Employment Trends in India: A Re-examination

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This paper re-examines the trends in employment and unemployment as thrown up by successive National Sample Surveys from the mid-1970s. The analysis suggests that the euphoria about high employment growth during 1999-2004 was not justified nor does the concern about jobless growth in the subsequent years capture the changes in employment structure. A long-term analysis of employment trends reveals that changes in the employment pattern and workforce structure have been sluggish and do not conform to the standard employment-output relationship.

The analysis also flags certain issues which have a bearing on the comparability of employment data before and after 1993-94. Large fluctuations seen after 1993-94 appear to be a result of the movement in and out of labour force of a substantial section of the population which is vulnerable and in the informal sector in a phase of rising overall rates of economic growth. The paper concludes with a brief discussion of the results of the recently released 2009-10 survey.

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The last quinquennial round for which estimates on employment and unemployment are available is the 61st round (2004-05).[1] According to these estimates, employment growth during 1999-2005 not only outpaced the growth rate of the working age population, at 2.85% per annum it also signalled a reversal of the previous trend of "jobless growth" during the 1990s (1993-2000), which showed an overall employment generation at around only 1% per annum. This unprecedented high growth in employment was celebrated by the government as a success of the growth strategy followed after liberalisation. While the Planning Commission projected a similar increase in the Eleventh Plan, assuming employment elasticity of GDP growth to remain the same, the Economic Advisory Council of the Prime Minister went to the extent of declaring that unemployment would be wiped out from the country by 2012! Not to be left behind, the United Progressive Alliance (UPA) government, in its first *Report on Employment to the People* also claimed that the economy was creating more jobs than the addition to labour force and is on its way to creating more than 8 million jobs a year. Some critics of the National Rural Employment Guarantee Act (NREGA) also bounced back with arguments for doing away with the programme, essentially seen as a response to jobless growth (Jain 2006).

This unexpectedly high growth of employment had surprised many others as well. The 61st round results appeared, at least at first sight, to defy conventional wisdom since the measured employment rebound occurred in a period (1999-2005) when there was clear evidence of large-scale rural distress. Some researchers took this spurt in employment growth with a pinch of salt and argued for looking closely at the quality of new jobs created (Chandrashekhar and Ghosh 2007; Abraham 2009). The evidence suggested a worsening of the quality of employment, with employment swelling in the informal sector, mostly in low paid self-employment. Other researchers had cast doubts on the 61st round results in purely statistical terms (Unni and Raveendran 2007; Sundaram and Tendulkar 2006).

Given this, the recently released results from the 64th round (2007-08) of the National Sample Survey (NSS) are interesting. Fully comparable with the quinquennial rounds, estimates of employment from this round suggest that employment growth slowed to 0.17% per annum between 2004-05 and 2007-08. This is the lowest employment growth recorded ever since data on employment and unemployment started being collected by the National Sample Survey Organisation (NSSO) four decades ago. The idea of "jobless growth" is thus likely to be back on the agenda, since the period 2004-05 to 2007-08 was also the best ever in terms of real GDP growth – 9.4% per annum. This is

particularly important given that employment creation has been claimed to be an important component of "inclusive growth".

A preliminary reading of all these estimates suggests that neither was the euphoria over high employment growth during 1999-2005 justified nor was the subsequent slow growth of employment during the period of highest GDP growth much of a weakening from the employment-growth linkages observed in the past. On the other hand, these trends suggest a need to situate the growth-employment linkage in the context of a dualistic labour market with a small minority of organised regular workers and a majority of low paying subsistence workers. Episodes of high growth as well as low growth are an outcome of a combination of factors such as individual choice of participation in the labour market, seasonal fluctuations and the long-term growth path of the economy. At the same time, inter-temporal comparisons on this count are not free from changes in concepts and methodology, which have a significant bearing on how these estimates are interpreted.

The analysis of inter-temporal trends, in fact, suggests a relative stability of changes in the workforce structure in the period before the 1990s. Although there are outliers to the general trend, some of these are either mistakes in data reported (compared to recalculation of unit-level data) or due to changes in the concepts and methodology of characterising persons as employed. The correction of some of these errors/changes and a delineation of the conceptual changes and their outcomes help explain some inconsistencies in employment estimates before the 1990s. However, in the last two decades, the aggregate trends suggest a larger fluctuation around the general trend. Some of the trends seen in the last two decades are also a departure from the accepted behaviour of changes in the workforce structure. The analysis, while confirming the vulnerability of the labour market to economic changes also brings out the need to re-interpret the causal linkage between economic changes and changes in the workforce structure. The analysis of the recent data also shows an increasing segmentation of the labour market, which has implications not only for the number of jobs created but also for the quality of jobs and its impact on livelihood and level of living.

This paper is an attempt to look at the employment trends emerging from the employment-unemployment surveys (EUS) since 1977-78. The objective of the paper is to look at the trends and patterns of changes in the workforce structure over the years and to remove inconsistencies arising out of methodological changes, or at the least flag them for meaningful interpretation of the trends in changes in the workforce structure. The primary data source for this purpose will be the EUS of the NSSO. However, other data sources such as the Economic Census, Annual Survey of Industries (ASI) and Directorate General of Employment and Training (DGET) will also be used to supplement the arguments. For absolute numbers, wherever required the ratios from the EUS have been blown up using census estimates of the population corresponding to the midpoint of the NSS round.[2] For the sake of brevity, state-level estimates have been used in the analysis wherever required but are not reported in detail.

Trends in Employment and Unemployment

The starting point of our analysis is an examination of the trends in the workforce participation rate, labour force participation rate, unemployment rate, employment status and industrial distribution of workers. This is presented for all the major rounds since the 27th round for rural and urban areas by gender. The occupational and industrial distribution is presented from the 32nd round onwards. Table 1 gives the workforce participation rate (WPR), Table 2 (p 45) gives the labour force participation rates (LFPR) and Table 3 (p 45) gives the unemployment rate for males and females, separately. Table 4 (p 46) gives the WPR from the census. Table 5 (p 46) gives the distribution of workers by status of employment and Table 6 (p 46) gives the distribution by industry.

The employment trends reported here are primarily based on the thick rounds. Although thin round (annual rounds) estimates of employment and unemployment have been available since the

Table 1: Workforce Participation Rates from the NSS (in %)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July '72-June '73)	54.5		53.0	50.3	31.8		27.7	23.1
32 (July '77-June '78)	53.7	55.2	51.9	48.8	24.8	33.1	23.2	19.4
38 (Jan-Dec '83)	52.8	54.7	51.1	48.2	24.8	34.0	22.7	19.8
43 (July '87-June '88)	51.7	53.9	50.4	50.1 (48.2)	24.5	32.3	22.0	20.7 (19.6)
50 (July '93-June '94)	53.8	55.3	53.1	50.4	23.4	32.8	26.7	22.0
55 (July '99-June '00)	52.2	53.1	51.0	47.8	23.1	29.9	25.3	20.4
61 (July '04-June '05)	53.5	54.6	52.4	48.8	24.2	32.7	27.5	21.6
64 (July '07-June '08)	53.8	54.8	52.5	49.0	21.6	28.9	23.7	18.7
66 (July '09-June '10)	53.7	54.7	53.1	50.1	20.2	26.1	22.3	18.2
	Urban Males				Urban Females			
27 (July '72-June '73)	50.1		49.1	47.7	13.4		12.3	10.8
32 (July '77-June '78)	49.7	50.8	49.0	47.2	12.3	15.6	12.5	10.9
38 (Jan-Dec '83)	50.0	51.2	49.2	47.3	12.0	15.1	11.8	10.6
43 (July '87-June '88)	49.6	50.6	49.2	47.7	11.8	15.2	11.9	11.0
50 (July '93-June '94)	51.3	52.1	51.1	49.8	12.1	15.5	13.9	12.0
55 (July '99-June '00)	51.3	51.8	50.9	49.0	11.7	13.9	12.8	11.1
61 (July '04-June '05)	54.1	54.9	53.7	51.9	13.5	16.6	15.2	13.3
64 (July '07-June '08)	55.0	55.4	54.5	52.9	11.8	13.8	12.9	11.3
66 (July '09-June '10)	53.9	54.3	53.6	52.2	11.9	13.8	13	11.7

PS: Principal Status, PS+SS: Principal and Subsidiary Status, CWS: Current Weekly Status, CDS: Current Daily Status, Figures in parenthesis for the 43rd round daily status are estimates obtained from unit records.

Table 1a: Number of Workers from the NSS (in million)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July '72-June '73)	126.5		123.0	116.7	70.0	0.0	61.0	50.9
32 (July '77-June '78)	136.3	140.1	131.7	123.8	59.8	79.8	55.9	46.8
38 (Jan-Dec '83)	148.5	153.9	143.7	135.6	66.1	90.7	60.5	52.8
43 (July '87-June '88)	158.1	164.8	154.1	153.2 (147.4)	70.6	93.1	63.4	59.7 (56.5)
50 (July '93-June '94)	182.7	187.7	180.3	171.1	74.7	104.7	85.3	70.3
55 (July '99-June '00)	195.2	198.6	190.8	178.8	81.7	105.7	89.4	72.1
61 (July '04-June '05)	214.4	218.9	210.0	195.6	91.7	124.0	104.2	81.9
64 (July '07-June '08)	223.2	227.4	217.8	203.3	84.8	113.4	93.0	73.4
66 (July '09-June '10)	228.0	232.3	225.5	212.7	81.1	104.8	89.5	73.1
	Urban Males				Urban Females			
27 (July '72-June '73)	31.3	0.0	30.7	29.8	7.2	0.0	6.6	5.8
32 (July '77-June '78)	37.4	38.2	36.8	35.5	8.1	10.2	8.2	7.1
38 (Jan-Dec'83)	45.6	46.7	44.9	43.1	9.7	12.1	9.5	8.5
43 (July '87-June '88)	51.8	52.9	51.4	49.8	11.0	14.1	11.0	10.2
50 (July '93-June '94)	63.6	64.6	63.3	61.7	13.4	17.2	15.4	13.3
55 (July '99-June '00)	74.7	75.4	74.1	71.3	15.3	18.2	16.8	14.5
61 (July '04-June '05)	89.1	90.4	88.4	85.5	20.0	24.6	22.5	19.7
64 (July'07-June '08)	96.9	97.6	96.0	93.2	18.7	21.9	20.5	17.9
66 (July '09-June '10)	99.4	100.2	98.9	96.3	19.8	22.9	21.6	19.4

Same as for Table 1.

44th round (1988-89), these have not been included here for analysis. This is primarily because of the way employment is measured in the thin rounds. Estimates of employment from the thin and thick rounds are not comparable for three reasons. First, employment estimates of annual or thin rounds are not obtained using a detailed questionnaire on employment and unemployment as is done for thick rounds. These are obtained from a simpler question on employment status canvassed in the consumption expenditure surveys. Since the employment estimates are obtained using a short question, there is no estimate of daily status employment and corresponding wage rates in the annual rounds. Second, the annual rounds are meant to canvass socio-economic data on various aspects of the economy other than employment and therefore use a different sampling design than the quinquennial rounds which use population based sampling design. The sampling design in annual rounds is designed taking into account the nature of enquiry for that round. Third, the sample size of the annual rounds is much smaller than the thick rounds, thereby limiting their use for disaggregated analysis.

