

Employment Trends in India: A Fresh Look at Past Trends and Recent Evidence
(Works in Progress, Please Do Not Quote)

Himanshu*

* Fellow, Centre de Sciences Humaines, New Delhi

Introduction

Results of the 61st round employment and unemployment survey are now available. According to these, employment growth during 1999-2005 has not only outpaced the growth rate of working age population, at 2.85% per annum it also signals a reversal of the previous trend of 'jobless growth' during the 1990s which showed overall employment generation at around 1% per annum only. However, the results from the 61st round also suggest that the trend of increasing unemployment which picked up in the 1990s has continued and the unemployment rates in 2004-05 are among the highest since 1972-73, that is, since the beginning of the quinquennial employment and unemployment surveys of the NSSO. But more importantly, the results of the 61st round also suggest certain changes in the structure of the workforce, which are not only contrary to the earlier trend seen during the last three decades, they also suggest some deeper changes in the labour market behaviour which need to be examined in detail.

The unexpectedly high growth of employment coming after a period of jobless growth has not gone down well with many. This is partly due to the stories of rural and agrarian distress coming from the rural areas for the same period, which do not share the same dynamism as is coming out from the employment growth. This disjunction between growth and employment has also led some researchers to question these results and term them as statistical facts (Unni and Raveendran, 2007; Sundaram and Tendulkar, 2006). Critiques of the jobless growth theory have also bounced back with arguments for doing away with NREGA, essentially seen as a response to jobless growth (Sunil Jain, 2006). However, other serious researchers have taken this spurt in employment growth with a pinch of salt and have argued for looking closely at the quality of new jobs created (Chandrashekhar and Ghosh, 2007). The evidence on this suggests a worsening of quality of employment with employment swelling in the informal sector, mostly as self-employed. Nonetheless, these results at first sight appear to defy the conventional wisdom, so far as employment trends are concerned, given the large scale rural distress during the same period. This paper is an attempt to look at the trends emerging from the 61st round EUS in the broader perspective of employment trends in India since 1977-78.

In that context, the primary objective of this paper is to look at the trends and patterns of changes in workforce structure over years and to correct them of any inconsistency arising out of methodological changes or at the least flag them out for meaningful interpretation of trends in changes in workforce structure. However, the emphasis will remain on explaining the changes in workforce structure between 1999-00 and 2004-05, covering the most recent period for which data is available. The primary data source for this purpose will be the employment and unemployment surveys of the NSSO. However, other data sources such as economic census, ASI and DGET will also be used to supplement the arguments. For absolute numbers wherever required, the ratios from NSS EUS surveys have been blown up using Census estimates of population corresponding to the midpoint of the NSS round¹. The paper has been organised in two main parts, rural and urban areas since labour markets in these areas exhibit different patterns. The first part covers the rural areas and the second part deals with the urban areas. For the sake of this paper, the analysis will primarily be at all India level, although state level trends and patterns wherever necessary will also be incorporated.

¹ 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, Report number 409, Employment and Unemployment in India, 1993-94: NSS 50th Round

Trends in Employment and Unemployment

The starting point of our analysis is therefore an examination of trends in workforce participation rates, labour force participation rate, unemployment rate, occupational distribution (status of employment) and industrial distribution of the workers. This is presented for all the major rounds since 27th round for rural and urban areas by gender. The occupational and industrial distribution is presented since 32nd round. Table 1 gives the Workforce participation rate (WPR), Table 2 gives the labour force participation rates (LFPR) and table 3 gives the unemployment rate for males and females separately. Table 4 gives the WPR from Census². Table 5 gives the distribution of workers by status of employment and table 6 gives the distribution by industry.

These then are roughly the broad trends emerging from the NSS employment and unemployment surveys from the thick rounds. Based on these tables, the following trends emerge as far as trends in workforce participation and their status and industrial distribution is concerned. First, the workforce participation rates for females are significantly lower than that of males in rural areas. While more than half of all the rural males reported themselves as workers, the corresponding percentage for females was between one-fifth and one-third by various measures. Secondly, 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. Thirdly, the variation between daily status and usual status WPR were higher for females than for males. But for major rounds and for major time-periods, the trends from all the four measures were broadly in similar direction. The trends in urban areas are also similar, but the gap between male and female WPR is higher than that in rural areas.

Table 1: Workforce Participation Rates (WPR) from NSS

	Rural Male				Rural Female			
NSS ROUND	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
	Urban Male				Urban Female			
NSS ROUND	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
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

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

² The concept of work force in NSSO is different from similar concept in the Census. This is mainly on account of absence of any category such as unemployed in the Census. So in the Census, labour force and work force are equivalent terms. In the case of NSSO, workforce is labour force excluding unemployed.

Table 2
Labour Force Participation Rates (WPR) from NSS

NSS ROUND	Rural Male				Rural Female			
	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
NSS ROUND	Urban Male				Urban Female			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
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

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

Table 3
Unemployment rate

NSS ROUND	Rural Male				Rural Female			
	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
NSS ROUND	Urban Male				Urban Female			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
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

Note: Figures in parenthesis for the 43rd round daily status are estimates from unit records

Table 4
Workforce Participation Rates (WPR) from Census

census	Rural Male	Rural Female	Urban Male	Urban Female
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

Notes: WPR reported above includes main and marginal workers

Table 5
Distribution of workers by status of employment

NSS ROUND	Rural Male			Rural Female		
	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
NSS ROUND	Urban Male			Urban Female		
	Self-Employed	Regular	Casual	Self-Employed	Regular	Casual
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

Table 6
Distribution of workers by industrial affiliation

NSS ROUND	Rural Male			Rural Female		
	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
NSS ROUND	Urban Male			Urban Female		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
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

The Census estimates also were in similar direction except for females where the Census estimates were not reliable and suffered from under-estimation for the first two Censuses. But even for females, by the last 2001 census the estimates are closer to what is reported by the EUS of NSSO. The only time-period where the trend from the Census appear divergent from the EUS estimates are for the 1980s where the Census estimates suggest a decline in WPR compared to a marginal improvement by the EUS from NSSO for the period between 1983 to 1993-94. Comparison on a longer term basis would suggest that there is tendency for WPR to fall between any two quinquennial EUS for rural areas. This would more or less be confirmed by all the four measures used here and also by the census. This is the case for both rural males and rural females. In urban areas, the trend suggests greater stability in WPR for both males and females. These trends are also similar as far as labour force participation rates are concerned, that is, marginal decline in rural areas but a rather stable pattern for urban areas. As far as unemployment rates are concerned, the trend is clearly a rising unemployment rate both by usual status and daily status, although faster by 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 status of employment is concerned, the trend in rural areas is clearly that of decline in self-employment and increase in casual workers for both males and females. For urban males, the trend suggests a secular decline in regular workers and increase in self-employed and casual workers. For urban females, however, the trend is entirely opposite of males with increasing regular employment and declining self-employment and casual labour. As far as industrial distribution is concerned, there is secular decline in agricultural employment for both males and females in rural areas. For urban areas, it is also accompanied by decline in secondary sector employment for urban males, although less clear in the case of females. For both males and females in urban areas, tertiary sector employment has increased over the years.

However, there are three significant outliers to this general trend. First, the WPR measures from all the four classification show significant increase in WPR between the 43rd round and the 50th round. This is true for both rural males and rural females (except for principal status). This is also true for urban areas, where the trend has generally been that of stable WPR. This pattern is also true for LFPR. But the trend of falling WPR as well as falling LFPR is maintained in the next time period between the 50th and 55th round for both males and females. The second outlier to the general trend of falling WPR is the significant increase in daily status WPR between 38th and 43rd round for both males and females while all other measures (weekly status and usual status) suggest a decline in workforce participation rates. The third outlier is the trend thrown up by the 61st round which again shows increase in both LFPR and WPR for all sexes and areas. As far as the different behaviour of the daily status estimates from 43rd round are concerned, these are limited to the broad employment indicators of WPR, LFPR and unemployment rates. But the 50th round estimates are also outliers in terms of status of employment and industrial affiliation of workers. As against the general trend of increasing regular employment in rural areas, it shows regular employment decreasing for both males and females. 50th round also shows very little decline in primary sector employment for rural males and increase in primary sector employment for rural females as against a secular decline in primary sector employment seen throughout the three decades under consideration. Similarly for 61st round, as against the general decline in self-employment it actually

shows increase in self-employment and decline in wage employment which was seen to increase throughout.

Correction in 43rd round CDS estimates

But why should these trends considered as outliers to the general trend? These are not, if they fit perfectly with the general accepted explanations for changes in workforce structure. But before terming them as outliers, it is important to justify if these are actually outliers. Let's first take up the daily status estimates for 43rd round. Daily status WPR in general are found to be lower than that from other measures for all the time periods except for the 43rd round estimates for rural males when they are almost similar in magnitude to what is reported by the weekly status WPR. This is also true for unemployment rates which show sharp drop in 43rd round and are closer to weekly status estimates for rural males. It is to be kept in mind that 43rd round, which corresponds to 1987-88 agricultural year was a severe drought year. But so was the 27th round which corresponds to the agricultural year 1972-73³. But even for the 1972-73 drought year, the weekly status estimates were higher than the daily status estimates by 2-3% for rural males and roughly 4.5% for rural females. The situation appears changed in the 1987-88 drought years with daily status participation rates almost equal to weekly status participation rates for rural males and only 1% lower than weekly status for rural females. In other words, the stock estimate of workers from the weekly status measure in 1987-88 was almost similar to the flow measure of daily status⁴.

This would be highly unlikely in a scenario where weather affected the availability of person day employment in rural areas and a large section of the workforce depends on agriculture for employment. This apparent anomaly was noted by previous scholars and various explanations offered for this behaviour. This ranged from the greater availability of employment opportunity in non-agricultural employment, thus, countering any negative effect of loss of employment in rural areas in agriculture, increase in part time or short duration employment to increased absorption of the workforce in public works induced by large government spending in rural areas⁵.

However, closer scrutiny of the unit level data on employment and unemployment suggests some major discrepancies between the estimates obtained from the unit level records and those published by the NSSO. The workforce participation rates obtained from the unit records are consistently lower for males and females for almost all states compared to the published estimates from the NSSO. The daily status WPR from the unit

³ The extent of drought in 1987-88 was the severest in post independence history but even the 1972-73 droughts was severe in nature. While 49.2% of land area of the country covering some 1.55 million square Km was affected in the 1987-88 drought, the corresponding figures for the 1972-73 drought were 44.4% covering 1.39 million square Km.

⁴ But why should this be inconsistent with the general trend? 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 also means that everybody who was counted as worker by daily status was employed for almost all days in the week. Or in other words, everybody identified as worker by weekly status was employed for almost 7 days a week compared to average number of days worked by a weekly status worker of 5-6 days for other years.

⁵ For example see Sen and Ghosh (1993), Bhalla (1993). However, none of these explanations are sufficient enough to explain the employment availability of almost 7 days a week or more than 350 days of employment for weekly status workers in any year especially in a drought year.

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. These estimates are lower than that of weekly status estimates and also suggest stagnation in participation rates for rural males between 38th and 43rd round and a marginal decline in the case for rural females. These in turn, then are also in conformity with the trend reported by the other measures of weekly status and usual status. However, pending verification from the NSSO on this count⁶, the results presented above based on unit level data are to be treated with caution. The corrected CDS estimates from the unit records are put in parenthesis in table 1, 2 and 3.

