

EMPLOYMENT PATTERN IN THE UNORGANISED MANUFACTURING SECTOR IN ASSAM

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ABSTRACT

This paper examines the employment situation in the unorganised manufacturing sector in Assam. The findings suggest that though the unorganised sector has got immense employment potential, the role of the sector in generating productive employment opportunities in the State is doubtful. The sector has suffered sharp decline in employment during 1994-95 to 2000-01, especially full-time workers in the OAMEs segment. Though the period 2000-01 to 2005-06 witnessed significant employment generation in the sector, a large proportion of these new jobs were part-time workers, again in the OAMEs segment. Additionally, the share of female workers increased in both the part-time and full-time workers category. Thus, the recent growth in unorganised sector employment in the State has taken place largely through casualisation and feminisation of workers, which is not an encouraging trend as this implies decline in the quality of employment in the sector. Adding to this, the sector continues to suffer abysmally low level of productivity, leading to poor performance of the sector. Therefore, the paper emphasises on reformulating the existing industrialisation strategy in the State and calls for special policy attention towards productivity growth, modernisation and technology upgradation of the sector.

Introduction

Creation of gainful employment has been one of the major challenges for the policymakers in India, especially in the post-reform period.¹ This is partly because the employment situation during the post-reform period has not been encouraging and the organised manufacturing sector failed to generate employment opportunities, whereas the unorganised manufacturing sector witnessed remarkable rise in both the number of units and workers (Rani and Unni, 2004; Sahu, 2007). The unorganised manufacturing sector of India is huge and quite diversified, including a wide range of manufacturing units, dispersed all over the country both in rural and urban areas (Saikia, 2011). The unorganised

manufacturing sector is largely labour intensive, and thus, holds the promise for generation of vast employment opportunities, especially in developing countries like India, which are labour abundant. Recognising the role of the unorganised sector, the 11th Plan (2007-2012) and 12th Plan (2012-2017) emphasised the sector as the most potential sector for rapid employment generation.

Assam is known to be one of the most backward States in India in industrial development. This is in spite of the fact that the State has a vast stock of natural resources such as mineral oil, natural gas, coal, limestone, water and forest resources (Goswami, 1981; Sarma and Bezbaruah, 2009). The manufacturing sector contributes only 4.77 per

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cent to the net state domestic product (NSDP, at constant 2004-05 prices) in 2011-12, of which 2.18 per cent is contributed by the organised segment and 2.58 per cent is contributed by the unorganised segment (RBI, 2012). More seriously the sector's contribution to NSDP continued to shrink from 9.17 per cent in 2004-05, which is largely caused by decline in the contribution from the organised segment from 6.82 per cent during the same, while the unorganised segment's contribution has marginally increased. Looking into the industrial structure in the State, it can be said that the industrial sector is largely confined to the unorganised manufacturing sector. During 2005-06, the unorganised manufacturing sector with about 370.8 thousand units, which is more than 99.5 per cent of total manufacturing units in the State, accommodated about 632.5 thousand workers, which is more than 83 per cent of manufacturing workers in Assam. In spite of the crucial role played by the sector in industrial development and employment generation, the sector has not received due attention in the policy sphere and research community in the State. While there is a large body of literature on growth, productivity and other aspects of the sector for the country as a whole (Kabra, 2003; Rani and Unni, 2004; Mukherjee, 2004; Sahu, 2007; Kathuria et al, 2010), these issues have not been addressed in the context of Assam. For India as a whole, studies have shown that the unorganised manufacturing sector witnessed sharp decline in number of units and employment during mid-1980s to mid-1990s and the period since mid-1990s experienced significant rise of the sector in terms of both number of units and employment (Rani and Unni, 2005; Sahu, 2007). However, the performance of the sector in Assam is not discussed yet. In this paper we have made an attempt to fill this void in the literature by analysing the pattern of employment in the unorganised manufacturing sector in the State.

The specific objective of this paper is to analyse the employment growth of the unorganised manufacturing sector in Assam. We specifically examine the growth and pattern of employment by nature and quality of work and male-female category. We have also looked at growth in factor productivities and capital intensity of the sector in order to understand the efficiency of the sector. The analysis has been carried out for the overall unorganised manufacturing sector as well as for different enterprise types.

Data Source

The National Sample Survey Organisation (NSSO) is the principal agency that collects information about various dimensions like output, employment, capital, gross value added, etc., of the unorganised manufacturing sector in India. The NSS surveys cover all the units of unregistered manufacturing sector and provide a large variety of estimates for the entire unregistered manufacturing sector at different geographical scales, viz. State, region and district. While published NSS reports provide information only up to the State level, the unit level data (available on CD-ROMs supplied by the NSSO New Delhi) provide information at the sub-regional and district level.

