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Vol XLV  
No. 4

ISSN 0019-5014

OCTOBER-  
DECEMBER  
1990

# INDIAN JOURNAL OF AGRICULTURAL ECONOMICS



INDIAN SOCIETY OF  
AGRICULTURAL ECONOMICS,  
BOMBAY

ARTICLES

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## **Growth and Structure of the Food Processing Industry in the Punjab in the Eighties**

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I

INTRODUCTION

The phenomenon of Green Revolution in the agricultural sector and the mushroom growth of small scale units in the industrial sector are the two positive facts about the Punjab's economic transformation which have been widely acknowledged and acclaimed. The nature and determinants of the Green Revolution and its impact on the agrarian structure and the economy of the State have been well documented and analysed in studies like Thapar (1971, 1972), Ghosh (1977), Alagh, Bhalla and Kashyap (1980), Mahajan (1983), Bhalla and Chadha (1983), Chaudhri and Dasgupta (1985), Chadha (1986), Johl (1988) and Gill (1988), to name only a few. But the nature and content of industrial growth in the state has, by and large, escaped the attention of researchers.

The dominance of non-household (factory and non-factory) sector and private enterprise are two salient features of the industrial sector of the Punjab which accounts for about 13 per cent of both the Net State Domestic Product (NSDP) and total workforce in the state. Though the industrial sector of the state is considered to be dominated by small scale units, the employment share of the small scale industry in the organised sector has fallen quite considerably, over the years. Within the organised industrial sector, the agro-processing industries (cotton textiles, wool, silk and synthetic fibres, food products, beverages and wood and wood products) which had a share of 46 per cent in total employment in 1966 were able to maintain it even during the eighties when they accounted for 49 per cent of the total organised sector industrial employment in the state in 1985, according to the Punjab Government's Statistical Abstracts. Further, the food processing industry increased its relative share within the agro-processing sector from 19 per cent of employment in 1966 to 26 per cent in 1983. It grew at a trend rate of about 8 per cent during the period 1966-85. It accounted for 13 per cent of the total organised industrial employment by 1983 compared to 9 per cent in 1966.

This paper attempts to examine the food processing sector of the Punjab, based on secondary data. Section II examines the structure and growth of food processing industry in the Punjab. Section III looks at this industry at the district level and seeks to study its linkages and Section IV looks at the data on the question of production efficiency and draws some conclusions. The study deals with the period 1979-80 to 1986-87 for purposes of comparison.

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We are indebted to D. Rajsekher and a referee of this Journal for helpful comments.

## II

## STRUCTURE AND GROWTH OF FOOD PROCESSING INDUSTRY

The food processing industry in the Punjab functions at three levels, namely, the factory sector, the small scale sector and the unorganised sector. The sources of information on the factory and small scale sectors are the Annual Survey of Industries (ASI) and the State Directorate of Industries respectively. The data on the unorganised sector are scanty - the only available source being the Directory of Manufacturing Establishments (DME) Survey conducted in 1978-79 and in 1984-85.

During the eighties, the factory sector has been the most important sector in terms of its contribution to employment and output, though the number of factories in this sector was just 900 as against 2,800 in the small scale sector in 1985. These 900 units which were mostly in the private sector employed about 40,000 workers (Thapar, 1971, 1972). They accounted for 22 per cent of the industrial output and 13 per cent of industrial employment in the factory sector of the state. The important groups within the food processing industry were dairy products, grain mill products, sugar, edible oils and ghee, and bakery products which together accounted for more than 93 per cent of total factories, 81 per cent of value added, 90 per cent of employment and 91 per cent of total output of the food processing factory sector.

On the other hand, the small scale food processing sector in the state was relatively small. It accounted for only 3 per cent of the total small scale units, 5 per cent of employment, 13 per cent of fixed investment and 17 per cent of production in the early eighties (Table I). These shares have remained more or less the same throughout the eighties, though the output share went up from 10 per cent in 1979-80 to 17 per cent in 1987-88. Also when compared with other states, food processing in the Punjab formed a small part of the state's rural industrial activity, though this state has higher agricultural yields and larger agricultural production. In states like Himachal Pradesh, Bihar, West Bengal, Jammu & Kashmir, Uttar Pradesh and Orissa, food and edible oil units accounted for 25 per cent of the total rural industrial units, while in the Punjab they accounted only for 12 per cent (Papola, 1987).

