90	76	111	108	120	127
30-34	66	87	50	50	64	59	71	85
35-39	63	84	42	44	49	45	65	71
40-44	61	73	34	43	46	45	57	61
45-49	59	79	32	43	46	47	53	64
50-54	53	77	32	37	43	48	51	61
55-59	51	73	32	36	43	41	50	61
59+	46	76	22	38	33	47	39	54
<b>Total</b>	<b>76</b>	<b>90</b>	<b>56</b>	<b>56</b>	<b>71</b>	<b>70</b>	<b>79</b>	<b>87</b>

**Table 15B : Current daily status unemployment rates in urban areas per 1,000 persons**

Age group	38 Round		50 Round		55 Round		61 round	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	230	201	162	188	191	189	185	163
20-24	185	242	170	286	175	263	158	273
25-29	96	131	93	153	105	135	96	182
15-29	161	190	137	212	149	195	138	215
30-34	53	76	41	76	48	69	48	107
35-39	37	60	24	43	33	44	37	69
40-44	34	59	19	32	27	31	29	43
45-49	37	63	18	37	25	24	39	43
50-54	36	56	22	25	22	30	41	46
55-59	38	54	21	28	23	12	27	40
59+	44	32	25	25	39	26	34	49
<b>Total</b>	<b>92</b>	<b>110</b>	<b>67</b>	<b>105</b>	<b>74</b>	<b>94</b>	<b>74</b>	<b>117</b>

The unemployed person day rates are higher than that obtained for persons (indicated by CDS, or current daily status<sup>6</sup>) largely due to the absence of regular employment for many workers (See bottom row of Tables 15A and 15B), i.e., the higher level of casualization rate. The increase in casualization of the Indian workforce over the years affects the person day unemployment rates positively.

It is clear from the above analysis that youth belonging to the 15-29 years groups have a far higher unemployment rate as compared to people in the other age groups. This is true for both males and females in both rural and urban areas over the last two decades.

Let us examine the age composition of UPS unemployment to get a better idea. The data shows overwhelming domination of the youth (5-29 years groups) in UPS unemployment in all categories and over the years (see Tables 16A to 16D). The combined share of these age groups in UPS unemployment was more than 85 per cent in the 38th round. But in the 1990s, this further increased to about 90 per cent of all UPS unemployment. In addition, during this period, the share of the 30-34 years group increased from below 5 per cent to above 6 per cent. In the late 1990s, however, the share of this age group did not show any noticeable increase. In early 2000s, substantial increase of UPS unemployment in this age group is observed for females. All it means is that the share of the 15-34 years groups in all UPS unemployment is more than 95 per cent. So, long term unemployment, as measured through the UPS unemployment rate, is virtually unemployment of the 15-34 years groups.

**Table 16A : Composition of UPS unemployment in the 38th NSS round**

Age group (years)	Rural		Urban	
	Males	Females	Males	Females
15-19	33.7	32.4	30.9	24.6
20-24	39.1	34.4	41.2	44.6
25-29	16.0	13.0	16.7	19.9
15-29	88.9	79.8	88.8	89.0
30-34	4.1	5.0	5.4	6.4
35-39	2.1	5.0	1.8	2.0
40-44	1.7	3.3	1.3	1.2
45-49	1.0	2.6	1.0	1.0
50-54	0.8	1.6	0.6	0.6
55-59	0.5	0.6	0.6	0.1
59+	1.0	2.1	0.5	0.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>6</sup> The daily status concept incorporates the changes in the activity status of persons by taking into account half-day data during the seven days of the reference week. In situations where large scale seasonal unemployment exists, the CDS measure gives a better picture of the unemployment situation than one relating to unemployed persons. One major limitation of CDS measure is that it fails to capture under activity of self-employed persons. It ably captures the unemployment of casual workforce.



**Table 16B : Composition of UPS unemployment in the 50th NSS round**

Age group (years)	Rural		Urban	
	Males	Females	Males	Females
15-19	23.3	23.9	22.0	18.1
20-24	45.3	42.6	43.4	49.4
25-29	22.4	18.3	23.1	23.8
15-29	90.9	84.8	88.4	91.2
30-34	4.9	6.2	6.7	8.5
35-39	1.4	4.6	1.8	2.6
40-44	0.8	0.2	0.8	0.8
45-49	0.4	0.9	0.7	0.4
50-54	0.1	0.8	0.6	0.2
55-59	0.1	0.0	0.2	0.2
59+	0.1	0.8	0.3	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 16C : Composition of UPS unemployment in the 55th NSS round**

Age group (years)	Rural		Urban	
	Males	Females	Males	Females
15-19	30.0	30.2	23.8	19.5
20-24	39.0	41.8	39.9	44.3
25-29	20.7	22.4	23.9	21.9
15-29	89.7	94.4	87.6	85.7
30-34	5.8	5.7	6.3	8.8
35-39	2.3	2.3	3.3	4.3
40-44	0.7	0.9	1.5	1.8
45-49	0.4	0.8	1.0	1.1
50-54	0.1	1.1	0.6	0.5
55-59	0.2	0.0	0.2	0.2
59+	1.1	0.0	0.1	0.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 16D : Composition of UPS unemployment in the 61st NSS round**

