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Role of Unorganized Manufacturing in Expanding Employment Opportunities in Assam

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ABSTRACT

The unorganized sector plays important role in creating gainful employment opportunities, especially in developing countries, which are, in general, labour abundant. The Eleventh Five Year Plan has emphasized that the unorganized manufacturing sector holds the promise of vast employment creation, and thus, could be a panacea to the burgeoning labour force in India. In this light the present paper analyzes the structure and growth of employment in the unorganized manufacturing sector in Assam. Our main concern is to address the employment potentiality of the sector in the State. We have discussed the issue in the light of different technology parameters such as capital intensity and factor productivity, etc. The analysis has been carried out separately for different enterprise types to get a clear picture about the specific sectors and sub-sectors. The findings suggest that the unorganized manufacturing sector of Assam has witnessed sharp decline during 1994-95 to 2000-01, especially in terms of number of units and employment, but the sector has experienced significant rise in recent years (during 2000-01 to 2005-06). However, this improvement is at the cost of quality of employment, since the number of full-time workers has sharply declined and there has been increase in part-time workers only.

Key words: Unorganized manufacturing, employment creation.

1. Introduction

Creation of gainful employment has been one of the major challenges for the policymakers in India, especially in the post-reforms period. This is partly because the employment situation during this period has not been encouraging and the organized manufacturing sector has failed to generate employment opportunities (Rani and Unni, 2004, Sahu, 2007). Contrarily, the unorganized manufacturing sector has witnessed remarkable rise in both the number of units and workers during the post-reforms period (Sahu, 2007). The unorganized 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. The unorganized 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. Recognizing the role of the unorganized sector, the 11th Five Year Plan has emphasised the sector as the most potential sector for rapid employment generation, and thus, a panacea to the burgeoning labour force in the country.

The industrial scenario of Assam, which is one of the industrially backward States in India,¹ is largely confined to the unorganized manufacturing sector. The Unorganized manufacturing sector with about 370.8 thousand units, which is more than 99.5 percent of total manufacturing units, accommodated about 632.5 thousand workers, which is more than 83 percent of manufacturing workers in Assam during 2005-06. In spite of the crucial role played by the sector in industrialization process in the State and employment generation and achieving other socio-economic objectives as well, the sector has not received due attention in the policy sphere and research community in the State. While for the India as a whole studies have shown that the unorganized manufacturing sector has witnessed sharp decline in number of units and employment during mid-1980s to mid-1990s and the period since mid-1990s has experienced significant rise of the sector in terms of both number of units and employment (Rani and Unni, 2005; Sahu, 2007), 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 analyzing the structure and growth of unorganized manufacturing sector in Assam. The specific objective of the paper is to discuss the employment potential of the unorganized manufacturing sector by examining the structure and growth of the sector in terms of

¹ As per the Economic Survey, Assam 2011-12, the manufacturing sector contributed only about 7.0 percent to Gross State Domestic Product in Assam during 2010-11 and during the same year the growth of the sector registered at 3.8 percent at constant (2004 -05) prices and 9.0 percent at current prices.

different indicators such as number of units, number of workers and gross value added, as well as different technology indicators such as capital intensity, labour productivity and ratio of gross value added to capital. The analysis has been carried out for the overall unorganised manufacturing sector as well as for different enterprise types within the sector: OAMEs, NDMEs and DMEs.²

The rest of paper is organized in the following sections. Section 2 briefly outlines the database used in the study. Section 3 discusses the importance of unorganized manufacturing sector in Assam. Section 4 analyzes the structure of unorganized manufacturing sector. In section 5 we have examined the growth performance of the unorganized manufacturing sector in the States. Section 6 analyzes different technology indicators of the unorganized manufacturing sector. Finally, section 7 concludes.

2. Data Sources

The present study is based on National Sample Survey Organisation (NSSO) data on unorganized manufacturing sector, for three points of time, viz. 51st round (July 1994-June 1995), 56th round (July 2000-June 2001) and 62nd round (July 2005-June 2006). These surveys cover all the units of unregistered manufacturing sector and provide a large variety of estimates for the entire unregistered manufacturing sector.³ However, these rounds 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, required adjustments to the industry groups under the NIC 1987 and NIC 1998 have been made, to make the industry groups comparable with the industry groups under NIC 2004. Secondly, some industrial categories such as ‘repair services’ and/or ‘repair of capital services’ are included in the 51st round, but excluded in the 56th and 62nd rounds; and some industrial categories such as cotton ginning,

² In India, the unorganized manufacturing sector is subdivided into three sub-sectors- own account manufacturing enterprises (OAMEs), non-directory manufacturing establishments (NDMEs) and directory manufacturing establishments (DME). 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. DMEs are establishments employing six or more (but less than ten) workers, at least one of them being a hired worker.