The NSSO decided to restart the annual round of EUS starting from the 60th round (January-June 2004) using the same questionnaire and concepts as the thick rounds. The annual rounds of employment and unemployment since the 60th round are then at least conceptually similar to the estimates of employment obtained from the quenquennial rounds. However, they continue to suffer from the comparability issue arising out of a different sampling

Table 2: Labour Force Participation Rates from the NSS (in %)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	55.2		54.6	54.0	32.0		29.3	26.0
32 (July'77-June'78)	54.9	55.9	53.8	52.5	26.2	33.8	24.2	21.4
38 (Jan-Dec'83)	54.0	55.5	53.1	52.1	25.2	34.2	23.7	21.8
43 (July'87-June'88)	53.2	54.9	52.6	52.5 (52.1)	25.4	33.1	23.0	22.2 (21.5)
50 (July'93-June'94)	54.9	56.1	54.8	53.4	23.7	33.1	27.5	23.3
55 (July'99-June'00)	53.3	54.0	53.1	51.5	23.5	30.2	26.3	21.9
61 (July'04-June'05)	54.6	55.5	54.5	53.0	25.0	33.3	28.7	23.7
64 (July'07-June'08)	55.1	55.9	54.7	53.6	22.0	29.2	24.5	20.4
66 (July'09-June'10)	54.8	55.6	54.8	53.6	20.8	26.5	23.1	19.7
	Urban Males				Urban Females			
27 (July'72-June'73)	52.6		52.2	51.8	14.3		13.5	12.5
32 (July'77-June'78)	53.2	53.7	52.7	52.1	15.0	17.8	14.0	12.7
38 (Jan-Dec'83)	53.1	54.0	52.7	52.1	12.9	15.9	12.8	11.9
43 (July'87-June'88)	52.8	53.4	52.7	52.3	12.9	16.2	13.1	12.5
50 (July'93-June'94)	54.2	54.3	53.9	53.4	13.2	16.5	15.1	13.4
55 (July'99-June'00)	53.9	54.2	53.9	52.9	12.6	14.7	13.8	12.3
61 (July'04-June'05)	56.6	57.1	56.6	56.1	14.9	17.8	16.7	15.0
64 (July'07-June'08)	57.3	57.6	57.2	56.8	12.6	14.6	13.8	12.5
66 (July'09-June'10)	55.6	55.9	55.6	55	12.8	14.6	14.1	12.9

Same as for Table 1.

Table 2a: Labour Force from the NSS (in million)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	128.1	0.0	126.7	125.3	70.5	0.0	64.5	57.2
32 (July'77-June'78)	139.3	141.9	136.5	133.2	63.2	81.5	58.3	51.6
38 (Jan-Dec'83)	151.9	156.1	149.4	146.6	67.2	91.2	63.2	58.1
43 (July'87-June'88)	162.7	167.9	160.9	160.5 (159.3)	73.2	95.4	66.3	64.0 (62.0)
50 (July'93-June'94)	186.4	190.5	186.0	181.3	75.7	105.7	87.8	74.4
55 (July'99-June'00)	199.4	202.0	198.6	192.6	83.1	106.7	93.0	77.4
61 (July'04-June'05)	218.9	222.5	218.4	212.4	94.8	126.2	108.8	89.8
64 (July'07-June'08)	228.6	232.0	227.0	222.4	86.3	114.6	96.1	80.1
66 (July'09-June'10)	232.7	236.1	232.7	227.6	83.5	106.4	92.8	79.1
	Urban Males				Urban Females			
27 (July'72-June'73)	32.9	0.0	32.6	32.4	7.7	0.0	7.3	6.7
32 (July'77-June'78)	40.0	40.4	39.6	39.2	9.8	11.7	9.2	8.3
38 (Jan-Dec'83)	48.4	49.3	48.1	47.5	10.4	12.8	10.3	9.6
43 (July'87-June'88)	55.2	55.8	55.0	54.6	12.0	15.0	12.2	11.6
50 (July'93-June'94)	67.2	67.3	66.8	66.2	14.7	18.3	16.8	14.9
55 (July'99-June'00)	78.4	78.9	78.4	77.0	16.5	19.2	18.1	16.1
61 (July'04-June'05)	93.2	94.0	93.2	92.4	22.1	26.4	24.8	22.2
64 (July'07-June'08)	100.9	101.4	100.7	100.0	20.0	23.2	21.9	19.8
66 (July'09-June'10)	102.6	103.1	102.6	101.5	21.3	24.2	23.4	21.4

Same as for Table 1.

Table 3: Unemployment Rate from the NSS (in %)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	1.2		3	6.8	0.5		5.5	11.2
32 (July'77-June'78)	2.2	1.3	3.6	7.1	5.5	2.0	4.1	9.2
38 (Jan-Dec'83)	2.1	1.4	3.7	7.5	1.4	0.7	4.3	9.0
43 (July'87-June'88)	2.8	1.8	4.2	4.6 (7.4)	3.5	2.4	4.4	6.7 (8.6)
50 (July'93-June'94)	2.0	1.4	3.1	5.6	1.3	0.9	2.9	5.6
55 (July'99-June'00)	2.1	1.7	3.9	7.2	1.5	1.0	3.7	7.0
61 (July'04-June'05)	2.1	1.6	3.8	8	3.1	1.8	4.2	8.7
64 (July'07-June'08)	2.3	1.9	4.1	8.5	1.9	1.1	3.5	8.1
66 (July'09-June'10)	1.9	1.6	3.2	6.4	2.4	1.6	3.7	8
	Urban Males				Urban Females			
27 (July'72-June'73)	4.8		6.0	8.0	6.0		9.2	13.7
32 (July'77-June'78)	6.5	5.4	7.1	9.4	17.8	12.4	10.9	14.5
38 (Jan-Dec'83)	5.9	5.1	6.7	9.2	6.9	4.9	7.5	11.0
43 (July'87-June'88)	6.1	5.2	6.6	8.8	8.5	6.2	9.2	12.0
50 (July'93-June'94)	5.4	4.1	5.2	6.7	8.3	6.1	7.9	10.4
55 (July'99-June'00)	4.8	4.5	5.6	7.3	7.1	5.7	7.3	9.4
61 (July'04-June'05)	4.4	3.8	5.2	7.5	9.1	6.9	9.0	11.6
64 (July'07-June'08)	4.0	3.8	4.7	6.9	6.6	5.2	6.5	9.5
66 (July'09-June'10)	3	2.8	3.6	5.1	7	5.7	7.2	9.1

Same as for Table 1.

Table 3a: Unemployed from the NSS (in million)

NSS Round	Rural Males				Rural Females			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	1.6	0.0	3.7	8.6	0.4	0.0	3.5	6.4
32 (July'77-June'78)	3.0	1.8	4.8	9.4	3.4	1.7	2.4	4.8
38 (Jan-Dec'83)	3.4	2.3	5.6	11.0	1.1	0.5	2.7	5.3
43 (July'87-June'88)	4.6	3.1	6.7	7.3 (11.9)	2.6	2.3	2.9	4.3 (5.5)
50 (July'93-June'94)	3.7	2.7	5.8	10.2	1.0	1.0	2.6	4.2
55 (July'99-June'00)	4.1	3.4	7.9	13.8	1.4	1.1	3.5	5.3
61 (July'04-June'05)	4.4	3.6	8.4	16.8	3.0	2.3	4.5	8.0
64 (July'07-June'08)	5.4	4.6	9.1	19.1	1.6	1.2	3.1	6.7
66 (July'09-June'10)	4.7	3.8	7.2	14.9	2.4	1.6	3.2	6.0
	Urban Males				Urban Females			
27 (July'72-June'73)	1.6	0.0	1.9	2.6	0.5	0.0	0.6	0.9
32 (July'77-June'78)	2.6	2.2	2.8	3.7	1.8	1.4	1.0	1.2
38 (Jan-Dec'83)	2.8	2.6	3.2	4.4	0.7	0.6	0.8	1.0
43 (July'87-June'88)	3.3	2.9	3.7	4.8	1.0	0.9	1.1	1.4
50 (July'93-June'94)	3.6	2.7	3.5	4.5	1.2	1.1	1.3	1.6
55 (July'99-June'00)	3.8	3.5	4.4	5.7	1.2	1.0	1.3	1.6
61 (July'04-June'05)	4.1	3.6	4.8	6.9	2.1	1.8	2.2	2.5
64 (July'07-June'08)	4.1	3.9	4.8	6.9	1.3	1.3	1.4	1.9
66 (July'09-June'10)	3.1	3.0	3.7	5.2	1.5	1.3	1.8	2.0

Same as for Table 1.

design and smaller sample size. Although conducted as part of the annual rounds, the 64th round is different and is comparable to the quinquennial rounds. Apart from the fact that it uses the same concepts and questionnaire as canvassed during the thick rounds, it also uses the same sampling design as is used in the thick rounds.[3] The 64th round is also comparable to the quinquennial rounds with respect to the sample size. As compared to the (thick) 61st round which was canvassed among 1,24,680 households (79,306 rural and 45,374 urban), the (thin) 64th round was canvassed among 1,25,578 households (79,091 rural and 46,487 urban). The fact that the 64th round does not suffer from any of the usual criticisms levelled against annual rounds makes it comparable to quinquennial rounds for all analytical purposes. Henceforth, the 64th round is treated here as any other quinquennial round.

Table 4: Workforce Participation Rates from the Census

Census	Rural		Urban	
	Males	Females	Males	Females
1971	53.6	15.5	48.8	6.7
1981	53.8	23.2	49.1	8.3
1991	52.5	26.7	48.9	9.2
2001	52.4	31.0	50.9	11.6

WPR reported above includes main and marginal workers.

Table 4a: Number of Workers from the Census (in million)

Census	Rural		Urban	
	Males	Females	Males	Females
1971	120.7	33.1	28.7	3.4
1981	144.9	59.4	41.8	6.2
1991	170.3	81.3	56.2	9.4
2001	199.7	111.8	76.4	15.7

WPR reported above includes main and marginal workers.

These then are the broad trends emerging from the EUS of the NSSO in the thick rounds. Based on Tables 1 to 6, the following are the patterns as far as the trends in workforce participation and their status and industrial distribution are concerned.

First, the workforce participation rates for females are significantly lower than those of males in rural areas. While more than half of all the rural males reported themselves as workers, the corresponding proportion for females was by various measures only between one-fifth and one-third of the relevant population. Second, the daily status participation rates were the lowest and the usual status measures of WPR were the highest for any particular year, with the weekly status falling in between. Third, the differences between the daily status and usual status WPR were larger for females than for males. But for major rounds and for major time-periods,

Table 5: Distribution of Workers by Status of Employment from NSS (in %)

NSS Round	Rural Males			Rural Females		
	Self-Employed	Regular	Casual	Self-Employed	Regular	Casual
32 (July'77-June'78)	62.8	10.6	26.6	62.1	2.8	35.1
38 (Jan-Dec'83)	60.5	10.3	29.2	61.9	2.8	35.3
43 (July'87-June'88)	58.6	10.0	31.4	60.8	3.7	35.5
50 (July'93-June'94)	57.9	8.3	33.8	58.5	2.8	38.7
55 (July'99-June'00)	55.0	8.8	36.2	57.3	3.1	39.6
61 (July'04-June'05)	58.1	9.0	32.9	63.7	3.7	32.6
64 (July'07-June'08)	55.4	9.1	35.5	58.3	4.1	37.6
66 (July'09-June'10)	53.5	8.5	38	55.7	4.4	39.9
	Urban Males			Urban Females		
32 (July'77-June'78)	40.4	46.4	13.2	49.5	24.9	25.6
38 (Jan-Dec'83)	40.9	43.7	15.4	45.8	25.8	28.4
43 (July'87-June'88)	41.7	43.7	14.6	47.1	27.5	25.4
50 (July'93-June'94)	41.7	42.0	16.3	45.8	28.4	25.8
55 (July'99-June'00)	41.5	41.7	16.8	45.3	33.3	21.4
61 (July'04-June'05)	44.8	40.6	14.6	47.7	35.6	16.7
64 (July'07-June'08)	42.7	42.0	15.4	42.3	37.9	19.9
66 (July'09-June'10)	41.1	41.9	17	41.1	39.3	19.6

Table 5a: Number of Workers by Status of Employment (in million)