Age group (years)	Rural		Urban	
	Males	Females	Males	Females
15-19	34.4	18.5	23.1	12.4
20-24	37.8	33.7	40.6	40.2
25-29	14.6	20.5	20.1	22.7
15-29	86.8	72.7	83.8	75.3
30-34	5.8	12.3	6.8	12.1
35-39	2.4	6.3	2.6	8.1
40-44	1.9	3.5	1.6	2.7
45-49	1.2	2.2	2.3	0.8
50-54	0.6	1.1	2.1	0.6
55-59	0.6	0.7	0.5	0.1
59+	0.7	1.4	0.4	0.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

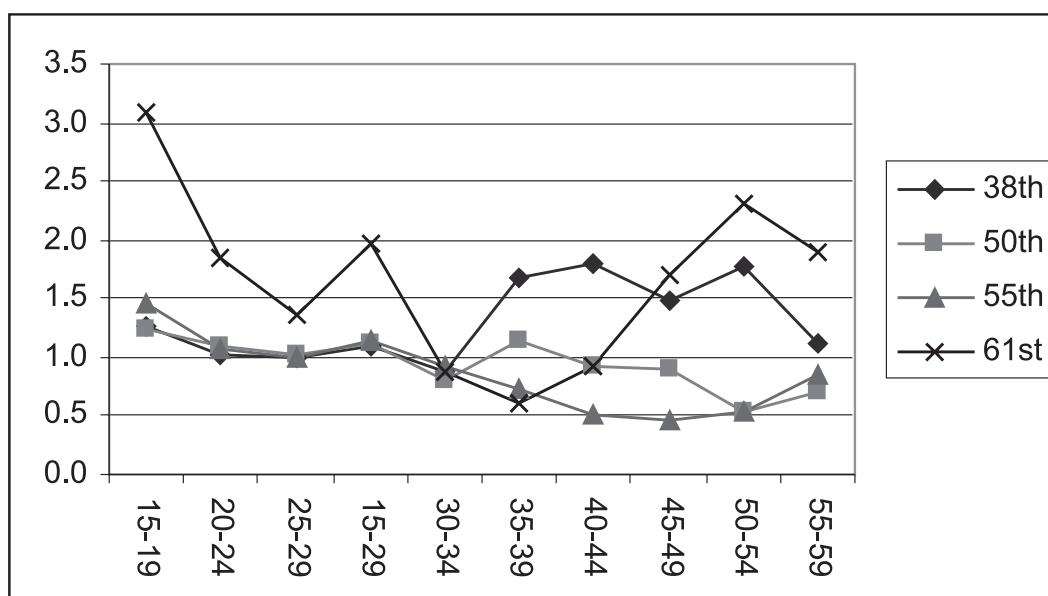
Tables 15A and 15B show that in rural areas, the unemployment rate for the youth (15 - 29 years) was more than 70 per 1,000, but unemployment person days were around 50 per 1,000 for the other age groups as well.

The difference was substantial in the urban areas. In urban areas, CDS unemployment of the youth and age group 30-34 years varied between 50 and 200 per 1,000, but the numbers for the other age groups of 35 years and above were well below 50 per 1,000. Therefore, the share of this age group in overall CDS unemployment would be much higher in urban areas than in rural areas.

In the rural areas, unemployment person days were more widespread across age groups. This is likely to do more with the smaller share of regular workers in rural areas than in urban areas and, consequently, the much larger share of casual workers there than in the urban areas.

