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**GROWTH OF EMPLOYMENT AND
EARNINGS IN THE TERTIARY
SECTOR 1983-2000**

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The tertiary sector in India has led the growth of employment in recent decades. This experience, out of line with the experience of modern economic development, has raised concerns about the level of earnings at which labour is being absorbed in this sector. Is labour being pushed into this sector due to lack of opportunities elsewhere? This paper makes use of NSS data from the thick rounds to throw light on this question. The movement of distribution of the mean per capita expenditure over successive rounds shows that there has been an outward shift of the distribution in the sector, but with an increase in inequality and 'dualism' in the sector—and within its critical sub-sectors.

INTRODUCTION

The growth of the tertiary sector in India seems to be somewhat out of line with international experience of recent decades. Table 1 brings together the data for sectoral changes in the shares of employment for several Asian countries over the last three decades of the 20th century. In Taiwan and Korea, the newly industrializing countries of Asia, the share of employment in manufacturing increased much faster than that of the tertiary sector during their initial period of growth in the seventies. In the next decade, tertiary sector employment grew faster but the magnitude of the increase relative to manufacturing was not as dominant as was observed in India in that decade. It was only in the nineties, after Taiwan and Korea had developed into mature industrialized economies that their tertiary sector became the dominant provider of employment outside agriculture. By contrast, India's share of employment growth in the tertiary sector in the seventies was already 60 per cent higher than in manufacturing. Also, the eighties and the nineties saw a virtual stagnation in the share of employment in manufacturing, with the tertiary sector absorbing virtually the entire loss of employment share by the agriculture. The figures also show that other developing countries of Asia—Thailand, Malaysia and Indonesia—do have larger shares of employment created in the tertiary sector, but the contrast with India is that none of them has a stagnant share in manufacturing in any decade. On the contrary, something between a third and one half of the often large decline in the share of employment in agriculture was made up by manufacturing. The only country in the sample with an experience close to that of India is the Philippines.

Table 1:
Change in the Sectoral Shares of Employment

Country	1971-80			1980-91			1990-00		
	Agriculture	Manufacturing	Tertiary	Agriculture	Manufacturing	Tertiary	Agriculture	Manufacturing	Tertiary
Rep. of Korea	-14.4	8.3	6.0	-17.3	5.0	12.9	-7.6	-6.7	14.5
Taiwan, China ¹	-15.6	11.1	3.7	-6.6	1.7	8.9	-5.0	-4.1	9.2
Thailand	-1.4	0.3	1.7	-10.5	3.2	7.3	-15.3	4.3	10.2
Malaysia	-14.8	6.1	9.9	-10.4	4.6	6.6	-7.9	2.9	3.0
Phillipines ¹	-1.4	-0.7	2.1	-6.2	-0.6	6.7	-7.8	0.3	7.6
Indonesia	NA	NA	NA	-2.7	1.3	1.1	-10.88	2.8	7.1
India ²	-5.5	1.8	3.0	-4.6	0.0	3.4	-3.6	0.3	2.4

Note: 1. Figures for the first two periods are obtained from Mazumdar & Basu, Table 3.2, pp 38. For the last period, calculations are done from ILO Year book data.
 2. For all periods, calculations are done from ADB key indicators, 2001.
 3. For all periods, calculations are done from NSS adjusted by population from decadal census. The periods refer to 73-83, 83-93 & 93-00.

The tertiary sector has been the leading sector of growth in the Indian economy in recent decades, both in terms of output and employment. The employment elasticity in the sector as a whole in the post-reform period (1993-00) has been 50 per cent higher than in manufacturing sector. Is this growth due to labour being pushed into the sector because of limited growth of jobs in the productive sector or due to labour being pulled into it because of increased earnings? Are there different trends in different components of the tertiary sector, and between the formal and informal segments of it? What light do the trends in the tertiary sector throw on the process of equitable growth in India? We should mention at the beginning of the paper that the Indian statistical series does not allow for the construction of time series of employment and output by formal and informal sectors, however defined. Hence, the substance of our analysis in this part will be based on the study of trends in the tertiary sector as a whole. We will address the question of absorption of labour in this sector at low and high income levels, as well as the earnings gap between 'good jobs' and 'bad jobs' in the sector by looking at the entire distribution of earnings in the sector. But before we come to this analysis, it might be useful to give an overview of the structure of employment in the tertiary sector for one time period, i.e., 1999-00. The 55th round of the NSS included some questions which provide criteria for distinguishing the formal and the informal sub-sectors within the tertiary activities. The broad structure of tertiary employment will be clear from these data.

II. FORMAL AND INFORMAL SUB-SECTORS WITHIN THE TERTIARY SECTOR

The 55th round enables us to identify workers in the public sector. The questionnaire obtained information on the types of establishment in which the worker was employed. We grouped the workers in all public and semi-public establishments under the formal sector. This

round of the NSS also reported for the first time the employment size of the establishment in which the worker was employed. Those establishments which employed more than 10 workers were taken to be in the formal sector. For the large group of the self-employed, we adopted the usual classification in terms of the worker's education. Those with lower secondary education or less were put in the informal sector, and the better educated (which would include professionals) in the formal. These criteria helped us to give a rough picture of the composition of tertiary sector employment for the year 1999-00.

Table 2
**Distribution of Employment in the Tertiary Sector:
 Formal and Informal (percentages as indicated)**

RURAL

Category	Formal			Informal		
	Males	Females	Total	Males	Females	Total
Public	64.1	82.8	66.8	--	--	--
Private Regular Wage	10.8	11.2	10.9	16.1	15.4	16.0
Casual Wage	--	--	--	32.3	27.6	31.7
Self-Employed	25.0	6.0	22.4	51.5	57.0	52.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
% of All Tertiary	19.1	3.1	22.2	67.6	10.1	77.7

Source: NSSO 55th Round, 1999-2000

URBAN

Category	Formal			Informal		
	Males	Females	Total	Males	Females	Total
Public	52.7	64.3	54.5	--	--	--
Private Regular Wage	15.8	22.3	16.8	26.6	33.2	27.6
Casual Wage	--	--	--	23.5	26.7	24.0
Self-Employed	31.5	13.4	28.7	49.9	40.1	48.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
% of All Tertiary	30.6	5.6	36.1	54.2	9.7	63.9

Source: NSSO 55th Round, 1999-2000

The major points that emerge from this table are as follows:

1. The formal sector accounts for a quarter of tertiary employment in the rural areas and rather more than a third in the urban economy.
2. Even after the decline of public sector employment in the post-reform period, this sector still accounts for more than half of formal tertiary employment in the urban areas, and more than two-third in the rural.
3. Women form a small part of tertiary employment in the formal sector, and surprisingly not more than 10 per cent of informal tertiary employment, both in the rural and the urban areas. It should, however, be borne in mind that we included only UPS workers (principal workers).
4. The share of the self-employed in the non-public part of the tertiary employment is high, but contrary to expectations it is higher in the informal sector of both the rural and the urban economy.