The unorganised (or unregistered) manufacturing sector, in the NSS framework, covers all the manufacturing enterprises that are not covered by Annual Survey of Industries, conducted by the Central Statistical Organisation. Per se, the sector includes all the manufacturing enterprises except (a) those registered under section 2m(i) and 2m(ii) of Factories Act, 1948 and Bidi and Cigar Workers (conditions of employment) Act, 1966 and (b) those run by Government (Central Government, State Governments, Local Bodies)/Public Sector Enterprises.

In this paper data for the unorganised manufacturing sector in Assam are drawn

from the latest three quinquennial rounds of NSS survey on unorganised manufacturing sector, viz. 51st round (July 1994 June 1995), 56th round (July 2000 June 2001) and 62nd round (July 2005 June 2006).² These rounds, however, differ from each other in terms of industrial classification and coverage, which leads to a few conceptual and methodological inconsistencies in different rounds of data. For instance, the 51st round, 56th round and 62nd round data are based on the National Industrial Classification (NIC) of 1987, 1998 and 2004, respectively. Therefore, we have to make necessary adjustments to the industry groups under the NIC 1987 and NIC 1998, to make the industry groups comparable with the industry groups under NIC 2004. Secondly, some industrial categories such as repair services, repair of capital services, etc., are included in the 51st round, but excluded in the 56th and 62nd rounds, and some industrial categories such as cotton ginning, cleaning and baling, recycling, etc., are included in the 56th and 62nd rounds, but excluded in the 51st round. These industrial categories have been excluded from the analysis in order to make valid comparison among all the three NSS rounds.

Why Emphasise on Unorganised Manufacturing Sector?

The unorganised manufacturing sector represents an important part of the economy, especially in developing countries like India. The sector is regarded as the growth engine of many developing economies and is one of the fastest growing industrial sectors all over

the world. The strategic role of the sector is the creation of a wide variety of gainful employment opportunities at a very lower cost of capital, along with its contribution to production, income generation, exports and capital accumulation.

The size of unorganised manufacturing sector in Assam is huge both in terms of number of units and workers. Table 1 shows that during 2005-06 more than 99.5 per cent of manufacturing enterprises were in the unorganised segment and the dominance of the sector remained since 1994-95. The predominance of the unorganised segment is true in respect of employment as well. In 1994-95, the segment accommodated about 83.3 per cent of the workers engaged in manufacturing, which declined 81.6 per cent in 2000-01 and then increased to 83.1 per cent in 2005-06. In other words, the organised sector accounted for only 0.50 per cent of manufacturing units during 1994-95 to 2005-06 and about 16.7 per cent of manufacturing employment in 1994-95, 18.4 per cent in 2000-01; and 16.9 per cent in 2005-06. Thus, it is apparent that the unorganised manufacturing sector approximately sums up the total manufacturing sector in the State, especially from the view point of number of units and workers. However, the sector's contribution to manufacturing gross value added is very meagre, which was 26.17 per cent in 1994-95, 33.8 per cent in 2000-01 and 24.9 per cent in 2005-06. This is because of abysmally low level of productivity due to low level of technology-in-use in the sector, what we will discuss in a later section.

Table 1: Structure of Manufacturing Sector in Assam: 1994-95 to 2005-06

Year	Industry Type	No. of Units		No. of Workers		Gross Value Added*	
			% share		% share	₹ Lakh	% share
1994-95	Organised	1514	0.49	124885	16.70	114535	73.83
	Unorganised	307200	99.51	622814	83.30	40592	26.17
	Total	308714	100.00	747699	100.00	155127	100.00
2000-01	Organised	1435	0.51	112542	18.41	160468	66.24
	Unorganised	278449	99.49	498800	81.59	81781	33.76
	Total	279884	100.00	611342	100.00	242249	100.00
2005-06	Organised	1864	0.50	128662	16.90	410918	75.11
	Unorganised	370781	99.50	632481	83.10	136169	24.89
	Total	372645	100.00	761143	100.00	547087	100.00

Note: * Values are at Current Prices.

Source: NSSO (1998a, 1998b, 2002a, 2002b, 2002c, 2008a and 2008b) and CSO (1994/95, 2000/01 and 2005/06).

Structure of Unorganised Manufacturing Sector in Assam

Before we discuss the pattern and growth of employment in unorganised manufacturing sector, it is worthwhile to analyse the structure of the sector. In India, the unorganised manufacturing sector is subdivided into three enterprise types- own account manufacturing enterprises (OAMEs), non-directory manufacturing establishments (NDMEs) and directory manufacturing establishments (DME). As per the definition followed by the NSSO, OAMEs are enterprises run without a hired worker on a fairly regular basis; NDMEs are establishments employing up to six workers, at least one of them being a hired worker employed on a fairly regular basis; and DMEs are establishments employing six or more (but less than ten) workers, at least one of them being a hired worker.