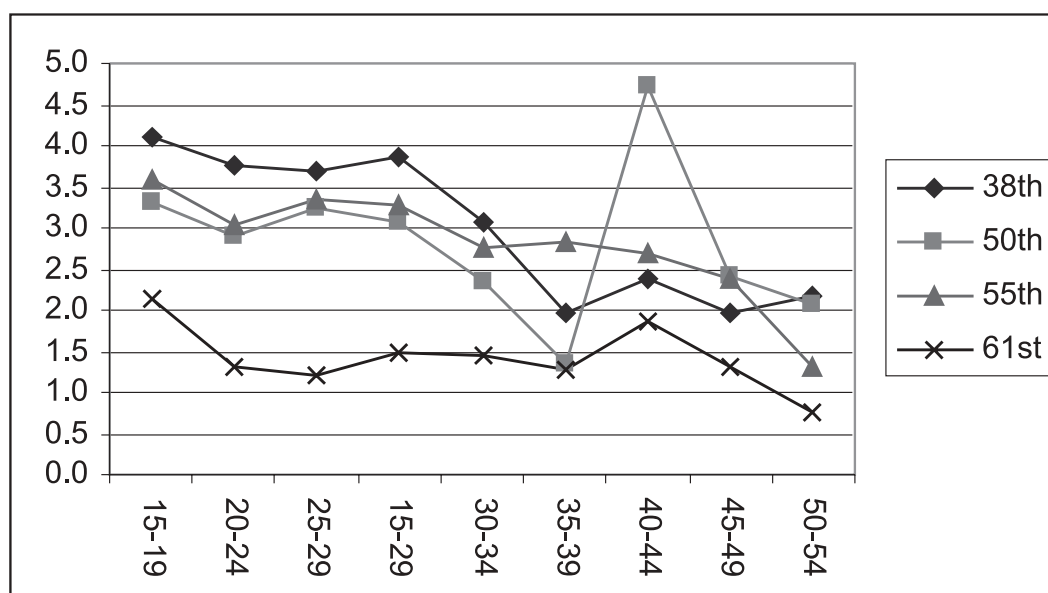
This raises the issue of the rural-urban divide in unemployment. This is examined using the ratio of the number of UPS unemployed over the years (Graphs 10A and 10B). The rural-urban unemployed ratio hovered around 1 among youth (15-29 age groups) and in 30-34 age-group with substantial variation in older age groups till 55th round. The 61st round is a clear departure from this phenomenon with rural-urban ratio of youth unemployment rising upto 2. Youth unemployed had more than 85 per cent share in total unemployed in both rural and urban areas. This huge rise in the number of rural youth unemployed is largely a consequence of substantial increase in rural youth female unemployment rate that rose from 2.6 per cent in 55th round to 7 per cent in 61st round in the span of only 5 years. It will be clearer when we examine male-female ratio of unemployed.

**Graph 10A : Rural-urban ratio of UPS unemployed**



Until 55th round, the male-female ratio of unemployment was more than 3, indicating that for every female unemployed, there are three males unemployed. However, the male-female unemployed ratio declined in the higher age groups. The male-female unemployment ratio as a whole showed a substantial decline in the 1980s (between the 38th and 50th rounds), but showed signs of an increase in the 1990s (between the 50th and 55th rounds). But the scenario changed in later years. In 61st round, the male-female unemployed ratio fell down substantially. It can be noticed in the youth unemployed (15-29 age group) ratio. In this group the ratio declined from 3 to 1.5. The huge rise in youth female unemployed in rural areas and a noticeable rise in urban areas has led to this level of decline in the ratio.

**Graph 10B : Male-female ratio of UPS unemployed**



This will get reflected in the growth of unemployed over different rounds. Table 17 showed that compared to the 1980s, the growth of unemployment had become faster in the 1990s and in early 2000s it has increased at an alarming rate. The growth of unemployed rural person has risen at a faster rate in 1990s and at a high rate in early 2000s compared to 1980s. The lower growth in urban unemployed in corresponding periods has been caused by marginally negative growth of female unemployed in the nineties and low positive growth of urban male unemployed in early 2000s. In the latest period, the female unemployed had risen at double digit level per annum in both rural and urban areas. The perceived notion of long-term unemployment in India as that of urban male has very quickly got replaced by that of rural males and increasingly by that of females.

**Table 17 : Growth of UPS unemployed (% CAG)**

Areas	38th-50th rounds	50th-55th rounds	55th to 61st round
Rural males	0.84	2.39	2.54
Rural females	0.65	2.93	18.55
Rural persons	0.80	2.51	7.21
Urban males	0.29	3.67	1.72
Urban females	4.68	-0.07	11.04
Urban persons	1.31	2.69	4.28

## 6. Unemployment among educated youths (15-29 years group)

To find out which sections of youth unemployment were growing faster in the 1990s, we look at the educational distribution of youth unemployment over the last two decades (See Table 18).

**Table 18 : Educational distribution of youth unemployment (UPS)**

<b>Rural</b>						
Round	Sex	Illiterate	Up to primary	Up to middle	Up to secondary	Graduate & above
38th	Male	10.4	22.2	28.3	32.3	6.9
50th	Male	6.8	12.7	23.3	43.8	13.4
55th	Male	7.5	18.5	25.9	37.9	10.1
61st	Male	8.1	21.1	21.8	38.6	10.5
38th	Female	18.8	12.4	24.7	36.0	8.1
50th	Female	13.6	10.9	15.2	44.2	16.1
55th	Female	6.2	8.5	21.2	42.1	22.0
61st	Female	10.0	11.2	16.6	44.4	17.8

<b>Urban</b>						
Round	Sex	Illiterate	Up to primary	Up to middle	Up to secondary	Graduate & above
38th	Male	7.6	23.4	29.2	29.7	10.1
50th	Male	5.4	16.9	24.7	38.6	14.4
55th	Male	5.4	16.5	26.4	35.2	16.5
61st	Male	3.9	14.6	27.3	34.0	20.1
38th	Female	3.7	13.1	22.3	39.5	21.5
50th	Female	1.9	9.3	16.5	40.1	32.2
55th	Female	3.0	6.3	16.0	39.3	35.4
61st	Female	1.3	9.0	12.2	39.0	38.6

