URBAN INFORMAL MANUFACTURING SECTOR IN ORISSA - A CASE STUDY OF CUTTACK CITY

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INTRODUCTION:

Rapid urbanisation has been an integral part of the developing economies during the past couple of decades. This process is the result of large-scale economically motivated migration of people from the countryside towards the cities because of pulls and push factors. This rural to urban migration coupled with the natural increment of urban population has caused a phenomenal increase in urban work force. While this development was taking place, development theorists started expressing their disillusionment and despondency in the efficacy of their conventional "trickle down theory". The folly of this "trickle-down theory" along with the imperatives of capitalist mode of production in the modern industrial sector proved fatal on this increased urban labour force, when the latter could not be absorbed in the former sector. Left to self, this surplus labour made a valiant effort to carve out a niche for its own living and subsistence within the same urban economic system by means of undertaking a variety of informal productive activities which is otherwise known as "Informal sector" (ILO:1972), "unorganised sector" (Joshi & Joshi : 1970, Hariss : 1978,), "bazaar-type economy" (Geertz : 1963), "traditional sector" (Reynold : 1969) and so on in the literature of development economics.

Of late, in development economics, the “Informal sector" has gained importance because of its rapid growth especially in developing economies. In these economies despite rapid industrial growth, the formal or the modern sector has not been able to provide employment to all the surplus and marginal

labour force in urban areas. Further, public sector employment in such economies has also considerably gone down. This is due to the fact that the employment elasticity in relation to aggregate output growth has been diminishing over the years. Judged from this angle, employment creation in the informal sector becomes one of the ways of overcoming urban poverty and unemployment. Development and promotion of the urban informal sector therefore has become the new strategy of development.

The term informal sector was first used by Hart (1973) in a study of urban Ghana. However the concept owes much of its popularity to a large number of country and city studies carried out by ILO under the auspices of its World Employment programme[1]. The first official recognition of the term was made by the ILO-UNDP employment mission to Kenya (1972). The greatest contribution of various country missions and city studies of ILO was that they brought the objective of employment generation to the centre-stage replacing the traditional strategy of economic growth which assumed employment generation as a residual. In spite of the valued contribution of ILO's city and country studies on popularising the concept of informal sector, it also invited a number of criticisms[2]. Most of the criticisms were with regard to (i) the relevance and universal applicability of the ILO depicted characteristics, (ii) comparability and compatibility of these different criteria. These criticisms also encouraged subsequent authors like Mazumdar (1974, 1977), Emmerij (1974), Joshi and Joshi (1976), Sethuraman (1976), Breman(1976), , Papola (1981), to redefine the concept of Informal sector. These definitions are based on any of the below listed factors or a combination of them: (i) characteristics of the

enterprise, (ii) Exchange relationship with the state and the rest of the urban economy, (iii) Employment situation.

A sizable section of scholars (Bose: 1978, Dhesi and Wardhwa: 1980, Guisinger and Infan:1980, Harriss B:1978; ILO:1980; Mazumdar:1980; Papola:1981; Sethuraman:1976; Sreeramamurty:1986) have defined informal sector on the basis of size of the firm. Except a few cases, the most often used size criterion has been less than ten employees including casual labour, family labour, self-employed persons and part time workers. In this paper which is based on a case study of the city of Cuttack in the province of Orissa; informal manufacturing sector (IMS) includes all manufacturing and repairing units in the private sector owned and operated by a single member of a household or with the help of paid and unpaid family members with or without having any hired labourer. The total number of persons including the owner operator, hired labourers, family workers working for the enterprise should be less than 10. This confirms more or less to the latest ILO definition.

Many of the studies on urban informal sector have included various activities/segments (like trade, manufacturing and repairing, construction, domestic, personal and other services, transport etc.) of the urban economy within the ambit of informal sector (.Sriramamurthy ; 1983, Ramana and Krishna ;1984, Shaw ;1985, Kashyap and Singh ;1987, , Vishwamitter ;1988, Samal ;1990). However to make the policy formulation process more objective and relevant, sector specific studies are undertaken. Amongst all the sectors of the informal sector in the urban economy, manufacturing sector occupies an

important place for reasons such as (i) it has got more potential for labour intensive industrialisation than the formal manufacturing sector. (ii) it relies more on household savings, (iii) it is based on widespread recycling of waste, old materials and machinery, (iv) it acts as a training ground for skill formation and entrepreneurship development and (v) it provides inexpensive wage goods which cater especially to the needs of low income groups. Further, majority of these studies on IMS sector have been undertaken in large cities. Recently the imperatives of environmental protection and promotion of balanced development have started emphasizing spatial decentralisation of human settlements and industrial and commercial activities. Thus, smaller towns have become focal points of planning. This necessitates examining closely the dynamics of informal manufacturing sector in such towns both for testing the earlier theories developed in this respect and to deduce appropriate employment and development policies. Hence in this paper we concentrate on the IMS in the city of Cuttack.