Readers might be interested in knowing how the levels of employment in the tertiary formal and informal sectors compare with those in manufacturing. The following table throws light on this question. It is seen that three quarters of all employment outside agriculture and construction in the urban economy is in the tertiary sector. It is interesting to note that the tertiary sector has a smaller presence relative to manufacturing in the rural areas.

Table 3

Tertiary Employment as a Percentage of the Total in Manufacturing Plus Tertiary 1999-00

Area	Formal			Informal		
	Males	Females	Total	Males	Females	Total
Rural	13.6	2.3	15.9	46.8	6.9	53.7
All Urban	22.4	4.1	26.5	41.1	7.3	48.4
Metro	23.5	4.6	28.1	37.5	7.6	45.1
Non-metro	21.9	3.9	25.8	42.6	7.3	49.9

Note: Total employment in manufacturing plus tertiary in each area=100.0

Source: NSSO 55th Round, 1999-2000

III. EMPLOYMENT ELASTICITIES BY BROAD ONE DIGIT SECTORS

The data presented in Table 4 combine output trends calculated from the National Accounts with employment trends obtained from the NSS to present a view of employment elasticities over time for the 1-digit sectors of the National Industrial Classification (NIC 1987). The growth rates of three periods are calculated separately between the 38th and the 50th rounds (1983-93); between the 43rd and the 50th rounds (1987-93); and between the 50th and the 55th rounds (1993 and 1999). We have presented employment estimates based on the UPS (principal workers).

Table 4
Employment Elasticities for Different Sectors and Periods

NIC	Growth rates of GDP			Growth rates of Employment			Elasticity of Employment		
	38th-50th	43rd-50th	50th-55th	38th-50th	43rd-50th	50th-55th	38th-50th	43rd-50th	50th-55th
Agriculture (o)	2.72	4.77	2.88	1.37	2.19	0.72	0.503	0.459	0.250
Mining (1)	5.80	6.08	5.22	4.21	3.82	-4.21	0.726	0.628	-0.806
Manufacturing (2-3)	5.24	5.21	7.34	2.00	1.36	1.92	0.382	0.262	0.262
Electricity, gas etc. (4)	7.93	7.90	6.94	3.87	3.94	-2.30	0.488	0.499	-0.331
Construction (5)	4.64	5.26	6.35	5.49	0.13	6.40	1.183	0.024	1.007
Trade, hotel etc. (6)	5.31	5.55	9.17	3.93	3.37	6.34	0.741	0.608	0.691
Transport etc. (7)	5.79	5.60	9.39	3.52	3.52	5.35	0.608	0.629	0.570
Finance, insurance etc. (8)	9.62	10.48	8.36	5.34	4.36	5.57	0.555	0.416	0.666
Communication, social sector, banking, etc. services (9)	5.41	4.90	8.57	3.59	4.41	-1.18	0.663	0.900	-0.137
Tertiary sector (6 to 9)	6.40	6.54	8.82	3.77	3.90	3.05	0.590	0.597	0.346

Note: We have also calculated employment elasticities based on UPSS (it includes both principal and subsidiary status) employment estimates. But broad trends are similar. We have not presented them separately here.

Source: National Accounts for GDP and NSS for Employment.

The major points that emerge from these tables are as follows:

Taking public and private sectors together, tertiary sector employment grew faster than manufacturing in all three periods. The differential in the growth rates was much higher with respect to agriculture, particularly between the 50th and the 55th rounds. However, we should keep in mind that the employment growth in the last period was disproportionately affected by the fall in employment growth rate in the agricultural sector.

Employment growth in the tertiary sector fell in the second half of the nineties relative both to the 1987-93 period and the longer 1983-93 decade. But this was entirely because of the decline in employment in the public sector dominating the community and social services. The table shows that compared to the 1983-93 decade, the decline in employment growth was marginal in finance services. All other groups increased their rate of growth of employment—particularly strong was the increase in trade.

Employment elasticity mirrored the story of employment growth. This might be partly because the GDP calculations in several tertiary sub-sectors are based on employment numbers. The major change was in the public sector where employment elasticity was substantially negative. The employment elasticity fell slightly in all the other tertiary sectors but was well above that in manufacturing in the last period. Agriculture is a special case because of the problem with participation rates.

IV. PRODUCTIVITY DIFFERENTIALS BETWEEN SECTORS

Is the employment growth in the tertiary sector being driven by high demand for labour or is labour entering this sector because of lack of jobs in the production sectors? Or in other words, is labour being pulled or pushed into this sector? A first cut at this question is to see if there is a major productivity differential or if the productivity differential is increasing vis-à-vis the production sectors as revealed by sectoral GDP figures. These data are given in Table 5.

Table 5
Labour Productivity by Broad Sectors 1983-2000

	Labour Productivity (Ups)				Labour Productivity Index(Ups)			
	55th	50 th	43 rd	38 th	55 th	50 th	43 rd	38th
NIC								
Agriculture (o)	13,349	11,752	10,116	10,223	100	100	100	100
Mining (1)	129,579	73,754	64,802	62,920	971	628	641	615
Manufacturing (2-3)	46,999	34,444	27,547	24,801	352	293	272	243
Electricity, gas etc. (4)	239,870	139,433	111,410	93,247	1,797	1,186	1,101	912
Construction (5)	34,406	34,492	25,551	37,543	258	294	253	367
Trade, hotel etc. (6)	42,838	36,593	32,298	31,866	321	311	319	312
Transport etc. (7)	60,537	48,310	42,871	38,468	453	411	424	376
Finance, insurance etc. (8)	303,895	259,820	184,626	171,029	2,276	2,211	1,825	1,673
Communication, social sector, banking, etc. services (9)	47,729	27,137	26,387	22,588	358	231	261	221
Tertiary sector (6 to 9)	61,216	44,144	37,985	33,950	459	376	375	332

Source: As in Table 4.