Comparability of 50th round EUS estimates

Coming back to the other significant trend break of increase in WPR for both sexes between 1987-88 and 1993-94 as suggested by the stock measures of usual status and weekly status, it appears that there are no discrepancies between the estimates reported by the official publications and those obtained from the unit records. As mentioned earlier, the 43rd round of NSS was conducted in the agricultural year of 1987-88 which was a severe drought year and the 50th round was conducted in the agricultural year 1993-94 which was a normal agricultural year with annual rainfall being 100% of the normal. This round also shows a sharp fall in unemployment rates compared to the 43rd round. Looked in this context, the increase in WPR would not appear abnormal considering that 1993-94 being a normal agricultural year would have more people getting employment compared to a severe drought year. However, there are reasons to be sceptical of this increase in WPR and LFPR. Incidentally, the abnormality of the 50th round EUS estimates have been noted by almost all economists working on these issues. Sundaram and Tendulkar, who have been writing regularly on employment and workforce characteristics in India, have often pointed towards the 50th round being an outlier. However, they have not been able to specify any reason for it⁷.

The drought of 1987-88, no doubt was severe, but does not appear to explain the increase in WPR, LFPR and fall in unemployment in the 50th round. This is on account of the following reasons. First, by 1987-88 a significant section of the workforce had moved away from agriculture and increase in non-agricultural employment was confirmed by other sources as well and hence the effect of drought was lessened⁸. Secondly, it is also true that there were greater efforts on the part of the government in the form of providing employment as a relief measure for the drought affected areas. Thirdly, there was a major change in the economic paradigm of the country with the onset of economic reforms in 1990 which included reduction in public spending in rural areas in a major way which also affected employment generating capacity of these spending. Fourthly, all other indicators of well being and agricultural growth during the same period do not confirm to a general buoyancy in economic activities in rural areas and therefore in employment.

⁶ These results were reported to the NSSO officials and also a written communication was sent to them to clarify matters. However, till date, no official explanation has been offered by NSSO. But they did agree verbally that there are problems with the 1987-88 daily status estimates and they are not comparable with those from the published ones.

⁷ Except in their most recent paper where they question the age-structure implicit in NSS surveys versus those from Census. However, even after correction, 50th round continues to show increases in WPR and LFPR at a rate much higher than expected.

⁸ The weakening of link between agriculture and non-farm employment was noted by many scholars including Bhalla (1997), Sen and Ghosh (1993)

Finally, the estimates from the Census in this regard also do not support an increase in participation rates in 1991 and show decline in participation rates compared to the 1981 Census. This kind of growth-less employment boom is generally unexpected in a developing country coming out of economic crisis based on the fiscal restraint model of economic development⁹.

However, a closer scrutiny of the available evidence points towards this being merely a statistical fallacy or at best a combination of both statistical fallacy and actual happenings in the rural areas. The reason for being suspicious on this count lie on the nature of changes made in the concepts and coverage of employment surveys of NSSO between these two rounds. These changes, individually or in combination had the cumulative effect of more people being counted as employed based on new concepts and definitions than would have been the case if old concepts and coverage was retained.

The 1993-94 EUS survey was a major departure from the previous surveys in many ways. But three major changes were introduced in the 50th round of EUS which could have affected the way a person is classified as employed. Not all the changes incorporated would have led to an increase in participation rates with some being merely reclassificatory in nature. However, to put matters in correct perspective, all the changes in the 50th round survey are reported here. The NSSO carried out the first quinquennial survey on employment - unemployment in the 27th round (September 1972 - October 1973). This first survey made a marked departure from the earlier employment surveys of NSSO in procedure and content. The concepts and procedure followed in this survey were primarily based on the recommendations of the 'Expert Committee on Unemployment Estimates' (1970). Based on the recommendations of the Working Group (WG) and the results of previous surveys which put valuable input to the WG, certain changes and improvements in the concepts and contents were made in the successive quinquennial rounds starting the 32nd round (1977-78), though the basic approach remained unchanged¹⁰.

The next two surveys of 38th and 43rd round retained the framework and definitions of the earlier rounds and therefore, the 32nd, 38th and 43rd round remain comparable for employment and unemployment estimates. However, the 43rd round also contained some additional questions based on the recommendations of ILO to further probe the status of economically active persons but at the same time retaining the conceptual framework of the previous two quinquennial rounds. For the 50th round however, some of these recommendations were incorporated in the main schedule and the survey concepts as well as definitions were changed to make them comparable to international standards. Apart

⁹ For effects on employment of the fiscal restraint led economic reforms, see Bhaduri and Nayyar (1997). Also see, Mundle (1992) and Bhattacharya and Mitra (1993). Incidentally, this line of argument was also conceded officially: "Stabilization policies for containing fiscal and current account deficits are inherently contractionary...and tend to depress output growth as well as employment growth" Employment Generation in the Eighth Plan, Planning Commission, 1995, page 3

¹⁰ The following changes were made in the 32nd round over the 27th round:

1. The time criterion of spending relatively longer time (i.e., major time) for deciding the usual status with reference to a fixed period of 365 days preceding the date of survey was adopted.
2. Information on subsidiary gainful activities was collected to generate estimates comparable to that of census 1961 and the first quinquennial survey (Sept. 1972 - October 1973).
3. Collection of data on wages, employment and indebtedness from rural labour households were integrated with the quinquennial rounds to generate comparable estimates with the earlier rural labour enquiries.

from introduction of some probing questions to assess the under-employment situation, migration characteristics and the extent of domestic work particularly for women and children the three major changes which could have significant impact on the way persons were classified as employed or unemployed were the following¹¹:

1. Hitherto, in NSS, work was identified with performing of 'gainful activity'. As the international standards used the term 'economic activity' rather than 'gainful activity', the concept of economic activity was introduced in the fiftieth round. However, the coverage of activities under the new term was kept the same as in the earlier surveys, except, for the inclusion of 'own account production of fixed assets' as a work related activity.
2. In the earlier NSS quinquennial surveys the identification of usual status involved a trichotomous classification of persons into '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.
3. 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 probing any further on this point.

Another minor change was the introduction of activity code 12 as a sub-category of self-employed persons¹². However, the major three changes reported above had the effect of changing the way persons were classified as employed or unemployed or out of labour force. The first change regarding the inclusion of 'own account production of fixed assets' essentially involved those persons who were involved in own account production of fixed assets including construction of own houses, roads, wells etc., and of machinery, tools etc., for household enterprise and also construction of any private or community facilities free of charge. A person could be engaged in own account construction either in the capacity of a labour or a supervisor. But since the number and proportions of persons classified in this category would not be large and in any case a large proportion among these would also be involved in some subsidiary capacity in other economic activities, the effect of this change would not be large. However, these people did get counted as employed in economic activity in the 50th round as compared to the previous rounds where their employment would not have been counted as 'gainful' and hence would most probably would have been under the unemployed category or the 'out of labour force' category.

¹¹ A detailed list of all the changes in the 50th round from the previous rounds is given in the instruction manual for investigators for the 50th round. The changes mentioned above are taken from there.

¹² Persons who worked in the capacity of 'helpers' but had a share in the family earning were not considered as 'helpers' till the NSS 43rd round. Such persons also were now considered as 'helpers'. This was a departure from the definition of 'helpers' adopted in the employment unemployment surveys of the earlier rounds. But this minor change was a mere reclassification exercise and in no way contributed to any increase in work participation rates.

However, the most significant change in terms of its contribution to participation rate was the change in the way usual status employment was defined. The following example from the instruction manual to the NSSO investigators is reproduced below to understand the nature of changes made in the 50th round:

“The broad principal usual activity status will be one of the three categories viz. 'employed'(working), 'unemployed' (available for work) or 'not in labour force' (neither willing nor available for work). It is to be noted that in deciding this, only the normal working hours available for pursuing various activities need be considered, and not the 24 hours of a day. Identification of this broad usual status category is explained below. The broad principal usual activity status will be obtained on the basis of a two stage dichotomous classification depending on the major time spent. Persons will be classified in the first stage into (i) those who are engaged in any economic activity (i.e. employed) and / or available for any economic activity (i.e. unemployed) and (ii) who are not engaged and not available for any economic activity i.e., the persons will be first classified as those in the labour force and those not in the labour force depending on in which of these two statuses the person spent major part of the year. In the second stage, those who are found in the labour force will be further classified into working (i.e., engaged in economic activity or employed) and seeking and/or available for work (i.e. unemployed) based on the major time spent. Thus we can obtain the broad principal usual status as one of the three viz. employed, unemployed and out of labour force. Thus, the procedure followed in the identification of the broad usual status classification is different from the one followed in the past rounds. The following example will help in highlighting the differences as also clarify the procedure.

Person	Number of Months in Activity			Principal Usual Activity Status by 50 th Round
	Labour Force		Not in Labour Force	
	Employed	Unemployed		
A	5	4	3	Employed
B	4	5	3	Unemployed
C	4	3	5	Employed
D	4	1	7	Not in Labour Force

Note: In case of C as per the procedure followed in past rounds, he would have been categorised as not in labour force whereas he is now categorised as employed.”

[Source: Instructions to NSS investigators for 50th Round of EUS, Section Five, Item: 5.4.11]

As is clear from the above example, those persons who fall in the category C will be the ones who will be counted as employed or in the labour force in the 50th round but would have been out of labour force by previous rounds procedure. When interpreted in terms of days, these persons would be all those who were out of 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 labour force or more precisely, 182 days¹³. In the context of the rural workforce, where this category would be large enough, this change can have significant effect on the participation rates of workers.

¹³ 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.

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 number of days available for work anything between 90 to 180 days. This impression is also corroborated by the large number of micro studies available on the conditions of rural workers both for casual labourers as well as self-employed cultivators¹⁴. 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 worker participation rates. This artificial increase in worker participation rate at best could be a statistical illusion rather than reflective of actual increase in employment opportunities in rural areas in an era of stagnating wages, levels of living and agricultural growth. This is further 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 round, 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 trend of diversification towards non-farm employment. The second evidence in this regard is the case of female workforce which continues to show decline in participation rates by principal status for the 50th round compared to 43rd round but show an increase in participation rates for principal and subsidiary status taken together. The category of employment mentioned above would have large number of females who work between three to six months but remain out of labour force for the large part of the year. These women who would have been counted as out of labour force till the 43rd round would have been counted as employed in subsidiary status by the new classification in the 50th round. This in some way also explains the behavior of female workforce between the 43rd and 50th round, where the trends by principal status and principal and subsidiary status taken together are in opposite direction.

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 usual status¹⁵. 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 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 weekly status and daily status. This change which has been mentioned earlier as the third point above is not a convincing evidence of any artificial increase in participation rates compared to previous rounds. But it does not rule out the possibility of such an increase either. The

¹⁴ See Jayaraman and Lanjouw (1999) for a comprehensive review of evidences from the micro studies.

¹⁵ 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.

weekly status of a person till the 43rd round was based on the response to 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 daily status time disposition schedule was asked to 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 same estimate of 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 puzzle¹⁶. On the other hand, the fact that daily status time disposition schedule was canvassed for all the individuals rather than a small set of individuals who reported themselves 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. This would be so on account of the fact that the number of persons in the sample eligible for this particular schedule would be larger and include the entire universe of sample households of the EUS rather than the subset of households identified on the basis of weekly status question.

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 round and the 50th round. Even the availability of unit records is of little help in this regard.