The work is essentially primary data based. For comparison with formal sector enterprises in certain cases, secondary data sources have been used. Primary data in respect of IMS units for the year 1996-97 have been collected from the sample enterprises by administering a schedule-cum-questionnaire through personal interview method. The data were collected from the owners of these sample enterprises. Secondary data for formal sector have been collected from various government publications and reports (such as census reports and publications of Bureau of Statistics and Economics, Government of Orissa). They have been used for comparison of the informal sector with that of the

formal sector. The analysis and presentation of field data have been undertaken with the help of tables, simple percentages, ratios, and multiple regression models. The universe of IMS units with employment size of less than 10 was derived by pulling together the lists of such manufacturing and repairing units provided by (i) Assistant Labour Commissioner, Cuttack; (ii) Directorate of Industries, Cuttack; (iii) Municipality, Cuttack and (iv) street counting. Due care was taken to overcome the problems of overlapping by identifying the units common to all or some of these aforesaid sources and including them only once in the universe. On the basis of such a pulling together exercise, it was found that the Universe consisted of about 1800 manufacturing and repairing units. We had initially taken a sample of 10 percent of the Universe which came to 180 units. These sample units were selected from the universe by means of simple random sampling method. However, for various practical reasons, we were able to survey ultimately 156 units. The samples so selected and surveyed when classified on the basis of major raw materials used were spread over nine industry groups as given in table-1.

The important issues raised in this paper are: Whether the IMS units are less capital intensive vis-à-vis the FMS? Compared to the FMS, are they more working capital intensive than fixed capital? What about it's capital and labour productivities vis-à-vis the FMS? Does the IMS vis-à-vis FMS promote higher employment opportunities as conceived? Does it suffer from a gender bias in its employment sphere? Do labour and capital intensities and productivities vary within the IMS itself? Is there any linkage between the IMS and formal

sector? What about the nature of that linkage? Finally, on the basis of our findings, we pass on some judgments on probable intervention strategy to support this sector.

Table 1
Sample Distribution In Informal Manufacturing Sector

Sl.No.	Industry Group	Sample Units
1.	Wood-Based	35
2.	Iron and Steel-Based	28
3.	Leather-Based	25
4.	Cloth-Based	10
5.	Food Grain-Based	08
6.	Stone-Based	06
7.	Garbages/Workshop	40
8.	Cement-Based	02
9.	Paper-Based	02
	IMS as a whole	156

II. CAPITAL STRUCTURE

The average values of fixed capital, working capital and productive capital[3] for the IMS as a whole are Rs. 23169/-, Rs. 67561/- and Rs. 90730/- respectively (Table2). Amongst the various industry groups, the most capital intensive industry group is the iron and steel based industry group which is having an average productive capital investment of Rs. 4,24,346/-.The least capital intensive[4] industry group is the cloth-based group (Rs.5984/-).

Table 2
Average Value of Capital Employed in Different Industry Groups

Industry Group	Fixed Capital	Working Capital	Productive Capital
Wood-Based	2774	25442	8217
Iron & Steel-Based	92371	331975	424346
Leather-Based	4352	4409	8761
Cloth-Based	5222	762	5984
Food-Grain based	33875	5250	39125
Stone-Based	83	9067	9150
Garages/ Workshop	1161	2435	3596
Cement-Based	7000	16000	23000
Paper-Based	10000	5000	15000
IMS as a whole	23169	67561	90730

Source: Sample Data

Coming to fixed capital, the average fixed capital investment is again highest in the iron and steel-based industry group (Rs. 92371/-) and lowest (Rs. 83/-) in stone-based industry group. Since the stone-based industry group is having a far greater amount of average working capital[5] investment (Rs. 9067/-) than the cloth-based industry group (Rs. 762/-), in terms of average productive capital intensity it ranks above the cloth-based industry group. However, in terms of average fixed capital investment, average working capital investment and thus average productive capital employment, the iron and steel industry group ranks first. Further, in the IMS as a whole, the average value of working capital investment is nearly 3 times that of fixed capital investment, indicating thereby that the informal sector units are very much working capital-intensive.