TABLE I. SMALL SCALE FOOD PROCESSING INDUSTRY IN THE PUNJAB (1979-80 AND 1987-88)

Year (1)	Number of units (2)	Employment (No. of workers) (3)	Fixed investment (Rs. lakhs) (4)	Production (Rs. lakhs) (5)
1979-80	1,095 (3.25)	8,400 (3.75)	3,193.8 (11.71)	9,833.8 (10.65)
1987-88	3,870 (3.23)	28,379 (5.20)	13,247 (14.04)	48,013.5 (17.90)
Compound growth rate (1979-80 to 1987-88)	14.11	13.55	15.77	17.66

Source: Government of Punjab, Directorate of Industries, Punjab.

Note: Figures in parentheses are percentage shares in total small scale sector industry in the Punjab.

Employment in the organised food processing industry grew at a higher rate than production during the seventies and the eighties (Table II). Though the factory sector accounted for about two-thirds of the total employment in food processing during the eighties, it was the small scale sector which reported significant increases in employment. The employment in the small scale sector grew at an annual rate of 14 per cent (compound) as against about 4 per cent in the factory sector during this period. This is also corroborated by the declining

employment in the census sector after the seventies (Table III). Whereas the factory sector in food processing did not show any departure in growth rates from that of the factory sector in the state as a whole during the eighties, the number of units, fixed investment, employment and production in the small scale food processing sector grew at much higher rates than the small scale sector industry of the state as a whole as well as the factory sector of the state's food processing industry. The difference was particularly sharp in the case of number of units and employment. The growth rates were lower in the census sector of the food processing industry (Table III).

TABLE II. PRODUCTION AND EMPLOYMENT IN FOOD PROCESSING (20, 21) INDUSTRY: PUNJAB (1970-71, 1979-80 AND 1986-87)

Year (1)	Production (Rs. lakhs)* (2)	Employment (No. of workers) (3)
1970-71	10,345.11	16,273
1979-80	19,400.61	35,270
1986-87	32,467.65 (P)	73,188 (P)
Compound growth rate (1970-71 to 1986-87)	6.7	8.8

P = Provisional.

Source: (i) Government of Punjab, Directorate of Industries, Chandigarh.

(ii) Government of Punjab, Statistical Abstract of Punjab, 1984, 1986 and 1987, Economic and Statistical Organisation, Chandigarh.

Note: \* The production values have been adjusted at 1970-71 prices by deflating with the wholesale price index for manufactured products as given in Government of India (1985, 1989).

TABLE III. COMPARATIVE PICTURE OF DIFFERENT SECTORS OF FOOD PROCESSING INDUSTRY IN THE PUNJAB (STRUCTURAL VARIABLES)

Variables (1)	Sectors (2)	Year					Compound growth rate (8)
		1979-80 (3)	1980-81 (4)	1983-84 (5)	1984-85 (6)	1987-88 (7)	
Number of factories or units	CS	254	290	283	-	-	2.2
	FS	-	747	816	896	-	4.3
	SSS	1,095	1,430	2,446	2,798	3,870	14.11
	DMES (US) (1978-79)	2,139	-	-	867	-	-
Fixed investment (Rs. lakhs)	CS	3,398	4,054	5,537	-	-	9.8
	FS	-	5,424	7,721	10,493	-	10.5
	SSS	3,194	4,260	7,931	9,091	13,247	15.78
	DMES (US) (1978-79)	1,141	-	-	602	-	-
Employment (No. of workers)	CS	19,486	23,084	21,779	-	-	2.2
	FS	-	33,456	32,177	39,123	-	3.67
	SSS	8,400	11,174	19,271	21,417	28,379	13.55
	DMES (US) (1978-79)	15,415	-	-	6,080	-	-
Value of output (Rs. lakhs)	CS	33,000	37,868	61,322	-	-	12.4
	FS	-	54,372	87,378	1,12,543	-	12.5
	SSS	9,834	13,077	28,961	32,289	48,014	17.66
	DMES (US) (1978-79)	11,566	-	-	8,781	-	-

Source: Government of India, Annual Survey of Industries, Census Sector, Vol. II and Summary Results for the Factory Sector, Central Statistical Organisation, New Delhi (various years) and Directory of Manufacturing Establishments Survey, 1978-79 and 1984-85 - Summary Results, Central Statistical Organisation, New Delhi; Government of Punjab, Directorate of Industries, Chandigarh.