The previous discussion offered some evidence on the abnormal increase in workforce participation rates between the 43rd and 50th round 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 time period between the 43rd and 50th round is found to report trends on occupational pattern, industrial distribution which are in opposite direction to what is seen for the other inter-round time periods seen since the 32nd round. The nature of changes were such that the increased employment would show 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

¹⁶ 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 1999-00 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.

invariant within the year. But since there are more number of 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 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 same order as that of other rounds. Similar is the case for industrial distribution where again there is virtually no increase in non-farm employment as share of total employment. And this is so because most of those who would now get counted as workers in the 50th round are expected to be those whose employment shows seasonal variation and in agriculture. The explanation offered here is partially able to explain 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. Unfortunately, there is very little literature on this, definitely much less than the corresponding literature on conceptual measurement of consumption expenditure. However, since the 55th round survey adopts similar framework as that of 50th round, most of these trends reappear for the time period between the 50th and 55th round.

However, the previous discussion is not the complete explanation of increase in workforce participation rates between the 43rd round and the 50th round¹⁷. But it does point out to the possibility of the increase being exaggerated because of the nature of changes made. The increase in workforce participation rates in the 50th round compared to the 43rd round does appear plausible given the fact that 43rd round was a severe drought year with almost 49% of the land area of the country affected by it. Since agriculture is still the dominant employer in the rural areas, the drought did lead to some loss in employment for the 43rd round and consequently workforce participation rates in 1993-94 which was a normal agricultural year did increase. However, it is also to be noted that the effect of 1987-88 drought was to a certain extent lessened by the pumping of government funding in terms of job created as well as the increase in non-agricultural employment in the private sector in the rural areas. But the economic reforms started after 1990 meant that most of the government programs suffered a reversal and in general rural areas were not the priority beneficiaries of government largesse. Moreover, the extent of increase in workforce participation in 1993-94 compared to 1987-88 would appear difficult to believe for another reason. And that is because, even in the case of drought, the WPR may decline but the labour force participation rates would not decline so much. This is essentially because, the poor on a longer term basis such as usual status can not afford to remain out of labour force for long and would eventually get in to the labour force to earn some livelihood. That is, despite the fact that 1987-88 was a drought year, it would not lead to a substantial decline in labour force participation rates and hence the abnormal increase in labour force participation rates in 1993-94 would appear suspicious. Therefore, 1993-94 did witness significant increase in workforce participation rates but it

¹⁷ It needs to be emphasized here that the discussion that has followed till now has concentrated on the quinquennial rounds. The evidence from the annual rounds indicates that the increase in WPR between the 43rd round and the 50th round actually starts from the 45th round which corresponds to 1989-90 agricultural year and is higher for all the annual rounds compared to 43rd round. For the annual rounds, no change in definition and categorization was introduced. However, it needs to be added that the annual rounds always give WPR estimates which are higher than the nearby quinquennial rounds. This is partly due to the different sampling design adopted by the annual rounds than those of quinquennial rounds.

would appear that the extent of increase was not to the extent that is reported by the official estimates.

More recently, Sundaram and Tendulkar (2006) (hereafter ST) have taken up another extensive examination of the employment trends in India. Although, the purpose of the analysis is to re-examine the trends till 1999-00, the implications are relevant for the 61st round also since they do analyse the thin rounds after 1999-00 to 2003-04. They also undertake a projection exercise for the period after 1999-00 and these are also relevant in the context for the results emerging from the 61st round. The key argument of their analysis revolves around the fact that the age-distributions implicit in the NSSO EUS appears to be very different from those obtained from the corresponding nearby census age-distributions. 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. While we have no expertise to check these with smoothed age-distribution by census, there is some merit in the argument being made by ST on this issue¹⁸. However, with the correction also, the trend is still that of deceleration in employment growth during 1993-2000 compared to 1983-94. Nonetheless, this correction does lead to the conclusion that probably the extent of deceleration is over-estimated in NSS compared to those using census based age-distributions.

The more important conclusions emerging from their discussion which has a bearing on employment trends before 1999-00 as well as after 1999-00 are summarised below:

1. The growth rate of population in the 1980s as well as 1990s suggests that the share of 15-59 age-group population would increase along with increase in share of 60 and above population. It is also accompanied by the decline in share of 0-15 age group population. Assuming that the age-specific WPR and LFPR remain 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 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 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.
4. The net effect of these patterns mentioned above is that WPR as well as LFPR is expected to grow slower than the population growth rate, which is also the explanation for decline in WPR and LFPR between the 50th and 55th round. After accounting for demographic effect, the decline appears mainly a result of movement of younger age-group population in to educational institutions, which is generally higher in magnitude than the total demographic effect.

¹⁸ This is particularly true for the obvious discrepancies brought to light by ST. For example, the rate of growth of 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 overall fertility rate has been coming down and growth rate of population in the 80s as well as 90s clearly points towards a bulge in the population pyramid. However, there does not appear to be any problem after 1999-00.

Employment trends from 61st round

Preliminary estimates from the 61st round again depart from the general trend in many ways. This round again shows a sharp increase in WPR and LFPR as well as increase in unemployment rates. This round 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. However, the good news is that till now there is no sign of this being a result of any change in concepts and methodology and probably this reflects actual events happening in the country. Nonetheless, this needs to be situated in the broader macro-economic context, which otherwise look abnormal. As mentioned earlier, since the EUS estimates of 50th round onwards are comparable to each other but not before that, further discussion will be based on the EUS estimates of 50th, 55th and 61st round only.

The increases in LFPR and WPR in the 61st round are contrary to trends expected, based on past experience and also on normal conventional wisdom on this count. However, these are real is also expected based on the thin round data from the 57th round to 60th round, all of which suggest that 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 dismisses the increase in LFPR and WPR after 1999-00 suggesting increase/presence of non-sampling errors in the annual rounds after 1999-00. Secondly, while they suggest the non-sampling errors to be non-significant for rural areas for 59th round, they find it significant for urban areas. This perhaps, is based on the fact observed in the 59th round where unemployment rates show a fall in rural areas but are increasing in urban areas¹⁹. However, they fail to give any convincing answer to this.

However, based on previous trends they undertake a projection exercise for employment trends after 1999-00. According to these, 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 this group. This will be on account of the fact that 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 same direction since urban LFPR are lower than rural LFPR. Finally, the continued movement of youth of age 15-24 into educational institutions would also add to bringing down the aggregate LFPR. That is, average labour forces increase of around 8 million per annum²⁰. The actual estimates based on 61st round estimates suggest that the labour force grew at 2.85% per annum, much higher than what they projected. In absolute terms, the average increment to labour force between 1999-00 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 planning commission to achieve 10 million jobs per year during the NDA regime. UR on the other hand, suggests that the 55th round employment-

¹⁹ This has also been picked up by Bhalla (2005) as sign of declining unemployment rates in rural areas. This he also argued as a strong case against need for 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 sampling frame to capture farmers' survey. Since this had an inherent bias towards cultivators which generally show lowest unemployment rates, this round showed very low unemployment rates.

²⁰ For children, the average annual reduction in labour force is projected at 0.5 million per annum. For the old aged population, 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 to 8 million.

unemployment estimates probably suffer from under-estimation and hence show greater employment growth during 1999-2005. They also suggest that the 55th round data may also suffer from depressed agricultural condition, a fact not based on data for agricultural production or rainfall which shows the triennium ending 1999-00 to be the best agricultural period.

In general, workforce participation rates and labour force participation rates tend to decline over time at least in rural areas. This decline is not merely a statistical fact observed for all the rounds except for 50th and 61st round but also appears reasonable given the structure of workforce. A closer look at the structure of work-force in rural areas as given in table 7 suggests that LFPR increases by age between 5-25 age group (consistent with falling educational attendance as age increases), is around 99% for age-group 25-49 and then starts coming down as the age increases for age 50 and above for males. For females, the pattern is similar but shows around 60% LFPR for the 25-49 age group. In other words, LFPR can increase for males only in the 5-25 age group or 50 and above age-group since LFPR for 25-50 is already 99%²¹. Also looking at the activity status for population outside the labour force, it appears that among the younger age-group a significant proportion is attending educational institutions, while the older age-group stays out of labour force due to various reasons such as domestic work, or others which is actually residual category by NSS definition. For women, the major reason is staying out of labour force due to domestic work and productive work for home use.

There are two main factors external to the labour market which can bring in a change in LFPR. One, the demographic change can increase labour force participation rate even though nothing changes as far as LFPR of the particular age group is concerned. This can happen if the proportion of 25-49 age group increases in the population as result of demographic transition. That is, simply due to change in weight of the various age groups changing in total population LFPR can increase. On the other hand, LFPR will decline if some percentage of population in the 5-25 age group move out of labour force into educational institutions. However, these changes are not so straightforward. For example, changes in demographic structure, if it also increases the older age population which generally has lower LFPR, the gains of increase in 25-49 age groups in total population and its consequent effect on aggregate WPR will be lessened, a fact also supported by ST in their analysis.

Similarly, for the move into educational institutions, the impact is not entirely straightforward. Sundaram and Tendulkar argue for such an effect explaining the decline in workforce participation rate between the 50th and 55th round²². However, problem with this effect is that, this increase will depend on the source (previous status) of these young people who move into educational institutions. Suppose all the young females who now are attending educational institutions were earlier attending domestic work, then the move to educational institution is entirely a redistribution within the out of labour force category, not affecting anything else. That is, it will also depend on what percentage of those who are moving in to educational institutions were previously workers²³. Or, in other words, how much impact the move into educational institutions has on reducing

²¹ 1% of the population may not be part of labour force due to chronic sickness, disability or simple destitution etc.

²² In fact, this is the main argument behind explaining decline in WPR between 50th and 55th round by ST.

²³ Incidentally, since a large number of children are categorized as nowhere children, there is a real possibility that despite increase in attendance, there may actually be an increase in LFPR of children.

LFPR of the relevant age-groups. For example, for 5-15 age group educational attendance among boys and girls between 50th and 55th round increased by 3.6% and 7.9% respectively. But the corresponding decline in this age group in LFPR was only 2.3% for both. That is, 1.3% of the boys who moved into educational institutions were already out of labour force. For females, this was 5.6%.

Table 7: LFPR by age group (per 1000)

RURAL	Male			Female		
	1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
0-4	0	0	0	0	0	0
5-9	11	7	3	14	7	3
10-14	139	93	70	142	96	75
5-14	72	49	37	73	49	38
15-19	598	532	529	371	314	331
20-24	902	889	891	470	425	435
25-29	980	975	982	528	498	530
15-29	804	774	772	455	411	427
30-34	988	987	988	587	557	593
35-39	992	986	991	610	579	642
40-44	989	984	985	607	586	627
30-44	990	986	988	600	572	619
45-49	984	980	982	594	566	616
50-54	970	953	963	543	515	562
55-59	941	930	931	468	450	509
45-59	968	958	963	543	518	570
60 & above	699	640	645	241	218	254
All Ages	561	540	555	331	302	333
URBAN	Male			Female		
	1993-94	1999-2000	2004-05	1993-94	1999-2000	2004-05
0-4	0	0	0	0	0	0
5-9	4	3	3	4	2	3
10-14	71	52	53	47	37	35
5-14	38	28	29	26	20	20
15-19	404	366	381	142	121	144
20-24	772	755	769	230	191	250
25-29	958	951	957	248	214	261
15-29	684	665	683	204	173	217
30-34	983	980	987	283	245	308
35-39	990	986	984	304	289	340
40-44	984	980	983	320	285	317
30-44	986	982	985	300	271	322
45-49	976	974	976	317	269	269
50-54	945	939	939	287	264	259
55-59	856	811	832	225	208	218
45-59	937	925	929	283	252	253
60 & above	443	402	366	114	94	100
All Ages	542	542	570	164	147	178

That is, these two factors exogenous to the economy can explain changes in LFPR even without anything happening to the labour market. The net increase or decrease will depend on the balance of these two. For example, between 55th and 61st round, 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 earlier 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 females²⁴. 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.