*Note: Row percentages add to 100.*

The share of the educated unemployed in the longterm unemployed was quite substantial and it had risen considerably in the last two decades. In 1999-2000 (55th round) the share of the highly educated (graduate & above) group in youth unemployment was around one-eighth in the rural areas and one-fifth in the urban areas. In early 2000s, the share of highly educated declined in the rural areas to about one-tenth. But in the urban areas, its share continued to increase. The share of the highly educated group in the unemployed was larger in case of females in both rural and urban areas and it had risen at a much faster rate until late 1990s. By early 2000s, the share of highly educated group in female unemployed in the rural areas got reduced by one-fourth from late 1990s.

Does it signify that the highly educated female had fewer job opportunities than male counterpart? To find an answer, we have to analyse the educated unemployment rates over the years.

**Table 19 : Unemployment (UPS) rate among youth**

Round	Sector	Male		Female	
		Secondary & above	Graduate & above	Secondary & above	Graduate & above
38th	Rural	27.0	40.1	58.8	68.7
50th	Rural	20.4	44.2	36.2	57.0
55th	Rural	16.0	34.9	32.5	57.8
61st	Rural	17.3	30.5	32.5	54.7
38th	Urban	29.5	32.6	49.1	50.5
50th	Urban	24.3	34.5	46.8	51.7
55th	Urban	23.1	33.6	37.4	45.2
61st	Urban	22.3	35.5	39.8	45.1

The unemployment rate of the highly educated, i.e., graduate and above, group as compared to the secondary and above group was substantially higher in rural areas, but not necessarily so in urban areas. (See Table 19) The unemployment rate of highly educated females was much larger in rural areas. The unemployment rate of educated females was consistently higher than that of males, showing the lack of job opportunities for educated females. However, in the 1990s, when the absolute number of unemployed females declined marginally, the unemployment rate of educated females also showed some decline in the urban areas. But the decline was much smaller than the decline in the unemployment of educated females observed in the rural areas in the 1980s. Still, by the early 2000s, the unemployment rate of highly educated females was substantially higher in rural areas than in urban areas.

### 6.1 Regional distribution of youth unemployment

The youth unemployment rate was much higher in urban areas than in rural areas. The youth unemployment rate of females was higher than that for males, in both rural and urban areas. (See Table 20) Across states, Kerala stood out in terms of unemployment, particularly in the rural areas.

In the case of urban males, all the states of eastern India - Assam, Bihar, Orissa, West Bengal and other North-Eastern states- displayed similar levels of unemployment as Kerala. The growth of organized manufacturing activities in the last two decades has been quite poor in these states. Manufacturing sector growth creates substantial growth of labour intensive service sectors such as transport and trade through backward and forward linkages (Hansda, 2001).

**Table 20 : Youth UPS unemployment rate (2004-05)**

State	Rural Male	Urban Male	Rural Female	Urban Female
Andhra Pradesh	4.4	11.6	2.2	13.8
Assam	10.8	22.3	18.1	43.2
Bihar	7.9	21.4	2.9	35.6
Gujarat	3.3	7.6	0.2	7.7
Haryana	11.4	13.1	8.1	38.9
Jammu & Kashmir	6.8	10.6	9.7	31.1
Karnataka	2.8	6.2	3.8	17.8
Kerala	26.4	28.2	62.1	72.4
Madhya Pradesh	2.5	10.5	0.5	6.2
Maharashtra	6.4	14.7	1.9	16.6
Orissa	12.4	35.0	21.8	63.6
Punjab	11.0	8.1	64.3	41.5
Rajasthan	5.3	8.9	3.4	8.7
Tamil Nadu	6.6	11.0	6.8	16.4
Uttar Pradesh	3.8	10.6	3.0	18.0
West Bengal	9.9	19.0	21.7	25.1
North-Eastern States	15.9	28.6	16.4	40.2
Rest States and UTs	7.9	15.5	4.0	27.2
all-India	6.9	13.1	8.1	22.4

Is there any relationship between the unemployment rate and the level of education of youth entering the labour market? (See Tables 20 and 21) The correlation among them for all categories were positive implying role of supply inducing unemployment. But in the case of females, relationship was stronger across the states. The correlation coefficient of the unemployment rate and the share of the secondary educated and above group in the youth labour supply were 0.888 and 0.637, respectively, for rural and urban areas. The relationship was weakest among urban males with the correlation value of 0.294. It possibly points to the lack of growth of organised manufacturing as mentioned in earlier sentences. It requires detailed analysis which is beyond the scope of this paper.