The following points emerge:

The average productivity in the tertiary sector as a whole is pulled up by the high value in the financial sub-sector, but seems to be above the level of manufacturing (in 2000) in most sectors except trade (where it is 20 per cent lower). There is a suggestion that the trade-manufacturing differential might have slipped over time. Between 1983 and 2000, productivity in trade relative to its base (agriculture) remained practically constant (in real terms) but went up by more than 40 per cent in manufacturing. This allowed manufacturing productivity to go significantly above trade, but it is interesting to see that this differential was established only recently—between the 50th and the 55th rounds.

Not all sub-sectors of tertiary, however, suffered the fate of NIC sub-group 6. Both finance (group 8) and public and community services (group 9) improved their relative productivity vis-à-vis manufacturing. In the business services (group 7), the relative improvement of productivity seems to have been under way since the 43rd round. But in public and social services (group 9), the relative improvement was prominent only between the 50th and the 55th rounds. The surge in salaries in the public sector is reflected in the large increase in productivity between these two rounds.

The above analysis suggests that there is indeed some evidence to support the general perception that some sub-groups, like the consumer services of group 6, have had a relatively large influx of labour pushing down its relative productivity to some extent, while others like business services in group 7 have improved their position due to demand factors.

However, a study of trends in average relative productivity can carry us only so far in our understanding about the trends in relative earnings at which labour is being absorbed in the tertiary sector. For a complete understanding, we need to look at the way the entire distribution of earnings (or incomes) has been changing in response to the high rate of growth of employment in this sector.

V. LIMITATIONS OF THE NSS DATA

We need to be aware of the limitations of the main source of our data i.e. the NSS before proceeding further. First, a great deal of employment in India is in the ‘self-employed category’. There is an inherent difficulty of allocating income accruing from self-employment when more than one earner from the same household is in income-earning activity. Households’ income from different self-employed activities by different members of the household would be typically pooled together. There is no way of distinguishing the contributions of individual earners. Hence the income we can deal with is household income, and we can normalize for the size of the household. Further, it is generally accepted that figures on expenditure given by the respondent in the household are more reliable than that of income. Thus, we use the measure of household welfare as given by mean expenditure per capita.

When we are comparing levels of household welfare across sectors, we need to identify the principal occupation of the household. This poses problem both conceptually and in terms of execution. The conceptual problem arises from the fact that a significant number of households will have more than one earner, and not all earners will be in the same category of occupation. The secondary earners might not be all wage earners. If they are working in the self-employed sector, they will be pooling their earnings with other earners of the household to create the household's pot of earnings. By assigning all the household income effectively to the principal occupation of the household we might be exaggerating the income—and the expenditure which it sustains—originating from this occupation.

In terms of execution, one of the major problems faced in the 55th round of the NSS is that, unlike in the earlier rounds, households were not classified in terms of their detailed occupational or industrial code of their main source of earnings. We first have to match household type (given in household file) to the individual worker's file which provides the code for occupation, industry, work status etc. We generated household type for each individual worker. Thus, through an arduous process we identified main earners in most of the households and then assigned main earner's industry-occupation code to the household's main earning source. The occupation-industry distribution of households will differ somewhat from that of individual earners to the extent that our matching has been unsuccessful particularly in households where more than one principal earner belongs to different industry-occupation. The difference in the proportions of employment in the tertiary sector obtained on the basis of households and two definitions of the individual worker (usual principal, and usual principal-cum-secondary status) are given in Table 6.

Table 6
Proportion in Tertiary Sector for Different Categories of Labour Force

Category	Rural			Urban		
	38 th round	50 th round	55 th round	38 th round	50 th round	55 th round
Household	12.90	15.15	16.72	57.31	59.54	61.55
UPSS Workers	10.75	11.48	12.51	54.57	55.40	59.17
UPS Workers	11.48	12.46	13.23	54.58	56.01	59.79

Source: NSSO Various Rounds

VI. EVIDENCE ON THE MARGINAL ABSORPTION OF LABOUR

We can get some idea about the question posed—how far labour is being pulled rather pushed into the tertiary sector—by looking at the share of labour in the tertiary sector in different parts of the distribution of income. Specifically, we can look at the proportion of the main earners working in the tertiary sector in different quintiles of the distribution of household expenditure per capita for successive rounds.

Table 7 gives the share of household employment across different rounds. It shows that tertiary sector share in household employment increased over the successive rounds. Table 8 seeks to throw light on the question as to where the jobs were created—at the low end or uniformly across household quintile ranges. The data are presented in Figure 1 which shows the changes in the distributions more clearly, separately for the rural and the urban areas.

Table 7:
Structure of Household Employment

<i>Sector</i>	38th	50th	55 th
Primary	61.43	57.99	54.33
Secondary	14.95	15.58	16.95
Tertiary	23.62	26.42	28.72
All	100.00	100.00	100.00

Source: NSSO Various Rounds

Table 8:
Share of Tertiary Sector in Different Quintiles of Household APCE

Rural

<i>Quintiles</i>	38th	50th	55 th
1	8.17	7.91	10.17
2	10.41	10.77	12.50
3	11.87	14.00	14.93
4	13.84	17.21	18.31
5	20.23	25.83	27.69
All	12.90	15.15	16.72