NSS Round	Rural Males			Rural Females		
	Self-Employed	Regular	Casual	Self-Employed	Regular	Casual
32 (July'77-June'78)	88.0	14.8	37.3	49.6	2.2	28.0
38 (Jan-Dec'83)	93.1	15.8	44.9	56.1	2.5	32.0
43 (July'87-June'88)	96.6	16.5	51.8	56.6	3.4	33.0
50 (July'93-June'94)	108.7	15.6	63.5	61.3	2.9	40.5
55 (July'99-June'00)	109.2	17.5	71.9	60.6	3.3	41.9
61 (July'04-June'05)	127.2	19.7	72.0	79.0	4.6	40.4
64 (July'07-June'08)	126.0	20.7	80.7	66.1	4.6	42.6
66 (July'09-June'10)	124.3	19.7	88.3	58.4	4.6	41.8
	Urban Males			Urban Females		
32 (July'77-June'78)	15.4	17.7	5.0	5.1	2.5	2.6
38 (Jan-Dec'83)	19.1	20.4	7.2	5.6	3.1	3.5
43 (July'87-June'88)	22.0	23.1	7.7	6.6	3.9	3.6
50 (July'93-June'94)	26.9	27.1	10.5	7.9	4.9	4.4
55 (July'99-June'00)	31.3	31.4	12.7	8.2	6.1	3.9
61 (July'04-June'05)	40.5	36.7	13.2	11.7	8.8	4.1
64 (July'07-June'08)	41.7	41.0	15.0	9.3	8.3	4.4
66 (July'09-June'10)	41.2	42.0	17.0	9.4	9.0	4.5

Table 6: Distribution of Workers by Industrial Affiliation (in %)

NSS Round	Rural Males			Rural Females		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
32 (July'77-June'78)	80.6	8.8	10.5	88.1	6.7	5.1
38 (Jan-Dec'83)	77.5	10	12.2	87.5	7.4	4.8
43 (July'87-June'88)	74.5	12.1	13.4	84.7	10	5.3
50 (July'93-June'94)	74.1	11.2	14.7	86.2	8.3	5.5
55 (July'99-June'00)	71.4	12.6	16	85.4	8.9	5.7
61 (July'04-June'05)	66.5	15.5	18	83.3	10.2	6.6
64 (July'07-June'08)	66.5	16.2	17.3	83.5	9.7	6.8
66 (July'09-June'10)	62.8	19.3	17.8	79.3	13	7.6
	Urban Males			Urban Females		
32 (July'77-June'78)	10.6	33.8	55.7	31.9	32.4	35.7
38 (Jan-Dec'83)	10.3	34.2	55	31	30.6	37.6
43 (July'87-June'88)	9.1	34	56.9	29.4	31.7	38.9
50 (July'93-June'94)	9	32.9	58.1	24.7	29.1	46.2
55 (July'99-June'00)	6.6	32.8	60.6	17.7	29.3	52.9
61 (July'04-June'05)	6.1	34.4	59.5	18.1	32.4	49.5
64 (July'07-June'08)	5.8	34.3	59.7	15.3	32.3	52.4
66 (July'09-June'10)	6	34.6	59.3	13.9	33.3	52.8

Table 6a: Number of Workers by Industrial Affiliation (in million)

NSS Round	Rural Males			Rural Females		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
32 (July'77-June'78)	112.9	12.3	14.7	70.3	5.3	4.1
38 (Jan-Dec'83)	119.2	15.4	18.8	79.3	6.7	4.4
43 (July'87-June'88)	122.8	19.9	22.1	78.8	9.3	4.9
50 (July'93-June'94)	139.1	21.0	27.6	90.3	8.7	5.8
55 (July'99-June'00)	141.8	25.0	31.8	90.3	9.4	6.0
61 (July'04-June'05)	145.5	33.9	39.4	103.3	12.6	8.2
64 (July'07-June'08)	151.2	36.8	39.3	94.7	11.0	7.7
66 (July'09-June'10)	145.9	44.8	41.3	83.1	13.6	8.0
	Urban Males			Urban Females		
32 (July'77-June'78)	4.0	12.9	21.3	3.3	3.3	3.6
38 (Jan-Dec'83)	4.8	16.0	25.7	3.8	2.9	3.2
43 (July'87-June'88)	4.8	18.0	30.1	4.1	3.5	4.0
50 (July'93-June'94)	5.8	21.2	37.5	4.3	4.5	6.2
55 (July'99-June'00)	5.0	24.7	45.7	3.2	4.9	7.7
61 (July'04-June'05)	5.5	31.1	53.8	4.5	7.3	9.8
64 (July'07-June'08)	5.7	33.5	58.2	3.3	6.6	9.4
66 (July'09-June'10)	6.0	34.7	59.4	3.2	7.2	10.3

the trends from all the four measures were broadly in the same direction. The trends in urban areas are also similar, but the gap between the male and female WPR is higher than that in rural areas.

The census estimates also moved in a similar direction except for females where the numbers were not reliable and suffered from underestimation in the first two censuses. But even for females, by the 2001 Census the estimates are closer to what is reported by the EUS of the NSSO. The only period where the trend from the censuses appears divergent from the EUS estimates are for the 1980s where the former suggest a decline in WPR compared to a marginal improvement in the EUS from the NSSO between 1983 and 1993-94.

A comparison on a longer term basis would suggest that there is a tendency for the WPR to fall between any two quinquennial EUS for rural areas, at least until the 43rd round. However, since the 50th round, male workforce participation rates show fluctuations but within a small range. This would more or less be confirmed by all the four measures used here and also by the census. This is in contrast to the urban areas where the male WPR has steadily increased over the years but the female WPR has fluctuated in a narrow band. These trends are also similar in labour force participation rates.

As far as the unemployment rates are concerned, the trend is clearly of a rising unemployment rate both by the usual and daily status, although faster by the daily status in rural areas. The trend in urban areas was that of declining unemployment rates for males, but a secular increasing trend in the 1990s and beyond. For females, the trend is mixed.

As far as the status of employment is concerned, the trend in rural areas is clearly that of a decline in self-employment and an increase in casual workers for both males and females, except for the 61st round. For urban males, the trend suggests a secular decline in regular workers and an increase in the self-employed and casual workers. For urban females, however, the trend is entirely the opposite that of males with increasing regular employment and declining self-employment and casual labour. As far as industrial distribution is concerned, there is a secular decline in agricultural employment for both males and females in rural areas. For urban areas, it is also accompanied by a decline in secondary sector employment for urban males, although this is less clear in the case of females. For both males and females in urban areas, tertiary sector employment has increased over the years.

Stubborn Trends

Taking a long-term view of the trends, it is obvious that employment trends have remained stubborn to change. The change in overall employment as well as the structure of workforce shows only a gradual change. The overall rate of growth of employment between 1983 and 2007-08 is 1.8% per annum by usual status as against the population rate of growth at 1.98% per annum and GDP growth rate of 6.12% per annum at 1999-2000 prices. The growth rate of rural employment during the same period has been 1.44% per annum as against population growth rate of 1.66% per annum. As against these, the urban rate of growth of employment at 3.08% per annum has marginally outpaced the population growth rate in urban areas at 2.88% per annum. But not only has the rate of growth of employment remained sluggish throughout, even the structure of the workforce has changed much more slowly compared to the changes in the sectoral composition of GDP. While the share of the farm sector in GDP declined from 37% in 1983 to only 16% in 2007-08, the share of the farm sector in employment fell only marginally from 68.5% in 1983 to 55.4% in 2007-08. Similarly, the growth rate of regular employment during the same period has been only 2.5% per annum with the share of regular employment increasing from 14% in 1983 to only 16% by 2007-08. Even for the gender distribution of total workers, the share of female workers in the total workforce remains stable with 33.9% of total employment in 1983 and 33% in 2007-08. An important issue that needs to be analysed is the role played by the change in the economic paradigm and the acceleration in growth rates in the recent decade.

While the overall structure as well as trend has remained stable over time, there have been fluctuations across quinquennial rounds. Compared to males in rural as well as urban areas, female employment trends show greater fluctuations. It is also clear that the magnitude of these fluctuations for women has increased in the post-liberalisation period (since 1993-94). A peculiar feature of female employment in the Indian context has been the responsiveness of their work participation to economic stimuli. Commonly described as the "income effect", the past literature has pointed out the fact that females tend to cross the household boundary and into the labour force if there is a perceived fall in the reservation income of households (Unni 1989; Srivastava and Srivastava 2010). Consequently, female workforce participation rates tend to increase in times of distress, either natural ones such as droughts or manmade such as the deceleration in the growth rates of agricultural output and wage rates during 1999-2000 and 2004-05. This is also accompanied by an increase in labour force participation and unemployment rates since not all women who venture out in search of jobs at times of distress end up getting employment. Incidentally, the same factors are also responsible for fluctuations in the workforce participation rate of children, adolescents and the elderly. Therefore, a common feature of an increase in distress employment is increased female, children and elderly participation along with increased unemployment rates. However, these changes are purely temporary and a recovery in economic conditions also leads to withdrawal to the reserve household's labour force, leading to a decline in workforce participation rates.

While a fluctuation around a stable workforce participation rate for females has been observed in the post-liberalisation period, for males it does show an increase in work participation rates in both rural and urban areas. But more than the aggregate trend in employment, the post-liberalisation period also suggests some deeper changes in the structure of the workforce. These changes have prompted researchers to analyse the changes and their relationship with the sectoral pattern of economic growth. Comparisons of the growth rate of employment and changes in workforce structure in the post-reform period with the pre-reform period have generally led to the conclusion that there have been setbacks to employment creation and non-farm diversification in the post-reform period. However, a re-examination of the data suggests that these analyses may not be free from comparability issues resulting from changes in concepts and methodology of

collection of employment data in the NSSO. At the same time, claims of employment growth and jobless growth are more in the nature of fluctuations around a general trend than representing fundamental changes in the way workforce structures and employment rates respond to economic growth.

Employment Trends: 1983 to 1993-94

Fundamental changes in the workforce structure are first observed for the 1980s. While employment growth was only 1.61% per annum between 1983 and 1987-88 by usual status and 1.81% by weekly status, it showed employment growing at 2.9% per annum by daily status. Employment growth was not only higher than the rate of growth of population, but along with a high rate of growth of employment it also showed non-farm employment increasing much faster than in any of the previous periods. This high growth of employment continued in the next period, between 1987-88 and 1993-94, with employment growing by 2.4% per annum. While this period did show a reversal of the trend of non-farm diversification, the high rate of growth of employment between 1983 and 1993-94 at 2.1% by usual status and 2.7% by daily status was seen as a response to the acceleration in the growth rate of GDP from the "Hindu" rate of growth of less than 4% per annum to an average of 6% rate of growth in the 1980s.

However, there are two significant exceptions to this general trend. First, the daily status WPR for both males and females shows a sharp increase between the 38th and 43rd rounds while all other measures (weekly status and usual status) suggest a decline in the WPR. The second exception to the general trend of falling WPR is that the WPR measures from all the four classifications show an increase between the 43rd and 50th rounds. A detailed examination of both these outliers and evidence in support of these is available in Himanshu (2010). However, to put matters in perspective, a brief mention is made here of the nature of the problem and correction.

As far as the first is concerned, this is merely a reporting error with employment and unemployment reports for the 43rd round (1987-88) suggesting a daily status WPR is very close to the weekly status WPR in rural areas which is nearly impossible, particularly in a drought year.[4] Estimates of daily status from the unit records do confirm that it is merely a reporting error and the estimates obtained from the unit level data are in line with the general trend observed so far.[5] But it does question the previous literature, largely based on daily status estimates of 1987-88 which credited a much higher rate of growth of employment during the 1980s to a transformation in rural areas.

As far as the second outlier is concerned, this is largely to do with the change in methodology in arriving at the estimate of workers in the 50th round. In brief, the change was the following: (1) In the earlier NSS quinquennial surveys (up to the 43rd round) the identification of usual status involved a trichotomous classification of persons into the "employed", "unemployed" and "out of labour force", based on the major time criterion. In the 50th round, the procedure prescribed was a two-stage dichotomous procedure which involved a classification into "labour force" and "out of labour force" in the first stage and the labour force into "employed" and "unemployed" in the second stage.

(2) In the earlier surveys, the current weekly status (CWS) of a person was first assigned on the basis of the response to the questions relating to his participation in gainful activities (non-gainful activities) and thereafter the daily time disposition data was collected only for those in the labour force as per the CWS. In the 50th round, the daily time disposition was collected for all the persons surveyed and the CWS was determined based on the time disposition data so collected, without any further probing on this point.