Total working capital as a per cent of total productive capital is 74 per cent and total fixed capital as a per cent of productive capital is 26 per cent. Looking at the average fixed capital owned, average working capital owned and average productive capital owned per employee, it is clear from table 3, that, for the IMS as a whole, these figures are Rs. 6756/-, Rs. 19,700/- and Rs. 26456/- respectively. The highest fixed capital and assets invested per employee, is in the iron and steel industry group; the lowest in the stone-based group. The iron & steel-based industry group is also having the highest working capital per employee, the cloth-based industry group having the lowest. Coming to productive capital owned per employee the iron and steel industry group offers the highest value and lowest value being with the cloth-based group closely followed by the paper-based group. Thus, both from per employee and per unit angles, iron steel group happen to be the most capital intensive whereas the cloth-based industry group is the least capital intensive.

For the FMS in the district of Cuttack, fixed capital per unit, fixed capital per employee, productive capital per unit and productive capital per employee is Rs. 5360.95 thousands, Rs. 75.82 thousands, Rs. 5080.04 thousands and Rs. 71.85 thousands respectively. For the IMS corresponding figures are Rs. 23.17 thousands, Rs. 6.76 thousands, Rs. 90.73 and Rs. 26.45 thousands respectively which are very much less than the corresponding figures for the formal sector as cited above. Hence, the FMS is much more capital intensive than the IMS. This conforms to the general observation that IMS is having low capital base which makes entry into this sector comparatively easy. Low

productive capital and fixed capital per employee in the sector suggests that lower amount of capital is required to create a job in this sector.

Table 3
Fixed, Working & Productive Capital Per Employee in Different Industrles

Industry Group	Fixed Capital per employee (Rs.)	Working Capital per employee (Rs.)	Productive Capital per employee (Rs.)
Wood-Based	844	7743	8587
Iron & Steel-Based	14864	53421	68286
Leather Based	2590	2625	5215
Cloth-Based	1865	272	2137
Food grain-Based	13550	2100	15650
Stone-based	20	3022	3044
Garage/Workshop	4003	840	4843
Cement-Based	1750	4000	5750
Paper-Based	1429	714	2143
All industry group/IMS as a whole	6756	19700	26456

Source: Sample Data

III. EMPLOYMENT STRUCTURE

Average size of employment in IMS unit is 3.43 persons. It is highest (6.21 persons) in iron & steel industry-group and lowest (1.68 persons) in leather based industry group (Table 4). Highest percentage of employment of persons including owner, family workers and hired workers at 32.52 per cent

is in the iron & steel industry-group. Lowest percentage of such employment at 1.50 per cent is in the cement-based industry group. In the FMS in the district, average size of employment is 70.70.

Table 4
Average Size, Concentration and Type of Employment

Industry Group	Concentration of Employees (%)	Average size of employment (No.)	Type of workers (%)		
			Hired Workers	Unpaid Family Labourers	Self-employed
Wood-Based	21.50	3.29	62.61	6.96	30.43
Iron & Steel-Based	32.52	6.21	72.99	10.92	16.09
Leather-Based	7.85	1.68	26.19	14.29	59.52
Cloth-Based	5.23	2.80	57.14	7.15	35.71
Food grain-Based	3.74	2.50	40.00	20.00	40.00
Stone-based	3.36	3.00	66.67	-	33.33
Garage/Workshop	21.68	2.90	55.17	10.35	34.48
Cement-Based	1.50	4.00	85.71	-	14.29
Paper-Based	2.62	3.90	75.00	-	25.00
IMS as a Whole	100.00	3.43	61.31	9.53	29.16

Source : Sample Data

Percentage of hired workers is the highest at 85.71 per cent in paper-based industry group and the lowest at 26.19 per cent in leather-based group. For the IMS sample units as a whole, the percentage is at 61.31 per cent. This casts doubt on general observation that the IMS units are mostly managed by

household members. Percentage of unpaid family workers is highest at 20 per cent in food-based industry group and lowest at 6.95 in wood-group. Three industry groups viz. stone-based, paper-based and cement-based groups don't have any unpaid family workers. Looking at the employment size of the IMS units (Table 5) it is seen that 13.46 per

Table 5
Distribution of Enterprises by Size of Employment

Industry Group	Distribution of units in terms of employment size				Total No. of Units
	1	2	3-5	6-9	
Wood-Based	2	14	15	4	35
Iron & Steel-Based	-	-	12	16	28
Leather-Based	10	13	2	2	25
Cloth-Based	4	2	4	-	10
Food Grain-Based	-	6	2	-	8
Stone-Based	-	-	6	-	6
Garages/ Workshop	5	12	21	2	40
Cement-Based	-	-	2	-	2
Paper-Based	-	-	-	2	2
IMS as a whole	21 (13.46)	47 (30.13)	64 (41.03)	24 (15.38)	156 (100)