The composition and structural changes in unorganised manufacturing sector in Assam during 1994-95 to 2005-06 is shown in Table 2 in terms of three indicators, namely, number of units, number of workers and gross value added, separately for different enterprises

types. It is obvious from Table 2 that a very large proportion of unorganised manufacturing industries in Assam has been continued to be constituted by the OAMEs, which are the tiniest self-employing enterprises. The dominance of the OAMEs segment is true in respect of each of the three indicators. For example, in 2005-06, 88.5 per cent of the units, 74.6 per cent of workers and 55 per cent of gross value added in the unorganised manufacturing sector are concentrated in the OAMEs segment. On the other hand, these percentages are only of 10.3, 18.1 and 31.1, respectively for NDMEs segment and 1.2, 7.3 and 13.8, respectively for DMEs segment. Thus, it is apparent that unorganised manufacturing sector in Assam has been dominated by the OAMEs, especially in terms of number of units and workers. On the other hand, the presence of NDMEs and DMEs, which are regarded as the modern segment of unorganised manufacturing, in Assam's unorganised manufacturing sector has been very marginal in terms of number of units and workers, but in terms of gross value added they have fairly respectable shares.

Table 2: Structure of Unorganised Manufacturing Sector in Assam

Year	EnterpriseType	No. of Units		No. of Workers		Gross Value Added*	
		in '000	% share	in '000	% share	₹ Lakh	% share
1994-95	OAME	262.9	85.6	489.5	78.6	21526	58.8
	NDME	42.0	13.7	116.3	18.7	12472	34.1
	DME	2.2	0.7	17.0	2.7	2586	7.1
	ALL	307.1	100.0	622.8	100.0	36583	100.0
2000-01	OAME	247.4	88.9	392.5	78.7	26197	59.6
	NDME	28.2	10.1	81.1	16.3	10927	24.9
	DME	2.8	1.0	25.2	5.1	6813	15.5
	ALL	278.4	100.0	498.8	100.0	43937	100.0
2005-06	OAME	328.1	88.5	472.1	74.6	35619	55.0
	NDME	38.2	10.3	114.4	18.1	20132	31.1
	DME	4.4	1.2	45.9	7.3	8959	13.8
	ALL	370.8	100.0	632.5	100.0	64712	100.0

Note: * Values are at Constant (1993-94) Prices.

Source: NSSO (1998a, 1998b, 2002a, 2002b, 2002c, 2008a and 2008b).

From the data presented in Table 2 we can identify some changes that have taken place in the structure of the unorganised manufacturing sector between 1994-95 and 2005-06. In terms of number of units, the share of OAMEs remained unchanged throughout, the share of NDMEs has marginally declined, which has gained by the DMEs. In terms of number of workers, the share of OAMEs remained same during 1994-95 to 2000-01 and then declined marginally during 2000-01 to 2005-06, whereas the share of NDMEs declined during 1994-95 to 2000-01 and then increased during 2000-01 to 2005-06 and that of DMEs significantly increased throughout the period. In terms of gross value added, the share of OAMEs marginally increased during 1994-95 to 2000-01 and then declined during 2000-01 to 2005-06, while that of NDMEs declined during 1994-95 to 2000-01 and then increased during 2000-01 to 2005-06. The DMEs segment, in contrast, experienced increase in

its share in gross value added throughout the period 1994-95 to 2005-06.

Going by absolute numbers, we can see that there has been overall improvement in number of units during 1994-95 to 2005-06. However, a break-up in the period shows that during 1994-95 to 2000-01, the number of units drastically declined, particularly for OAMEs and NDMEs segments, while numbers of DME units increased; and then during 2000-01 to 2005-06, the number of units increased in each segment of the unorganised manufacturing sector. But the absolute figures for NDMEs units in 2005-06 are lower than those for 1994-95, while in the other two segments the figures in 2005-06 are higher than those for 1994-95. In terms of numbers of workers there has been improvement in the absolute numbers during 1994-95 to 2005-06 for the overall unorganised manufacturing sector, but except for DMEs

segment, the OAMEs and NDMEs segments suffered sharp decline in workers between 1994-95 and 2005-06. In the OAMEs and NDMEs segments the absolute decline in number of workers during 1994-95 to 2000-01 was much sharper than the increase in number of workers during 2000-01 to 2005-06. Contradictorily, the DMEs segment experienced significant increase in number of workers throughout the period 1994-95 to 2005-06. In terms of gross value added, the unorganised manufacturing sector experienced significant rise during 1994-95 to 2005-06.