A closer look at the age-wise LFPR also points to two disturbing trends in the 1999-2005 periods compared to the previous period. The first of these is the LFPR of children and adolescents. Till 1999-00, these age groups (10-14, 15-19 and 20-24) have shown a continuous decline in LFPR over the years. Age group 10-14 is the hard core child labour group and the recent trend from the 2001 census also suggests a setback to efforts of elimination of child labour. While total child labourers (main and marginal) declined from 13.64 million in 1981 to 11.31 million in 1991, it increased to 12.67 million by 2001. At the same time, if we also include the children who are unemployed, total child labour forces increased from 12.86 million in 1991 to 16.35 million in 2001. Clearly, the 1990s have been a decade of setback to elimination of child labour.

This incidentally is also confirmed by the 61st round estimates on labour force which suggest LFPR for the 10-14 age group declining at a slower rate than the previous period. In fact, for urban boys of age 10-14 age-group it actually increases marginally while there is negligible decline for urban girls. In terms of population it implies almost no reduction child labour in the 10-14 age-group in the urban areas. However, even more disturbing is the next age-group of 15-19 age-group where LFPR increase for all categories except for rural males where it declines marginally. This is quite contrary to the trend in the previous sub-period when LFPR in the age-group was declining significantly for all categories. The decline was very sharp for rural areas, but even for urban areas it showed a marked decline in LFPR. The same trend is also carried on to the 20-24 age-group. A break-up of change in labour force (in millions) by age-group is given in table 8. It is clear from the table that the growth of labour force in the 25-59 age-group for males is consistent with their increased share in total population and is on expected lines. However, a large share of the increase is happening in the 5-24 age-group during 1999-2005 which actually saw labour force decline in the previous period, primarily due to increased educational attendance of these age-groups. It is also clear that labour force has increased for the 60 and above population despite the fact that within this group, the share of 65 and above has increased, which generally has very low labour

²⁴ Assuming that age-structure remains same but LFPR and educational attendance changes for 5-25 age group.

force participation rates. But the largest share of the increase is on account of 25-59 age-group females where the increase has been almost four times the increase seen in the previous period.

Table 8
Change in Labour force (in millions)

	Male		Female	
	93-00	99-05	93-00	99-05
	Rural			
5-24	-2.1	3.4	-2.9	1.8
25-59	12.6	14.7	3.5	14.9
60 & Above	0.6	1.6	0.2	1.6
	Urban			
5-24	1.1	3.4	-0.1	1.5
25-59	9.3	10.9	1.1	4.7
60 & Above	0.4	0.5	0.1	0.3
	Total			
5-24	-1.0	6.7	-3.0	3.3
25-59	21.9	25.6	4.6	19.6
60 & Above	1.0	2.1	0.3	1.9

As far as the education and demographic effect are concerned, although driven by economic factors also, these are mainly an outcome of the education and population policy followed by the government. However, changes in LFPR are also possible due to purely economic reason. The most important among these is what is called in literature as 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 the children, adolescents and aged in the population. This is commonly observed in the case of severe calamity such as drought and agrarian distress. But this is purely temporary and once the income of the household increases they tend to pull back their reserve labour force out of labour force. Such a process will also be accompanied by an increase in unemployment rates since not all who enter the labour force in times of distress will be able to find jobs. Such a process for the 50th round is not entirely convincing since the increase in LFPR in the 50th round is also accompanied by decline in unemployment rates substantially. Moreover, since such an increase will normally come through a sharp increase in LFPR for females which is not the case for 50th round, it appears that the change in conceptual framework was at play for the abnormal increase in LFPR for 50th round. For the 61st round, there are no major changes as far as conceptual categories are concerned. The only change in the 61st round is that subsidiary status, which was not properly defined earlier, has now been defined as work performed for at least 30 days. However, it is not very clear as to what impact this would have on LFPR and WPR. At the same time, the 61st round estimates are also in variance to the existing trend in this regard on many other features, most notably increase in self-employment.

For 61st round, the initial reading is strongly in favour of this abnormal increase in employment being distress employment. The increase is larger in the case of females for

all age-groups, old age population and children and adolescents of 10-19 age group. Moreover, it is also accompanied by a sharp increase in unemployment rates for females but not so much for males. However, further details are required to claim the increase in LFPR in the 61st round in rural areas as distress employment. LFPR is an aggregate indicator of persons in the economy participating in the labour market. But how many of them are actually managing to get a job is given by the WPR. The remaining are seeking jobs but not able to get are employed. An increase in employment availability would then show up as an increase in percentage of workers among labour force.

Table 9
Percentage of workers among those in labour force

NSS ROUND	Rural Male				Rural Female			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	98.8		97.0	93.2	99.5		94.5	88.8
32(July'77-June'78)	97.8	98.7	96.4	92.9	94.5	98.0	95.9	90.8
38(Jan -Dec'83)	97.9	98.6	96.3	92.5	98.6	99.3	95.7	91.0
43(July'87-June'88)	97.2	98.2	95.8	95.4 (92.5)	96.5	97.6	95.6	93.2 (91.6)
50(July'93-June'94)	98.0	98.6	96.9	94.4	98.7	99.1	97.1	94.4
55(July'99-June'00)	97.9	98.3	96.1	92.8	98.5	99.0	96.3	93.0
61(July'04-June'05)	97.9	98.4	96.2	92.0	96.9	98.2	95.8	91.3
NSS ROUND	Urban Male				Urban Female			
	PS	PS+SS	CWS	CDS	PS	PS+SS	CWS	CDS
27 (July'72-June'73)	95.2		94.0	92.0	94.0		90.8	86.3
32(July'77-June'78)	93.5	94.6	92.9	90.6	82.2	87.6	89.1	85.5
38(Jan -Dec'83)	94.1	94.9	93.3	90.8	93.1	95.1	92.5	89.0
43(July'87-June'88)	93.9	94.8	93.4	91.2	91.5	93.8	90.8	88.0
50(July'93-June'94)	94.6	95.9	94.8	93.3	91.7	93.9	92.1	89.6
55(July'99-June'00)	95.2	95.5	94.4	92.7	92.9	94.3	92.7	90.6
61(July'04-June'05)	95.6	96.2	94.8	92.5	90.9	93.1	91.0	88.4

Note: Figures in parenthesis for the 43rd round daily status are estimates from unit records

Table 9 gives the percentage of workers out of those in labour force. In terms of labour absorption within the broad category of labour force, the 61st round results are mixed but do not show any substantial improvement in employment availability. By daily status, percentage of those who are working within the labour force has actually come down since 55th round for all sexes and areas. Although not so much for urban males, this appears to be the case even for urban females after increasing secularly since 1972-73 till 55th round. This may partially indicate some distress as far as female urban employment is concerned.

The recent results from the 61st round are worth examining for three main reasons. Firstly, the period between 1999-00 and 2004-05 appears to be the first such period in independent history when workforce and labour force participation rate has increased above the population growth rate. The growth rate of workers by usual status at 2.85% per annum is not only considerably higher than the population growth rate, it is also characterised by significant decline in wage/casual labour with self-employment increasing but also accompanied by significant non-farm diversification. Secondly, this period is also characterised by sharp deceleration in wage rates for both regular as well as casual employees. Thirdly, preliminary trends on MPCE and poverty available from EUS as well as CES suggest a very sharp decline in poverty.

For rural areas, the period between 1999-00 and 2004-05 is characterised by undoubted agrarian crisis. It is also accompanied by significant deceleration in wage rates for both casual and regular workers as shown in table 10 and 11. 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 as self-employed or as wage labourer with very little regular employment. The two things that govern employment in to these occupational categories are the access to land, skills (for regular employment) and the wage rate.

Table 10

Growth rate of real wages (1999-00 prices) for casual workers of age 15-59				
	1993-94 to 1999-00		1999-00 to 2004-05	
	Agriculture	Non-agriculture	Agriculture	Non-agriculture
Male	2.80	3.67	1.38	0.67
Female	2.95	5.13	1.04	1.51
Persons	2.78	4.19	1.31	0.76

Table 11

Growth rate of real wages of regular workers by education status				
	Rural		Urban	
	1993-94 to 1999-00	1999-00 to 2004-05	1993-94 to 1999-00	1999-00 to 2004-05
Not literate	6.18	-1.67	2.63	-1.00
Primary	3.88	-0.57	3.42	-2.20
Secondary	4.33	-0.72	4.37	-1.74
Graduates	6.04	2.00	5.27	1.91
All	5.38	0.56	5.01	0.21

In this context, following issues need explanation: (1) why did self-employment as share of workers increase when the trend in the past has that been of decline in self-employment, (2) why does casual wage-employment decline when there is sharp deceleration in wages during this period, (3) why is the increase in labour force for concentrated in the younger age-groups, elderly and females and (4) why does average consumption expenditure increase and poverty decline faster during this period when wages are showing sharp deceleration. The last point is particularly important, since wages have often been used as a strong proxy for consumption expenditure or income of the poor and past experience suggests that the growth rate of wages is strongly correlated to growth rate of consumption expenditure and reduction of poverty.

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 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 expected lines and the main reason was the much higher dependence on agriculture as source of livelihood for rural population. Since, land is limited, with increasing population pressure and land fragmentation, the share of 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 non-agricultural sector where this can take up the form of self-employment. But most certainly, 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 1999-00, 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, increased absorption of labour force in agriculture as self-employed is not a possible option. Table 12 gives the number of workers by status of employment and industrial affiliation for the last three rounds in rural areas.

Table 12: Number of usual status workers (in millions)

	Rural Male			Rural Female		
	50 th	55 th	61 st	50 th	55 th	61 st
Self-employed in agriculture	85.0	83.1	92.8	52.9	51.0	66.6
Self-employed in non-farm	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	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	12.1	15.7	21.2	3.7	3.2	4.3

The interesting aspect of this table is that the trends are same between 50th round and 61st round 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 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 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 50th and 55th round, it shows a sharp increase between 55th and 61st round. The other trend which departs from the usual trend 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 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 agricultural sector is concerned, the last five years have been years of undoubted agrarian crisis. At the same time, prices of agricultural commodities have grown slower than non-agricultural commodities, while input costs have been increasing during the same period. This has affected all class of households but more so the cultivators especially the middle and small peasants but also the large landowners. The partial literature available on the agrarian crisis also suggests that the class of households which has been affected largely is the middle and large landowners. For the marginal and tiny land holding households, agriculture is mostly subsistence with very little marketed. For the landless, engaging in agriculture is mostly as agricultural labourers. One possible strategy adopted by the cultivator households in the face of increasing cost of cultivation

and falling agricultural product prices is to cut back on hired labour. This strategy is not only employed by the 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 these with aggressively employing the 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 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 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 happening during 1999-2005. As shown in the table 13 and 14, the percentage of households with single male earning member decreases during this period and is accompanied by increase in households with multiple members working. The situation during 1993-2000 was reverse of this trend.