Note:- CS = Census Sector.

FS = Factory Sector.

SSS = Small Scale Sector

DMES (US) = Directory of Manufacturing Establishments Survey (Unorganised Sector).

A clear shift in the relative importance of different industries in the census as well as factory sector was observed. In the census sector, the traditional industries such as grain mill products, sugar, edible oils and dairy products dominated the scene in the late sixties and the early seventies. These industries contributed to almost the whole of the output, employment, number of units and value added in this sector. But during the late seventies and the early eighties, these industries lost in terms of their relative shares with the exception of the grain mill products industry. Some new industries emerged on the scene during this period which were in the nature of secondary stage processing ones. Among them were bakeries and the fruit and vegetable processing units. But they could not carve out a very distinct place in the food processing sector as such (Table IV).

TABLE IV. CHANGING SHARES OF VARIOUS INDUSTRIES IN SELECTED VARIABLES IN THE CENSUS SECTOR IN THE PUNJAB BETWEEN 1969 AND 1982-83

Industry code	(per cent)											
	No. of units			Employment (workers)			Value of output			Net value added		
	1969 (1)	1978-79 (2)	1982-83 (3)	1969 (4)	1978-79 (5)	1982-83 (6)	1969 (7)	1978-79 (8)	1982-83 (9)	1969 (10)	1978-79 (11)	1982-83 (12)
201	-	4.7	2.7	-	6.2	8.9	-	19.6	19.1	-	21.9	42.7
202	-	7.9	1.0	-	14.5	3.5	-	9.8	1.3	-	23.5	1.5
204	20.8	62.2	79.1	14.0	31.8	49.3	42.0	22.0	28.6	31.3	9.6	16.6
205	-	-	2.7	-	-	6.1	-	-	2.4	-	-	3.3
206	20.8	4.7	2.0	68.6	25.6	17.5	28.2	10.3	6.4	31.3	15.2	7.8
210	58.4	5.5	4.1	17.4	5.0	5.9	29.9	24.0	33.7	37.6	12.2	20.3
211	-	10.2	5.1	-	5.1	3.6	-	5.5	5.2	-	-1.5	1.5
216	-	-	1.0	-	-	2.0	-	-	1.2	-	-	2.4
220	-	2.4	-	-	7.6	-	-	7.1	-	-	15.7	-
222	-	2.4	1.0	-	4.2	2.0	-	2.4	1.4	-	3.5	2.8
224	-	-	1.0	-	-	1.0	-	-	0.6	-	-	1.0

Source: Government of India, Annual Survey of Industries, Census Sector, 1969, 1978-79 and 1982-83, Central Statistical Organisation, New Delhi.

Notes for Tables IV and V: The National Industrial Classification (NIC) 1970 code for food processing is 20, 21 at the two-digit level. At the three-digit level, the NIC 1970 is as follows:

Major group	Group	Description
20-21		Manufacture of food products
	200	Slaughtering, preparation and preservation of meat.
	201	Manufacture of dairy products.
	202	Canning and preservation of fruits and vegetables.
	203	Canning, preserving and processing fish, crustacean and similar foods.
	204	Grain mill products.
	205	Manufacture of bakery products.
	206	Manufacture and refining of sugar (vacuum pan sugar factories).
	207	Production of indigenous sugar, boora, khandsari gur, etc., from sugarcane and palm juice.
	208	Production of common salt.
	209	Manufacture of cocoa, chocolate and sugar confectionery (including sweetmeats).
	210	Manufacture of hydrogenated oils, vanaspati ghee, etc.
	211	Manufacture of other edible oils fats, e.g., mustard oil, groundnut oil, til oil, etc. (Inedible oils shown under 315).
	212	Tea processing.
	213	Coffee curing, roasting and grinding.
	214	Cashewnut processing like drying, shelling, roasting, salting, etc.
	215	Manufacture of ice.
	216	Manufacture of prepared animal feeds.
	217	Manufacture of starch.
	219	Manufacture of food products not elsewhere classified.
	220	Distilling, rectifying and blending of spirits.
	222	Malt liquors and malt.
	224	Soft drinks and carbonated water industries.