Employment in Unorganised Manufacturing Sector in Assam

Growth of Employment : The compound annual growth rate of employment in unorganised manufacturing sector in Assam during 1994-95 to 2005-06 is illustrated in Table 3. The employment in unorganised manufacturing sector witnessed an annual decline of 3.63 per cent during 1994-95 to

2000-01. The closure of as large as 28.7 thousand units during this period (Table 2) was largely responsible for this employment setback. However, the sector experienced significant growth of 4.86 per cent per annum during 2000-01 to 2005-06. This employment surge was again accompanied by establishment of about 92.4 thousand new units during this period (Table 2). For the entire period (1994-95 to 2005-06), the sector has managed an annual growth rate of 0.14 per cent in employment. Looking at the growth of employment in the sub-sectors, the OAMEs and NDMEs sector suffered sharp decline of 3.61 per cent and 5.83 per cent, respectively between 1994-95 and 2000-01. However, both the sectors experienced considerable improvement (3.76 and 7.12 per cent, respectively) during 2000-01 to 2005-06, but a marginal decline for the entire study period. Contrarily, the DMEs segment enjoyed significant growth in workers throughout the study period.

Table 3: Compound Annual Growth Rate (%) of Employment in Unorganised Manufacturing Sector

Enterprise Type	1994-95/2000-01	2000-01/2005-06	1994-95/2005-06
OAME	-3.61	3.76	-0.33
NDME	-5.83	7.12	-0.15
DME	6.78	12.74	9.45
ALL	-3.63	4.86	0.14

Source: Same as in Table 2.

Composition of Workers by Employment Type

Though the employment situation of the unorganised manufacturing sector in Assam is found to be improved in recent years (Table 3), it is also important to look at the composition of employment in terms of part-time and full-time workers, separately for male and female category. This is because the existing evidence for India as a whole suggests that in recent years, the unorganised manufacturing sector witnessed significant increase in the part-time workers, while the full-time workers sharply declined (Sahu, 2007).³ This could also be a case for Assam's unorganised manufacturing sector. Therefore, we analyse the size and composition of workers in terms of the nature of employment: part-time and full-time, separately for male and female category.

Table 4 shows the composition of workers by employment type for the period 1994-95 to 2005-06. It shows that the share of full-time workers for the overall unorganised manufacturing sector declined from 77.38 per cent in 1994-95 to 73.58 per cent in 2005-06. This implies the share of part-time workers has increased from 22.62 to 26.42 per cent during this period. The share is not uniform among the three layers of the unorganised manufacturing sector. The share of part-time workers was more for the OAMEs segment and this is true for throughout the study period. In 1994-95, the share of part-time workers stood at 27.11 per cent for OAMEs, 5.58 per cent for NDMEs and 9.41 per cent for DMEs, which increased to 31.16, 11.36 and 15.25 per cent, respectively for the OAMEs, NDMEs and DMEs segments in 2005-06.

During 1994-95 to 2000-01, there has been sharp decline in both full-time and part-

time workers, but the decline was higher for the full-time workers (101.5 thousands) compared to part-time workers (22.5 thousands). The decline in full-time workers was largely contributed by the decline in OAMEs and NDMEs segments, while the DMEs segment experienced improvement (Table 4). The decline in part-time workers was mainly contributed by the OAMEs segment, while the NDMEs and DMEs segments experienced increase in part-time workers during this period. During 2000-01 to 2005-06, there has been increase in both full-time as well as part-time workers in all the segments of unorganised manufacturing sector. But, the increase was more in case of part-time workers compared to full-time workers (may not be in terms of absolute numbers, but in terms of growth rates) for the overall unorganised manufacturing sector as well as its all the three sub-sectors.

In terms of the absolute numbers, a comparison of employment situation in 2005-06 with that in 1994-95 reveals that the number of full-time workers for the overall unorganised manufacturing sector as well as for OAMEs and NDMEs segments was lower in 2005-06 than those figures in 1994-95 (Table 4). Contrarily, the number of part-time workers was higher in 2005-06 than those figures in 1994-95. Only for the DMEs segment the number of both full-time and part-time workers was higher in 2005-06 than those figures in 1994-95. This implies that the size of increase in full-time workers during 2000-01 to 2005-06 was lower than the size of decline during 1994-95 to 2000-01, leading to overall decline in full-time workers for the overall unorganised manufacturing sector and OAMEs and NDMEs segments during the period 1994-95 to 2005-06.