The net impact of both these changes was that a small set of population which would have been out of the labour force by the previous definition was now counted as workers. These persons would be all those who were out of the labour force for less than 182 days and spent a larger part of the remaining 183 days as employed, but with the condition that the number of days worked by them was less than the number of days spent out of the labour force or more precisely, 182 days.[6] In the rural workforce where this category would be large, this change can have a significant effect on the participation rates of workers.

The nature of employment in the rural areas is still dominated by agricultural employment and it is common knowledge that such work is at best seasonal with many rural workers reporting the number of days available for work as anywhere between 90 and 180 days. This impression is also corroborated by the large number of micro studies available on the conditions of rural workers, both of casual labourers as well as self-employed cultivators.[7] Even the most conservative estimate of these persons being counted as workers in the 50th round as opposed to them being classified as non-workers in the previous rounds would inflate the estimate of the WPRS. This is also corroborated by the fact that the major contribution towards this increase in worker participation rate came from those employed in agriculture with the percentage of those employed increasing between the 43rd and 50th rounds, as opposed to the trend of greater diversification towards non-agricultural activities which was seen since the 32nd round. Clearly, the category of persons identified above would most probably be in the agricultural sector and hence the reversal of a trend of diversification towards non-farm employment. The second evidence in this regard is the case of the female workforce, which continues to show a decline in participation rates by principal status for the 50th round compared to the 43rd round, but shows an increase in participation rates for the principal and subsidiary status taken together. The category of employment mentioned above would have a large number of females who work between three and six months but remain out of the labour force for the large part of the year. These women who would have been counted as out of the labour force till the 43rd round would have been counted as employed by subsidiary status by the new classification in the 50th round.

Given the nature of changes in the 50th round compared to the previous round and the nature of questions asked in the EUS, it would be extremely difficult to arrive at any comparable estimate of changes in workforce participation rates between the 43rd and 50th rounds. Even the availability of unit records is of little help in this regard. But it does offer some clue to the extent to which the estimates would have been affected by such reclassification. The relevant question in this regard was the one that asked the number of months for which persons were seeking work/alternative

work. This question is also relevant as far as the extent of underemployment is concerned, but for the present purpose it does give some idea of the extent of change in participation rates. Table 7 presents the estimates from the 43rd and 50th rounds for those who were not classified as unemployed regarding the number of months they were seeking work.

Partial Explanation

Table 7 provides information only on those persons who were not classified as unemployed but were seeking or available for work. Therefore, it excludes a large section which was not seeking work and also those who were anyway classified as unemployed by their principal status. But among those who responded, the largest change for rural males is seen for those persons who were seeking work for three to six months. In this category, in the 43rd round around 30% were classified as out of the labour force but only 3% were classified as out of labour force in the 50th round. As mentioned earlier, the change had the largest effect among the persons belonging to the category where the average number of months in unemployment would be three to five months. As a result, of those reportedly seeking work for three to six months, 70% were classified as employed in the 43rd round. The corresponding proportion in the 50th round, however, increased to 97%. But the biggest change is seen for the rural female workers where this percentage increases from 18% in the 43rd round to 74% in the 50th round. However, the above calculation is at best an indicator of the nature of bias due to differences in the methodology of identifying usual status workers. But unfortunately, even the unit records do not offer any help in making the estimates from two surveys comparable. This is because of the major lacunae in the system of collecting information in EUS where no information is available regarding the number of days/months worked or the number of days/months spent out of the labour force.

Pending further examination, this at best could be the partial explanation of the abnormal increase in workforce participation rates in the 50th round compared to the 43rd round by the usual status.[8] But the fact remains that the increase was also supported by similar increases in the weekly status measures as also the daily status measures, lending credibility to the increase in participation rates. Quite obviously the kind of change reported above for the usual status classification could not have affected the weekly status and daily status measures. Nor was there any change in definition which could have resulted in any artificial increase in participation rates. However, what was done was the change in coverage and methodology of collecting information on the weekly and daily status. This change which has been mentioned earlier is not convincing evidence of any artificial increase in participation rates compared to the previous rounds. But it does not rule out the possibility of such an increase either.

Table 7: Seeking Work for Those Not Classified as Unemployed by Principal Status

No of Months	Principal Status				Usual Status			
	Employed		Out of Labour Force		Employed		Out of Labour Force	
	43rd	50th	43rd	50th	43rd	50th	43rd	50th
Rural male								
Less than 1 month	95.1	93.3	4.9	6.7	96.3	94.9	3.7	5.1
1 to 3 month	98.2	91.3	1.8	8.6	99.0	92.1	1.0	7.9
3 to 6 month	69.2	97.0	30.8	3.0	71.3	98.4	28.7	1.6
Rural female								
Less than 1 month	54.6	64.1	45.4	35.9	69.1	84.6	30.9	15.4
1 to 3 month	74.2	65.4	25.8	34.6	85.8	80.6	14.2	19.4
3 to 6 month	18.0	74.2	82.0	25.8	30.8	93.0	69.2	7.0

Until the 43rd round, the weekly status of a person was based on the response to the single question which asked if the person worked for at least one hour on any day of the previous week. Consequently, the daily status activity status was recorded for only those persons who reported themselves in the labour force by weekly status. The 50th round in this sense adopted a different methodology and the daily status time disposition schedule was canvassed among all the individuals and the weekly status was arrived from this schedule by identifying those individuals who reported themselves as working on any day by the daily status. In other words, the weekly status was a derived estimate from the daily status schedule. Although, this particular change in methodology does not suggest in any way that the estimates would be higher by the detailed schedule compared to the simple question based estimation. But it is quite possible that a detailed enquiry schedule of all the individuals, with probing questions on wages and other related characteristics would be more accurate and closer to the truth. But it would also be extremely naïve to conclude that these two methods would result in the same estimate of the number of workers by weekly status. However, there is no method to conclude either way and at best the effect of such change remains a puzzle.[9] On the other hand, the fact that the daily status time disposition schedule was canvassed for all the individuals rather than a small set which reported itself in the labour force in response to weekly status question does suggest that the number of person days worked would be different by the later methodology.

The previous discussion offered some evidence of the abnormal increase in workforce participation rates between the 43rd and 50th rounds which are found to be in opposite direction to the trends from other inter-round periods. These changes not only affected the estimates of workforce participation rates but even the other related characteristics of employment and unemployment. As a result the period between the 43rd and 50th rounds is found to report trends on the occupational pattern and industrial distribution which are in opposite direction to what was seen for the other inter-round time periods since the 32nd round. The nature of changes was such that a higher employment would be recorded in those occupations where the number of days worked shows large variations within a year, for example, self-employed in agriculture and wage labour. On the other hand, regular employment would not get affected since that is more or less invariant within the year. But since there are more workers getting counted as self-employed and casual labourers, the share of regular workers would drop sharply, which is what is happening as far as the 50th round is concerned. Incidentally, in terms of population employed as regular workers using census population estimates, they do show an increase which is roughly of the same order as that of the other rounds. Similar is the case for the industrial distribution where again there is virtually no increase in non-farm employment as a share of total employment. And this is so because most of those who would get counted as workers in the 50th round were expected to

be those whose employment showed seasonal variation and was obtained in agriculture. The explanation offered here partially explains the outlier behaviour of the 50th round vis-à-vis the other major rounds. Needless to say, more work is needed on the actual impact of changes in survey concepts and methodology and to make data comparable taking in to account these factors. However, since the 55th round survey adopts a similar framework as that of the 50th round, most of these trends reappear for the time period between the 50th and 55th rounds.

Employment Trends after 1993-94

The purpose of the previous discussion was to highlight certain discrepancies in trends reported up to 1993-94 which could be crucial for understanding the trends in employment and unemployment. Unfortunately, it is not possible to arrive at a comparable estimate of employment-unemployment trends with the available data. However, these changes were limited to the 50th round of the EUS and subsequent rounds of employment and unemployment have retained the conceptual framework of the 50th round for collection of employment and unemployment data. That is, trends on employment from the EUS from 50th round onwards are fully comparable.

There have been three thick rounds after the 50th (1993-94). These are the 55th (1999-2000), 61st (2004-05) and more recently the 64th rounds (2007-08). All the rounds from the 50th to 64th rounds are fully comparable to each other and give a long-term trend in employment and unemployment for the last two decades. The first period for which comparable estimates of employment are available using a new methodology was the 1993-94 to 1999-2000 period. This was also after the initiation of economic reforms and the results were eagerly awaited. These showed that employment growth had slowed down considerably to 1% per annum by usual status. The deceleration was contributed to a large extent by the slowdown in employment generation in rural areas where employment grew by 0.66% per annum, less than half the rate of growth seen during 1983-94 at 1.75% per annum. As against this, the growth rate of employment in urban areas was a respectable 2.3% per annum. Across gender, the growth rate of male employment was 1.38% per annum compared to a paltry 0.26% per annum for females. However, this was seen as the first evidence of jobless growth of the Indian economy in the post-liberalisation period. But it came despite the economy growing at a respectable 6% per annum and agricultural production not doing so badly. During the same period, the rate of growth of wages was overall slower than in the previous period but it was a respectable 2.5% per annum in real terms. The slow growth of employment surprised many but confirmed the apprehension that the post-reform economic growth had been largely jobless.

However, the gloom of jobless growth was short-lived with the 61st round showing a reversal of the trend with employment increasing by 2.85% per annum. Incidentally, the growth in employment was led by exactly the same categories that grew the slowest in the previous period of 1993-94 to 1999-2000. While urban employment growth increased by 4.22% per annum (double the rate of growth in the previous period), rural employment grew by 2.41% per annum (quadruple the rate of growth in the previous period). But even more remarkable was the recovery of the growth rate of female employment which increased by 14 times from 0.26% per annum during 1993-2000 to 3.7% per annum during 1999-2005. As against this, male employment growth accelerated from 1.4% per annum to a respectable 2.45%. While this was taken as a symbol of the employment creating potential of the Indian economy post-1999-2000, it was difficult to reconcile it with trends from the rural areas, in particular the agrarian sector which saw a severe crisis with wages decelerating to their lowest rate of growth in the last four decades. The growth rate of agricultural production was less than 1% per annum with a negative rate of growth for foodgrains. It was also accompanied by increasing unemployment. The other departure from the general trend seen during 1999-2005 was the increase in self-employment and a decline in the share of casual employment, as against the general trend of increasing casualisation and declining self-employment.

Despite the fact that the period between 1999-2000 and 2004-05 was not the best in terms of improvements in the lives of the majority of persons in rural areas, the increase in employment was seen as the success of the growth strategy. So much so that the Economic Advisory Council of the Prime Minister quickly declared that unemployment will be wiped out from the country with the growth rate of the workforce equal to the growth rate of labour force. This was also reconfirmed in the government's First Report on Employment in July 2010. The same optimism was shared by the Planning Commission though to a lesser extent in the Eleventh Plan documents as well as in the mid-term appraisal of the Eleventh Plan.

Unfortunately, this optimism was also short lived. The results of the thick round on employment for 2007-08 showed a reversal of most of the trends reported between 1999-2000 and 2004-05. In the period 2004-05 to 2007-08, employment growth slowed to 0.17% per year as against 2.85% per year during 1999-2005. The results show that the total employment created between 2005 and 2008 by usual status was only 2.4 million, which was 0.8 million per year. The total number of workers increased from 457.9 million in 2004-05 to 460.2 million in 2007-08, a growth rate of 0.17% per year as against the 2.85% per year growth of employment achieved during 1999-2000-2004-05. This was the lowest rate of employment generation in the previous three decades, even lower than the spell of jobless growth of 1993-2000 when employment increased by less than 1% per year.