In the eighties, in the factory sector as a whole, though new types of food processing industries like bakeries, fruit and vegetable products, starch and animal feed emerged, the traditional industries continued to grow and dominate the scene. Grain mill products, dairy products, sugar and edible oils were the major contributors to total employment, output and value added in this industry though sugar lost its relative share in employment quite substantially during the first half of the eighties (Table V).

TABLE V. CHANGING SHARES OF VARIOUS INDUSTRIES IN SELECTED VARIABLES IN THE FACTORY SECTOR IN THE PUNJAB BETWEEN 1981-82 AND 1984-85

Industry code	<i>(per cent)</i>							
	No. of units		Employment (workers)		Value of output		Net value added	
	1981-82 (1)	1984-85 (2)	1981-82 (3)	1984-85 (4)	1981-82 (5)	1984-85 (6)	1981-82 (7)	1984-85 (8)
201	1.4	1.3	4.5	6.1	59.5	13.0	21.8	24.0
202	0.6	0.5	0.7	0.5	0.07	0.1	0.1	0.08
204	74.6	80.5	53.2	65.6	19.3	46.0	28.2	13.5
205	0.8	2.2	0.2	4.4	0.3	2.0	1.0	2.2
206	0.9	0.8	19.0	6.9	1.4	5.0	3.8	15.0
207	0.6	-	0.3	-	0.01	-	0.04	-
210	1.8	1.3	3.8	2.6	9.8	13.8	11.2	5.0
211	10.0	7.3	5.4	4.7	3.9	11.0	2.8	21.1
212	1.5	0.9	0.2	0.1	0.004	0.2	0.02	0.08
215	4.1	2.4	0.8	0.4	0.08	0.2	0.5	0.05
216	1.4	0.9	1.0	0.8	0.6	0.7	0.8	1.6
217	0.4	-	2.0	-	0.5	-	2.5	-
219	0.5	0.8	2.0	1.4	1.3	1.9	15.8	6.2
222	0.5	0.6	5.8	5.6	2.7	5.2	10.5	8.7
224	0.5	0.3	0.8	0.8	0.3	0.5	0.7	1.5

Source: Government of India, Annual Survey of Industries, Factory Sector, 1981-82 and 1984-85, Central Statistical Organisation, New Delhi.

Notes: See Table IV.

This pattern of growth in food processing in the Punjab, especially in the census sector, is also borne out by the individual industry growth rates over the period 1969 to 1982-83. Very high annual growth rates were observed in grain mill products and dairy industry especially after the mid-seventies. On the other hand, the performance of fruits and vegetable processing units was quite dismal. Though the sugar industry lost its relative position and reported a fall in value added after the mid-seventies, it experienced an absolute growth in employment and output. Even in the factory sector, similar trends and patterns were emerging. With the exception of grain mill products, all the traditional industries were showing dismal performance; with sugar, dairy products and edible oils losing in employment. The performance of bakery products in terms of output, value added, employment and capital invested was encouraging.

The importance of the small scale sector of the food processing industry, though growing at quite high rates, may be misleading if not seen from within. What is important is the content of growth. This sector of food processing in the Punjab is dominated by only three industries, two of them - rice mills and oil mills - being primary processing ones. The third industry, bread and biscuit units (bakeries) though in secondary processing and upcoming, is relatively small. In 1979-80, these three industries accounted for almost 60 per cent of the number of units, 70 per cent of employment, 60 per cent of fixed investment and 90 per cent of production in the small scale food processing sector. By the late eighties, these shares (with the exception of those in the number of units and production which came down to 56

per cent and 87 per cent respectively) went up to 73 per cent in employment and 74 per cent in fixed investment (Table VI). But there was a relative stagnation in the share of rice shellers, which perhaps points to the saturation in area and production of paddy because the growth of this industry was the direct result of the changed cropping pattern in the state wherein rice which was cultivated only in some pockets of the state in the early seventies, became the second major crop in the eighties. The rice shellers are a primary requirement for the handling of the state's paddy production. The oil mills too lost in terms of their relative share. On the other hand, bakery industry gained in a relative sense. From a share of 8 per cent in the number of units, 4 per cent in employment, 1 per cent in fixed investment and 0.8 per cent in production in 1979-80, it moved up to 12, 7, 3 and 1.2 per cent respectively by the late eighties (Table VI).