Table 4 : Workers by Employment Type in Unorganised Manufacturing Sector

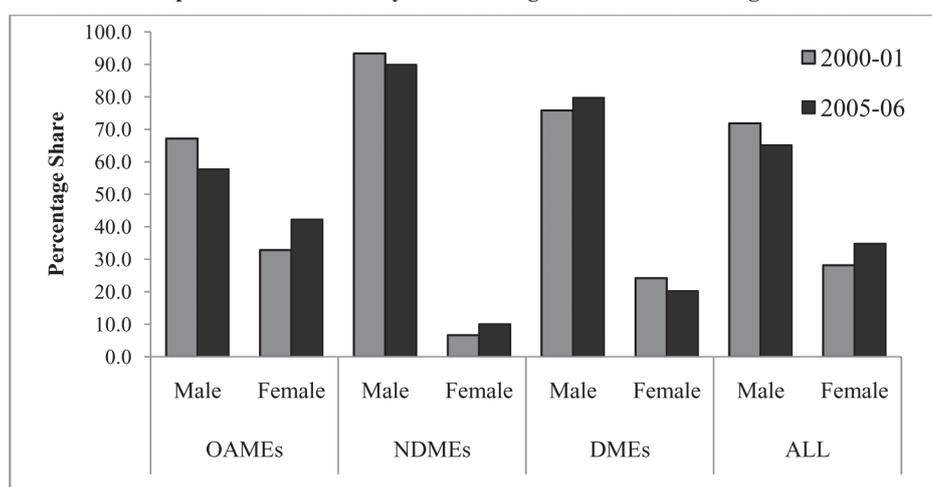
	OAME			NDME			DME			ALL		
	Full-time	Part-time	Total									
Composition of Workers (in Thousands)												
1994-95	356.8	132.7	489.5	109.5	6.8	116.3	15.4	1.6	17.0	481.9	140.9	622.8
2000-01	283.8	108.7	392.5	74.2	6.9	81.1	22.4	2.8	25.2	380.4	118.4	498.8
2005-06	325.0	147.1	472.1	101.4	13.0	114.4	38.9	7.0	45.9	465.4	167.1	632.5
Share of Full-time and Part-time Workers (in per cent)												
1994-95	72.89	27.11	100.00	94.15	5.85	100.00	90.59	9.41	100.00	77.38	22.62	100.00
2000-01	72.31	27.69	100.00	91.49	8.51	100.00	88.89	11.11	100.00	76.26	23.74	100.00
2005-06	68.84	31.16	100.00	88.64	11.36	100.00	84.75	15.25	100.00	73.58	26.42	100.00
Increment/Decrement (in Thousands)												
2000-01/1994-95	-73.0	-24.0	-97.0	-35.3	0.1	-35.2	7.0	1.2	8.2	-101.5	-22.5	-124.0
2005-06/2000-01	41.2	38.4	79.6	27.2	6.1	33.3	16.5	4.2	20.7	85.0	48.7	133.7
2005-06/1994-95	-31.8	14.4	-17.4	-8.1	6.2	-1.9	23.5	5.4	28.9	-16.5	26.2	9.7
Compound Annual Growth Rate (in per cent)												
1994-95/2000-01	-3.74	-3.27	-3.61	-6.28	0.24	-5.83	6.44	9.78	6.78	-3.87	-2.86	-3.63
2000-01/2005-06	2.75	6.24	3.76	6.45	13.51	7.12	11.67	20.11	12.74	4.12	7.13	4.86
1994-95/2005-06	-0.85	0.94	-0.33	-0.70	6.07	-0.15	8.79	14.36	9.45	-0.32	1.56	0.14

Source : Same as Table 2.

Composition of Workers by Sex and Employment Type : Figure 1 illustrates the composition of unorganised manufacturing workers separately for male and female for the period 2000-01 to 2005-06.⁴ It reveals that in 2000-01, about 71.85 per cent of total unorganised manufacturing workers in Assam were male. The share of male workers declined to 65.17 per cent in 2005-06. This implies that the share of the female workers in unorganised manufacturing sector increased from 28.15 to 34.83 per cent during 2000-01

to 2005-06. The male-female composition of workers is not uniform among the three segments of unorganised manufacturing sector. The OAMEs segment accommodated the highest female unorganised manufacturing workers, followed by the DMEs segment. Between 2000-01 and 2005-06, the OAMEs and NDMEs segments have experienced increase in the share of female workers, whereas in the DMEs segment the share of female workers declined.

Figure 1
Composition of Workers by Sex in Unorganised Manufacturing Sector



Source : NSSO (2002a, 2002b, 2002c, 2008a and 2008b).

Going by the absolute numbers, as Table 5 depicts, the size of male workers increased from 358.4 thousand in 2000-01 to 412.1 thousand in 2005-06, while size of female workers increased from 140.4 thousand to 220.3 thousand during the same period. Thus, between 2000-01 and 2005-06, there has been increment of about 53.74 thousand male workers and 79.94 thousand female workers, with the compound annual growth rate of 2.83 and 9.43 per cent for the male and female category, respectively. In the case of male workers, the highest increment in terms of number of workers was in the NDMEs segment

(27.04 thousand) followed by DMEs segment (17.56 thousand), while in terms of growth rate it was the DMEs segment (13.93 per cent) followed by NDMEs segment (6.29 per cent). The absolute increment/growth rate was very low for the OAMEs segment. In the female category, the OAMEs segment contributed the largest increment in the number of workers (70.58 thousand), followed by NDMEs segment (6.18 thousand), but growth rate was highest for the NDMEs segment (16.48 per cent) followed by OAMEs (9.13 per cent) and DMEs (8.77 per cent) segments.