The need to supplement household income as a result of falling agricultural product prices and rising input costs would affect all class of rural households. But the strategy adopted by different class of households to overcome this would differ. For the landless and tiny cultivators, the option of indulging in self-employment in agricultural 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 pushed out workers from agriculture would then move into non-farm employment as self-employed workers.

But 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 is highest ever seen in the last thirty years for the agricultural labour households who are the most vulnerable. This increase will also be reflected more for the supplementary workforce such as women, children and elderly who are moving into the labour force in search of job. The evidence from the 61st round suggests this to be happening and unemployment rates are increasing for females, elderly and children in rural areas. On the other hand, for males there is no such increase observed except in 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 declines between 55th round and 61st round.

Table 13

Number of usual status workers (15 years & above) in the households with at least 1 member of age 15 years and above in Rural areas						
Consumption expenditure class	No worker		At least 1 worker			
	nor any member employed	with at least 1 unemployed	only 1 male worker	only 1 female worker	only 1 male and 1 female worker	other
1993-94						
Lowest 5%	45	0	191	73	368	323
Next 5%	27	0	198	48	366	361
Next 10%	28	1	214	47	331	379
Next 10%	22	1	216	43	319	398
Next 10%	26	0	230	49	304	390
Next 10%	23	1	237	43	304	392
Next 10%	25	1	257	47	282	389
Next 10%	24	1	263	48	268	396
Next 10%	31	2	293	49	264	361
Next 10%	36	1	304	53	261	345
Next 5%	33	3	336	60	261	308
Highest 5%	49	2	391	57	224	277
ALL CLASSES	30	1	263	50	290	366
1999-00						
Lowest 5%	59	1	189	49	364	338
Next 5%	31	1	200	50	335	383
Next 10%	27	1	245	38	324	366
Next 10%	33	2	233	48	315	370
Next 10%	29	1	259	43	288	380
Next 10%	35	1	277	45	270	373
Next 10%	36	1	264	45	273	381
Next 10%	45	3	282	49	254	367
Next 10%	47	2	299	56	247	350
Next 10%	65	3	339	55	239	300
Next 5%	69	3	388	57	200	283
Highest 5%	87	3	433	66	184	227
ALL CLASSES	44	2	277	49	278	351
2004-05						
Lowest 5%	55	0	132	56	320	436
Next 5%	33	1	150	37	324	456
Next 10%	33	2	138	30	317	480
Next 10%	33	2	152	35	309	470
Next 10%	30	2	161	31	301	474
Next 10%	27	2	164	39	299	469
Next 10%	28	1	184	39	293	455
Next 10%	37	2	203	44	280	435
Next 10%	42	2	216	48	273	419
Next 10%	54	2	233	56	249	405
Next 5%	54	4	272	52	227	391
Highest 5%	102	5	325	65	196	308
ALL CLASSES	42	2	198	44	280	435

Table 14

Number of usual status workers (15 years & above) in the households with at least 1 member of age 15 years and above in Urban areas						
Consumption expenditure class	No worker		At least 1 worker			
	nor any member employed	with at least 1 unemployed	only 1 male worker	only 1 female worker	only 1 male and 1 female worker	other
1993-94						
Lowest 5%	129	8	283	60	213	307
Next 5%	62	1	345	62	201	329
Next 10%	51	9	370	34	201	335
Next 10%	51	5	426	33	175	310
Next 10%	52	5	453	38	145	307
Next 10%	59	7	474	33	131	296
Next 10%	62	7	509	31	119	272
Next 10%	76	7	504	30	117	266
Next 10%	82	7	563	35	101	212
Next 10%	77	6	603	33	104	176
Next 5%	127	7	576	31	103	157
Highest 5%	140	4	571	46	124	114
ALL CLASSES	77	6	495	36	135	250
1999-00						
Lowest 5%	72	2	360	48	195	323
Next 5%	71	3	390	49	174	313
Next 10%	45	5	404	35	165	346
Next 10%	46	6	437	32	158	322
Next 10%	42	7	484	33	131	302
Next 10%	41	4	500	30	128	296
Next 10%	64	9	529	32	101	266
Next 10%	61	12	567	32	92	236
Next 10%	74	8	608	31	98	182
Next 10%	93	8	610	38	104	148
Next 5%	116	9	560	40	129	147
Highest 5%	153	9	541	55	136	107
ALL CLASSES	69	7	509	36	129	250
2004-05						
Lowest 5%	70	4	306	47	190	383
Next 5%	20	5	317	37	202	420
Next 10%	31	3	328	34	183	421
Next 10%	30	2	348	34	163	423
Next 10%	31	7	401	38	156	367
Next 10%	39	10	451	31	147	323
Next 10%	48	9	455	34	142	312
Next 10%	67	5	488	28	128	284
Next 10%	70	9	537	28	116	240
Next 10%	88	9	545	32	114	212
Next 5%	132	17	505	34	135	176
Highest 5%	212	8	450	50	140	140
ALL CLASSES	70	8	448	34	144	296

In other words, the most recent period appears to be the classic example of feminisation of workforce with females moving into self-employment in low-productivity agriculture while the males move to non-farm employment outside the home boundary. A clear sign of distress is also the fact that males ensure some employment and hence their unemployment rates decline while females look for alternative income and employment to supplement household income. However, table 13 and 14 also present interesting evidence, which is the fact that increases in multiple working member households, is not restricted to lower quintiles alone. It is happening across all class of households and even faster in the case of upper quintiles. This is also confirmed by looking at the other set of indicators, that is, work participation rates by land ownership in rural areas. The first set of indicators in this regard is the work participation rate for males and females by size class of land owned. This is given in table 15.

Table 15
Work Participation rate by size class of land owned

Land owned (in Hectares)	1993-94			1999-00			2004-05		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Landless	53.3	32.1	42.9	50.9	28.0	39.9	56.2	22.3	40.5
0.01 to 0.40	53.8	31.2	42.7	51.7	28.1	40.0	53.2	25.5	39.5
0.41 to 1.00	56.2	34.2	45.6	54.0	30.7	42.7	55.5	33.9	45.0
1.01 to 2.00	56.2	32.7	45.0	55.7	32.2	44.3	57.1	35.0	46.3
2.01 to 4.00	57.5	34.5	46.6	55.6	32.8	44.6	56.5	36.4	47.0
4.00 and above	57.6	35.7	47.2	55.5	32.1	44.2	57.5	36.3	47.3

According to distribution of WPR by size class of land owned, male WPR as well as female WPR was coming down in all size class of households during 1993-2000. This trend is reversed for all size class of males during 1999-2005, but inversely related to size class of land owned. For females, however, the trend continues for the land less as well as tiny land holding class but is reversed for more than 0.41 hectare (1 acre) class with faster increase for the higher land size class. Quite understandably, there is very little to add from the family reserve labour force when the land size owned is less than 1 acre. While for the higher land size class, women can comfortably be moved into agricultural work on self-farms while the men move into non-farm employment. The second set of indicators is the distribution of the workers by industrial affiliation. This is given in table 16.

Table 16
Percentage of workers employed in agriculture

Land owned (in Hectares)	1993-94		1999-00		2004-05	
	Male	Female	Male	Female	Male	Female
Landless	55.1	75.5	50.5	74.2	37.6	62.8
0.01 to 0.40	59.9	77.3	60.2	79.2	53.5	75.0
0.41 to 1.00	80.6	90.3	80.9	91.1	76.1	89.9
1.01 to 2.00	86.7	93.8	86.2	93.7	83.7	93.3
2.01 to 4.00	89.8	95.9	88.2	96.2	86.7	95.0
4.00 and above	90.8	96.4	89.8	96.6	87.2	95.7

The percentage of workers in agriculture declined between 1993-94 and 1999-00 for the landless households as well as households with land holding above 1 hectare. For the households with tiny and marginal holdings there was actually an increase in percentage of workers in agricultural employment. The period between 1999-00 and 2004-05 saw the same trend continue for the 1 hectare and above land owning households with slow shift towards non-farm employment. But the decline in agricultural employment for the landless in this period was much faster than the previous period. At the same time, the tiny and marginal land owning class (less than 1 hectare) which did not witness any non-farm diversification in the previous period also saw significant non-farm diversification during this period. These land owning classes which comprise almost 50% of the total households were the ones which saw a mass exodus out of agriculture because agriculture was no more a viable source of livelihood.

Finally, the last set of indicators by size of land owned is the distribution of workers by status of employment. This is given in table 17

Table 17
Percentage of workers self-employed

Land owned (in Hectares)	1993-94		1999-00		2004-05	
	Male	Female	Male	Female	Male	Female
Landless	22.9	19.4	24.3	22.8	27.1	35.3
0.01 to 0.40	33.8	38.8	34.6	40.3	38.3	45.2
0.41 to 1.00	65.9	65.7	67.1	65.2	70.6	73.2
1.01 to 2.00	81.1	79.8	81.5	79.7	82.7	84.6
2.01 to 4.00	88.7	89.9	88.5	89.9	89.5	91.9
4.00 and above	92.3	95.6	92.1	96.2	90.7	96.1

Here again movement into self-employment has been steady and gradual for males during 1993-94 to 2004-05 with no major change between the two periods. But for females, the move into self-employment has increased considerably during the later period. This is particularly true for the land owning class less than 1.00 hectares. For the highest land owning class self-employment has tended to decline with a minor increase in regular employment and that trend is consistent between the two periods.

To summarise, the most recent period has seen a departure of the earlier trend of increasing casualisation and declining self-employment. This has mainly been on account of the change in structure of agricultural workforce whereas the trend in non-farm employment has continued to be the one of increasing casualisation of the workforce. Moreover, the rate of growth of agricultural workforce has not shown any significant increase for rural males but shows a sharp increase for rural females. The changes in the agricultural workforce appear to be driven by the agrarian crisis which has affected all classes of households but with different coping strategies. For the land owning class of less than 1 hectare, it appears to be the case that both males and females have moved into non-farm employment in a big way which is primarily in self-employment. On the other hand, for the middle and large farmers owning more than 1 hectare, the strategy has been to push their reserve labour force into agriculture while the men have moved to non-farm employment, primarily regular employment.

Rural Non-farm sector

As has been shown earlier, 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 and employment status is given below in table 18. This information is presented for only those two digit industry classifications where the employment in rural areas is sizeable. Of 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, 5 million as casual employment and remaining 3 million as regular employment. 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 casual employment increase of 5 million is concerned, this is almost entirely due to the 5 million increases in casual employment in construction after netting out changes in other industry groups. Casual employment in other services declined by almost 0.89 million but was compensated by an equivalent increase in manufacturing (0.65 million) and mining (0.24 million). Within mining it is clearly the stone quarrying and other small mining activities. Within manufacturing again, a large part was increase in industry code 26 (manufacture of other non-metallic products).

Of the three million increase in regular employment, trade and hotels accounted for 0.96 million, manufacturing 0.67 million, transport and communications 0.53 million and personal services accounted for 0.5 million. Within manufacturing, almost a third of the increase in regular employment was contributed by industry code 16 (manufacture of tobacco products). Almost two third of the increase in trade and hotels was accounted for by retail trade and repair group (industry code 52). Similarly, in the transport and communications sub-group, almost 90% of the increase in regular employment was in industry code 60 (Land transport), most probably as drivers, conductors and so on. Finally, within personal services group, more than 90% of the increase is attributable to three industry groups, education (code 80), health and social work (code 85) and private households with employed persons (95). This is despite the fact that public administration and defence shed almost a million jobs during the same period.