Source: Sample Data

cent of the units are single workers units, 30.13 per cent have two persons and 15.38 per cent have 6-9 workers. Highest percentage of enterprises (41.03 per cent) are in the firm size of 3-5.Out of the 24 enterprises having the

highest firm size of 6-9, 16 i.e. 66.67 per cent are in the iron and steel industry group. Highest number of single worker units is in the leather-based industry group. Data further reveal that (Table 6), there is negligible size of female participation in the IMS (1.68 per cent). Except paper-based and iron & steel-based industry groups, no other industry group is having female employment. This shows that the IMS sector in Cuttack suffers from a gender bias

Table 6
Sex Distribution of Workers

Industry Group	Sex	
(1)	Male (4)	Female (5)
Wood-Based	100.00	-
Iron & Steel-Based	95.40	4.60
Leather-Based	100.00	-
Cloth-Based	100.00	-
Food Grain-Based	100.00	-
Stone-Based	100.00	-
Garages	100.00	-
Cement-Based	100.00	-
Paper-Based	85.71	14.29
IMS as a whole	98.13	1.87

Source: Sample Data

IV. OUTPUT AND SALES TURNOVER

The annual output per enterprise for the total sample is Rs. 4, 12,222/-(table 7). Annual turnover per enterprise is found to be Rs. 3,99,168/-. Annual output per unit is slightly more than annual per unit sales turnover because of some

amount of inventory of final products with the IMS as a whole. The Iron & steel industry group is having the highest amount of annual output and sales turnover per unit at Rs. 1643.88 and Rs. 1572.51 respectively.

Table 7
Annual Output and Sales Turnover
Per Unit and Per Employee (In thousand rupees)

Industry Group	Output		Sales Turnover	
	Per unit	Per employee	per unit	per employee
Wood-Based	287.70	87.56	278.34	84.71
Iron & Steel-Based	1643.88	264.53	1572.51	253.05
Leather-Based	152.12	90.55	151.52	90.19
Cloth-Based	54.58	19.49	54.08	19.32
Food Grain-Based	91.20	36.48	70.75	28.30
Stone-Based	116.00	38.67	116.67	38.89
Garages/ Workshop	44.35	15.29	56.85	19.60
Cement-Based	200.00	50.00	195.00	48.75
Paper-Based	130.00	18.57	120.00	17.74
IMS as a whole	412.22	121.00	399.17	116.39

Source : Sample Data

The lowest such figure for output is with the garage/workshop group, and for sales turnover, is with the cloth-based group. The annual output and sales turnover per employee for the whole sample is about Rs. 121,000/- and Rs. 116,393/- respectively. Both annual output per unit and annual sales turnover per employee are highest at Rs. 26,463/- and Rs. 25,305/- respectively in the

iron & steel based industry-group in the sample. The annual output per employee is the lowest in the garages/workshop group and the annual sales turnover per employee is the lowest in the paper-based industry group.

Table 8
Distribution of Enterprises by Output Size
(In Rs thousands per annum)

Industry Group	0-10	10-20	20-50	50-100	100-1000	1000-5000	5000+	Total
Wood-Based	-	-	-	-	35	-	-	35
Iron & Steel-Based	-	2	-	6	10	4	6	28
Leather-Based	-	-	4	-	21	-	-	25
Cloth-Based	-	4	2	4	-	-	-	10
Food Grain-Based	-	-	2	2	4	-	-	8
Stone-Based	-	-	-	2	4	-	-	6
Garages/ Workshop	-	-	28	10	2	-	-	40
Cement-Based	-	-	-	-	2	-	-	2
Paper-Based	-	-	-	-	2	2	-	2
IMS as a whole	--	6 (3.85)	36 (23.08)	24 (15.38)	80 (51.28)	4 (2.56)	6 (3.85)	156 (100)

Source : Sample Data

Majority of the sample enterprises (51.28 per cent) are in the annual output range Rs. 1,00,000/- to Rs. 10,00,000/-.(Table8). Around 93.59 per cent of the sample enterprises are having an output less than Rs. 10,00,000/-. Six units have an annual output exceeding Rs. 50 lakhs and all these six are in the iron & steel industry group

V. VALUE ADDED

Value added[6] per employee, per rupee of fixed capital and per rupee of productive capital respectively are Rs. 21.93 thousands, Rs. 3.25 and Rs. 0.83 (Table 9). Among the industry groups, value added per employee is highest at Rs. 34.23 thousands in the iron & steel group and lowest in the stone-based group at Rs. 6.51 thousands.