³ In the NSS framework, the unregistered (or unorganised) manufacturing sector covers all the manufacturing enterprises that are not covered by Annual Survey of Industries. 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.

cleaning and baling, and recycling 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.

3. Importance of Unorganized Manufacturing Sector

The size of unorganized manufacturing sector is huge both in terms of number of units and workers in Assam. As we can see from Table 1 that during 2005-06 more than 99.5 percent of manufacturing enterprises were in the unorganised segment in Assam. The dominance of the sector has remained since 1994-95. The predominance of the unorganized segment is true in respect of employment as well. In 1994-95 the segment accommodated about 83.3 percent of the workers engaged in manufacturing, which declined 81.6 percent in 2000-01 and then increased to 83.1 percent in 2005-06. In other words, the organized sector accounted for only 0.50 percent of manufacturing units during 1994-95 to 2005-06 and about 16.7 percent of manufacturing employment in 1994-95, 18.4 percent in 2000-01; and 16.9 percent in 2005-06. However, the unorganized sector's contribution to manufacturing gross value added was only 26.17 percent in 1994-95, which increased to 33.8 percent in 2000-01 and then declined to 24.9 percent in 2005-06. Thus, it is clear that the unorganized manufacturing sector approximately sums up the total manufacturing sector of Assam, especially from the view point of number of units.

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

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

Note: * Values are at Current Prices.

4. Structure of Assam's Unorganized Manufacturing Sector

The composition and structural changes in unorganized manufacturing sector of 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. Is it obvious from the Table that a very large proportion of Assam's unorganized manufacturing sector has been continued to be constituted by the own account manufacturing enterprises (OAMEs), which are the tiniest self-employed enterprises. The dominance of the OAMEs segment is true in respect of each of the three indicators. For example, in 2005-06, 88.5 percent of the units, 74.6 percent of workers and 55 percent of gross value added in the manufacturing sector are concentrated in the OAMEs segment. On the other hand, these percentages are only of 10.3 percent, 18.1 percent and 31.1 percent respectively for NDMEs and 1.2 percent, 7.3 percent and 13.8 percent respectively for DMEs.

Table 2: Structure of Assam's Unorganized Manufacturing Sector

Year	Enterprises Types	No. of Units		No. of Workers		Gross Value Added*	
		in '000	% share	in '000	% share	Rs. 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 Manufacturing	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 Manufacturing	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 Manufacturing	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, 2002d, 2008a and 2008b).

We can identify some changes that have been taken place in the structure of the unorganized manufacturing sector of Assam 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 has significantly increased throughout the period. In terms of gross value added the share of OAMEs has marginally increased during 1994-95 to 2000-01 and then declined during 2000-01 to 2005-06, while

that of NDMEs has declined during 1994-95 to 2000-01 and then increased during 2000-01 to 2005-06 and DMEs has increased during 1994-95 to 2005-06.

Thus, it is clear that Assam's unorganized manufacturing sector has been dominated by the OAMEs, which are the tiniest enterprises, 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 unorganized manufacturing, in Assam's unorganized 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.

However, going by absolute numbers there has been overall improvement in number of units during 1994-95 to 2005-06, but a break up in the period shows that during 1994-95 to 2000-01 the number of units has drastically declined, particularly for OAMEs and NDMEs segments, while numbers of DME units has increased; and then during 2000-01 to 2005-06 the number of units has increased in each segments of the unorganized 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 unorganized manufacturing sector, but except for DMEs segment, the OAMEs and NDMEs segments have 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 has experienced significant increase in number of workers throughout the period (from 17 thousands in 1994-95 to 25.2 thousands in 2000-01 and then to 45.9 thousands in 2005-06). In terms of gross value added, the unorganized manufacturing sector has experienced significant rise during the study period as well as during the two sub-periods.

5. Growth of Assam's Unorganized Manufacturing Sector

The growth performance of unorganized manufacturing sector of Assam during 1994-95 to 2005-06 is illustrated in Table 3 in terms of three indicators, viz. number of units, number of workers and gross value added. In terms of number of units, the overall unorganized manufacturing sector has witnessed an annual decline of 1.62 percent during 1994-95 to

2000-01. The decline was largely caused by significant decline in the NDMEs segment (6.42 percent) and OAMEs segment (1.01 percent), while the DMEs segment enjoyed an annual growth rate of 4.1 percent. However, during 2000-01 to 2005-06 the overall unorganized manufacturing sector has witnessed an annual growth of 5.89 percent, the growth was not uniform among all the three segments of the sector; DMEs sector being enjoyed the highest growth rate (9.46 percent). For the entire period (1994-95 to 2005-06) the annual growth rate in number of units recorded at 1.73 percent and barring the NDMEs segment, the other two segments have witnessed significant growth.