In 1999-2000, the share of the secondary educated youth in the labour force was still quite small in rural areas and the disparity between males and females, quite small. Urban areas presented a dynamically opposite picture (table not presented here). By 2004-05, the share of secondary educated in youth female labour supply went up substantially but that of males only went up marginally. The share of secondary educated youth is two-fifth for females and 30 per cent for males in the urban areas. (See Table 21)

**Table 21 : Share of secondary and above educated youth in labour supply (2004-05)**

State	Rural Male	Urban Male	Rural Female	Urban Female
Andhra Pradesh	21.4	36.4	12.1	32.0
Assam	17.0	37.1	16.8	51.6
Bihar	19.5	38.3	3.9	42.9
Gujarat	21.2	37.1	13.4	37.3
Haryana	39.2	41.0	29.5	65.2
Jammu & Kashmir	23.5	20.7	16.0	36.6
Karnataka	16.6	34.3	12.1	47.5
Kerala	35.3	44.0	57.1	71.8
Madhya Pradesh	9.7	31.5	3.7	40.1
Maharashtra	31.3	31.5	20.1	48.4
Orissa	15.9	29.2	11.1	42.9
Punjab	32.9	36.2	64.2	79.7
Rajasthan	17.4	20.7	2.6	13.3
Tamil Nadu	27.1	39.4	22.9	44.2
Uttar Pradesh	15.9	21.1	9.1	32.5
West Bengal	11.4	25.9	14.4	39.9
North-Eastern States	16.9	42.6	15.9	47.9
Rest States and UTs	16.5	33.5	13.5	41.9
all-India	19.5	31.6	14.9	43.6

What about the share of the highly educated (the graduate and above group) in the labour supply? The share of the highly educated was almost negligible in rural areas and substantially higher in urban areas. The share of graduate females in the urban labour supply was two and a half times more than that of the male labour supply. This is an indication that a large proportion of females enter the labour market right after graduation, which does not seem to be true for males, who either enter the labour market at a much lower level of education or continue their postgraduation or professional studies in a larger proportion. (See Table 22)

**Table 22 : Share of graduate and above in youth labour supply (2004-05)**

State	Rural Male	Urban Male	Rural Female	Urban Female
Andhra Pradesh	2.2	9.4	0.7	15.9
Assam	0.7	18.7	2.4	39.8
Bihar	2.4	18.4	0.4	6.3
Gujarat	1.7	6.1	1.3	14.7
Haryana	4.5	7.9	2.9	32.4
Jammu & Kashmir	2.2	3.8	2.6	16.6
Karnataka	0.9	3.8	1.4	18.1
Kerala	2.7	6.9	11.4	23.2
Madhya Pradesh	1.0	9.1	0.1	18.4
Maharashtra	2.9	6.1	1.7	20.8
Orissa	3.1	10.7	2.4	19.5
Punjab	1.5	4.8	7.4	30.1
Rajasthan	2.9	3.8	0.5	9.7
Tamil Nadu	2.3	9.5	3.2	18.9
Uttar Pradesh	3.5	6.5	2.5	25.1
West Bengal	1.8	6.4	3.2	19.6
North-Eastern States	2.0	9.3	1.9	12.0
Rest States and UTs	2.4	10.5	3.1	15.8
all-India	2.4	7.4	2.1	19.1

## 6.2 Youth unemployment across household income/consumption

For males, the unemployment rates did not show substantial variation across quintiles in both urban and rural areas. For females in rural areas, the unemployment rate suddenly shot up in the highest quintile. (See Table 23A) In urban areas, the female unemployment rate was quite low in the lowest



two quintiles, but it shot up after that. It seems that in the first four quintiles in rural areas and in the first two quintile in urban areas, when females enter the labour market in a larger proportion, they tend to pick up work more quickly, rather than wait for more suitable work. This can be seen from the relatively higher share of these quintiles in female labour supply. (See Table 23B)

**Table 23A : Youth UPS unemployment rate across expenditure quintiles (2004-05)**

Average Per Capita Expenditure Quintiles	Rural Male	Urban Male	Rural Female	Urban Female
1	6.4	12.2	3.2	13.4
2	5.8	12.1	5.5	14.1
3	6.1	12.7	7.1	30.4
4	7.0	13.5	8.3	28.0
5	9.0	16.0	18.6	31.3
<b>Total</b>	<b>6.9</b>	<b>13.1</b>	<b>8.1</b>	<b>22.4</b>

**Table 23B : Share of expenditure quintiles in labour supply of youth (2004-05)**

Average Per Capita Expenditure Quintiles	Rural Female	Urban Females
1	20.6	23.8
2	21.7	22.8
3	20.7	18.7
4	20.0	17.5
5	17.1	17.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

1: bottom quintile ... 5: top quintile

This becomes more evident when one looks at the share of the secondary and above and graduate and above groups in the female labour supply. The share of the secondary educated group in the labour force crossed 23 per cent in the fifth quintile of rural areas and the second quintile of urban areas; such similarities were also found in the case of the graduate and above group. (See Tables 24A and 24B)

The share of educated females in both the secondary educated and graduate and above groups in urban areas was higher than that of males as a whole and in all quintiles. In the highest quintile, more than half of all females entering the labour market were graduates or more, whereas the equivalent figure among urban males was only one quarter.