Table 9
Industry-Group Wise Value Added in IMS

Industry Group	Value added per unit of Employment (in Rs. Thousands)	Value added per rupee of fixed capital (in Rs.)	Value added per rupee of productive capital (in Rs.)
Wood-Based	19.92	23.59	2.32
Iron & Steel-Based	34.23	2.30	0.50
Leather-Based	16.89	6.52	3.24
Cloth-Based	9.82	5.27	4.60
Food grain-Based	10.72	0.79	0.68
Stone-Based	6.51	234.4	2.13
Garages/Workshop	15.30	3.82	3.16
Cement-Based	17.25	9.86	3.00
Paper-Based	18.31	12.82	8.55
IMS as a whole	21.93	3.25	0.83

Source: Sample Data

This suggests that there exist variations in labour productivity across the various industry groups. Value added per rupee of fixed capital is highest at Rs. 234.4 in stone based industry. Value added per rupee of fixed capital is

lowest at Rs. 0.79 in food-grain based industry group. Value added per rupee of productive capital is highest at Rs. 8.55 in paper based group and lowest at Rs. 0.50 in iron & steel based group.

Table 10
Some Comparative Structural Characteristics -IMS& FMS

Characteristics	Units	IMS	FMS
Fixed capital per employee	(In Rs. '000)	6.76	75.82
Productive capital per employee	(In Rs. '000)	26.46	71.85
Fixed capital per unit	(In Rs. '000)	23.17	5360.95
Productive capital per unit	(In Rs. '000)	90.73	5080.04
Average size of employment	No.	3.43	70.70
Annual output per unit	(In Rs. '000)	412.22	13147.58
Annual output per employee	(In Rs. '000)	121.00	185.96
Gross value added per employee	(In Rs. '000)	1.93	2520.23
Gross value added per rupee of fixed capital	(In Rupees)	3.25	0.47

Source 1 : For Col. (3), Sample Data
2 : For Col (4), District Statistical Handbook, Cuttack,1993, Directorate of Economics & Statistics, Government of Orissa

In the FMS in Cuttack district value added per employee was Rs. 2520.23 thousands (Table10). This implies that the productivity of worker in the IMS is comparatively lower than that of the worker in FMS. On the other hand capital is much more productively used in the IMS as value added per rupee of fixed capital in this sector is Rs. 3.25 which is nearly 7 times higher than that of Rs. 0.47 in the FMS.

VI. OUTPUT, CAPITAL, SIZE AND AGE OF THE FIRM-INTERDEPENDENCE.

An attempt is made to determine the association between output of the sample IMS and size of the firm[7], fixed capital, working capital, productive capital, age of the firm and the industry group. A statistical analysis using the following models was conducted:

I. $Y = a+b_1x_1+b_2x_2+b_4x_4+b_5x_5+b_6x_6$

II. $Y = a+b_3x_3+b_4x_4+b_5x_5+b_6x_6$

Where, a is Intercept
x_1 is Fixed capital
x_2 is Working capital
x_3 is Productive capital
x_4 is Size of the firm
x_5 is Age of the firm
x_6 is Proxy for different industry groups.

The regression analysis gave the following results:

I. $Y = -64014 + 5.59x_1 + 2.76x_2 + 48641.06x_4 + 2491.70x_5 - 15724.2x_6$
$(7.88)^*$ $(24.12)^*$ $(3.55)^*$ (1.42) (1.20)
$R^2=0.92$

Note: * significant at 1 per cent level.

II. $Y = -72782.1 + 3.01x_3 + 59217.73x_4 + 2682.98x_5 - 8722.99x_6$
$(31.08)^*$ (4.26)* (1.46) (0.64)
$R^2= 0.92$

Note: * significant at 1 per cent level.

From the regression results, it is seen that in both the models, the independent variables incorporated account for 92 per cent of the variation in the output. In model I, fixed capital, working capital and firm size are the statistically significant explanatory variables. Model II shows that productive capital and firm size are the two statistically significant explanatory variables

of output. Increase in output is thus positively linked with increase in productive capital and size of the firm. In both the models, age of the firm and proxy for different industry groups are not statistically significant variables.