Table 5 also illustrates the composition of workers by employment type for male and females separately. It is obvious that the share of part-time workers was high in the female category for the overall unorganised manufacturing sector as well as its three sub-sectors. Of the total female unorganised manufacturing workers, about 42.17 per cent were part-time workers in 2000-01 and 35.13 per cent in 2005-06. The corresponding figures for male part-time unorganised manufacturing

workers were 16.52 and 21.76, respectively. The decline in the share of female part-time workers was mainly due to decline of the share of female part-time workers in the OAMEs segment, while the share of female part-time workers in the NDMEs and DMEs segments increased significantly. On the other hand, the share of male part-time workers increased in all the three segments of the unorganised manufacturing sector in Assam.

Table 5 : Workers by Sex and Employment Type in Unorganised Manufacturing Sector

	Year	Male			Female		
		Full-time	Part-time	Total	Full-time	Part-time	Total
Composition of Workers (in Thousands)							
OAME	2000-01	211.5	52.1	263.6	72.4	56.5	128.9
	2005-06	194.6	78.1	272.6	130.4	69.0	199.5
NDME	2000-01	69.6	6.1	75.8	4.6	0.8	5.4
	2005-06	93.3	9.6	102.8	8.1	3.4	11.6
DME	2000-01	18.2	0.9	19.1	4.2	1.9	6.1
	2005-06	34.6	2.0	36.7	4.3	5.0	9.3
ALL	2000-01	299.2	59.2	358.4	81.2	59.2	140.4
	2005-06	322.5	89.7	412.1	142.9	77.4	220.3
Percentage Share of Full-time and Part-time Workers							
OAME	2000-01	80.24	19.76	100.00	56.17	43.83	100.00
	2005-06	71.36	28.64	100.00	65.40	34.60	100.00
NDME	2000-01	91.94	8.06	100.00	85.19	14.81	100.00
	2005-06	90.67	9.33	100.00	70.43	29.57	100.00
DME	2000-01	95.29	4.71	100.00	68.85	31.15	100.00
	2005-06	94.54	5.46	100.00	46.24	53.76	100.00
ALL	2000-01	83.48	16.52	100.00	57.83	42.17	100.00
	2005-06	78.24	21.76	100.00	64.87	35.13	100.00
Increment/Decrement (in thousands) in 2005-06 over 2000-01							
OAME		-16.91	25.96	9.05	58.04	12.54	70.58
NDME		23.66	3.48	27.04	3.54	2.64	6.18
DME		16.42	1.14	17.56	0.11	3.08	3.19
ALL		23.26	30.48	53.74	61.70	18.25	79.94
Compound Annual Growth Rate (in per cent) between 2000-01 and 2005-06							
OAME		-1.65	8.42	0.68	12.50	4.09	9.13
NDME		6.03	9.45	6.29	12.10	33.84	16.48
DME		13.72	17.78	13.93	0.54	21.23	8.77
ALL		1.51	8.66	2.83	11.97	5.52	9.43

Source: NSSO (2002a, 2002b, 2002c, 2008a and 2008b).

In terms of absolute numbers, the size of male part-time workers increased from 59.2 thousand in 2000-01 to 89.7 thousand in 2005-06, while size of female part-time workers increased from 59.2 thousand to 77.4 thousand during the same period. Within the unorganised manufacturing sector, all the three sub-sectors experienced increase in part-time workers for both male and female category between 2000-01 and 2005-06; the highest increment being witnessed by the OAMEs segment, about 25.96 thousand in the male category and 12.54 thousand in the female category.

The size of full-time workers also increased for both the male and female categories for the overall unorganised manufacturing sector during 2000-01 to 2005-06. However, the increment in full-time workers was much higher in the female category (61.70 thousand), whereas the increment in the male full-time workers was about 23.26 thousand. Thus, whatever the increase in full-time workers (about 85 thousand) we have observed between 2000-01 and 2005-06, more than two-thirds of these workers were female workers. This phenomenal increase in the female full-time workers was mainly occurred in the OAMEs segment (about 58.04 thousand increment), while NDMEs and DMEs segments witnessed marginal increment in female full-time workers. On the other hand, though the overall unorganised manufacturing sector witnessed increase in number of male full-time workers during 2000-01 to 2005-06, the OAMEs segment experienced a decline of about 16.91 thousand male full-time workers. The NDMEs and DMEs segments, however, experienced significant increment in male full-time workers during the same period.

To summarise, whatever the improvement in employment of the unorganised manufacturing sector in Assam has been observed between 2000-01 and 2005-06, was largely contributed by the increase of part-

time workers (both male and female) and female full-time workers, especially in the OAMEs segment. Though the size of both full-time and part-time workers increased for both male and female category, the absolute increment was high for the female workers, especially in the OAMEs segment. Thus, the recent increase in employment in the unorganised manufacturing sector in Assam has taken place mainly through casualisation of workers within the unorganised manufacturing sector and also through feminisation of workers.