However, the largest increase among rural non-farm employment is due to the increase in 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 by activity codes 20, 36, 51, 55, 64, 80 and 85. Activity codes 64 is the post and communications industry groups, where the bulk of increase in self-employed has been in the form of STD/PCO booths. 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.

Further break-up of the non-farm sector workers also confirms greater informalisation of workforce during 1999-2005. Table 19 presents the percentage of informal sector workers among total workers in non-farm sector by status of employment. Table 20 presents the percentage share of informal sector workers by disaggregated industry type for rural areas.

Table 18
Change in number of Principal status workers (in '000) by NIC codes and activity status between 1999-00 and 2004-05 for rural areas

NIC codes	Rural Male				Rural Female				Rural Person			
	CAS	REG	SE	Total	CAS	REG	SE	Total	CAS	REG	SE	Total
14	157	10	8	174	63	0	-18	45	220	9	-10	219
Mining	175	38	7	220	61	15	-18	58	236	53	-11	278
15	-35	-9	-133	-176	51	27	-129	-50	17	19	-262	-226
16	7	116	53	176	13	108	-43	78	20	223	10	254
17	-20	-110	-69	-199	79	-4	202	278	60	-114	133	79
18	33	125	925	1083	19	1	602	623	52	126	1527	1705
20	-75	5	135	65	20	-8	298	309	-55	-3	433	375
26	380	36	64	479	119	18	14	151	499	54	78	630
28	-44	-23	110	43	2	-6	-23	-28	-42	-29	87	15
36	86	68	160	314	20	16	42	77	106	84	201	392
Manufacturing	296	507	1201	2004	352	161	979	1491	648	668	2180	3495
Utilities	-29	25	14	9	0	4	0	4	-30	29	14	13
Construction	4491	92	834	5417	546	3	-13	536	5037	95	821	5953
50	-50	142	131	223	-6	10	4	8	-56	152	135	231
51	151	69	382	602	-15	2	26	12	136	71	407	614
52	-129	594	1735	2200	-1	14	511	524	-130	608	2246	2724
55	12	108	241	361	-8	26	84	102	4	134	325	463
Trade and hotels	-16	913	2488	3385	-30	52	625	647	-46	964	3113	4032
60	96	561	970	1627	25	-11	8	21	121	549	978	1648
64	1	-20	157	139	8	55	13	76	9	35	171	215
Transport & communications	60	485	1127	1672	36	41	21	98	96	526	1148	1770
65	9	66	33	108	0	-1	4	3	9	65	37	111
74	-26	46	111	131	-3	12	4	12	-29	57	114	143
Real estate and finance	5	118	380	502	-3	10	26	32	1	128	406	535
75	-82	-878	-5	-965	-2	-90	-2	-94	-84	-969	-7	-1059
80	19	175	108	302	4	676	43	723	24	851	151	1025
85	9	130	109	247	8	98	47	152	17	227	155	399
90	-1	4	3	6	-30	-35	15	-50	-31	-31	18	-43
91	12	73	124	209	-10	1	31	23	2	74	155	232
92	2	23	55	81	-8	0	21	13	-5	23	76	93
93	-993	-20	-35	-1048	-464	11	-246	-700	-1458	-9	-281	-1748
95	337	58	0	394	311	271	0	582	648	329	0	976
Personal services	-696	-437	360	-773	-191	932	-92	649	-887	496	267	-124
Total	4286	1741	6410	12437	770	1218	1527	3516	5055	2959	7937	15951

Note: NIC codes:14-Other mining and quarrying, 15-Manufacture of food products, 16-Manufacture of tobacco products, 17-Manufacture of textiles, 18-Manufacture of wearing apparel, 20-Manufacture of wood products, 26-Manufacture of other non-metallic mineral products, 28-Manufacture of fabricated metal products, 36-Manufacture of furniture and manufacturing NEC, 50-Sale and repair of automotive, 51-Wholesale trade, 52-Retail trade and repair, 55-Hotels and restaurants, 60-Land transport, 64-Post and telecommunications, 65-Financial intermediation, 74-Other business activities, 75-Public administration and defence, 80-Education, 85-Health and Social work, 90-Sewage and sanitation, 91-Activities of membership organisations, 92-Recreational, cultural and sport, 93-Other services, 95-Private households with employed persons; CAS-Casual, REG-Regular, SE-Self-employed

The definition of informal sector worker in these tables is the same as suggested by NSSO²⁵. The striking point from table 19 is the fact that informalisation of 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 non-farm sector is almost entirely informal sector employment and this has increased from 91 % in 1999-00 to 95.4% in 2004-05. Almost 97% of all female workers self-employed in non-farm sector are in informal sector.

Table 19
Usual status non-farm workers in informal sector

	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Percentage of total usual status non-farm workers						
Self-employed	90.7	92.1	91.1	95.0	96.6	95.4
Regular	33.6	28.4	32.8	44.0	25.8	40.5
Casual	69.8	63.7	68.7	80.5	73.8	79.4
Total	69.5	75.0	70.7	78.1	77.1	77.9
Absolute number of informal non-farm sector workers (in millions)						
Self-employed	23.6	8.8	32.4	32.7	12.0	44.6
Regular	5.1	0.7	5.8	7.8	1.1	8.8
Casual	11.0	2.0	13.0	17.1	3.2	20.2
Total	39.5	11.6	51.0	57.2	16.0	73.3

Moreover, the pace of informalisation of workforce has been very fast for regular employment also, particularly for rural males, although it has declined for rural females. It is also very clear that the net increase in informal sector workers has been larger than the total increase in non-farm workers by each activity status, except for rural females in regular employment. That is, the increase during 1999-05 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 1999-00, some have moved away from the formal sector to informal sector during this period.

Table 20 also confirms that the pace of informalisation has been greatest in those industry groups which have seen the highest increase in workforce between 1999-00 and

²⁵ *Informal employment* comprises jobs held by:

- Own-account workers and employers who have their own informal sector enterprises;
- Contributing family workers, irrespective of whether they work in formal or informal sector enterprises;
- Employees who have informal jobs (Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.). casual jobs or jobs of a limited short duration; jobs with hours of work or wages below a specified threshold (e.g. for social security contributions); employment by unincorporated enterprises or by persons in households; jobs where the employee's place of work is outside the premises of the employer's enterprise (e.g. outworkers without employment contract); or jobs, for which labour regulations are not applied, not enforced, or not complied with for any other reason.) whether employed by formal sector enterprises, informal sector enterprises, or as paid domestic workers by households;
- Members of informal producers' cooperatives; and
- Persons engaged in the own-account production of goods exclusively for own final use by their household, such as subsistence farming or do-it-yourself construction of own dwellings.

2004-05. By 2004-05, 94% of all workers in trade and repair and hotels industry group are informal sector workers. Other industry groups which have seen high rate of informalisation are manufacturing and community and social services. In almost all industry groups, the rate of informalisation has been faster for males than for females.

Table 20
Percentage of informal sector workers among usual status non-farm workers

	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Mining	65.6	73.2	67.2	71.9	79.8	73.6
Manufacturing	78.7	87.6	81.9	85.9	91.6	88.1
Electricity, Gas & Water Supply	9.3	2.5	9.2	8.7	11.2	8.8
Construction	69.7	51.9	67.7	80.0	71.8	79.1
Trade and Repair	89.0	89.6	89.1	93.7	95.7	93.9
Hotels and Restaurants	86.7	87.8	87.0	94.0	93.3	93.9
Transport & Communications	71.7	51.4	71.5	83.0	67.1	82.6
Financial Intermediation	23.8	29.1	24.3	28.4	48.6	30.2
Real Estate and Business	75.3	67.5	75.0	86.9	78.5	86.4
Education	18.7	24.8	20.4	26.7	28.5	27.4
Health and Social Work	53.1	18.3	42.0	60.1	36.4	52.0
Community, Social & Personal	74.1	78.1	75.3	85.3	93.2	87.0
Total	69.5	75.0	70.7	78.1	77.1	77.9

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 employment in manufacturing, retail trade, hotels, transport and communications is the increase in informal sector workers in these industry groups. That is, apart from the incremental workforce entirely being absorbed in informal sector, even the existing workers in 1999-00 in these sectors are moving away from formal employment to informal sector employment. Further evidence on 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 effect of distress employment with employment quality deteriorating in almost all categories of workers.

Urban Employment

The story in urban India is also similar with much of the growth being accounted for by self-employed for both males and females. Absolute number of workers in urban areas by industry and status of employment is given in table 21. For males, a large part of the increase is accounted for by manufacturing but the rate of growth of employment in trade and hotels seems to have declined. Manufacturing also accounts for a large part of increase in female employment along with other services. Similar to males, trade and hotels which were the prime movers during 1993-2000 have lost their status with absolute number of females workers in this sector declining. In fact, for both males and females, manufacturing employment which was declining in terms of share of total employment till 1999-00 has shown an increase while tertiary sector employment which was rising till then shows a decline. By status of employment, it is clear that the much of

the growth is accounted for by self-employment which was growing slower in the previous period.

Table 21
Number of workers by usual status (in millions)

	Urban Male			Urban Female		
	1993-94	1999-00	2004-05	1993-94	1999-00	2004-05
By Industry						
agriculture	5.8	5.0	5.5	4.3	3.2	4.5
mining	0.8	0.7	0.8	0.1	0.1	0.0
manufacturing	15.2	16.9	21.2	4.1	4.4	6.9
electricity, water	0.8	0.6	0.7	0.1	0.0	0.0
construction	4.5	6.6	8.3	0.7	0.9	0.9
trade, hotel	14.1	22.2	25.3	1.7	3.1	3.0
transport, storage	6.3	7.8	9.7	0.2	0.3	0.3
other services	17.0	15.8	18.8	6.0	6.2	8.8
total non-farm	58.7	70.6	84.9	13.0	15.0	20.2
By status of employment						
Self-employed	26.9	31.3	40.5	7.9	8.2	11.7
Regular	27.1	31.4	36.7	4.9	6.1	8.8
Casual	10.5	12.7	13.2	4.4	3.9	4.1
Total	64.6	75.4	90.4	17.2	18.2	24.6

Table 22 further disaggregates the employment in urban areas by 2 digit industry classification by status and gender. For the sake of brevity, only those industries are presented here where their employment share is significant. By principal status, urban workforce increased by 16.1 million with male workforce increasing by 12.8 million and female workforce increasing by 3.3 million. Disaggregated analysis by 2 digit industry groups suggests that manufacturing of textiles was the largest component of the total increase in manufacturing accounting for more than 50% of the total increase in this sector. The trend for other industry groups is similar to rural areas with land transport, construction, retail trade being the main sector for employment growth in urban areas. For females, employment in private households accounted for almost 50% of the total incremental employment. Since employment increase in urban areas has been mainly as self-employment it is important to see which sectors have contributed to this growth. In fact, three industry groups, manufacture of wearing apparel, retail trade, construction and land transport together account for almost 50% of total increase in self-employed workers. But again similar to the case in rural areas, bulk of this employment is in informal sector and the pace of informalisation seems to have increased between 1999-00 and 2004-05 for both males and females in urban areas as shown in table 23. Similar to what was seen in the case of rural workers, percentage of informal sector workers have increased in urban areas also except for regular female workers. Also, percentage of informal sector workers in urban areas is higher than in rural areas. 97% of males and females in urban areas employed as self-employed are in informal sector. Moreover, the growth of informal sector workers for urban males accounts for more than the entire increase in urban male workforce.