VII. LINKAGE PATTERNS

The study of the inter linkage between IMS and FMS - its nature and extent assumes importance in view of its utility in employment and investment planning. There are two fundamental views about the linkage patterns between the two sectors. One view sees the relationship between the two sectors as mutually beneficial, (ILO: 1972; Papola: 1981; Harriss: 1990). The opposite view terms this inter-sectoral relationship as basically exploitative (Bose: 1978; Garry: 1974; Langdon: 1975; Romatet: 1983; Samal: 1989; Schmitz: 1980; Shaw: 1985). Broadly we have three types of linkages

(a) Direct forward linkages
(b) Direct backward linkages
(c) Indirect linkages (structural or macro-level linkages)

In our analysis we concentrate only on "direct forward" and "direct backward linkages" and exclude from the purview of analysis the "indirect linkages" because of the complications involved in their derivation and testing.

Direct backward linkages pertain to provisions of inputs: (a) material inputs viz. raw materials, equipment, intermediate goods and (b) non material inputs viz. finance, energy, and skill acquisition and direct forward linkages pertain to provisions of out put including sales of products, sub-contracting and job work.

Direct backward linkages

1. *Production Linkage*

It is evident from Table 11, that only 9.6 percent of sample IMS enterprises depend on the formal sector for their main raw materials/products, 51.3 percent depend on informal sector only and 7.7 percent depend on both formal and informal sectors.

Table 11
Distribution of Sample Enterprises by Major Source of Purchase of Raw Materials/Intermediate Products (Percent)

Industry Group	Sources						Not Applicable
	Formal Only		Informal Only		Both Formal & Informal	Others	
(1)	Mfg. (2)	Trade (3)	Mfg. (4)	Trade (5)	(6)	(7)	(8)
Wood-Based	5.7	-	34.3	25.7	34.3	-	-
Iron & Steel-Based	14.3	21.4	-	57.2	-	-	7.1
Leather-Based	-	4.0	-	96.0	-	-	-
Cloth-Based	-	-	-	80.0	-	-	20.0
Food Grain-Based	-	-	-	50.0	-	-	50.0
Stone-Based	-	-	-	100.0	-	-	-
Garages/Workshop	-	-	-	-	-	-	100.0
Cement-Based	-	100.0	-	-	-	-	-
Paper-Based	-	-	-	50.0	-	-	50.0
IMS as a whole	3.8	5.8	7.7	43.6	7.7	-	31.4

Source: Sample Data

It is also seen that the inter-sectoral and intra-sectoral linkages with regard to raw material/product used vary across the industry groups. It is only in Iron and steel-based, wood-based, leather-based and cement-based industries groups that 35.7, 5.7, 4.0 and 100.0 percents of firms respectively depend on formal sector for direct purchase of their required main raw materials/intermediate products. Enterprises in other industry groups don't at

all depend upon the formal sector for direct purchase of raw materials/intermediate products. All most all the IMS units in stone-based industry groups, 96 percent in leather-based industry group respectively purchase their main raw materials/intermediate products from informal sector sources exclusively. Only 7.7 percent of firms purchase directly their raw materials/intermediate products from other informal manufacturing sector firms, whereas a significant percentage of firms (43.6 percent) directly purchase their main raw materials/intermediate products from other informal trading units. Hence, it can safely be concluded that the direct backward linkage between the formal sector and IMS (for purchase of main raw materials/intermediate products) is not so strong but such a linkage between sample IMS enterprises and other informal sector is very strong. This implies that intra-sector direct backward linkage is stronger than inter-sectoral direct backward linkage.

2. Financial Linkage

So far as direct backward linkage with regard to credit supply is concerned, 24 percent of the sample units have directly received credit from various formal sector financial agencies and 29 percent have received such credit from informal sources. This implies that although the direct backward linkage for supply of credit input with the informal sector is stronger to such direct backward linkage with the formal sector, yet the latter is not that much weak.

Direct forward linkage

1. *Sale of products*

So far as direct forward linkage in terms of sale of final products to the formal sector is concerned it is found to be weak (Table12). Only 2.17 percent of total sales (in money terms) of informal manufacturing sector units are made to the formal private sector, 3.23 percent to the public sector and 37.80 percent to the other informal sector units. Highest percentage of total sales (56.80 percent) is made directly to the consumers. Hence direct forward linkage with the formal sector is very weak.

Table 12
Enterprises by Major Source of Disposal of Products/Services

Source of Disposal (1)	Percentage of Sale (in money terms) (2)
Formal (Pvt.)	2.17
Government	3.23
Informal	37.80
Directly to Consumers	56.80
IMS as a whole	100.0

Source: Sample Data

2. Subcontracting

Direct forward linkage with the formal sector in the form “extended subcontracting” is found with only two firms (1.28 percent) in the paper based industry group. The employees of these units are like the "outworkers" of a parent enterprise working on the basis of "piece-wage" system.