TABLE VI. SHARES OF MAJOR INDUSTRIES WITHIN SMALL SCALE FOOD PROCESSING SECTOR IN SELECTED VARIABLES IN THE PUNJAB BETWEEN 1979-80 AND 1987-88

Year	1979-80			1987-88		
	Rice mills	Bakeries	Oil mills	Rice mills	Bakeries	Oil mills
Industry variables (1)	(2)	(3)	(4)	(5)	(6)	(7)
No. of units	40.55	7.85	9.77 (58.17)	36.20	12.01	7.54 (55.75)
Employment	59.20	4.37	6.99 (70.56)	60.73	6.53	5.49 (72.75)
Fixed investment	55.80	1.10	3.66 (60.56)	66.47	3.06	4.65 (74.18)
Production	79.03	0.83	9.25 (89.11)	81.36	1.20	4.58 (87.14)

Source: Government of Punjab, Directorate of Industries, Chandigarh.

Note:- Figures in parentheses are total percentage shares of three industries.

### III

#### GROWTH OF FOOD PROCESSING INDUSTRY AT DISTRICT LEVEL

All this points to the lack of diversification in the food processing industry of the Punjab, especially in the small scale sector. This perhaps could be the result of lack of diversification in the agricultural economy of the Punjab. The question of lack of diversification was recognised in the mid-eighties and an expert committee under the chairmanship of S.S. Johl was set up to look into the ways and means of achieving diversification of agriculture in the Punjab. The committee, which submitted its report in May 1986, made recommendations which go beyond the issue of diversification of agriculture alone and have implications for other sectors as well. It recommended the shifting of 20 per cent of the area to fodder, horticultural and forest crops by 2001 A.D. to take Punjab agriculture out of wheat-paddy



rotation. Another major recommendation of the committee was the development of marketing and processing facilities to be encouraged for crops like oilseeds, fruits and vegetables. All this leads one to the question of the relationship between agricultural growth and the growth of food processing industry which is directly dependent on farm and allied production. It is in this context that an attempt has been made to look at this relationship at the district level for the State of Punjab.

In the small scale food processing sector, the growth rates (compound) for the number of units, employment, fixed investment and production in the eighties were higher than the state average in the districts of Bhatinda, Ferozepur, Jullandhar, Ludhiana, Patiala and Sangrur, all of which are agriculturally developed in terms of the value of output per hectare of 16 major crops. They all had values above the state average for the period 1975-76 to 1979-80 (CMIE, 1985). These five districts (other than Bhatinda) accounted for 53 per cent of employment, 60 per cent of fixed investment and 63 per cent of production of the small scale food processing sector in the Punjab in 1987-88, whereas their shares were only of the order of 36, 61 and 48 per cent respectively in 1979-80. In terms of the number of units their share went up from 36 per cent to 50 per cent during this period.

In the factory sector of the food processing industry, these five districts accounted for more than 60 per cent of total employment. This relationship was further confirmed by the high degrees of statistically significant rank correlation between not only the per hectare value of agricultural output and growth of food processing industry at the district level, but also between the area under food crops (1987-88) which represents marketable surplus and the various indicators of the growth of food processing industry in the small as well as organised sector. Further, in the regression analysis, the area under food crops explained 33 per cent of the growth in the number of units. This points to the contribution of agricultural growth to the growth of food processing industry at all levels, though there are other contributing factors like urbanisation, bank credit, etc., which help to promote the food processing industry. (The area under food crops and urbanisation together explained more than 60 per cent of the growth in the number of units and employment in the small scale food processing sector. But only the area under food crops was statistically significant at the 5 per cent level.)