Table 22
Change in number of Principal status workers (in '000) by NIC codes and activity
status between 1999-00 and 2004-05 for urban areas

NIC codes	Urban Male				Urban Female				Urban Persons			
	CAS	REG	SE	Total	CAS	REG	SE	Total	CAS	REG	SE	Total
17	78	686	236	999	34	-12	304	326	112	674	540	1326
18	96	772	694	1562	25	65	651	741	121	837	1345	2304
19	-28	215	23	210	-14	79	46	111	-42	293	69	321
26	179	45	-53	171	28	7	3	38	207	52	-50	208
28	107	116	73	296	-10	23	29	42	97	139	102	338
29	31	32	28	90	-5	25	-4	17	27	57	24	108
34	12	184	34	230	14	-4	0	9	26	179	34	240
36	62	414	308	784	-24	25	38	39	38	439	346	823
Manufacturing	477	2141	1448	4066	130	254	950	1334	606	2396	2398	5400
Utilities	9	103	2	114	3	13	0	16	12	116	2	130
Construction	1066	-43	613	1636	-2	20	1	19	1064	-23	614	1655
50	-4	62	274	332	8	24	3	35	4	86	278	367
51	-5	357	771	1123	23	-17	30	35	18	339	800	1158
52	-512	-226	1426	688	-103	5	-176	-273	-615	-221	1250	414
55	80	281	280	640	15	34	100	150	95	315	380	790
Trade and Hotels	-441	474	2750	2782	-57	46	-42	-54	-499	520	2708	2729
60	-217	313	1150	1246	1	-13	0	-12	-216	300	1151	1234
64	13	290	110	413	0	-3	23	20	13	287	133	433
Transport & Communications	-243	576	1311	1644	-5	-22	22	-5	-248	554	1334	1639
Financial Intermediation	3	271	198	472	0	98	11	109	4	369	209	582
70	0	84	172	256	1	34	-1	34	1	118	171	290
72	1	307	121	429	0	108	2	110	1	415	124	539
74	36	262	355	653	2	37	16	56	38	299	372	709
Real estate & business	63	677	685	1425	2	180	14	196	65	857	700	1621
75	-44	-705	7	-742	0	19	1	19	-44	-686	8	-723
80	-15	680	75	740	2	418	114	535	-13	1099	189	1275
85	-14	108	107	201	18	130	16	164	4	238	123	365
Other services	-383	197	463	277	-679	28	77	-574	-1063	225	540	-298
95	120	103	0	223	446	1111	0	1557	566	1214	0	1780
Total	571	4584	7685	12839	-156	2292	1163	3298	414	6876	8848	16138

Note: NIC codes: 17-Manufacture of textiles, 18-Manufacture of wearing apparel, 19-Tanning, manufacture of leather products, 26-Manufacture of other non-metallic mineral products, 28-Manufacture of fabricated metal products, 29-Manufacture of machinery and equipment, 34-Manufacture of motor vehicles, 36-Manufacture of furniture and manufacturing NEC, 50-Sale and repair of automotive, 51-Wholesale trade, 52-Retail trade and repair, 55-Hotels and restaurants, 60-Land transport, 64-Post and telecommunications, 70-Real estate activities, 72-computer and related activities, 74-Other business activities, 75-Public administration and defence, 80-Education, 85-Health and Social work, 95-Private households with employed persons; CAS-Casual, REG-Regular, SE-Self-employed

That is, similar to their rural counterparts, not only is the entire increase in urban workforce is in informal sector, it also appears that some formal sector workers in 1999-00 have now moved into 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 1999-00 was in informal sector employment in 2004-05. On the other hand, for females, the increase in informal sector workers is mainly in the self-employed category.

Table 23: Usual status non-farm workers in informal sector in urban areas

	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Percentage of total usual status non-farm workers						
Self-employed	95.1	92.8	94.7	97.3	96.8	97.2
Regular	40.2	40.8	40.3	46.5	27.8	42.9
Casual	74.0	72.1	73.7	85.2	68.9	82.3
Total	67.5	68.7	67.7	73.7	63.5	71.7
Absolute number of informal non-farm sector workers (in millions)						
Self-employed	29.8	7.7	37.4	39.4	11.4	50.8
Regular	12.6	2.5	15.1	17.1	2.4	19.5
Casual	9.4	2.8	12.2	11.2	2.8	14.1
Total	51.8	12.9	64.7	67.7	16.6	84.4

Similar trend is observed by looking at the percentage of informal sector workers by industry division. That is, informalisation has increased for almost all industry groups except for mining and real estate and business. Secondly, in trade and repair and hotels and restaurants category which employs bulk of the urban workers, 95% of all workers are now in informal sector compared to less than 90% in 1999-00. The pace of informalisation has been very high for manufacturing, construction transport and communications and community social and personal services other than the two mentioned above.

Table 24

Percentage of informal sector workers among usual status non-farm workers (urban)

	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Mining	26.6	40	27.8	24.7	43	25.7
Manufacturing	69.8	85.9	73.2	77.9	90.4	81
Electricity, Gas & Water Supply	6	4.1	5.9	9.4	1.1	8.8
Construction	75.3	63.6	73.9	87	88.7	87.2
Trade and Repair	89.2	84.4	88.6	95.2	92.2	94.9
Hotels and Restaurants	89.9	89.6	89.9	94.1	96.4	94.5
Transport & Communications	65.7	41.9	64.7	73.6	48.3	72.8
Financial Intermediation	21.8	18.1	21.2	28.8	17.8	27
Real Estate and Business	79.7	73.5	79.1	77.6	64.3	76.1
Education	32.4	38.9	35.5	32.3	41.2	36.6
Health and Social Work	45.2	34.8	41.2	54.4	42.3	49.5
Community, Social & Personal	74.5	79.8	76.4	81.4	89.6	83.4
Total	67.4	68.5	67.6	73.7	63.5	71.7

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, total employment increase for 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 1999-05.

Employment and earnings from other sources

Employment in factory sector by sector is now available from ASI for 2004-05. Since 1999-00, NSSO has also attempted to include some aspects of employment in its questionnaire. These questions are available on type of enterprise, number of workers in enterprise and whether the enterprise uses electricity or not along with other questions on nature of job contract and availability of paid leave and social security. Using these tabulations from the NSSO, it is possible to do a cross-check on ASI data which is also available by rural urban break-up. Some of the findings from the ASI for 1999-00 and 2004-05 are reported below.

Table 25
ASI estimate of Factory Sector

	1999-00	2004-05	1999-00	2004-05	Change (1999-05)	
	Rural		Urban		Rural	Urban
Factories	46043	53123	85516	83230	7080	-2286
Workers (in '000)	2350.0	2716.3	3930616	3882956	366.3	-47660
Total Persons Engaged (in '000)	2999.5	3417.5	5173333	5036110	418.0	-137223
Daily wage (in Rs)	100.4	117.6	135.9	155.0	17.2	19.16
NVA/Worker (in Lakh)	2.5	4.0	2.5	3.9	1.5	1.42

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. Using the same criterion, the number of regular workers in rural areas by NSS for 1999-00 is 1.96 million and 2.35 million for 2004-05. The net increase in workers by NSS is 393 thousand as compared to 366.3 thousand in ASI. There is also close similarity between the wage estimates reported by NSS for regular workers and ASI for both these years. In other words, despite NVA/worker increasing substantially, in real terms wages of regular workers in these industries has declined. These figures also confirm the fact that, of the 0.7 million increases in regular employment in industries of the ASI sector, almost half of them are not in factory sector but are in enterprises of less than 10 employees or in informal sector.

However, the picture in the urban sector is different with not only the total number of factories declining but also the number of workers declining between 1999-00 and 2004-05. At the same time, the rate of growth of rural wages is also higher than the rate of growth of urban wages. However, this is not confirmed by the NSS estimates which suggest that workers in factory sector using ASI definition increased by around 1.9 million during 1999-00 and 2004-05. On the other hand, wages rate from NSS do confirm that rural wages have grown faster than urban wages, even though both have seen sharp deceleration.

ASI data also shows that the growth rate of wages is almost similar to what is seen from the NSS, despite the fact that NVA per workers has increased substantially in both rural and urban areas. Further disaggregation also shows that this has also accompanied by an increasing share of managerial compensations and profits as ratio of net value added. Profits as percentage of net value added increased from 23% in 1981-82 to around 31-32% for most of the 1990s, but jumped substantially to more than 56% by 2004-05.

Table 26

	Wages per worker	Managerial emoluments	Wages per manday worked	Wages/NVA	Profits/NVA
1981-82	19.72	39.05	26.06	0.47	0.23
1993-94	72.69	145.76	86.03	0.32	0.32
1999-00	114.74	311.87	138.15	0.31	0.31
2004-05	139.64	472.56	168.58	0.25	0.56

This pattern of employment is also confirmed more or less by the recent estimates of Economic census. According to these, That is, enterprises grew by 5.53% in rural areas and 3.71% in urban areas while employment grew by 3.33% in rural areas and 1.68% in urban areas. By 2005, share of rural areas in enterprises had also grown along with share in total employment. However, the growth of employment was not due to increased employment intensity of the existing enterprises (which actually declined in both rural areas and urban areas) but largely due to increase in number of enterprises itself. The decline in employment intensity of existing enterprises was marginally higher in urban areas than in rural areas.

Table 27

	EC2005			EC1998		
	Rural	Urban	Total	Rural	Urban	Total
Number of enterprises (in million)	25.8	16.3	42.1	17.7	12.6	30.4
% share	61.3	38.7	100	58.3	41.7	100
Employment (in million)	50.2	48.8	99.0	39.9	43.4	83.3
% share	50.7	49.3	100	47.9	52.1	100

Estimates of organised employment from DGET on the other hand suggest that total organised employment has continued to decline over the period 1999-2005. This is in fact very similar to estimates obtained from the NSSO which again suggest decline in formal sector employment, at least in rural areas. Some basic estimates from the DGET data is provided in table 28. While total organised employment has declined by 1.63 million during this period, the decline in secondary and tertiary sectors has been greater with total employment in agriculture and mining increasing during the same period. Employment in organised sector has declined all industrial categories except for trade and hotels and real estate and business. The data also shows that the decline is not restricted to public sector alone but also in private sector. This is despite the fact that the smaller establishments in the private sector have added some workers.

Table 28
Employment in millions

		1999	2005
Public		19.36	18.00
Private		8.73	8.45
	Larger establishments	7.79	7.49
	smaller establishments	0.94	0.96
Agriculture		1.39	1.48
mining		1.01	1.09
manufacturing		6.74	5.62
electricity		1.00	0.9
construction		1.18	0.96
trade and hotels		0.49	0.56
transport and communications		3.1	2.84
real estate and business		1.66	1.93
community social and personal		11.5	11.07
Total		28.09	26.46
Number of establishments			
Public		169971	172337
Private		114998	121430
	Larger establishments	54122	55079
	Smaller establishments	60876	66351
Average no. of workers/establishment			
Public		114	104
Private		76	70
	Larger establishments	144	136
	Smaller establishments	15	14

Moreover, during the same period, number of establishments increased in public sector as well as private sector, particularly the larger establishments. That is, the decline in total organised employment is not due to decline in number of establishments but is mainly a result of existing establishments shedding workforce. Average number of workers per establishment declined from 114 in 1999 to 104 in 2005 for public sector and from 76 to 70 in private sector. However, for the private sector the decline was mainly in the case of larger enterprises whose employment per establishment declined from 144 to 136 only.