VIII. SUMMARY AND CONCLUSION

The IMS units in the city of Cuttack confirm to a number of traditionally recognised characteristics of informal sector with a few deviations and come out distinct from FMS on a number of characteristics. Their capital base is very low and they are working capital intensive and labour intensive in nature. There is across the industry group variation in the sector with regard to fixed capital, working capital and productive capital investment, size of employment, value added, sales turnover and output. An important deviation is that majority of IMS units employ hired labourers on continuous basis. Output level is positively and significantly correlated with working capital, fixed capital, productive capital and size of the firm. This shows the important role that productive capital has got to play in increasing the output of IMS units.

Compared to the FMS in the district, the fixed capital per employee and per unit, productive capital per employee and per unit, average size of employment and annual output per unit and per employee are much less in the IMS. Although labour productivity in IMS is much lower than in FMS, capital productivity is higher in IMS than in FMS.

Analysis of linkage-patterns of informal manufacturing units shows that direct forward linkage of IMS units with the formal sector through the provision of sale of output/services is extremely weak. However such linkage is stronger with the informal sector and is strongest with the final consumers. These units have direct backward linkages in terms of raw-materials and credit with the formal sector but such linkage is also not very strong. Direct backward

linkages of these units with other informal sector units is found to be strong. The intra-sectoral and inter-sectoral linkages also vary across the industry groups.

The major strengths of the IMS in the city of Cuttack are its flexibility, its low capital requirement, its higher employment generation capacity with lower amount of capital base, and above all its own informality in every sphere of its operation . Public policy should aim at preserving and supplementing these strengths of the IMS. Our study also brings forth a few weaknesses of this sector. Firstly, there is segmentation of this sector on the basis of its various industrial activities, employment size, capital base, pattern of linkages, and productivity levels. Specific policies for specific sub- sectors/branches of the IMS may be formulated to overcome this problem. Secondly, this sector in the city of Cuttack suffers from a gender bias. This issue is a larger one which among other things needs empowerment of women. However, the state can undertake some positive measures in the sphere of credit, training, skill formation and marketing to encourage more of women participation in this sector.

Notes:

1. WEP (World Employment Programme) was launched by ILO in its 1969 session. Since then the ILO has conducted a large number of Country and City Studies in 1970s, 1980s and early 1990s. All these studies primarily aim at creating an employment centered growth process.

2.See Colin Leys, "Interpreting African Underdevelopment : Reflections on the ILO report on employment, Incomes and equality in Kenya", *African Affairs*, Oct. 1973, reprinted in G.M. Meier (ed.), *Leading Issues in Economic Development*, OUP, New York, 1976, pp. 221-24.

3. Productive capital is the total of fixed capital and working capital.

4. Capital intensity in each industry group is calculated by dividing the total Productive capital by employee in each industry group by total number of persons working in that industry group.(K/L)

5. Working capital (WC) = The present value of (raw materials, stores, fuels + semi-finished goods + inventory of mixed products and by products) + cash in hand and bank for meeting day to day operations of the unit.

6 We have taken gross value added here. Gross value added= Value of total output - Value of total input. We have not deducted depreciation amount from the value of total output.

7. Size of firm is measured in terms of total persons working in the IMS unit including the owner.

References

Aziz, Abdu.(1984), *Urban Poor and Urban Informal Sector*, Ashish Publishing House, New Delhi.

Basu, D.N. and Sundaram, A.K.(1984), "The Urban Informal Sector : A search for the Processes and appropriate strategies", in S. Amin (ed.), *Human Resources, Employment and Development*, Vol. 5, Developing Countries, Macmillan, London, pp. 243-264.

Bose, A.M.(1974), *The Informal Sector in the Calcutta Metropolitan Economy*, ILO, WEP/WP, Geneva,

--------(1978), *Calcutta and Rural Bengal : Small Sector Symbiosis*, Minerva, Calcutta.

--------(1978) ,"Calcutta Metropolis and the Informal Sector", *Nagarlok*., pp. 15-16.

Breman, Jan.(1976), "A dualistic labour system?, A critique of the 'informal sector' concept, *Economic and Political Weekly*, Vol, XI, No. 48, 49 & 50, , pp. 1870-76, 1905-8, 1939-44.

Bromeley, R.(1978), "The urban informal sector: why it is worth discussing?", *World Development*, Vol. 6, No. 9/10, pp. 1033-39.

--------(1978), "Organisation, regulation and exploitation in the so called 'Urban Informal Sector': The street traders of Colombia", *World Development*, Vol. 6, No. 9/10, pp. 1161-71.