A detailed examination of the trends also suggests that while employment generation decelerated considerably in urban areas, increasing by 4.4 million only between 2005 and 2008, it actually declined by 2 million in rural areas. But in both rural and urban areas, the decline was largely contributed by the female workforce. Overall, employment for males increased by 5.2 million per year but declined by 4.4 million per year for females. Sectoral trends also suggest that the trend of non-farm diversification in employment in rural areas, which was also the focus of the Eleventh Plan, has not yielded any results with the 2007-08 estimates showing almost no non-farm employment diversification compared to 2004-05. These trends are also confirmed by the daily status measure which show that person days of employment in rural areas declined from 93.8 billion person days in 2005 to 92.9 billion person days in 2008.

Trends in Income and Output

The slow growth of employment during 2005-08 in itself is worrisome but it is all the more so because 2005-08 also happens to be the best period of economic growth in independent India with GDP growing at more than 9% per annum. Table 8 gives the rate of growth of GDP for the three periods mentioned above. A quick look at Table 8 clearly shows that there is an inverse relationship between output growth and employment growth. This is true for agriculture as well as in the aggregate.

Table 8: Growth Rate of GDP at Constant Prices (% per annum)

	1993-94 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2007-08
Agriculture	3.99	1.56	4.55
Non-agriculture	9.36	7.30	10.56
Total	7.86	5.98	9.47

In fact, the lowest rate of growth of GDP is seen for the 1999-2000 to 2004-05 period, which incidentally is also the period of the highest rate of growth of employment. The lowest rate of growth of employment was in the period 2004-05-2007-08, which also happened to be the period of highest growth in GDP. The period 1993-94-1999-2000 shows a rate of GDP growth which is clearly better than the 1999-2000-2004-05 period but it experiences a lower rate of growth in employment than the later period. A similar picture emerges by looking at the earnings of wage workers. As Tables 9 and 10 show, the period 1999-2000 to 2004-05 appears to be one of the lowest rate of growth of wages. This is true for casual wages in agriculture as well as in non-agriculture. While casual wage growth decelerated sharply, they declined in real terms during the same period for workers of all educational status except for graduates and above in rural and urban areas.

Table 9: Growth Rate of Real Wages (1999-2000 Prices) for Casual Workers of Age 15-59 (% per annum)

	1993-94 to 1999-2000		1999-2000 to 2004-05		2004-05 to 2007-08	
	Agriculture	Non-agriculture	Agriculture	Non-agriculture	Agriculture	Non-agriculture
Male	2.8	3.67	1.38	0.67	4.35	3.13
Female	2.95	5.13	1.04	1.51	5.95	6.04
Persons	2.78	4.19	1.31	0.76	5.08	3.29

Table 10: Growth Rate of Real Wages (1999-2000 Prices) of Regular Workers by Education Status (% per annum)

	Rural			Urban		
	1993-94 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2007-08	1993-94 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2007-08
Not literate	6.18	-1.67	2.23	2.63	-1	2.17
Primary	3.88	-0.57	0.89	3.42	-2.2	3.09
Secondary	4.33	-0.72	-0.64	4.37	-1.74	0.31
Graduates	6.04	2	-2.97	5.27	1.91	5.62
All	5.38	0.56	-0.04	5.01	0.21	4.75

However, this situation was reversed after 2004-05 and not only did GDP growth rates recover to an all time high, even casual wages grew at a rate which was higher than that seen any time in the previous two decades. This is all the more impressive for agricultural wages. Interestingly, while non-farm wages also recovered to their previous levels, the growth was more than 6% per annum for females. Unfortunately, regular wages did not recover their high growth rate in rural areas with overall wage rates for regular employees declining in real terms. But even in rural areas, the illiterate regular workers show a reversal of a trend of decline in real wages to a respectable 2.23% per annum. On the other hand, urban regular wages recovered to their previous levels of all educational categories except for the secondary educated ones.

However, it is also clear that if anything there is an inverse relationship between growth of incomes and output with growth of employment. The standard argument of high growth also creating high employment and therefore making the task of redistributive justice easier may not hold if the disjunction between economic growth and employment creation holds true. It will also be a setback to the agenda of inclusive growth centred on creating decent jobs.

Demographic Effect and Educational Attendance

However, the real issue is whether high growth is creating jobs and if yes what kind of jobs. The second related issue is why do the aggregate employment data show a trend which is opposite to the trend in GDP growth. There does not appear to be any change in the statistical design or the conceptual design of the surveys which could lead to such outcomes. However, there is a minor problem of using age distribution of the population which may be relevant while interpreting aggregate employment data that has been brought out by Sundaram and Tendulkar (2006) and Sundaram (2007).

Sundaram and Tendulkar (hereafter ST) have taken up an extensive examination of the employment trends in India. The key argument revolves round the fact that the age-distributions implicit in the NSSO EUS appears to be very different from those obtained from the census age-distributions around the same years. These in turn lead to different estimates of aggregate WPR, LFPR and unemployment rate estimates if the age-specific employment estimates are aggregated using the census age-distributions. A close scrutiny of the data provided by ST and its comparison with NSS age-based distributions suggests that there is some merit in this argument.[10] However, even with a correction, the trend is still that of deceleration in employment growth during 1993-2000 compared to 1983-94, although the extent of deceleration is much less – declining from 1.71% in 1983-94 to 1.45% during 1994-2000. Nonetheless, this correction does lead to the conclusion that the extent of deceleration is probably overestimated in the NSS compared to those using census-based age-distributions.

The more important conclusions emerging from their discussion which has a bearing on employment trends after 1993-94 are: (1) The growth rate of population in the 1980s as well as 1990s suggests that the share of the 15-59 age-group population would increase along with the increase in the share of the 60 and above population. It is also accompanied by the decline in the share of the 0-15 age group. Assuming that the age-specific WPR and LFPR remain the same over the years, this itself would increase the aggregate WPR and LFPR, but not substantially. (2) For the 5-14 as well as 15-29 age-groups, the WPR as well as LFPR would tend to decline over the years and this is partially a response to the beneficial rise in attendance in educational institutions for these age-group populations. (3) Female labour supply is driven largely by the compelling need to augment low levels of income and this is particularly true for the bottom 40% of females in both rural and urban areas. However, there is a threshold limit that exists in urban areas after which workforce participation tends to increase.

The net effect of these patterns is that the WPR as well as LFPR is expected to grow more slowly than the population growth

rate, which is also the explanation for a decline in the WPR and LFPR between the 50th and 55th rounds. After accounting for the demographic effect, the decline appears mainly a result of the movement of the younger age-group population in educational institutions, which is generally larger in magnitude than the total demographic effect. However, the income effect leading to temporary entry and exit from labour force for females influences the pattern of aggregate employment across time periods leading to large fluctuations. In particular, severe distress has often been responsible for females to move into labour force.

However, the correction in age distribution does imply that the period between 1993-94 and 1999-2000 was still a period of jobless growth although the extent of slowdown in employment was exaggerated. A growth rate of employment of 1.45% per annum is lower than the growth rate of the working age population but this growth of employment is not out of place given the fact that 1993-94 and 1999-2000 were both normal years (with 1999-2000 being a better agricultural year compared to 1993-94). This would have implied the withdrawal of some of the labour at the margin to household boundaries or to educational institutions. In fact, taking into account the movement into educational institutions, the low growth rate of employment is understandable.

Estimates from the 61st round depart from the general trend in many ways. This round shows a sharp increase in the WPR and LFPR as well as an increase in unemployment rates. It also shows a sharp fall in wage labour and consequently increases in self-employment. This appears to be happening across all areas and all sexes. The increases in LFPR and WPR in the 61st round are contrary to the trends expected, based on past experience and also on normal conventional wisdom on this count. However, these are real trends and are also expected to be based on the thin round data from the 57th to 60th rounds, all of which suggest that the LFPR and WPR did increase compared to the 55th round. ST, however, do not agree that these trends are real. These views are also echoed by Unni and Ravindran (2007) (hereafter UR). ST dismiss the increase in LFPR and WPR after 1999-2000, suggesting an increase in/non-sampling errors in the annual rounds after 1999-2000 as the real cause. Second, while they suggest that the non-sampling errors are non-significant for rural areas for the 59th round, they find it significant for urban areas. This, perhaps, is based on the observation that in the 59th round unemployment rates show a fall in rural areas but an increase in urban areas.[11]

However, based on previous trends they undertake a projection exercise for employment trends after 1999-2000. The labour force in the prime age-group is expected to grow at 1.9% per annum and would be lower than the total population growth rate of the group. This will be on account of the fact that the female-male sex ratio would tend to improve over time and pull down the aggregate LFPR as well as the growth of urbanisation, which again would work in the same direction since the urban LFPR is lower than the rural LFPR. Finally, the continued movement of youth in the age-group 15-24 into educational institutions would also add to bringing down the aggregate LFPR. That is, the average labour force increases by around 8 million per annum.[12] The actual estimates based on the 61st round suggest that the labour force grew at 2.85% per annum, much higher than what they projected. In absolute terms, the average increment to the labour force between 1999-2000 and 2004-05 turns out to be 12 million per annum, almost 50% higher than the upper limit suggested by their calculations. This incidentally is also higher than the target of the Planning Commission during the NDA regime to achieve 10 million jobs per year. UR, on the other hand, suggest that the 55th round employment-unemployment estimates probably suffer from underestimation and hence show greater employment growth during 1999-2005. They also suggest that the 55th round data may also suffer from depressed agricultural conditions, a fact not based on data for agricultural production or rainfall which shows the triennium ending 1999-2000 to be the best agricultural period.

In general, workforce participation and labour force participation rates tend to decline over time at least in the rural areas. This decline is not merely a statistical fact observed for all the rounds except for the 50th and 61st rounds but also appears reasonable given the structure of the workforce.

Two External Factors

There are two main factors external to the labour market which can bring in a change in the LFPR. One, the demographic change can increase the labour force participation rate even though nothing changes as far as the LFPR of the particular age-group is concerned. This can happen if the proportion of the 25-49 age group increases in the population as a result of the demographic transition. That is, simply due to a change in the weight of the various age groups in the total population, the LFPR can increase. On the other hand, the LFPR will decline if some percentage of the population in the 5-25 age group moves out of the labour force into educational institutions.

That is, these two factors exogenous to the economy can explain changes in the LFPR even without anything happening in the labour market. The net increase or decrease will depend on the balance of these two.[13]

Disaggregated analysis by age groups confirms the fact that the period between 1999-2000 and 2004-05 did witness a slowdown in the rate at which LFPR for children and adults was declining. In fact, for urban boys of the 10-14 age-group it actually increases marginally, while there is a negligible decline for urban girls. However, the second and even more disturbing trend is the next age-group of 15-19 age-group where the LFPR increases for all categories, except for rural males where it declines marginally. This trend is also confirmed by the census estimates between 1991 and 2001 which suggest a setback in elimination of child labour during the 1990s.

As far as the education and demographic effects are concerned, although driven by economic factors, these are mainly an outcome of the education and population policies followed by the government. However, changes in the LFPR are also possible due to purely economic reasons. The most important among them is as the income effect. That is, households have a certain reservation level of living and if income of the household falls below this, they tend to push their reserve labour force, mainly women, children (including adolescents) and elderly into the labour force to supplement household income. This, ST argue is the main explanation for female labour supply behaviour both in rural and urban areas. However, this explanation also works for children, adolescents and the

aged in the population. This is commonly observed in the case of a severe calamity such as a drought and in agrarian distress.[14] But this is purely temporary and once the income of the household increases, they tend to pull back their reserve labour force back into non-work.

1999-2000 to 2004-05: Distress Employment?

For the 61st round, detailed analysis is strongly in favour of this abnormal increase in employment being distress employment. This conclusion is also supported by a detailed examination of the trends emerging from the 61st round by Abraham (2009). The increase is larger in the case of females for all age-groups, the old age population and children and adolescents in the 10-19 age group. Moreover, it is also accompanied by a sharp increase in unemployment rates for females but not so much for males. These are the typical symptoms of distress-led increases in labour force.