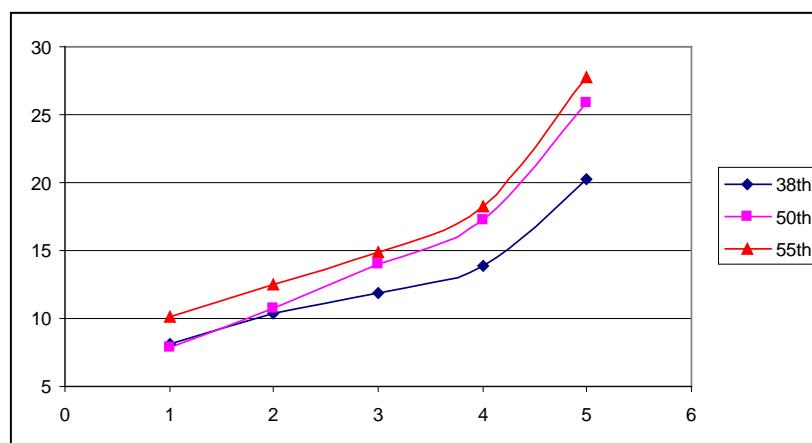
Source: NSSO Various Rounds

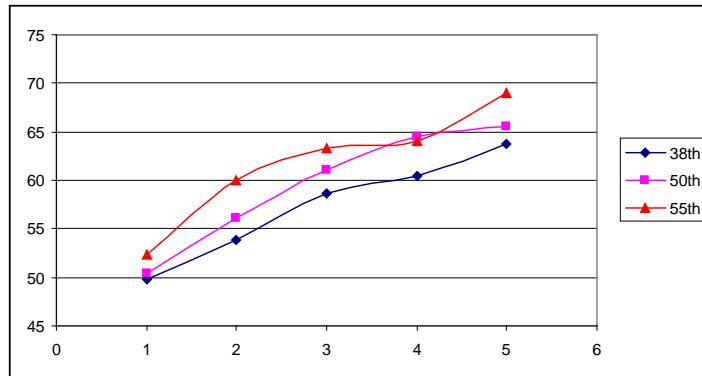
Urban

<i>Quintiles</i>	38th	50th	55 th
1	49.80	50.46	52.34
2	53.84	56.15	60.00
3	58.71	61.05	63.24
4	60.48	64.53	64.12
5	63.72	65.52	69.04
All	57.31	59.54	61.55

Source: NSSO Various Rounds

Figure 1:
Employment Share of the Tertiary Sector by Quintile Groups, Different Rounds
A. RURAL



B. URBAN

A major change seems to have taken place in the post-liberalization period both in the rural and the urban areas, compared to the movement between the 38th and the 50th rounds. In the earlier pre-liberalization years, more jobs in the tertiary sector seem to have been created in the higher quintiles. The slopes of the graphs increased with the quintile groups between 1983 and 1993 (the 38th and the 50th rounds)—more prominently in the rural areas, and except for the highest quintile in the urban economy. But between 1993 and 2000 (the 50th and the 55th rounds), the graph for the rural sector shows a more or less parallel movement outwards, with some suggestion that the movement was larger in the 1-2, as well as the 5th quintiles. In the urban sector, the differential movement by quintile groups was quite striking at the two ends of the distribution. There is a sharp increase in the share of tertiary earners both at the lower (2nd) and the highest (5th) quintiles at the expense of the middle (3rd and 4th) quintiles.

The fact that more tertiary sector employment has been created at the lower quintiles does not mean that there has been immiserising growth of the tertiary sector, in the sense that labour pushed into this sector has depressed earnings in the sector. The mean of the distribution might have increased over the period. There is a suggestion that the distribution of incomes in the sector might have deteriorated, particularly in the urban areas, with the incomes of the low earners falling relative to the high earners. But to shed more light on this specific question, we need to look directly into the changes in the distribution of income (or household welfare in our case). This we do in the next sub-section.

VII. EVIDENCE ON THE DISTRIBUTION OF EXPENDITURE PER CAPITA IN THE TERTIARY SECTOR

The Kernel density functions for the three rounds have been graphed, separately for the rural and the urban areas in Figure 2.

Both the distributions have shifted to the right in the post-liberalization years—much more perceptibly in the post-liberalization years than between the previous two rounds. Further, the outward movement is more striking in the urban economy. This then is our first important conclusion: in spite of tertiary sector jobs being created disproportionately

in the lower quintiles, particularly in the urban areas, the evidence suggests that levels of earnings have gone up significantly, including in the lower part of the distribution.

The graph also confirms what has been suggested by the evidence discussed in the last sub-section: that there has been some increase in the inequality in the distribution in the urban sector—perhaps not at all in the rural economy. Further information on the changes in distribution can be found from the decile and quartile ratios reported in Table 9 below:

Table 9
**Decile and Quartile Ratios for the Distributions of
 Expenditure Per Capita in the Tertiary Sector**

A Rural Areas

Round	P90/P10	P90/P50	P10/P50	P75/P25	P75/P50	P25/P50
43 rd	3.660	2.068	0.565	1.938	1.432	0.739
50 th	3.442	1.989	0.578	1.883	1.401	0.744
55 th	3.265	1.919	0.588	1.869	1.408	0.754

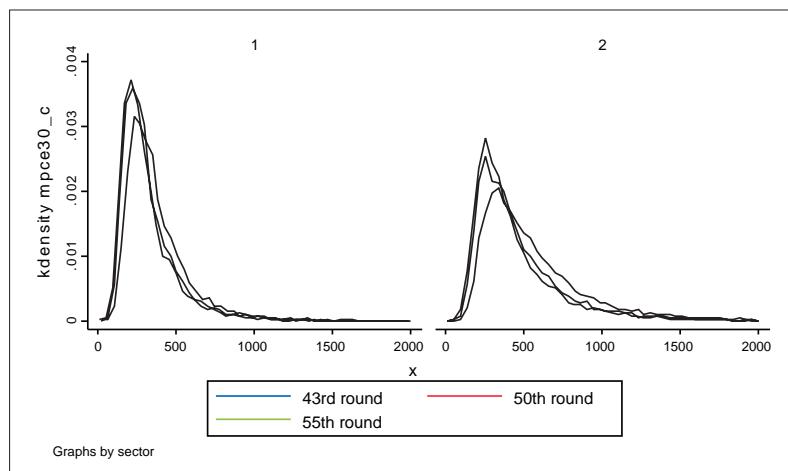
Source: NSSO Various Rounds

B Urban Areas

Round	P90/P10	P90/P50	P10/P50	P75/P25	P75/P50	P25/P50
43 rd	4.054	2.174	0.536	2.090	1.482	0.709
50 th	4.107	2.191	0.533	2.118	1.496	0.706
55 th	4.067	2.116	0.520	2.118	1.476	0.797