The employment situation in unorganized manufacturing sector has witnessed drastic decline (3.63 percent) during 1994-95 to 2000-01, but the sector has experienced significant rise (4.86 percent) during 2000-01 to 2005-06 and a marginal improvement (0.14 percent) for the entire period (1994-95 to 2005-06). Looking at the growth in the sub-sectors, the OAMEs and NDMEs sector have suffered a sharp decline during 1994-95 to 2000-01 and considerable growth during 2000-01 to 2001-05, but a marginal decline for the entire period. Contrarily, the DMEs segment has enjoyed significant growth in workers throughout the entire period.

Table 3: Growth of Assam's Unorganized Manufacturing Sector

Variables	Enterprises Types	1994-95/2000-01	2000-01/2005-06	1994-95/2005-06
No. of Units	OAME	-1.01	5.81	2.03
	NDME	-6.42	6.26	-0.86
	DME	4.10	9.46	6.50
	All	-1.62	5.89	1.73
No. of Workers	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
Gross Value Added*	OAME	3.33	6.34	4.68
	NDME	-2.18	13.00	4.45
	DME	17.52	5.63	11.96
	All	3.10	8.05	5.32

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

Source: Same as Table 2.

In terms of real gross value added the unorganized manufacturing sector has improved quite considerably.⁴ The real gross value added of the overall unorganized manufacturing sector has recorded an annual growth of 3.1 percent during 1994-95 to 2000-01, 8.05 percent during

⁴ We have used the state gross domestic product deflator for the manufacturing sector (at 1993–1994 prices) to deflate the nominal gross value added.

2000-01 to 2001-05 and 5.32 percent during 1994-95 to 2001-05. All the sub-sectors have experienced quite considerable growth in terms of real gross value added during the entire study period as well as during the two sub-periods, except the NDMEs segment, which has suffered a decline during 1994-95 to 2000-01.

5.1 Growth of Workers by Employment type

The above analysis reveals that after witnessing sharp decline in employment during 1994-95 to 2000-01, there has been significant rise in employment of Assam's unorganized manufacturing sector in recent years (during 2000-01 to 2005-06). But, it is also important to investigate the nature and quality of the employment. Therefore, in this section we analyze the growth of workers in terms of the nature of employment- part-time and full-time. Table 4 shows that there has been sharp decline in both the full-time and part-time workers during 1994-95 to 2000-01, but the decline is higher for the full-time workers (101.5 thousands) compared to part-time workers (22.5 thousands). The decline in full-time workers is largely contributed by the decline in OAMEs and NDMEs segments, while the DMEs segment has experienced improvement. The decline in part-time workers is mainly contributed by the OAMEs segment, while the NDMEs and DMEs segments have experienced increase in part-time workers during this period. During 2000-01 to 2005-06 there has been increase in both the full-time as well as part-time workers in all the segments of unorganized manufacturing sector. But, the increase is 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 unorganized manufacturing sector as well as in all three sub-segments.

But going by the absolute numbers, a comparison of 2005-06 with 1994-95 reveals that the number of full-time workers for the overall unorganized manufacturing sector as well as for OAMEs and NDMEs segments was lower in 2005-06 than those figures in 1994-95. 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, which resulted in overall decline in full-time workers for the overall unorganized manufacturing sector and its sub-sectors, except for DMEs segments during the entire study period (1994-95 to 2005-06).

Table 4: Workers by Employment type in Assam's Unorganized Manufacturing Sector: 1994-95 to 2005-06

	1994-95			2000-01			2005-06		
	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total
Composition of Workers (in Thousands)									
OAME	356.8	132.7	489.5	283.8	108.7	392.5	325.0	147.1	472.1
NDME	109.5	6.8	116.3	74.2	6.9	81.1	101.4	13.0	114.4
DME	15.4	1.6	17.0	22.4	2.8	25.2	38.9	7.0	45.9
All	481.9	140.9	622.8	380.4	118.4	498.8	465.4	167.1	632.5
Increment/Decrement (in Thousands)									
	2000-01/1994-95			2005-06/2000-01			2005-06/1994-95		
OAME	-73.0	-24.0	-97.0	41.2	38.4	79.6	-31.8	14.4	-17.4
NDME	-35.3	0.1	-35.2	27.2	6.1	33.3	-8.1	6.2	-1.9
DME	7.0	1.2	8.2	16.5	4.2	20.7	23.5	5.4	28.9
All	-101.5	-22.5	-124.0	85.0	48.7	133.7	-16.5	26.2	9.7
Growth Rate (%)									
	1994-95/2000-01			2000-01/2005-06			1994-95/2005-06		
OAME	-3.74	-3.27	-3.61	2.75	6.24	3.76	-0.85	0.94	-0.33
NDME	-6.28	0.24	-5.83	6.45	13.51	7.12	-0.70	6.07	-0.15
DME	6.44	9.78	6.78	11.67	20.11	12.74	8.79	14.36	9.45
All	-3.87	-2.86	-3.63	4.12	7.13	4.86	-0.32	1.56	0.14

Source: Same as Table 2.