The evidence on distress-driven employment growth during 1999-2005 is not only seen by looking at employment trends but is also confirmed by the slowdown in GDP growth rates in agriculture as well as in the aggregate. Incidentally, this period was also characterised by a spate of farmer suicides. For rural areas, the period between 1999-2000 and 2004-05 is characterised by an undoubted agrarian crisis. Moreover, this period is also characterised by a sharp deceleration in wage rates for both regular as well as casual employees. What is also clear from these wage rate growth figures is that the deceleration is not restricted to any one category but has been the case for almost all categories of workers and all sexes and sectors. Developments in the agrarian sector and wage labour market do not suggest any possibility of employment availability increasing due to pull factors originating in agriculture. This is also because employment in agriculture in rural areas is either self-employed or as wage labour with very little regular employment. The two things that govern employment in these occupational categories are the access to land, skills (for regular employment) and the wage rate.

In this context, the following issues need explanation: (1) why did self-employment as a share of workers increase when the trend in the past has been that of a decline in self-employment and (2) why is the increase in labour force concentrated in the younger age-groups, elderly and females. For rural areas, self-employment and wage labour are the dominant form of employment with very little regular employment. This is particularly true for females. Over the years, self-employed workers as a percentage of total workers was coming down and this trend is consistently true for all the previous rounds since 1972-73. This is also along the expected lines and the main reason was the much higher dependence on agriculture as a source of livelihood for the rural population. Since land is limited, with increasing population pressure and land fragmentation, the share of the self-employed in the total rural agricultural workforce was bound to decline and some of the households where the income from cultivation falls over the years would move to casual wage-employment to supplement household income. This particular effect would tend to weaken over time as non-farm diversification of employment increases over time and some of the households would also seek employment in the non-agricultural sector where this can take the form of self-employment. But, most certainly, an increase in self-employment in agriculture would not be expected unless there is increased access to land. For most of the rural labour accounting for nearly one-third of all households in rural areas in 1999-2000, the possibility of increased access to land is ruled out. The agrarian crisis following 1999-2000, apart from showing deceleration in output growth has also shown signs of increasing input costs and declining profitability in agriculture. In that context, an increased absorption of the labour force in agriculture as self-employed is not a possible option. Table 11 gives the number of workers by status of employment and industrial affiliation for the last three rounds in rural areas.

Table 11: Number of Usual Status Workers (in million)

	Rural Males			Rural Females		
	50th	55th	61st	50th	55th	61st
Self-employed in agriculture	85.0	83.1	92.8	52.9	51.0	66.6
Self-employed in non-farm activities	23.2	26.0	34.4	8.5	9.6	12.4
Regular in agriculture	2.5	2.5	1.9	0.5	0.6	0.5
Regular in non-farm activities	13.4	15.1	17.7	2.3	2.6	4.1
Casual in agriculture	51.6	56.2	50.8	36.9	38.6	36.2
Casual in non-farm activities	12.1	15.7	21.2	3.7	3.2	4.3

The interesting aspect of Table 11 is that the trends are the same between the 50th and 61st rounds for non-farm employment. In fact, casual employment has increased in non-farm at a much faster rate than in the previous period for both males and females. This is also true for regular employment. Taking both regular and casual employment together in the non-farm sector, the rate of growth of the labour force implied is not much different between these two periods. However, the major difference between the two sub-periods is in the case of the self-employed which has increased faster for non-farm employment for both males and females. At the same time, while self-employment in agriculture was declining between the 50th and 55th rounds, it shows a sharp increase between the 55th and 61st rounds. The other trend which departs from the usual is the decline in absolute number of casual workers in agriculture. In fact, more than 90% of the incremental workforce in the case of rural females is employed in self-employment in agriculture. It is also noteworthy that females account for more than 60% of the total increase in self-employed in agriculture while males account for almost 75% of the entire increase in self-employed in non-agriculture.

As far as the agricultural sector is concerned, the five years between 1999 and 2005 were years when agricultural growth declined sharply, and yet prices of agricultural commodities grew slower than of non-agricultural commodities, and in particular input costs increased faster than output prices. One possible strategy adopted by the cultivator households in the face of an increasing cost of cultivation and falling agricultural product prices is to cut back on hired labour. This strategy is not only employed by large farmers but also by middle farmers, for whom the cost of hired labour could be a significant share in the total cost of cultivation. On the other hand, some of these families would also tend to substitute them by aggressively employing family labour in cultivation to step up production from agriculture per se. The large farmers, on the other hand, would also take recourse to mechanisation which also appears to be gaining ground in most states. The tendency to cut back on hired labour would also imply a decline in the demand for wage labour particularly in agriculture. This would then also

imply a pressure to hold up any increase in wage rates. This would then be consistent with the trend emerging from the 61st round, that is, wage labour declines and self-employment increases particularly for females and elderly. This is also accompanied by a deceleration in wage rate growth. Moreover, the need to supplement household income by increasing labour force participation from the household will also translate into more women and other members from the household joining the labour force. Distribution of persons of age 15 and above by household and MPCE fractile group suggests such a process happened during 1999-2005.

The need to supplement household income as a result of falling agricultural product prices and rising input costs would affect all classes of rural households. But the strategy adopted by different classes of households to overcome this would differ. For the landless and tiny cultivators, the option of indulging in self-employment in agriculture is limited. For them, it will either be acceptance to work at lower wages or move into non-agriculture either as self-employed or as wage employee. The movement into non-agriculture would then show up as increased non-farm diversification, which is also borne out by facts from the 61st round. But, again, the option to engage in non-farm employment as regular and casual workers is limited and dependent on non-farm enterprises and activities willing to hire them. A large set of these who have been pushed out – workers from agriculture – would then move into non-farm employment as self-employed workers.

A large part of this non-farm diversification would be in petty jobs such as construction, retail trade such as street vending, that is, informal sector employment. In that case, it will also be accompanied by increasing unemployment since the move towards non-farm is driven by distress. In fact, the previous literature on non-farm employment has shown non-farm diversification to correlate very well with unemployment rates during distress and such non-farm employment was considered a sign of distress diversification. This also appears to be the case during 1999-2005 with unemployment rates increasing compared to the previous period, and this was the highest ever in the 30 years for agricultural labour households who are the most vulnerable. This increase will be reflected more in the supplementary workforce such as women, children and elderly who are moving into the labour force in search of jobs. The evidence from the 61st round suggests this and unemployment rates increased for females, the elderly and children in rural areas. On the other hand, for males no such increase is observed except in the daily status unemployment rates. In fact, except for daily status estimates, unemployment rates for males in rural areas do not show any increase. Unemployment rates for males by usual status and weekly status actually decline between the 55th and 61st rounds.

Rural Non-Farm Employment

As has been shown by Abraham (2009), the bulk of the decline in agricultural employment and increase in non-farm employment is due to the exit of the workers in households owning less than 1 hectare of land. Prima facie, this again appears to be driven by distress since these households have very little access to capital or credit to engage in productive non-farm enterprises. A break-up of the non-farm employment in principal status by industry classification shows that within the entire increase in non-farm employment in rural areas of 16 million by principal status, nearly 50% (8 million) was in the form of self-employment, five million as casual employment and the remaining three million as regular employment. A major part of the increase is accounted for by manufacturing (3.5 million), trade and hotels (4 million), transport and communications (1.8 million) and construction (5 million). As far as the casual employment increase of five million is concerned, this is almost entirely due to the five million increase in casual employment in construction after netting out for changes in other industry groups.

However, the largest increase in rural non-farm employment is due to the increase in the self-employed. Of the entire increase in self-employed non-farm employees, almost 60% is accounted for by three industry groups; namely, manufacture of wearing apparel (1.5 million), retail trade (2.2 million) and land transport (1 million). Another 25% is accounted for by activity codes 20, 36, 51, 55, 64, 80 and 85. Activity code 64 is the post and communications industry groups, where the bulk of the increase in self-employed has been in the form of STD/PCO booths. Code 51 is maintenance and repair of motor vehicles and 55 is hotels and restaurants. These industry codes together account for 85% of all the increase in self-employed in non-farm in rural areas.

A further break-up of the non-farm sector workers also confirms greater informalisation of the workforce during 1999-2005. Table 12 presents the percentage of informal sector workers among total workers in the non-farm sector by status of employment.

Table 12: Usual Status of Non-Farm Workers in the Informal Sector

	Rural						Urban					
	1999-2000			2004-05			1999-2000			2004-05		
	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person
Percentage of total usual status non-farm workers												
Self-employed	90.7	92.1	91.1	95	96.6	95.4	95.1	92.8	94.7	97.3	96.8	97.2
Regular	33.6	28.4	32.8	44	25.8	40.5	40.2	40.8	40.3	46.5	27.8	42.9
Casual	69.8	63.7	68.7	80.5	73.8	79.4	74	72.1	73.7	85.2	68.9	82.3
Total	69.5	75	70.7	78.1	77.1	77.9	67.5	68.7	67.7	73.7	63.5	71.7
Absolute number of informal non-farm sector workers (in million)												
Self-employed	23.6	8.8	32.4	32.7	12	44.6	29.8	7.7	37.4	39.4	11.4	50.8
Regular	5.1	0.7	5.8	7.8	1.1	8.8	12.6	2.5	15.1	17.1	2.4	19.5
Casual	11	2	13	17.1	3.2	20.2	9.4	2.8	12.2	11.2	2.8	14.1
Total	39.5	11.6	51	57.2	16	73.3	51.8	12.9	64.7	67.7	16.6	84.4

The definition of the informal sector worker in these tables is the same as that suggested by the NSSO. The striking point from Table 12 is the fact that informalisation of the workforce is happening for all status of employment, but at a greater pace for males than females. What is also obvious is that the so-called self-employed in the non-farm sector is almost entirely informal sector employment and this has increased from 91% in 1999-2000 to 95.4% in 2004-05. Almost 97% of all female workers self-employed in the non-farm sector are in the informal sector. Moreover, the increase during 1999-2005 is entirely in the informal sector as far as non-farm employment is concerned. At the same time, of the workers in the non-farm sector in 1999-2000, some have moved away from the formal to the informal sector during this period.

The story by industry group also confirms the trend seen in the distribution of rural non-farm workers by formal and informal categorisation. More than the net increase of employment in manufacturing, retail trade, hotels, transport and communications

it is the increase in informal sector workers in these industry groups that is noticeable. That is, apart from the incremental workforce entirely being absorbed in the informal sector, even the existing workers in 1999-2000 in these sectors are moving away from formal to informal sector employment. Evidence on the nature of job contracts, availability of paid leave and social security benefits also suggests that the growth of non-farm employment in rural areas is primarily an outcome of distress employment with employment quality deteriorating in almost all categories of workers.

The story in urban India is also similar with much of the growth being accounted for by self-employed of both males and females. Similar to what was seen in the case of rural workers, the percentage of informal sector workers has increased in urban areas also other than of regular female workers. Also, the percentage of informal sector workers in urban areas is higher than in rural areas. Ninety-seven per cent of males and females in urban areas employed as self-employed are in the informal sector. Moreover, the growth of informal sector workers among urban males accounts for more than the entire increase in urban male workforce.

That is, similar to their rural counterparts, not only is the entire increase in the urban workforce in the informal sector, it also appears that some formal sector workers in 1999-2000 have now moved into the informal sector. While total non-farm employment for urban males increased by 14.3 million during 1999-2005, informal sector workers increased by 15.9 million. That is, 1.6 million of the urban male workforce which was in formal employment in 1999-2000 shifted to the informal sector by 2004-05. On the other hand, for females, the increase in informal sector workers is mainly in the self-employed category.

A similar trend is observed by looking at the percentage of informal sector workers by industry division. That is, informalisation has increased in almost all industry groups except for mining and real estate and business. Secondly, in the trade and, repair and hotels and restaurants categories which employ the bulk of the urban workers, 95% of all workers are now in the informal sector compared to less than 90% in 1999-2000. Other than these two, the pace of informalisation has been very high in manufacturing, construction transport and communications and community social and personal services. These industry groups together account for more than 95% of all urban non-farm workers. In manufacturing, which has seen the highest increase in urban employment, the total employment increase among urban males was 4.3 million. On the other hand, informal sector workers in manufacturing increased by 4.7 million during the same period. That is, formal sector employment in manufacturing declined by 0.4 million during 1999-2005.