Summary

To summarise the trends in employment during 1999-05:

1. The trends in employment between 1999-00 and 2004-05 are fully consistent with the trend being thrown by the annual rounds as well as compared to the 50th round. That is, there is no statistical anomaly that renders it non-comparable to the previous rounds and hence the doubts raised by UR as well as ST do not appear convincing.
2. The high rate of growth of employment between 1999-00 and 2004-05 can not be fully explained by emphasising the demographic age-structure change alone. While there have

been age-structure changes leading to an increase in 15-59 age-group population, these alone are insufficient to explain the increase in workforce by 2.85% per annum.

3. A closer look at the WPR by age group suggests that the growth rate of workforce in the 20-59 age groups for males is along expected lines with the increase primarily a result of the increasing share of this group in total population. However, the growth rate of WPR increases drastically for females for all age group, children and adolescents in the age-group of 10-19 and elderly population. In fact, more than 90% of the total increase in workforce during 1999-05 is accounted for by these three groups alone.

4. There is a clear evidence of the fact that there has been setbacks to elimination of child labour during this period so far as the 10-14 age group is concerned. But even more worrisome is the trend in the 15-19 age group where WPR has increased after decline in all the previous rounds. This period is clearly characterised by the increasing number of 'push-outs' from the education system. This is true for both rural and urban areas, but is more prominent in urban areas and girls.

5. Since, children, adolescents, women and elderly are part of the family reserve labour force which are pushed out when the family income falls below a certain reservation level of living, there is strong evidence of the increase in workforce being a distress workforce.

6. A typical case during distress is also the fact that the primary earning member of the household can not afford to remain unemployed and hence their unemployment rates will fall or at the least not increase. At the same time, since a large number of reserve labour force enters labour market it is also accompanied by increasing unemployment rate for these groups. The evidence in this regard supports this. Male unemployment rates have come down, while unemployment rates for females, children, adolescents and elderly have gone up.

7. The trends during 1999-05 are exactly opposite of the trend seen as far as status of employment is concerned. This period shows a sharp fall in wage employment and consequent increase in self-employment. Further break-up by industry suggests that this is entirely due to the changes in agricultural sector with the trends in non-farm sector following the earlier trend. Self-employed in non-farm has also increase during this period, but it is a continuation of the earlier trend in rural areas. Moreover, 75% of all the increase in self-employed in non-farm sector is accounted for by males.

8. For agricultural sector, while self-employment has increased for both males and females, it accounts for more than 90% of total increase in female employment in rural areas. Also females account for more than 60% of the total increase in self-employed in agriculture in rural areas.

9. Break-up by MPCE fractiles suggests that the percentage of multiple members working households has increased during this period while the trend was reverse in the earlier period. However, it also shows up the fact that this trend is happening across all fractiles of households.

10. Further break-up of employment characteristics by size class of land owned suggests the following: while male WPR was coming down for all size class of households during 1993-00, it is increasing during 1999-05. At the same time, it also comes out that the increase is much faster for land holdings less than 1 acre. Since these households account for more than three-fourth of the total households, total WPR for males also increase compared to the previous period when it was declining. It is also evident that the diversification in non-farm employment is inversely related to the size class of land owned. There was no such trend in the previous period with almost no non-farm

diversification for households owning less than 1 acre of land. The trend for status of employment is also similar with greater self-employment increase for lower size class of land owned.

11. For females, the increase in WPR is entirely in the households owning more than 1 acre land with WPR for households owning less than 1 acre land actually coming down, a trend which was also seen in the previous period. Moreover, most of the increase among females is in self-employed in agriculture.

12. This period is also characterised by sharp deceleration in wage rate growth for agriculture as well as non-agriculture, male as well as female, regular as well as casual.

13. Based on the above facts, following conclusions can be drawn: The changes in rural labour market reflect the outcome of the agrarian crisis which has affected all classes of households. However, the impact and the coping strategy have been different for different size class of land ownership.

14. For the middle and large farmers (owning more than 1 acre of land), the agrarian crisis with rising input costs and falling products prices, the strategy has been to take recourse to mechanisation as well as substituting family labour in place of hired labour. Most of the increase in family labour has been achieved by pushing in the family reserve labour force such as the women, children, adolescents and elderly.

15. For the households owning less than 1 acre of land along with landless, it has meant a shift towards self-employment in non-farm sector. Since this period is also characterised by decline in demand for hired labour in agriculture, the shift into non-farm sector has been primarily self-employed. Further, it has been accompanied by increased WPR for males but decline in female WPR and increase in female unemployment rates.

16. The decline in demand for hired labour in agriculture and the tendency to substitute family labour in agriculture has also meant excess supply of casual labour in rural areas but low availability. This also has implications on the wage market and wage rise has been arrested with decline in wage labour. Moreover, this has also been accompanied by very high increase in unemployment rate of agricultural labour households.

17. The move into non-farm sector has primarily come from the households owning less than 1 acre of land and landless, which is also accompanied by increasing unemployment rates of these households. However, the move into non-farm sector by this group of households has entirely been accounted for by the informal sector with formal sector employment actually coming down during this period. The only category for which formal employment has increased is regular employment for females.

18. The increase in non-farm employment in rural areas is primarily in the form of self-employed accounting for almost 50% of all increase. A break-up by industry suggests that this is happening primarily in industries such as retail trade, repair, hotels, land transport and communications. But this increase is entirely in the informal sector and by 2004-05 almost 95% of all self-employed in non-farm sector are in informal sector.

19. The increase in casual employment in non-farm sector is almost entirely due to the increase in the construction sector.

20. There is decline in regular employment in public administration and defence but has been compensated by an equivalent increase in education and health sub-sector, mainly for females.

21. The evidence cited so far for rural areas clearly outline the fact that the changes seen in the rural areas in terms of employment trends appear prima facie to be an effect of the deep rooted agrarian crisis in the rural sector. This has forced different category of

households to respond differently. While for those who do have access to land, it has been by cutting hired labour cost and increasing absorption of family labour mainly women, children, adolescents and elderly. For those who do not have access to land, the strategy has been to keep the household steady by moving into informal non-farm sector.

22. For urban area, which is primarily non-farm employment, this period is characteristically different than previous periods. Unlike the trend in the past where employment share of tertiary sector increased since 1983, this period saw the share of tertiary sector decline marginally with share of secondary sector, particularly manufacturing increasing. This is true for both males and females.

23. While the increase in self-employed has primarily been in low productivity industries and as informal employment, the growth in regular employment has also been shared by medium sized enterprises and large enterprises, although again as informal employment. Nonetheless, the increase in regular employment and particularly manufacturing employment does suggest a break from the previous trend when these were not contributing to employment growth.

Conclusion

The most recent period has been characterised by a significant increase in employment in both rural areas as well as urban areas. Contrary to the initial reaction by some commentators, these not only appear to be real and free from any statistical abnormality, these are also in line with the trend thrown up by the thin rounds. Nonetheless, these employment trends do appear to diverge from the general trend so far as changes in workforce structure is concerned, particularly the sharp increase in self-employment and decline in wage labour. Even though, these trends are seen for both rural and urban areas, there appears to be different factors influencing these changes.

So far as the rural sector is concerned, the intensification of agrarian crisis does appear to influence some of these changes including the deceleration in wage rate growth for casual workers. Nonetheless, the impact of the agrarian crisis seems restricted to affecting changes in the agrarian sector. However this period also seems to have generated a new dynamism in the rural non-farm sector which has not only absorbed some of those pushed out of agriculture but also absorbed bulk of the new entrants to labour force in rural areas. This is also confirmed by other sources such as ASI and Economic census. That this has happened despite agriculture not doing well is also an indication of the weakening of the role of agriculture in facilitating non-farm growth. Further, since a large part of the growth in non-farm employment in both rural and urban areas is driven by growth in manufacturing employment fuelled by growth in enterprises in rural and urban areas, not all the non-farm growth can be attributed as distress growth.

While most of this employment clearly has been in informal sector and as self-employed with organised sector losing workforce, this is also characterised by growth in employment in low productivity industries with very little growth of wages. Thus, there is evidence to suggest that some of this increase has been as distress employment. However, it is also clear from the previous analysis that the growth in workforce has primarily been led by rural non-farm sector which has not only outpaced the growth rate of enterprises in urban areas but also employment. This has come despite wages not growing faster than in the first decade of the reforms is obviously an indicator of the worsening of the quality of employment in the most recent period. This in itself may suggest that the Indian economy may have become Lewisian with unlimited supply of

labour at constant wages (in terms of food) and the output being inside the marginal productivity curve. Under the threat of competition, employers could push output towards the marginal productivity curve by work intensification and also extend the frontier by investing more which was made possible by increasing profit share. That this process could have happened is only possible when labour is docile and is willing to work at constant real wages. This incidentally is also supported by independent data on lockout and strikes by workers, which shows a declining trend as percentage of total man-days employed. Moreover, even within this, the share of lockout has increased, implying greater aggressiveness on part of employers in dealing with labour issues.

Nonetheless, the fact that the engine of growth in urban areas and also to a certain extent in rural areas has been secondary sector, particularly manufacturing sector does signal a break from the earlier trend when these were not contributing to employment growth. Despite these implying a decline in productivity in both manufacturing and construction (which continues from the negative rate of growth in productivity in the previous period), the contribution of this sector to employment growth remains the most significant trend as far as changes in workforce structure after 1999-00 is concerned. Table 29 below gives the growth rate of labour productivity during 1993-2000 and 2000-05 using 1999-00 NAS series at constant prices. Growth rate of labour productivity in the major sectors which have absorbed bulk of the new entrants to labour markets has been less than 1 percent per annum. So much so that the total growth of labour productivity in secondary sector is less than 1% per annum in this period, that was growing at more than 4% per year in the previous quinquennial.

Table 29

Growth rate of labour productivity			
	1993-2000	2000-05	1993-2005
Agriculture, forestry and fishing	3.27	0.08	1.80
Mining & quarrying	8.21	2.18	5.43
Manufacturing	5.22	1.38	3.45
Electricity, Gas and water supply	12.34	0.96	7.02
Construction	0.01	0.55	0.25
Trade, hotels and restaurants	2.86	3.95	3.35
Transport, storage and communications	3.18	7.37	5.06
Other services	8.60	2.27	5.67
Secondary	4.11	0.78	2.58
Tertiary	5.31	3.56	4.51
Total non-farm	4.92	2.47	3.80
All sectors	5.42	3.07	4.34

However, the growth of employment entirely in the unorganised or informal sector does raise the obvious questions of limits to such employment growth as well as its effect on productivity in this sector. Nevertheless, there is the obvious message to the votaries of labour laws reform implicit in this. And that is, very clearly that employment growth is not constrained by rising wages in the organised sector or by rigid labour laws not allowing hiring and firing of workers in the organised sector. The fact that the organised sector has been able to reduce workforce by almost 2 million during the same period despite the number of enterprises growing suggests that the problem lies elsewhere.