Productivity of Unorganised Manufacturing Sector in Assam

The unorganised manufacturing units use very low level of technology, which causes low productivity, low profits and stagnation of the sector. There is unanimous evidence to claim that the factor productivity in the unorganised manufacturing sector in India is very low (Mukharjee, 2004; Sahu, 2007; Kathuria et al., 2010). However, there is little evidence about it for the State of Assam. Nayak and Dey (1996), based on the Second All India Census of Small Scale Industrial Units (1988), conclude that the level of labour and capital productivity was very low in the small scale industrial sector in Assam. Kathuria et al. (2010) observe that labour productivity in unorganised manufacturing sector in Assam was 9.4 times lower than that in the organised manufacturing sector during 1994-2005, whereas for the country as a whole it was 4.4 times lower in the unorganised sector compared to organised sector. They also find that capital-labour ratio in the unorganised manufacturing sector is much lower than that in the organised manufacturing sector - while for the country as a whole it was 3.5 times lower, for Assam it was 15.4 times lower during 1994-2005. Saikia (2013) also reports low level of factor productivity in the unorganised manufacturing sector in Assam during 1994-95 to 2005-06. With such low level of productivity, the unorganised manufacturing sector has been facing serious challenges in the post-reform

period, as the sector has to meet stiff competition from the large-scale units. In such situation, the major challenge for the sector is to create gainful employment with increasing the level of factor productivity.

Although we are aware about the fact that the partial productivity measures present only a partial picture of the efficiency in factor-use, in this study the productivity of unorganised manufacturing sector is discussed by using two partial productivity measures, viz. labour productivity - measured as gross value added per worker and capital productivity - measured as gross value added per unit of fixed capital. We have also looked into the capital intensity, measured as capital-labour ratio, which gives the investment per worker. The level and compound annual growth rate of labour and capital productivities and capital intensity of the unorganised manufacturing sector in Assam are reported in Tables 6 and 7, respectively.

The labour productivity (at constant 1993-94 prices) for the overall unorganised manufacturing sector increased from ₹ 5874 in 1994-95 to ₹ 10231 in 2005-06. Within the unorganised sector, labour productivity is lowest in the OAMEs segment. The labour productivity increased in all the three segments of unorganised manufacturing sector, except for DMEs between 2000-01 and 2005-06. The annual growth in real labour productivity for the overall unorganised manufacturing sector recorded at 6.99 per cent during 1994-95 to 2000-01, which slowed down to 3.04 per cent during 2000-01 to 2005-06. For the entire period 1994-95 to 2005-06, the annual growth rate was 5.17 per cent. All the three segments within the unorganised manufacturing sector recorded

growth in real labour productivity during the entire period and two sub-periods, except the DMEs segment during 2000-01 to 2005-06.

The capital productivity increased during 1994-95 to 2000-01 for the overall unorganised manufacturing sector and its OAMEs segment, while it declined for NDMEs and DMEs segment during the same. On the other hand, during 2000-01 to 2005-06, capital productivity declined for the overall unorganised manufacturing sector as well as OAMEs and DMEs segments, but increased for NDMEs segment. Compared with the year 1994-95, the capital productivity in 2005-06 was lower for the overall unorganised manufacturing sector as well as NDMEs and DMEs segments, but higher in OAMEs segment.

Table 6 also reveals that capital intensity in the unorganised manufacturing sector in Assam has been abysmally low. The capital intensity (at constant 1993-94 prices) for the overall unorganised manufacturing sector, stood at ₹ 4180 in 1994-95, which increased to ₹ 8040 in 2005-06. The capital intensity is highest for the DMEs segment, which is relatively capital intensive within the unorganised manufacturing sector, while it is lowest in the OAMEs segment, which is the tiniest segment of the unorganised manufacturing sector. The real capital intensity of the overall unorganised manufacturing sector recorded an annual growth of 5.27 per cent during 1994-95 to 2000-01, 7.17 per cent during 2000-01 to 2005-06 and 6.13 per cent during 1994-95 to 2005-06. All the sub-sectors of unorganised manufacturing sector recorded significant growth in capital intensity during the overall study period as well as the sub-periods.

Table 6 : Factor Productivities and Capital Intensity in Unorganised Manufacturing Sector

Enterprise Type	Year	Labour Productivity (')*	Capital Productivity	Capital Intensity (')*
OAME	1994-95	4398	1.39	3163
	2000-01	6675	1.68	3982
	2005-06	7545	1.40	5392
NDME	1994-95	10720	1.34	7990
	2000-01	13473	1.21	11172
	2005-06	17595	1.33	13274
DME	1994-95	15207	2.06	7377
	2000-01	27001	1.85	14587
	2005-06	19502	0.88	22202
All	1994-95	5874	1.41	4180
	2000-01	8808	1.55	5688
	2005-06	10231	1.27	8040

Note: * Values are at Constant (1993-94) Prices. Source: Same as in Table 2.