Table 13: Estimate of Employment in Organised Sector from Other Sources

	Employment Estimates from ASI and DGET					
	ASI			DGET		
	Factories ('000s)	Workers (millions)	Persons Engaged (millions)	Public (millions)	Private (millions)	Total (millions)
1993-94	121.6	6.6	8.8	19.45	7.93	27.38
1999-2000	131.6	6.3	8.2	19.31	8.65	27.96
2004-05	136.4	6.6	8.5	18.01	8.45	26.46
2007-08	146.4	8.2	10.5	17.99	9.28	27.27
Growth rates						
1994-2000	1.32	-0.90	-1.30	-0.12	1.46	0.35
2000-2005	0.72	0.99	0.68	-1.38	-0.47	-1.10
2005-2008	2.39	7.50	7.33	-0.06	4.80	1.52

Employment from Other Sources

While the EUS data overwhelmingly support the evidence that the bulk of the employment increase during 1999-2000 to 2004-05 was in the informal sector, there is no other confirmatory source. On the other hand, alternative estimates of employment for the organised sector are available separately for the manufacturing sector using the Annual Survey of Industries data and for aggregate using the Directorate General of Employment and Training (DGET) data.[15] Employment in the factory sector is available from ASI (Table 13).[16]

For the period 1993-94 to 1999-2000, both DGET and ASI suggest a slow growth of employment. This is consistent with the EUS data which showed a slowdown in employment generation. But for the next period between 1999-2000 and 2004-05, both these data sources suggest a much lower rate of growth than the aggregate employment growth shown by the EUS. However, this is consistent with the earlier evidence that the bulk of growth during this period was in the informal sector with organised employment declining during the same period. Although the ASI data shows a recovery of employment growth compared to the preceding period, the growth rate of employment is much lower than what is suggested by the EUS. This trend is completely reversed for the most recent period with both DGET and ASI showing a much faster growth of employment compared to the previous period. These are also completely opposite to the trend of a slowdown in employment growth rate for the aggregate population as shown by the EUS. Using these as evidence for employment growth, it will not be an exaggeration to say that the most recent period has been the best period as far as growth in organised employment is concerned. This incidentally is similar to the argument forwarded by Sundaram (2007) of using regular employment as the indicator of employment creation rather than aggregate employment.

2004-05 to 2007-08: Jobless Growth?

Seen in this context, the slump in employment creation during 2005-08 may not be a period of jobless growth. During this period, not only did organised sector employment grow at the fastest pace in the last two decades, the deceleration in aggregate employment growth would also be consistent with improved incomes and wages. In particular, the rebound of the agrarian economy and the consequent increase in wages would imply that females, children and the elderly would have withdrawn from the labour market. Distress was also lessened by the introduction of safety nets such as NREGA, a continuous run of good monsoons and better access to credit during the same period. This, in fact, is what is happening during 2005-08 with the largest deceleration in employment growth seen for the same population groups which saw the largest increase during the previous period. Interpreted in this manner, this would be a positive sign with a lessening of distress and consequently distress movement in employment. The improvement in the employment situation is also confirmed by the unemployment estimates which remain high for males in the rural as well as in urban areas but decline considerably for females in the rural and urban areas. As a

result, the number of unemployed persons by usual status which increased from 8.97 million in 1999-2000 to 11.29 million in 2004-05 declined marginally to 10.88 million in 2007-08.

The slowdown in employment growth also looks magnified because of the high base in 2004-05 as a result of distress employment. It is then better to compare the employment growth rates, ignoring the 2004-05 survey year. Moreover, since 1993-94, 1999-2000 and 2007-08 were all good agricultural years, the comparison avoids any seasonal factors. Ignoring the 2004-05 period, the growth rate of employment during 1999-2000 to 2007-08 is a respectable 1.84% per annum, although marginally lower than the growth of employment during 1983-1993 at 2.05% per annum. However, taking into account the fact that the age corrected growth rate between 1983 and 1993 is only 1.71%, the recent period shows a better employment growth rate. Further, since the 1993-94 employment estimates were overestimated due to a change in methodology, the employment growth rate during this decade would actually be better than the 1980s growth rate of employment. Seen from a long-term perspective, the present decade may not appear to be a decade of jobless growth. But it does raise another important issue and that is the issue of a transformation of the workforce structure. With the withdrawal of the temporary workforce, the data also suggest an almost negligible non-farm transformation.

Moreover, this interpretation raises a fundamental question and that is the relationship between output growth and employment growth. So far the evidence suggests that the relationship may be an inverse one. If that is the case, then how can employment generation be the cornerstone of inclusive growth?

Employment Trends after 2007-08

While the employment trends during 2005-08 do suggest a slowdown in employment generation and therefore a return to jobless growth seen in the 1990s, they do not appear worrisome given the fact that the organised sector has shown a significant increase in employment growth. But more importantly, these do fit in with the general explanation that 2004-05 was a year following distress in the rural economy and therefore a large volume of employment in 2004-05 was distress employment. Seen in this context, the decline in aggregate employment may just be the withdrawal of distress workers. Such a story also looks convincing based on evidence on income growth measured through GDP or the growth rate of wages. While some of the buoyancy in the rural and urban areas was a result of domestic policies, a significant part was also contributed by the overall buoyancy in the international environment and in weather conditions which was among the best three years in terms of monsoon rainfall.

However, this situation was dramatically reversed subsequently, both internationally as a result of the financial crisis and the recession that followed in developed countries and domestically with the worst drought of the last three decades in 2009. These also led to a deceleration in aggregate GDP growth and also to a slowdown in the growth rate of wages as is available from the wage data from Wage Rates in Rural India (WRRI). This period also coincided with the worst spell of food price inflation, which stayed in double-digits for the most part of 2008 and 2009.

What does it imply for employment trends? It is very difficult to guess in the absence of available data from the NSSO. The most recent thick round of NSSO was conducted in 2009-10, results of which will be available sometime next year. But going by the trends seen for earlier rounds, one would expect an increase in distress employment and also unemployment rates.

Fortunately, we do have information on what happened to employment trends after 2007-08, although not from the NSSO. The new source of data is from the labour bureau. This is the Quarterly Employment Report whose publication started after the recession to gauge the impact on the labour market. Starting from October-December 2008, there have been seven such surveys. The latest survey for which information is available is the seventh one covering April-June 2010. Although the coverage varies across surveys, the last few surveys have remained consistent in terms of coverage. The change in employment in selected sectors is given in Table 14 for the seven surveys conducted so far.

Table 14: Employment Estimates Based on Quarterly Labour Bureau Surveys

Survey	Reference Period	Change in Employment (million)
1st	September 2008-December 2008	-0.477
2nd	January 2009-March 2009	0.277
3rd	April 2009-June 2009	-0.130
4th	July 2009-September 2009	0.497
5th	October 2009-December 2009	0.640
6th	January 2010-March 2010	0.061
7th	April 2010-June 2010	0.162
Total	September 2008-June 2010	1.030

Based on these quarterly surveys, the total increase in employment in the last two years has been around one million. It is also clear that the trend of a decline in employment, which followed the financial crisis has now been arrested. At the same time, the rate of growth of employment seems to be slowing down in recent quarters. However, it must be mentioned here that the units covered in this survey are primarily in the organised sector and include manufacturing as well as services but exclude construction. But even within these sectors, the trend of a growth in employment is a continuation of the earlier trend of an increase in organised sector employment.

Conclusions

Changes in the workforce structure have always been a concern for policymakers and planners. These are indicators of the working of the development strategy and also of the linkages between the workforce structure, levels of living and the extent of poverty. Given the vast magnitude of poverty and relatively modest levels of per capita income, a more effective system of redistribution or dependence on trickle down alone would not be enough in the Indian context. With population growth largely exogenous, a development policy leading to a higher long-term rate of growth of the economy is necessary. But a balance between objectives is achieved more easily in a pattern of economic growth that has a higher employment content. Rapid employment growth reduces the burden of redistributive justice through state intervention on the one hand, and, on the other, if this employment is "gainful", it also contributes to the national product making the task of growth with redistributive justice easier. This essentially is the

basic premise of "inclusive growth" centred on decent employment creation. However, such a model of economic development also assumes a linear relationship between output growth and employment creation. Unfortunately, the analysis of employment data since the 1970s suggests that such a linear relationship may not exist, particularly in a developing economy with a large workforce employed in agriculture.

Analysis of the employment trends since 1972-73 suggests labour market changes have been very slow and gradual. This is not only true for aggregate employment but also for changes in the status of employment and industrial affiliation of workers. This has largely been because of three distinguishing features of the labour market. The first is the predominance of agriculture and the informal sector in total employment which implies that a majority of workers are self-employed in low quality employment and there has been a slow growth of labour productivity in these sectors. Second, large poverty and distress also lead to a situation of vulnerability where participation in the labour market is not out of choice but is governed by changes in the income level. This is true for a majority of workers classified as reserve labour and includes women, children and the elderly. And, finally, the dualism in the labour market following from the kind of growth followed in the last two decades. Not only has dualism increased over time, labour market behaviour and the responses of the two segments of the labour market are often completely opposite to each other. The implication of this is that the traditional approaches of understanding the employment-output relation based on individual choices may not hold in a developing country context. The decision to enter and exit the labour market is more a response to household earnings. These, in turn, are governed by the changes in macroeconomic policies and the sectoral pattern of growth.

Two Phases

The long-term trend in employment and unemployment can be conveniently divided into two phases. These are the pre- and post-1993 employment trends. The division is not only to take into account the change in the economic paradigm following the economic reforms in 1991; these are also necessitated by the change in the conceptual design of the survey to collect employment characteristics. While the surveys after 1993-94 have the same methodology and are therefore comparable to each other, they are not comparable to surveys prior to 1993-94. Nonetheless, these periods are also different because of the nature of changes that they exhibit in employment trends. It is quite obvious that employment trends post 1993-94 are not only more sensitive to changes in economic trends, they are also not in unison with some of the earlier trends seen before 1993-94 such as casualisation and increasing non-farm diversification.

But even for employment trends before 1993-94, some corrections are in order. The growth in employment measured using daily status estimates during the 1980s seem overstated and consequently the role played by the public apparatus. It appears that non-farm diversification during the 1980s was more moderate than earlier assessed, and did not involve a significant trend break. Nevertheless, the period up to 1987-88 was one of relative stability in employment trends. This seems to have been broken subsequently with episodes of large fluctuations in employment trends. Starting with a period of jobless growth during 1993-2000 to the employment boom during 2000-05 and then again followed by jobless growth during 2005-08, each of these episodes show extreme movements. Considering that demographic and educational attainments have only changed gradually, these also suggest an extreme sensitivity to economic conditions, particularly for a large majority of the population that is at the margin of poverty.

Though the most recent period after 2005 shows the lowest ever growth rate of employment and almost no non-farm diversification, too much should not be made of this. The previous period (1999-2005) was of extreme distress and had therefore contributed to increasing participation of females, children and elderly – with a large employment growth in informal employment, decline in organised sector employment and large deceleration in wage rates. In this context the slow employment growth during 2005-08, due mainly to a return to more normal participation rates especially of women, may not be too worrisome. But these also imply that the process of labour moving from the farm to the non-farm sector is nowhere as fast as was assessed from the 1999-2005 data. For 1999-2008, the rate of growth of non-farm employment is lower than that in the 1980s and only marginally higher than what was seen in the first half of the 1990s. That is, the perceived non-farm transformation during 1999-2005 was not a result of pull factors due to higher growth in the non-farm sector but was essentially distress diversification into the non-farm sector due to the lower growth rate of output, incomes and wages in agriculture.

This aspect – that the higher growth of non-farm GDP is failing to accelerate the rate of creation of decent jobs – is worrying since it belies a basic expectation of "inclusive growth". The trends emerging from the most recent round confirm the apprehension of many that the focus of recent economic policy is only on the organised sector to the neglect of the unorganised sector; and that although there is some employment increase in the organised sector, this is by a small number and is increasingly becoming more informal. It also raises important questions on the various projections made by the official agencies including the Planning Commission on the ability of the economy to create more decent jobs and therefore inclusive growth.