**Table 24A : Share of secondary educated youth in labour supply (2004-05)**

Average Per Capita Expenditure Quintiles	Rural Male	Urban Male	Rural Female	Urban Female
1	7.6	14.2	4.7	16.7
2	13.1	21.5	7.6	30.2
3	16.1	31.0	12.1	44.9
4	22.3	44.3	18.9	66.2
5	35.7	60.6	35.0	73.9
<b>Total</b>	<b>19.5</b>	<b>31.6</b>	<b>14.9</b>	<b>43.6</b>

**Table 24B : Share of graduate youth in labour supply (2004-05)**

Average Per Capita Expenditure Quintiles	Rural Male	Urban Male	Rural Female	Urban Female
1	0.8	1.8	0.1	3.5
2	1.4	2.8	0.4	8.3
3	1.6	5.8	1.4	15.5
4	2.4	9.4	1.6	25.5
5	5.3	24.3	8.4	52.6
<b>Total</b>	<b>2.4</b>	<b>7.4</b>	<b>2.1</b>	<b>19.1</b>

1: bottom quintile ... 5: top quintile

## 7. Findings of the study

The employment growth rate, based on NSS data, had shown a substantial downturn from 1.98 per cent per annum to 1.02 per cent per annum for the period from 1983-1993-94 to 1993-94-1999-2000. But in the subsequent period 1999-2000 to 2004-05, employment growth was much higher at 2.46 per cent per annum. But the deceleration of employment growth in 1990s has been the centre of much debate.

An analysis of factors responsible for the substantial decline is necessary. Is it a decline in the growth of the labour force or a compositional change in the labour force between the employed and the unemployed, signifying substantial increase in the unemployment rate and consequent decline in the employment growth rate? It was found that there was a substantial decline in the labour force growth from the 1980s to the 1990s, from 1.71 per cent to 1.23 per cent. The decline in the labour force could be due to a decline in the working age population or due to a decline in the labour force participation rate. We found that it was a decline in the LFPR (labour force participation rate) that was mainly responsible for the slower growth of employment in the 1990s.

After examining the specific LFPR for all three rounds of NSS for rural males, rural females, urban males and urban females for UPS and UPSS, we found that the decline in LFPR actually contributed a 23 million decline in the labour force. Out of this, the female subsidiary labour force contributed 47 per cent of the total decline; the 5-19 age group's UPS LFPR contributed 30 per cent; and the 59+ years group LFPR contributed another 10 per cent. These three factors together contributed 88 per cent of the total hypothetical labour force decline in the 1990s.

Studying all the categories that experienced a substantial decline in LFPR, we find that the reasons for the decline vary. In female subsidiary employment, it is the demand for labour that seems to be dominant. For the 5-19 years group, it is clearly school attendance, i.e., voluntary withdrawal from the labour force, which has played a large role in the LFPR decline. The reason for the decline among the aged is not clear since the income effect does not appear to play a dominant role.

In next sub-period 1999-2000 to 2004-05, the rise in LFPR actually contributed 10.5 millions increase in the labour force. Out of which female subsidiary labour supply accounted for 69 per cent of the total increase; female principal labour supply contributed another 48 per cent and 59+ years group labour supply added another 7 per cent. However, increase in labour supply contributed by these factors were counteracted partially by the decline in 5-19 years group UPS labour supply that contributed 34 per cent of the decline. It clearly shows that female subsidiary labour supply to a significant extent is governed by cyclical nature of labour demand in Indian agriculture and the supply adjustments to labour demand fluctuations are borne by the female subsidiary employment.

From early eighties till late nineties, the composition of the labour force had shown a distinct defeminization. In the 1980s, this defeminization was observed largely in the rural areas; in the 1990s, however, in both urban and rural areas, the share of the female labour force declined in equal proportion. The reason lies in the pattern of female labour withdrawal. In the 1980s, in the rural areas, most of the withdrawal took place among the younger age group for educational participation, a supply side factor. In the 1990s, most of the withdrawal took place in adult subsidiary employment, a demand side factor. Further, in urban areas, in the 1990s, the share of the prime age group (20-44 years) in the labour force fell and that of the 45-59 years group went up, leading to the ageing of the principal labour force in urban India.

In 2004-05, the defeminization process got reversed and the share of female in total labour force reached the level of early 1980s. In early 2000s, the share of 10-19 years group in subsidiary labour force showed substantial increase from a low base and that too relatively more in the urban areas. Further, the share of prime age group in urban labour supply actually went up.