#### IV

##### RELATIVE PRODUCTION EFFICIENCY OF SMALL SCALE FOOD PROCESSING SECTOR

The role of small scale industry has been emphasised every now and then because of the role it is supposed to play in a developing economy. It has been made the central focus in the Approach to the Eighth Plan. No one can dispute the advantages of small scale production in a capital scarce and labour abundant economy (Vyasulu, 1988). But some times, these considerations make researchers overlook the very important consideration of efficiency in production which is essential for any meaningful growth and development in any sector of economic activity. Most of the studies on relative efficiency relate to the Indian industry as a whole (*e.g.*, Dhar and Lydall, 1961; Hajra, 1965; Sandesara, 1969; and Goldar, 1988, among others). No attempt seems to have been made to study the relative efficiency within a particular region and within a particular industry which perhaps will give a more clear and useful insight for policy making. It is from this aspect that we look at the relative efficiency of the small scale food processing sector compared to the factory sector in food processing

in the Punjab in the eighties. Before getting to the case in hand, it may be in order to briefly mention the findings of earlier studies on relative efficiency of the small scale sector.

Dhar and Lydall (1961) found that the output-capital ratio did not fall with size. Rather, in certain cases, it rose with size. So they concluded that the small scale units (in the modern sector) are, in general, more capital using than their counterparts in the large scale sector. Hajra (1965) on the basis of a comparison of partial productivity ratios came to the conclusion that both labour and capital productivities were low in small scale industries. The findings of Dhar and Lydall were supported by Sandesara's study (1969) as well where he found a positive relationship between size and capital-output ratio and a negative relation between size and capital intensity. And he recommended large scale labour intensive industries for viable industry development in India. Sandesara (1990) holds this view even today.

In the case of the food processing industry in the Punjab, though the small scale sector grew at a much higher rate than the factory sector during the period 1979-80 to 1987-88, its relative efficiency is found to be quite low. The small scale sector was not only found to be more capital intensive, both in fixed capital/labour (FC/L) and fixed capital/output (FC/O) as compared to the factory and the census sectors of food processing, but also the capital and labour productivities were found to be lower than those in the other two sectors. Whereas the fixed investment per worker on the average was between Rs. 40,000 to Rs. 45,000 in the small scale sector, it was only about Rs. 25,000 in the other two sectors. On the other hand, the output-fixed capital ratio (O/FC) was only 3.5 in the small scale sector as compared to more than 10 in the census and the factory sectors. Also, the output-labour ratio (O/L) in the factory and census sectors was about 1.5 to 2 times higher than that in the small scale sector. This supports the findings on relative efficiency of large and small sector industry brought about by Goldar (1988). Even the sample sector (small within the factory sector) showed a similar pattern - relatively low capital intensity and relatively high labour and capital productivities when compared with the small scale sector (Tables VII and VIII).

On the other hand, the analysis of data relating to the unorganised sector (1978-79 and 1984-85 DME Survey data) showed that the capital intensity (both per unit of labour and output) was as low as in the organised factory sector though the labour productivity (output/labour) was as low as in the registered small scale sector. However, the capital productivity (output/fixed capital) was found to be higher than in both the small scale and the factory sector (Tables VII and VIII). If these results show some departure from those for the registered small scale sector, it is perhaps because of the wide coverage of the DME Survey. Though it included all the establishments not registered under the Factories Act, 1948, there were within the Survey data even units with 20 and more workers, in spite of the fact that 85 per cent of the units were in the category of 6-19 workers. Perhaps, the inclusion of these large units led to relatively high capital productivity figures in this sector as compared to that of the small scale sector. Secondly, since the DME Survey covered all the units employing six or more persons with at least one hired worker or having production worth one lakh of rupees or more, some very small units would have been included which may have resulted in relatively low capital intensity figures. This is supported by the fact that about 82 per cent of the DME Survey units had a fixed investment of less than Rs. 50,000 each.