Dasgupta, Biplab.(1973), "Calcutta's Informal Sector", *IDS Bulletin*, Vol. 5, pp. 53-75.

Davies, R.(1978), *The Informal Sector : A Solution to Unemployment*, Catholic Institute for international relations, London.

Dhesi, A.S. and Wadhwa Urvashi.(1983), "The Informal Sector in Nangal : An Overview", *Indian Journal of Regional Science*, Vol. XV, No. 1, pp. 38-47.

Emmerij, L (1974.), "New look at some strategies for increasing productive employment in Africa", *International Labour Review*, Vol. 110, No. 3.

Fei John, C.H. and Ranis G.(1967), *Development of the Labour Surplus Economy: Theoryand Policy*, I.N.C., Illionois,.

Geertz, Clifford.(1963), *Peddlers and Princes : Social Change and Economic Modernisation in Two Indonesian Towns*, The university of Chicago Press.

Gerry, Chris.(1978), "Petty Production and Capitalist Production in Dakar : The Crisis of self-employed", *World Development*, Vol. 6, No. 9/10, pp. 1147-60.

Government of Orissa.(1992), *A report on annual survey of industries in Orissa,* Bhubaneswar.

Government of Orissa.(1993), *District Statistical Handbook, Cuttack*.

Guisinger, S. and Irfan Mohammed.(1980), "Pakistan's Informal Sector", *The journal of Development Studies*, Vol. 16, No. 4, pp. 412-26.

Harriss, B. (1978), "Quasi-formal employment structures and behaviour in the Unorganised urban economy and the reverse: Some evidence from south India", *World Development*, Vol. 6, No. 9-10, pp. 1077-86.

Harriss, John.(1982), "Character of an urban economy : Small scale production and labour markets in Coimbatore", *Economic and Political Weekly*, Vol. XVII, No. 23-24, pp. 945-54, 993-1002.

-------(1990), *Linkages between the formal and informal sectors in developing countries : A review of literature*, ILO/WEP, Research Working Paper Series, WEP 2-19/WP50, Geneva.

Hart, Keith. (1973) , "Informal Income Opportunities and Urban Employment in Ghana", *TheJournal of Modern African Studies*, Vol. 11, No. 1, , pp. 61-89.

-------(1970), "Small scale entrepreneurs in Ghana and Development Planning", *Journal of Development Studies*, Vol. 6, No. 4, pp. 104-20,.

Higgins, B. (1968) , *Economic Development*, New York.

-------(1979), *Dualism Dependency, Informal Sectors and Continuing Underdevelopment*, UNCRP Working papers No. WP : 79-04, Nagaya, Japan.

Hill, Hall.(1985) , "Subcontracting, technological diffusion and the development of smallenterprises in Philippine manufacturing", *The Journal of Developing Areas*, Vol. 19, No. 2, pp. 245-62.

Hirsehman,A.O.(1958), *The Strategy of Economic Development,* New Haven, Yale University

ILO(1972), *Employment, Income and Equality: A Strategy for Increasing Productive Employment in Kenya*, Geneva.

ILO(1994), *Development of Urban Informal Sector in Asia-Policies and Programmes*, Geneva

Joshi, H., and Joshi,V. (1976), *Surplus Labour and the City: A Study of Bombay*, OUP, Delhi.

Mazumdar , D.(1976), “The Urban Informal Sector”, *World Development*, Vol.4, No.8,pp. 655-679.

Papola, T.S.(1981), *Urban Informal Sector in a Developing Economy*, Vikas, New Delhi.

----------, (1981),"Dissecting the Informal Sector", *Economic and Political Weekly*, Vol.XVI, No.31, pp. 1272-1274.

Romatet, Emmanuel.(1983), " Calcutta's Informal Sector: Theory and Reality", *Economic and Political Weekly*, Vol.XVIII, No.50,pp. 2115-28.

Samal, Kishore.(1990), *Urban Informal Sector –An Exploration of the Informal Sector in a small city of Orissa*, Manak Publications, New Delhi.

Sethuraman, S.V.(1976), " The Urban Informal Sector: Concept, Measurement and Policy", *International Labour Review*, Vol.114, N0.1, pp. 69-81.

---------- (1981), *The Urban Informal Sector in Developing Countries: Employment, Poverty and Environment*, ILO, Geneva.

Singh, Surjit (1994), *Urban Informal Sector*, Rawat Publications, Jaipur.

Wishwakarma,R.K.(1980), " Urban Informal Sector: Concept, Public Policy Issues and Measures", *Nagarlok,* Vol..XII,No. 2,pp. 38-49.