Source: NSSO 43rd, 50th and 55th round

Figure 2
Kernel Density Functions of Expenditure Per Capita in the Tertiary Sector, Different Rounds:
(1) Rural; (2) Urban



Source: NSSO Various Rounds

The conclusions that emerge from the two tables are as follows:

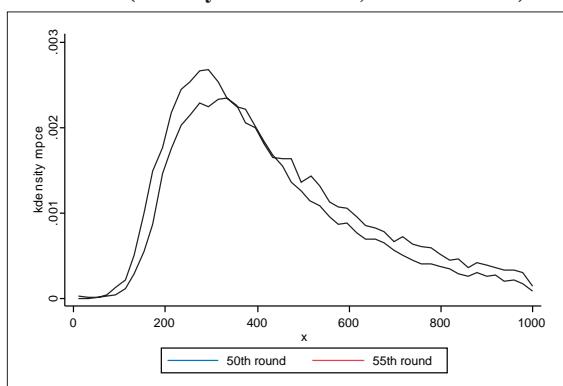
As far as the rural areas are concerned, there has been a decisive improvement in the distribution. Inequality decreased in magnitude in the lower half of the distribution—judged both by the decile and the quartile ratios. There has been a smaller improvement in the top half, both the P90/P50 and the P75/P50 ratio having moved down a bit.

In the urban economy, there is evidence of the distribution having deteriorated at the lower part of the distribution. The P10/P50 ratio deteriorated particularly between the 50th and the 55th rounds—when we saw there was such a pronounced increase in the absorption of labour in low-income tertiary jobs. But the deterioration is not by any means large.

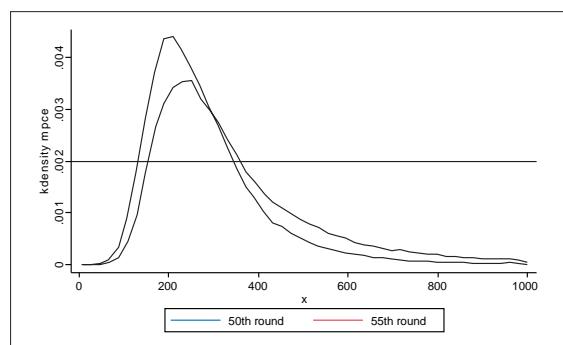
VIII. TRENDS IN POVERTY AND INEQUALITY IN THE POST-REFORM YEARS

It has been noticed in the available literature that while the incidence of poverty has fallen both in the rural and the urban areas in the post-reform years, the reduction in poverty in the urban economy has been accompanied by a perceptible increase in inequality (Deaton, 2002; Mazumdar and Sarkar, 2004). The graphs of APCE below clearly bring out the change between the successive NSS rounds in the two sectors.

Urban (Poverty Line: 227.20, at 93-94=100)



Rural (Poverty Line: Rs.196.50, at 93-94=100)



The material presented in sections 5 and 6 above suggests that the increase in inequality in the urban sector (and not so much in the rural) has been driven by the trends in the distribution of incomes in the tertiary sector. The point has relevance to the wider literature on the impact of liberalization on inequality.

It has been expected on the basis of standard trade theory of the Heckscher-Ohlin type that greater openness of an economy would tend to increase the relative returns to those factors of production which are in abundance in the economy concerned. Thus, a less developed economy, where labour rather than capital is the more abundant factor, will see an increase in the relative return to labour—leading to a more equitable trend in the distribution of income. The experience of many developing countries after the recent spate of liberalization has, however, belied this expectation. Economists have tried to explain the observed increase in inequality in less developed economies by modifying the Heckscher-Ohlin model to allow for the inclusion of two types of labour—skilled and unskilled. Liberalization in this extended model leads to an increase in demand, not of unskilled labour but of more skilled labour necessitated by the manufactured products in the sector open to international markets. In other words, the industries which have a spurt in growth following liberalization demand labour of a type which might be less skilled than labour in manufactured goods produced by advanced countries, but is more skilled than the general mass of unskilled labour which is in abundant supply in less developed countries. Thus, the increase in skill differential in the latter drives the observed increase in inequality (Acemoglu, 2002).

The analysis in this paper indicates that the mechanism described in the literature would be more pertinent if we bring forth the tertiary sector in the discussion. In other words, the relative increase in demand for more skilled labour after liberalization comes as much, if not more, from the growth of some parts of the tertiary sector, as from the traded manufacturing sector. Clearly, this effect can come only from the sub-sectors of the tertiary activities which deal with services to the globalized part of the economy. These contrast with those branches of the tertiary sector which are ‘non-traded’, catering to the needs of the domestic economy. As far as the latter are concerned, we would like to know if they show any evidence of ‘immiserizing growth’ which the aggregate view of the tertiary sector does not reveal—i.e., is labour being ‘pushed’ into the sector with falling incomes because of lack of opportunities in the production sectors.

The next section, therefore, goes into a discussion of trends in income distribution in different branches of the tertiary sector.

IX. SHIFTS IN THE KDF DISTRIBUTION IN DIFFERENT SUB-SECTORS OF TERTIARY ACTIVITY

How do the shifts in the expenditure distribution compare in different sub-sectors of the tertiary activities? We can go a fair distance by looking at the picture for the four major one digit sectors distinguished in the NIC. This is done in Figure 3.

NIC group 8 (business services) would contain the bulk of the services catering to the traded part of the economy, while group 6 (trade, hotels and restaurants) would comprise the