Table 7: Compound Annual Growth Rate (%) of Factor Productivities and Capital Intensity in Unorganised Manufacturing Sector

Enterprise Type	Year	Labour Productivity	Capital Productivity	Capital Intensity
OAME	1994-95/2000-01	7.20	3.17	3.91
	2000-01/2005-06	2.48	-3.55	6.25
	1994-95/2005-06	5.03	0.06	4.97
NDME	1994-95/2000-01	3.88	-1.76	5.74
	2000-01/2005-06	5.48	1.91	3.51
	1994-95/2005-06	4.61	-0.11	4.72
DME	1994-95/2000-01	10.04	-1.78	12.03
	2000-01/2005-06	-6.30	-13.85	8.76
	1994-95/2005-06	2.29	-7.46	10.53
ALL	1994-95/2000-01	6.99	1.63	5.27
	2000-01/2005-06	3.04	-3.85	7.17
	1994-95/2005-06	5.17	-0.90	6.13

Source: Same as in Table 2.

Conclusion

The unorganised manufacturing sector occupies a place of great significance in the industrial economy of Assam, especially in terms of number of units and employment. Within the unorganised manufacturing sector, the OAMEs segment plays a dominant position. Therefore, any policy towards development of the industrial sector in Assam should consign utmost focus to the unorganised manufacturing sector and to the OAMEs segment within the unorganised manufacturing sector. In this context, the present paper examines the employment pattern of the unorganised manufacturing sector in Assam for the period 1994-95 to 2005-06.

The findings of the paper suggest that the performance of the unorganised manufacturing sector has been abysmal over the years. During 1994-95 to 2000-01, many of the unorganised manufacturing units closed down, especially in the OAMEs and NDMEs segments. Similarly, there has been significant decline in workers in the OAMEs and NDMEs segments of unorganised manufacturing sector, while the DMEs segment, being bigger in scale of operation, has considerably contributed in generating employment during this period. However, the sector has shown some sort of increase in employment during 2000-01 to 2005-06. All the three segments within the sector witnessed significant increase in employment during this period. However, the increase in employment during 2000-01 to 2005-06 was not sufficient to compensate the loss of employment during the previous period (1994-95 to 2000-01) in the OAMEs and NDMEs

segments, resulting in loss of employment in these two segments during the entire study period.

The most disturbing fact is that an overwhelming proportion of workers losing their jobs during 1994-95 to 2000-01 was full-time workers, especially in the OAMEs segment. But, a large proportion of the new jobs created during 2000-01 to 2005-06 were part-time workers, again in the OAMEs segment. Thus, there is a tendency for the proportion of part-time workers to increase in the unorganised manufacturing sector, and this is true for all the three segments of the sector. Adding to this, the share of female workers increased in both the part-time and full-time worker category, in all the three segments of the sector, especially again in the OAMEs segment. Thus, it can be said that the recent increase in employment of unorganised manufacturing sector in Assam has taken place largely through casualisation and feminisation of workers. Adding to this, the level of productivity is found to be very low in unorganised manufacturing sector in Assam, leading to poor performance of the sector. Within the unorganised manufacturing sector, the productivity level is lowest in the OAMEs segment. Thus, though the unorganised manufacturing sector has got immense employment potential, the impending role of the sector in creating productive employment opportunities is doubtful in Assam. Therefore, it is important to provide special policy attention for increasing productivity through modernisation and technological upgradation of the sector.

Notes

1. Here, we refer to the macro-economic reforms of July 1991 and the period thereafter. Until July 1991, India has followed an inward-looking restrictive policy regime, characterised by economic planning, state-led industrialisation, high protectionism, imports substitution, exchange control, and extensive state-regulation on different spheres of the economy. The macro-economic reforms initiated in the economy following the balance of payment crisis of July 1991 broadly covered the areas of industrial licensing, foreign trade, foreign investment,

exchange rate management, tax reforms and financial sector reforms. This economic reform was a crucial turning point in economic policy history and has become one of the landmarks for the recent spate of economic growth in India.

2. The NSS data are not available at yearly basis, rather at an interval of five years. Starting in 1958–1959 it has completed, till date, nine-rounds of survey on unorganised manufacturing industries (the other rounds are during 1968–1969, 1974–1975, 1978–1979, 1984–1985, 1989–1990, 1994–1995, 2000–2001 and 2005–06).
3. To the best of our knowledge, no study has so far focused on this issue in the context of Assam, and hence, there is dearth of information about it.
4. For the year 1994-95, the composition of workers by employment type is not available for male and females differently in the NSS published reports (NSSO 1998a, 1998b). Therefore, we are not able to carry out analysis for the year 1994-95.

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