6. Technology Indicators of Unorganized Manufacturing Sector

It is generally believed that the unorganized manufacturing sector uses inferior technology, which results in low productivity, low profits level and stagnation (Sahu, 2007). In this section we have discussed the technology indicators of the sector in terms of parameters such as capital-labour ratio, labour productivity and ratio of gross value added to fixed capital by enterprise types. The level and growth of these three indicators are reported in Table 5 and Table 6 respectively.

The capital-labour ratio (at constant 1993-94 prices) for the overall unorganized manufacturing sector, stood at Rs. 4180 in 1994-95, which increased to Rs. 5688 in 2000-01 and then Rs. 8040 in 2005-06 (Table 5). The capital-labour ratio is highest for the DMEs segment, which is relatively capital intensive within the unorganized manufacturing sector, which it is lowest in the OAMEs segment, which is the tiniest segment of the unorganized manufacturing sector. The real capital-labour ratio of the overall unorganized manufacturing sector recorded an annual growth of 5.27 percent during 1994-95 to 2000-01, 7.17 percent during 2000-01 to 2005-06 and 6.13 percent during 1994-95 to 2005-06 (Table 6). All the sub-sectors of unorganized manufacturing sector have recorded significant growth rate during the overall study period as well as the sub-periods, the highest growth being recorded in the DMEs segment.

Table 5: Technology Indicators of Assam's Unorganized Manufacturing sector

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

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

Source: Source: Same as Table 3.

Table 6: Growth (%) of Technology Indicators of Assam's Unorganized Manufacturing sector
(Figures are in percentage)

Enterprise Type	Year	Capital Labour Ratio*	Per Worker Productivity*	Ratio of GVA to Fixed capital
OAME	1994-95/2000-01	3.91	7.20	3.17
	2000-01/2005-06	6.25	2.48	-3.55
	1993-94/2005-06	4.97	5.03	0.06
NDME	1994-95/2000-01	5.74	3.88	-1.76
	2000-01/2005-06	3.51	5.48	1.91
	1993-94/2005-06	4.72	4.61	-0.11
DME	1994-95/2000-01	12.03	10.04	-1.78
	2000-01/2005-06	8.76	-6.30	-13.85
	1993-94/2005-06	10.53	2.29	-7.46
All Manufacturing	1994-95/2000-01	5.27	6.99	1.63
	2000-01/2005-06	7.17	3.04	-3.85
	1993-94/2005-06	6.13	5.17	-0.90

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

Source: Source: Same as Table 3.

Although we are aware about the fact that the partial productivity measures present only a partial picture of the efficiency in factor-use, here we have discussed the factor productivity of the unorganized manufacturing sector by using the partial factor productivity measures. The per-worker productivity (at constant 1993-94 prices) for the overall unorganized manufacturing sector has increased from Rs. 5874 in 1994-95 to Rs. 8808 in 2000-01 and then to Rs. 10231 in 2005-06. The per-worker productivity has increased in all the three segments of unorganized manufacturing sector, except for DMEs between 2000-01 and 2005-06. The annual growth in per-worker productivity (at constant 1993-94 prices) for the overall

unorganized manufacturing sector has recorded at 6.99 percent during 1994-95 to 2000-01, which has slowed down to 3.04 percent during 2000-01 to 2005-06. For the entire period (1994-95 to 2005-06) the growth rate was 5.17 percent. All the three segments within the unorganized manufacturing sector have recorded growth in real per-worker productivity during the entire period and two sub-periods, except the DMEs segment during 2000-01 to 2005-06.

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

7. Conclusion

In this paper we have examined the growth and employment potentiality of the unorganized manufacturing sector in Assam for the period 1994-95 to 2005-06. The findings of the paper reveal that the unorganized manufacturing sector plays a dominant position in Assam's industrial economy, especially in terms of number of units and employment. However, the performance of the sector has been abysmal over the years, especially in terms of growth rates and technology indicators. In spite of the huge potentiality of the sector for creation of gainful employment in the State the sector was not able to generate enough employment opportunities for the growing labourforce in the State. Although, the sector has shown some sort of increase in employment in the recent years (between 2000-01 and 2005-06), but it is found that the quality of employment has been deteriorating during this period, since the number of full-time workers has sharply declined and there has been increase in part-time workers only.

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