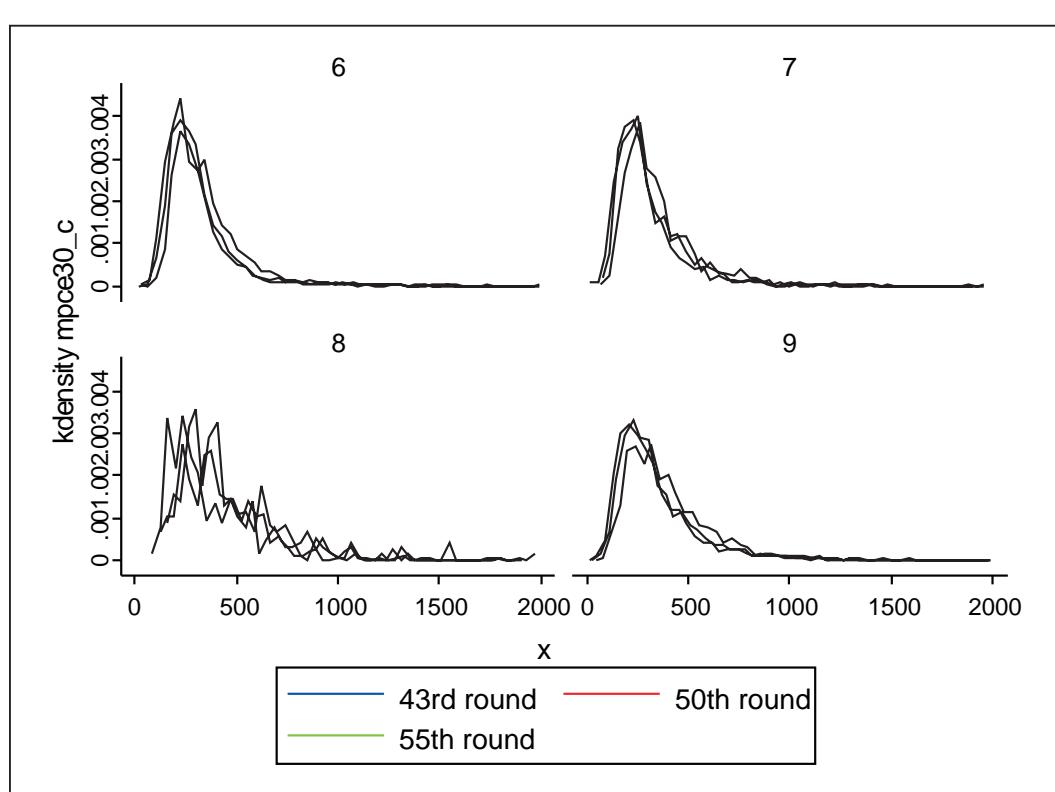
bulk of the private non-traded services. Group 9 includes community and personal services, but is also heavily represented by government activities, including administration.

Two points stand out in the picture presented in Figure 3. First, the shift in the distribution between the two rounds is more pronounced for the urban areas than the rural ones even when we look at the disaggregated tertiary sub-groups. Second, the shift is least for the NIC group 6 (trade, hotels and restaurants) in both the rural and the urban areas, and the most striking for groups 8 (business services) and 9 (public, community and personal services). Further, in the groups showing the larger outward shifts, the shift in the urban areas is more prominent. Nowhere is there any evidence of any increase in the incidence of low-income groups.

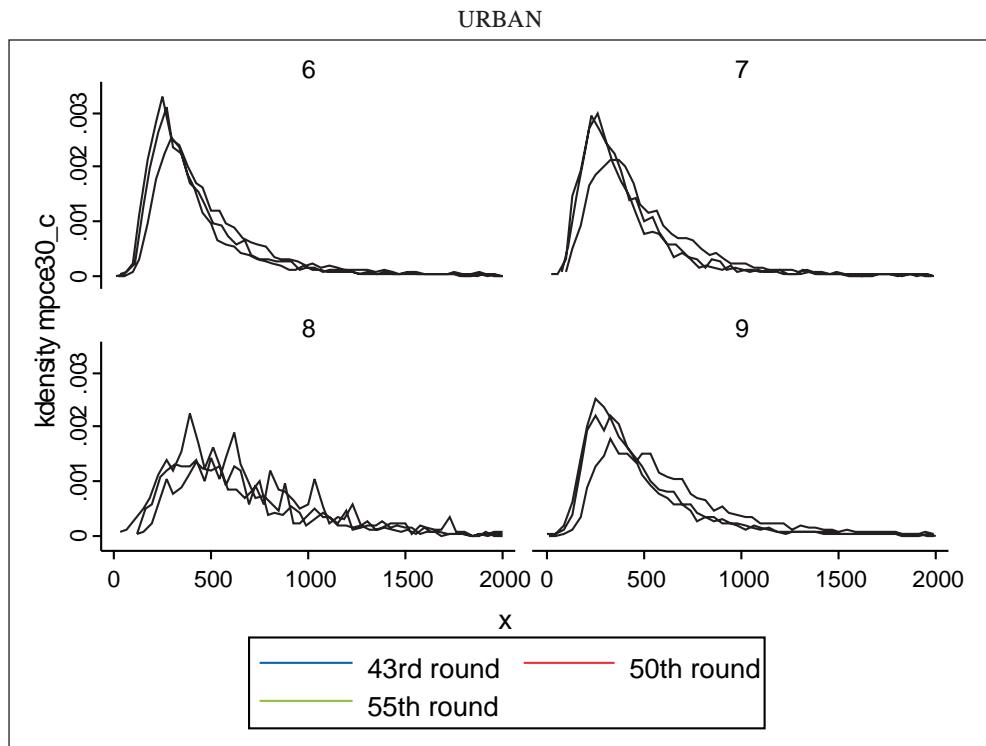
Figure 3

Kernel Density Functions by Major Sub-Groups of the Tertiary Sector 6: Trade, Hotels and Restaurants; 7: Transport, storage and communication; 8: Finance, real estate and business activities; 9: Public, Community and Personal services