TABLE VII. SOME STRUCTURAL RATIOS FOR DIFFERENT SECTORS OF FOOD PROCESSING INDUSTRIES IN THE PUNJAB

Structural ratios (1)	Years				
	1979-80 (2)	1980-81 (3)	1983-84 (4)	1984-85 (5)	1987-88 (6)
<b>Investment per unit (Rs. lakhs)</b>					
CS	13.37838	13.97931	19.56537	-	-
FS	-	7.26073	9.46301	11.71071	-
SSS	2.91670	2.97898	3.24257	3.24909	3.42302
DMES (US)	0.53351 (1978-79)	-	-	0.69480	-
<b>Output per unit (Rs. lakhs)</b>					
CS	129.92260	130.57931	216.68551	-	-
FS	-	72.78681	107.08111	125.60630	-
SSS	8.98068	9.14465	11.84007	11.53999	12.40660
DMES (US)	5.40742 (1978-79)	-	-	10.12840	-
<b>Employment per unit (No. of workers)</b>					
CS	77	80	77	-	-
FS	-	45	40	44	-
SSS	8	8	8	8	-
DMES (US)	7 (1978-79)	-	-	7	7
<b>AFC/AL (Rs. lakhs)</b>					
CS	17,374	17,474	25,410	-	-
FS	-	16,135	23,657	26,615	-
SSS	36459	37,237	40,532	40,614	48,900
DMES (US)	7,621 (1978-79)	-	-	9,977	-
<b>AO/AL (Rs. lakhs)</b>					
CS	1.68	1.63	2.81	-	-
FS	-	1.62	2.68	2.85	-
SSS	1.12	1.14	1.48	1.44	1.77
DMES (US)	0.77 (1978-79)	-	-	1.44	-
<b>AO/AFC</b>					
CS	9.71	9.34	11.07	-	-
FS	-	10.02	11.32	10.73	-
SSS	3.08	3.07	3.65	3.55	3.62
DMES (US)	10.13 (1978-79)	-	-	14.58	-

Source: Government of India, Annual Survey of Industries, Census Sector, Vol. II and Summary Results for the Factory Sector, Central Statistical Organisation, New Delhi (various years).

Note:- CS = Census Sector; FS = Factory Sector; SSS = Small Scale Sector; DMES (US) = Directory of Manufacturing Establishments Survey (Unorganised Sector).

TABLE VIII. RELATIVE EFFICIENCY OF THE SMALL SCALE SECTOR

Ratios (1)	Sector (2)	Year						
		1979-80 (3)	1980-81 (4)	1981-82 (5)	1982-83 (6)	1983-84 (7)	1984-85 (8)	1985-86 (9)
Output/labour ratios	SSS/CC	0.66	0.70	0.53	0.51	0.53	-	-
	SSS/FS	-	0.70	0.57	0.56	0.55	0.50	0.55
	DMES/FS (US)	-	-	-	-	-	0.51 (1.00)	-
Output/capital ratios	SSS/CC	0.32	0.33	0.31	0.30	0.33	-	-
	SSS/FS	-	0.31	0.29	0.30	0.32	0.33	0.31
	DMES/FS (US)	-	-	-	-	-	1.36 (4.10)	-
Fixed capital/labour ratios	SSS/CC	2.10	2.13	1.70	1.71	1.60	-	-
	SSS/FS	-	2.31	1.98	1.85	1.71	1.53	1.77
	DMES/FS (US)	-	-	-	-	-	0.37 (0.24)	-

Note:- CS = Census Sector; FS = Factory Sector; SSS = Small Scale Sector, DMES (US) = Directory of Manufacturing Establishments Survey (Unorganised Sector).

The figures in parentheses are those relative to the Small Scale Sector (SSS).

The explanation for the high capital intensity in the registered small scale sector could perhaps be found, to a certain extent, in the factors like self-employed persons in the small units, sick units (the number of small scale sick units in the Punjab went up from 403 in 1979 to 1,345 by 1985) and units with teething troubles, higher under-utilisation of capacity in small units due to single shift functioning, lack of infrastructural facilities for these units and lastly, the factor of enterprise which could perhaps explain the inefficiency in this sector. Whatever may be the reasons behind the relative inefficiency of the small scale units, the role of the small scale sector in promoting industrial and overall development in a developing economy has to be reassessed in the light of these facts.

In sum, the Punjab, one of the agriculturally developed states, has its own developmental problems which originate from its over-dependence on the farming sector and the lack of industrial development and diversification. One of the important industries - food processing - lacks diversification mainly because of the lack of diversification in agriculture and partly due to factors like lack of urbanisation and technological sluggishness. The high degree of relationship between agricultural growth and the growth of food processing points to the importance of agricultural development in the process of agro-industrialisation. This view is also supported by the limited move towards secondary processing activities from the primary processing which predominates within this industry. The findings on relative efficiency point to the serious dimensions of small scale production and support caution about the role and contribution of such enterprises in a small scale enterprise dominated agricultural economy like the Punjab. Given the premises of the Eighth Plan, these issues need careful examination.

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