Examining female labour supply, we found that it varied substantially across states and more so in rural areas. But the relative positions of the different states had not changed noticeably in the last two decades of last millennium, showing remarkable stability. The reasons for this stable but substantial variation in labour force participation is explained in various sociological studies in terms of the inverse relationship with patriarchal values, positive effects of various social movements, and higher female educational status, particularly in urban areas, etc. But in early 2000s substantial rise in urban female LFPR was observed in few states. It cannot be explained in terms of increased work opportunities only in these states. The jump in LFPR and unemployment rate may be a future pointer to the emerging scenario in India.

Labour force participation across educational levels showed that the rural female LFPR declined from a high level at the illiterate to middle education level, went up somewhat at the secondary level and rose substantially at the graduate and above educational level. In urban areas, the female LFPR across educational levels showed much less shift over the different rounds as compared to its rural counterpart and also showed more stability. However, the shape of the LFPR in urban areas was much more pronouncedly U-shaped, with the LFPR of the graduate and above group being substantially higher than that of all other educational levels, and the LFPR for the literate to less than graduation group being somewhat flat. This shows greater inclination to work or more job opportunities for highly educated females. In 61st round (2004-05) the female LFPR became substantially flatter in both rural and urban areas. The reason may lie in the increased work aspiration of primary to secondary educated females.

The LFPR of all social groups across the three NSS rounds threw up an interesting picture. In rural areas, the LFPR of scheduled tribes (STs) was higher than that of scheduled castes (SCs) and others for males and substantially higher for females, for all three years. The LFPR of SC females was higher than that of others, but very close to the others for males. But the LFPR of all the social groups declined in the late 1990s. In urban areas, the LFPR of females across social groups was similar to that of their rural counterparts, but the LFPR levels here are almost half of that observed in rural areas. In early 2000s LFPR had risen across board but relative position of different social groups had not changed. For urban ST males the rise in LFPR had primarily occurred in older age group of 35-59.

The general perception is that the LFPR of the poor is higher than that of better off people. The LFPR rose from the lowest to highest average per capita expenditure (APCE) quintiles for males in both rural and urban areas, sloping upward. This is partly explained by the age composition of the population in the top and bottom expenditure quintiles. The working age (20-59 years) population is much larger in the top quintile than in the bottom one. Given the much higher LFPR in this age group, a higher share of population in the working age group translates into a higher LFPR in the top quintile as compared to the one at the bottom. It is clear that households in the top quintile are passing through a demographic transition which has barely touched the households in the bottom quintile.

In contrast, the rural female UPS LFPR sloped downward, indicating that at the higher APCE level, females withdraw from the labour market. It also possibly indicates the dominance of income from property and not labour income in the higher consumption quintiles in rural areas. In urban areas, however, this holds true until the fourth quintile, then shoots up in the highest quintile. This indicates that in the urban areas, female labour participation at the higher remuneration level enhances households' APCE, thus overcoming the dominance of the substitution effect prevalent at the lower quintiles. It also reflects the lack of similar remunerative job opportunities for females in the highest APCE quintile in rural areas. One disturbing fact is that in both rural and urban areas, in the 1990s, the largest withdrawal of the female labour force was observed in the lowest APCE quintiles, possibly indicating lack of job opportunities for women belonging to the poorest households as the income effect argument is unlikely to hold here. In early 2000s, similar to the case of female LFPR across educational categories, the graph had flattened in both rural and urban areas. In rural areas, in the absence of job opportunities for educated females, it is likely to be increased job aspiration of females belonging to higher APCE quintiles. In urban areas, it is partially reflection of increased opportunities and substantial rise in aspiration in few states.

The unemployment rates across different categories showed that:

- Overall unemployment rates were not high;
- Urban rates were higher than rural rates, and
- In the last two decades, the longterm unemployment rate of females had gone up substantially in both rural and urban areas. But for males it has remained the same in the rural areas and had marginally declined in urban areas. The major part of increase in female unemployment is contributed by substantial increase in female youth unemployment.

The age composition shows the overwhelming domination of the youths (15-29 years groups) in UPS unemployment in all categories and over the years. The share of this age group in UPS unemployment was more than 80 per cent. In addition, during the last two decades, the share of the 30-34 years group increased from below 5 per cent to above 8 per cent. This means that the share of the combined 15-34 years groups in all UPS unemployment is nearly 90 per cent. So, longterm unemployment as measured through the UPS unemployment rate is virtually unemployment of this combined age group.

The importance of the educated unemployed in longterm unemployment is quite substantial and this is increasing over time. In 2004-05 (61st NSS round), the share of the highly educated (graduate and above) in youth unemployment was around one-sixth in rural areas and one-fourth in urban areas. The share of the highly educated in the unemployed was larger for females by early 2000s in both rural and urban areas and it rose at a much faster rate upto late 1990s.

The share of secondary educated youth in the labour force was still small in rural areas and the disparity between males and females is small in favour of males. In urban areas, the share of the secondary educated was 43 per cent for females and 31 per cent for males. There is substantial disparity across states as well. The share of the highly educated (graduate & above) was almost negligible in rural areas and more than 7 per cent for males and a staggering 19 per cent for females in urban areas.