RURAL



Source: NSSO Various Rounds



Source: NSSO Various Rounds

X. KDF DISTRIBUTIONS FOR REGULAR WAGE EARNERS IN THE TERTIARY AND OTHER SECTORS

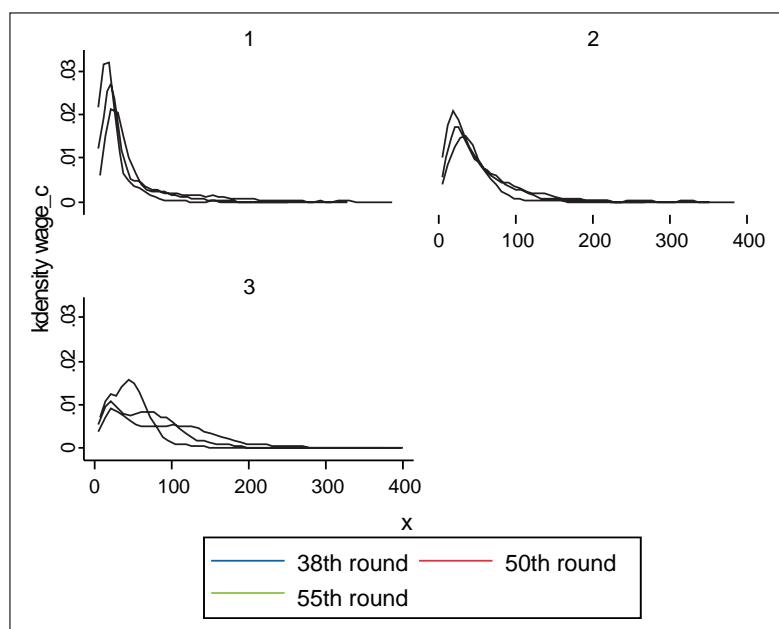
It might be useful to look at the Kernel Density Functions (KDF) functions for the three rounds exclusively for regular wage earners. The incomes of these respondents are more easily obtained in the NSS survey. A study of the change in the distribution of their earnings over the three rounds of the survey is a useful supplement to the changes in the household welfare by the classification of 'main earners' presented above.

The following two points need to be emphasized:

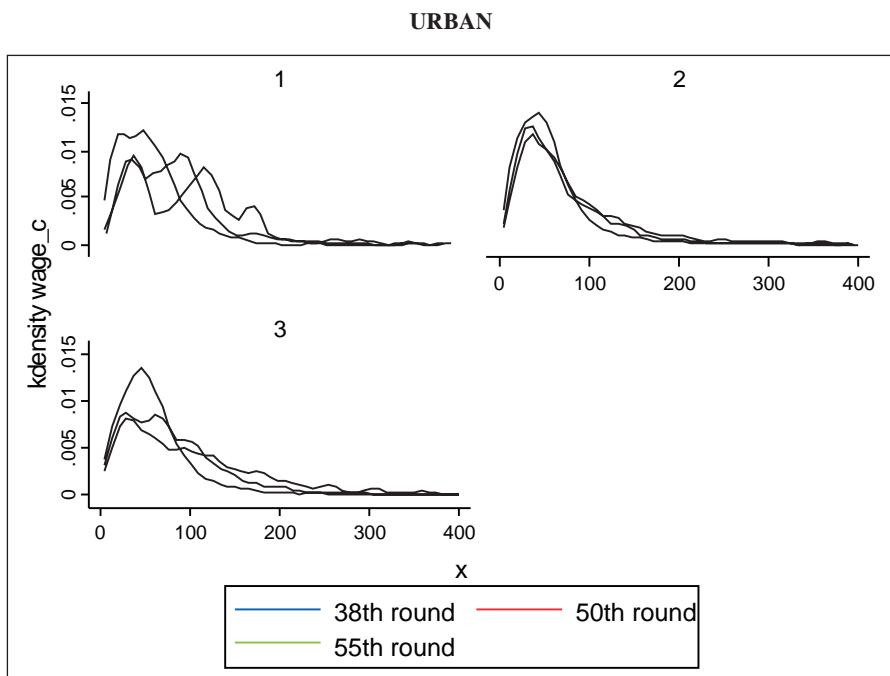
There is a rightward shift in the KDF in the successive rounds for both the rural and the urban areas, but it is clear that the shift is largest for the tertiary sector wage earners. The ordering of the primary and secondary sectors is, however, rather different for the rural and urban areas. In the urban areas, the shift seems to be larger for the primary rather than the secondary sector, presumably because of the development of different types of high value primary activities. In the rural areas, however, the outward shift in the secondary sector is more pronounced relative to the primary sector.

The shape of the KDF in the tertiary sector is altered in rather the same way in the rural and the urban areas in the later rounds, even though the movement is stronger

Figure 4
**KDF Distributions for Regular Wage Regions by Major Sector,
and Rural and Urban Areas: Three Rounds 1: Primary; 2: Secondary; 3: Tertiary**



Source: NSSO Various Rounds



Source: NSSO Various Rounds

for the urban economy. There is a marked flattening of the curve, suggesting a wider dispersion of earnings and larger proportion of workers with higher earnings. There is a clear reduction of the proportion of people with low earnings, but interestingly both in the rural and urban sectors, the mode seems to have moved to the left (even though much reduced in its density). This might suggest that there is a sizable influx of low wage workers—earning rather less than in the 38th round in real terms. However, this phenomenon might really mean that there is a larger influx of younger or less educated workers along with others who earn much more.

The last point carries an implication that “dualism” has increased in the tertiary sector, and might indeed be stronger in the tertiary than in the secondary or manufacturing sectors. We cannot be sure about this hypothesis unless we control for the quality—in particular the human capital attributes—of the workers entering these sectors.

XI. IS ‘DUALISM’ HIGHER IN THE TERTIARY SECTOR? EARNINGS DIFFERENTIALS (NET) AS BETWEEN SECTORS IN DIFFERENT POINTS OF THE DISTRIBUTION

Our purpose is to know how the earnings in the tertiary sector relative to the earnings in the other two sectors, in particular manufacturing, vary in different parts of the distribution. “Dualism” in terms of the gap between low and high earners in manufacturing is high in the Indian economy and has also been discussed widely in the available literature; see for example, Mazumdar (2001). If the dualism is stronger in the tertiary sector, then we would expect to find the ‘net’ tertiary-manufacturing differential, after controlling for the other major determinants of earnings (like human capital attributes), to increase as we move up the scale in the earnings distribution. We ran quantile regressions for the 55th round of the NSS to estimate the net differential at the five quintiles of the distribution. Dummies for the sectors (with primary as base) were used in the regressions along with a set of other explanatory variables. The latter included education, age, sex and urban-rural location. The exercise was done separately for the APCE of households (in which the characteristics of the ‘main earner’ were used for the explanatory variables) and for the daily earnings of regular wage earners. There were some differences in the sets of explanatory variables used in each case.

The coefficients of the tertiary and manufacturing dummies at the different quintiles are given in Table 10, and they are graphed in Figures 5 and 6. There are apparent differences in the shapes of the distribution. This is primarily because for the wage sector secondary wages are below tertiary wages (given that the base in each case is primary sector earners), while for the APCE of households the values for the tertiary and the secondary sectors are all above the primary. This rather intriguing difference is probably because secondary wage earners in the middle range of the distribution (q25 to q75) earn less than those in regular primary employment. The relatively high wages observed in the latter are due to public sector and similar government employment in the primary sector.