However, such a process is not entirely unexpected. The nature of growth in recent decades has been such that it has actually contributed to rising inequalities which have further contributed to creating a class of workers who are not benefitting from growth. The divergence in productivity across farm and non-farm sectors, and formal and informal sectors has only grown during the last years. The evidence on increasing inequality is already available from the consumption expenditure surveys. These are also confirmed by other sources such as the ASI and national accounts which show that not only has the share of profit in value added increased sharply over time, particularly in the last two decades, it also implies that a large majority of the workers at the lower strata of income continue to remain vulnerable and poor.

It is this segment of the population which, since it is perforce "flexible", contributes to increased employment fluctuations observed in the last decade. It appears that employment is not responding to the longer run opportunities that ought to be created by a growing economy but is responding to vulnerabilities imposed by any short-run shrinkage of incomes. It is obvious that the nature of growth is not inclusive by any means. Rather, it has contributed to the creation of a class of workers which remains vulnerable to economic vagaries.

But a more fundamental issue is of how to interpret employment estimates from successive NSS rounds and whether employment projections using these estimates can be trusted. Employment estimates are a reflection of what is happening to the larger economy and although longer-run employment growth is positive, there are large fluctuations in more recent data which also show absolutely no sign of any employment acceleration in response to higher GDP growth. What is required is a better understanding of the way employment markets respond to economic stimuli.

Postscript (Results of 2009-10 Survey)

Key indicators of the 66th round (2009-10) NSS were released in July after this paper was finalised for publication. Although full analysis of the 66th round needs to await release of the detailed results, the information released so far suggests that not much has changed between the 64th (2007-08) and 66th (2009-10) rounds, so that the analysis above continues to remain valid.

In particular, the 66th round shows little change in employment, with the total number of workers stable at 2007-08 levels. Compared to 2004-05, these show employment growth at only 0.1% per annum by usual status but somewhat higher at 1% per annum by daily status. While confirming the trend of slow employment growth reported by the 64th round, these also confirm other trends noted above from the 64th round on the status of employment and industrial distribution. That the increase in self-employment seen between 1999-2000 and 2004-05 was reversed thereafter is confirmed by the 66th round which shows that the bulk of employment increase between 2004-05 and 2009-10 was in casual work. The trend towards non-farm diversification also does not show any acceleration compared to the previous periods.

Although the 66th round reconfirms what was already known from the 64th round, its initial results have evoked strong reactions from senior government officials. These reactions, questioning the credibility of the data, stem largely from the fact that the 66th round shows negligible job creation against an ambitious Eleventh Plan target of more than 50 million new jobs. However, this misses the larger message, conveyed by the 64th round and now confirmed by the 66th round, which is that the Eleventh Plan targets were perhaps too ambitious because these were based on a wrong reading of employment data, particularly of the growth in employment during 1999-2005. As this paper has argued, reading the high growth in employment during 1999-2005 as reflecting better employment content of the output growth during the period was grossly misleading, since it missed the important fact that much of this was actually a sign of distress employment. Precisely because of that, the subsequent low growth of employment, although a cause for worry, also implies a revival of the rural economy led by a better than average agricultural growth and redistribution through social sector spending such as NREGA.

A preliminary reading of the 66th round estimates suggest that the slow employment growth is largely due to a sharp decline in female labour force participation, while the number of male workers actually increased by a respectable 22 million between 2005 and 2010. Considering that the increase in female employment during 1999-2000 and 2004-05 was largely a result of severe distress in rural areas, the subsequent decline of female participation rates appears to be a return to normality. This also explains the substantial decline in self-employment since the bulk of distress employment among women was in self-employment. The data also shows a much higher attendance in educational institutions by the young, particularly girls. This again is a positive signal considering that the previous period had seen a negligible increase in educational attendance and in some cases even a movement out of education into work. Seen from this perspective, the 66th round employment estimates signal a reversal of the distress-induced employment growth seen during the 1999-2005 period.

However, while a revival did certainly occur in the period between 2005 and 2008, it could be argued that the drought and the global recession make it less likely that employment would have grown in 2009-10. Although a complete picture will emerge only when the full 66th round data is released, it appears that the adverse effects of these two external shocks on rural areas was less than earlier expected. An important feature of the 2009 drought was that although the worst in 30 years, this did not lead to an absolute decline in agricultural output. Moreover, although it did generate inflationary pressures that could have created distress, it was mitigated by other factors. First, since recession restrained the prices of manufactures, the inflation itself was accompanied by a significant movement of terms of trade in favour of agriculture. Second, the 66th round shows casual real wage rates growing at 4% per annum for rural males and 5% for rural females between 2005 and 2010, suggesting that those most vulnerable to inflation were now much better protected. For example, with the 66th round showing an eightfold increase in participation in public works over the 61st round and a doubling even compared to 64th round, the impact of NREGA is clearly evident. More generally, the effects of the financial crisis were muted because of the fiscal stimulus, which involved both a significant step-up in construction activity in the public sector and debt-relief for farmers. Taking into account the fact that rural areas also witnessed a significant flow of resources in the run-up to the general elections in 2009, all these meant that the external shocks, although important, were not so severe as to recreate the earlier situation of sustained distress.

Nonetheless, while the data are consistent with the fact that the period after 2005 has seen a considerable reduction in severe rural distress, these do not offer any evidence to reject the argument that this period has been one of jobless growth. The acceleration of GDP growth from an average of 6% to 8% after 2005 has not been accompanied by any corresponding generation of decent employment. In fact, the pace of creation of regular

employment which was about two million annually during 1993 to 2005 nearly halved during 2005 to 2010, with less than one million such jobs created after 2007-08. Of course, as discussed above, there is some employment upturn in the private organised sector which has led the growth boom (and the 66th round figures for urban males reflect this) but this is swamped completely by stagnation or even decline in regular employment in all other segments, mainly the unorganised sector. Further, with over 80% of all new jobs created being in casual work, overwhelmingly in construction, there are serious questions about the ability of the growth process to offer sustained employment creation as a cornerstone of inclusive growth. The retention of a younger age population in education may have created breathing space for the government in the short run, but this may turn out to be the biggest challenge once these educated and more skilled youth enter the labour market.

NOTES

1 The report "Key Indicators of the 66th Round (2009-10) Employment-Unemployment Survey" was released in July 2011 by the NSSO. These have not been incorporated in the analysis of this paper. However, some of the tables here have been updated to include the estimates from the 66th round.

2 This procedure of applying actual census estimates of population to NSS ratios is recommended by the NSSO itself in all its reports on employment and unemployment. For example see, Section 4.1, "Employment and Unemployment in India, 1993-94": Report number 409, NSS 50th round.

3 64th round also collected information on migration as part of the EUS. This in fact is similar to the previous quinquennial surveys of the 38th (1983), 43rd (1987-88) and 55th (1999-2000) rounds.

4 The inconsistency is on account of the fact that both weekly status and daily status estimates are estimated from the same block of the EUS. And if weekly status WPR is the same as that of daily status WPR, it implies that everybody who was counted as a worker by daily status was employed for almost all days in the week. Or in other words, everybody identified as a worker by weekly status was employed for almost seven days a week, compared to the average number of of five to six days worked by a weekly status worker for other years.

5 The daily status WPR from the unit records for rural males and females are 48.2 and 19.6, respectively compared to the official estimates of 50.1 and 20.7, respectively.

6 In other words, all those who worked for more than 92 days but less than 182 days as employed but had spent more days out of labour force than the number of days worked with the remaining days being accounted for as unemployed provided they are less than the number of days worked would now be counted as employed as opposed to them being classified as out of labour force by previous classification.

7 See Jayaraman and Lanjouw (1999) for a comprehensive review of evidence from the micro studies.

8 At first sight, it also appears to be the case that this particular change will not affect usual status estimates (principal and subsidiary together), as much as it will affect principal status estimates. All those who worked between three to six months would have been counted in subsidiary status in 43rd round also. However, there is no way to figure this out since the definition of subsidiary status in terms of months is not entirely clear in NSS surveys till the 61st round when this was explicitly made clear of work duration of more than one month.

9 However, some tentative inference can be drawn on the basis of the observed variation between the weekly status estimates and the corresponding usual status estimates for the last two decades. It is observed that the variation between weekly status estimates and the usual status estimates is significantly higher in the two quinquennial rounds of 1993-94 and 1999-2000 compared to the earlier quinquennial rounds and also the annual or thin rounds. In the thin rounds, the methodology of estimating weekly status estimates is similar to the methodology adopted in the quinquennial rounds in the 1980s. The higher variation in the weekly status estimates from the corresponding usual status estimates in the quinquennial rounds in the 1990s suggests that the weekly status estimates tend to get biased when these are derived from canvassing the daily status schedule to the entire universe of sampled individuals compared to those estimates which are obtained from direct questioning without using the daily status schedules.

10 This is particularly true for the obvious discrepancies brought to light by ST. For example, the rate of growth of the 15-59 age-group population shows a sharp deceleration using NSS surveys and shows acceleration in growth rate of 0-9 age-group population. This does appear problematic in a scenario where the overall fertility rate has been coming down and the growth rate of population in the 1980s as well as 1990s points towards a bulge in the population pyramid. However, there does not appear to be any problem after 1999-2000.

11 This has also been picked up by Bhalla (2005) as a sign of declining unemployment rates in rural areas. This he also argued as a strong case against the need for the NREGA. However, a point missed by both is the fact that the 59th round was also linked to the "Situation Assessment Survey of Farmers" with a sampling frame to capture farmers' survey. Since this had an inherent bias towards cultivators who generally show the lowest unemployment rates, this round showed very low unemployment rates.

12 For children, the average annual reduction in the labour force is projected at 0.5 million per annum. For the aged population, the labour force is expected to grow at 0.2 million per annum. Taking all age groups together, the average annual increments in the labour force would be between 7.5 and 8 million.

13 For example, between 55th and 61st rounds, if nothing else changed except the distribution of population by age-group, the LFPR in 61st round would have been 55.6 for rural males, 31.3 for rural females, 56.4 for urban males and 15.4 for urban females as against 54.0 for rural males, 30.2 for rural females, 54.2 for urban males and 14.7 for urban females in the 55th round. On the other hand, if the population distribution did not change and some people moved into educational institutions from being workers, the LFPR in 61st round would be 52.5 for rural males, 28.3 for rural females, 53.8 for urban males and 14.0 for urban females. Clearly, the educational attendance effect tends to be stronger than the pure demographic effect. This is also probably the reason why LFPR tends to decline over the NSS rounds. However, the actual estimates for 61st round are 55.5 for rural males, 33.3 for rural females, 57.0 for urban males and 17.8 for urban females. Except for rural males, these are much higher than the pure demographic effect shown above. Further, this is also assuming that there were no movement of workers into educational institutions.

14 A general feature of such distress employment is that along with the increase in WPR, it is also accompanied by an increase in unemployment rate and consequently the LFPR. This is primarily because all the women who enter the labour market may not get jobs and a small percentage of them will also add to the pool of unemployment leading to increase in LFPR. The abnormal increase in LFPR between 1999-2000 and 2004-05 does appear to be a classic case of distress-induced increase in LFPR. However, by the same logic, the increase in WPR and LFPR between the 43rd and 50th rounds does not appear to be a case of distress employment. Neither was the increase concentrated among females nor did the unemployment rate show any sign of increase. On the other hand, there was a decline in unemployment rate. All these do confirm the suspicion that the methodological changes did play a role in the abnormal increase in WPR and LFPR between the 43rd and 50th rounds.

15 Although the DGET data are less reliable for measuring changes in the aggregate, the trends thrown by this data have been synchronous with the evidence emerging from the EUS of NSSO.

16 ASI estimates are for factory sector which is defined as enterprises with more than 10 workers with electricity and more than 20 workers with or without electricity.

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