A study of youth unemployment across consumption expenditure groups shows that in urban areas, the female unemployment rate was low in the lowest two quintile, but then shot up. It seems that in the first four quintiles in rural areas and in the first quintile in urban areas, when females enter the labour market in large numbers, they were less choosy in picking up work that comes their way, rather than wait for more suitable work. This is also evident when one looks at the share of the secondary and above and graduate and above groups in the female labour supply. The share of the secondary educated group in the labour force crossed 20 per cent in the fifth quintile of rural areas and in the second quintile of urban areas; this trend was also observed in the graduate and above group.

Among urban youth, the education level of females was better than that of males in labour supply, but in urban areas in the highest quintile, the share of graduate and above groups in female labour supply was double of males.

The correlation coefficient of youth unemployment rate and share of secondary educated in youth labour supply across states showed positive correlation for all four categories - rural male, rural female, urban male and urban female. But in case females, the correlations were quite high. It is indication

of the growing phenomenon of higher education leading to higher unemployment rates particularly among the females.

The findings of the aforesaid analysis give indication of the relevance of different theoretical approaches in labour supply. First, the fluctuation in female subsidiary labour supply over period gives credence to the theory of collective representation of household behaviour. Second, some life cycle phenomenon like school work decision was found to be important in India. Last, institution approach was found to be relevant in explaining comparatively stable interstate variation in female labour supply.

## References

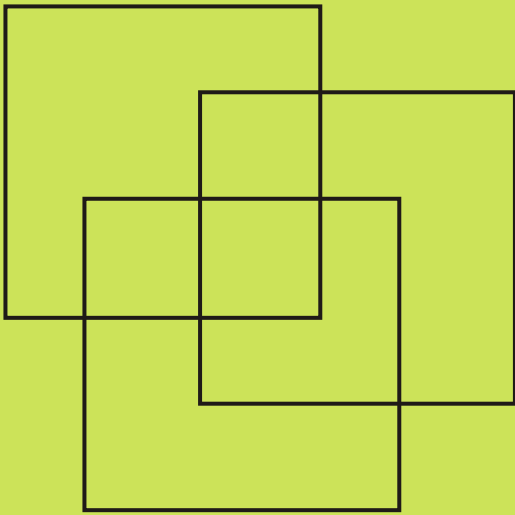
- Ahsan, A.; Pages, C. 2006. "Some implications of regional differences in labour market outcomes in India", in *India: Meeting the employment challenge*, Conference on Labour and Employment Issues in India, New Delhi (Institute for Human Development and World Bank), 27-29 July.
- Das, Maitreyi Bordia. 2006. "Do traditional axes of exclusion affect labour market outcomes in India?", in *India: Meeting the employment challenge*, Conference on Labour and Employment Issues in India, New Delhi (Institute for Human Development and World Bank), 27-29 July.
- Ghose, Ajit K. 2004. "The employment challenge in India", in *Economic and Political Weekly*, (EPW Research Foundation, Mumbai), 27 Nov.
- Government of India, Planning Commission. 2001. "Report of the Task Force on employment opportunities", New Delhi, July.
- Government of India. 2002. "Report of the special group on targeting ten million employment opportunities per year, New Delhi, May.
- Hansda, S.K. 2001. 'Sustainability of Services-led Growth: An Input-Output Exploration of the Indian Economy', RBI Occasional Papers, 22.
- Institute for Human Development: 2003. Dynamics of Poverty, Employment and Human Development in Rural Bihar, submitted to NABARD (mimeo).
- Mazumdar; Sarkar. 2006 "Accounting for the Decline in Labour Supply in the Nineties", , in *India: Meeting the employment challenge*, Conference on Labour and Employment Issues in India, New Delhi (Institute for Human Development and World Bank, 27-29 July.
- Mohanty, Bidyut. 1998. "Women and family in India and China", in T. Chung (ed.): *Across the Himalayan gap: An Indian quest for understanding China*, Indira Gandhi National Centre of the Arts (IGNCA), Delhi.
- Narain, Ashish. 2006. "Labour force participation rates, wages and their determinants in India", in *India: Meeting the employment challenge*, Conference on Labour and Employment Issues in India, New Delhi (Institute for Human Development and World Bank), 27-29 July.
- Chand, Ramesh. 2000. "Trade liberalisation, agricultural prices and net social welfare", Indian Council for Agricultural Research (ICAR) Collaborative Project, Jan.
- Rangarajan, C., Padma Iyer Kaul; Seema. 2007. "Revisiting Employment and Growth, *Money and Finance*, September.

Sundaram, K.; Tendulkar, S.D. 2006. "Trends in labour and employment in India, 1983-2003: Some fresh results", in *India: Meeting the employment challenge*, Conference on Labour and Employment Issues in India, New Delhi, (Institute for Human Development and World Bank), 27-29 July.









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