But as far as the tertiary-secondary differential is concerned, the results are the same for APCE and daily wages. The differential is all along higher for the secondary sector workers. The gap between the two sectors increases in the middle range and diminishes somewhat only at the highest quarter of the distribution.

We conclude that dualism is quantitatively more important in the tertiary sector when we compare the earnings of the lowest quintile with those in the higher quintile—except that the difference is reduced for the highest quintile. There is then some support for the popular perception that the tertiary sector is home to a body of low earners more so than the secondary sector.

Table 10
Values of Dummies of Quantile Regressions: 55th Round

APCE					
Tertiary	0.048	0.08	0.108	0.128	0.172
Secondary	0.024	0.05	0.064	0.079	0.145
DAILY WAGE					
Tertiary	0.171	0.211	0.222	0.192	0.142
Secondary	0.039	-0.03	-0.13	-0.096	-0.038

Source: NSSO Various Rounds

Figure 5
Coefficients of (Dummy) Variables from Quantile Regressions: APCE

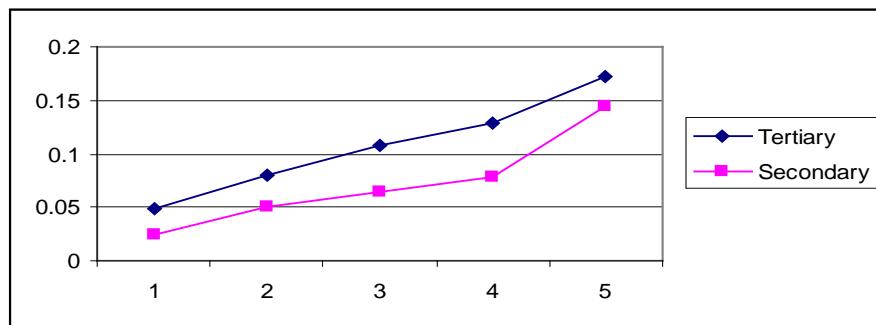
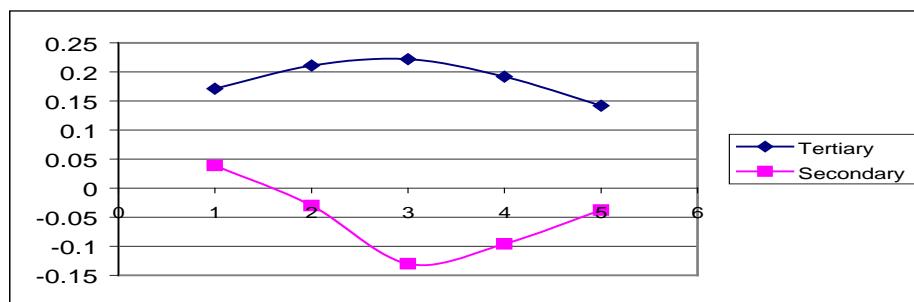


Figure 6
Coefficients of (Dummy) Variables from Quantile Regressions: Log Wage



XII. CONCLUSION

The structure of employment observed in the NSS survey year of 1999–00 (the 55th round) shows that the formal sector accounted for a quarter of tertiary employment in the rural areas and a third in the urban areas. Even after the decline in public sector employment in the post-reform period, this sub-sector still accounts for more than half of formal tertiary employment in the urban areas and more than two-third in the rural. Around one-half of employment in the informal part of the tertiary sector is accounted for by the self-employed in both areas. Regular wage earners are more important in the urban sector, the rest (25 per cent in the urban, and 33 per cent in the rural) being casual wage-workers.

In the absence of time-series data for the formal and the informal sectors, we are obliged to analyze the trends in the low-and high- paid employment in the tertiary sector by looking at the changes in the entire distribution of earnings in this sector over time. We have looked at the issue from several angles and for different variables representing income levels. As mentioned, the self-employed are a very large part of the tertiary sector. By definition, the individual earnings of the self-employed are not recorded for each worker. All the earnings of the household members are pooled together. The variable most relevant to look at then is a measure of household welfare—which in the simplest formulation is mean household per capita expenditure (APCE). The industry affiliation of the household is given by the occupation of the main earner. This may create some errors for multiple-earner households whose earners follow different occupations.

The movement of the distribution of APCE for the successive rounds brings out two important points: (i) there is an outward shift of the distribution in the tertiary sector, so that earnings at all levels have increased; and (ii) there has been proportionately larger increase in the numbers in the first and the fifth quintiles of the distribution—with relatively less absorption of labour in the middle range. This implies an increase in inequality in the bottom half of the distribution—a trend more prominent in the urban economy. Disaggregating the tertiary sector by its 1-digit components, it is seen that these effects are mild in consumer services (group 6) but much more striking in business services and in the public sector.

We looked specifically at regular wage earners whose individual earnings are recorded. The outward movement of the earnings distribution over successive rounds (and particularly in the 1987–93 and 1993–99 periods), as well as the ‘flattening’ of the curve, is more striking for the tertiary sector than either the primary or the secondary. It is also more prominent for the wage-earners than the welfare index for all tertiary households (APCE) which we had used.

Thus, we conclude that while there is no evidence for the incidence of low incomes in the tertiary sector to increase in any absolute sense, more jobs are being created at the bottom and the topmost part of the distribution.

This last point suggests an increase in “dualism” in the tertiary sector. It has been pointed out elsewhere (e.g., Mazumdar 2001) that dualism was not only particularly striking in Indian manufacturing compared to other Asian economies, but also had most likely increased in recent years. Our quintile regression analysis was meant to see how the earnings differential

between tertiary and the manufacturing sectors compare at different parts of the earnings distribution. The results for the 1999-00 round of the NSS show that the differential, after controlling for human capital attributes and location of the labour, increases from the lowest quintile to the fourth—and only in the highest is there some reduction in the ‘net’ differential’. This is true for both the APCE measure and for regular wages. We may, therefore, conclude that dualism has been more predominant in the tertiary sector than in manufacturing.

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